The following circular is promulgated for information, guidance and necessary action

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REGISTRATION, CERTIFICATION, PRODUCTION, MANUFACTURING, AND OPERATION OF LIGHT SPORT AIRCRAFT IN TANZANIA

1.0 PURPOSE

The purpose of this Aeronautical Information Circular (AIC) is to provide guidance and information regarding the registration, certification, production, and operation of Light Sport Aircraft (LSA) within the United Republic of Tanzania. This circular aims to ensure the safe, efficient, and compliant operation of LSA in Tanzanian airspace.

2.0 APPLICABILITY

This AIC applies to all stakeholders involved in the registration, certification, production, and operation of Light Sport Aircraft in Tanzania, including but not limited to aircraft owners, operators, manufacturers, distributors, and maintenance organizations.

3.0 LIGHT SPORT AIRCRAFT (LSA)

DEFINITIONS

a) A light sport aircraft (LSA) is a small, simple to operate, low performance aircraft, other than a helicopter that complies with the following criteria:

   i) A maximum takeoff weight of not more than 600 kilograms or 650 kilograms for an aircraft intended for operation on water or 560 kilograms for a lighter-than-air aircraft.

   ii) A maximum stalling speed in the landing configuration (VS0) of not more than 45 knots CAS at the aircraft's maximum certificated takeoff weight and most critical center of gravity.

iii) A maximum seating capacity of no more than two persons, including the pilot.

iv) If powered, a single, non-turbine engine fitted with a propeller.

v) A non-pressurised cabin:

a) For an aircraft operating over land, a fixed landing gear;

b) For an aircraft intended for operation on water, a fixed or repositionable landing gear; and

c) For a glider a fixed or retractable landing gear.

b) If the aircraft is a glider a maximum never exceed speed Vne of 135 knots CAS

Note: The types of aircraft that may satisfy these criteria are:

a) Fixed-wing aircraft;
b) Powered parachutes;
c) Weight shift aircraft;
d) Gliders;
e) Balloons;
f) Airships; and
g) Gyroplanes

4.0 CERTIFICATION AND REGISTRATION

4.1 LIGHT SPORT AIRCRAFT TYPE ACCEPTANCE

4.1.1 For LSA to be registered in Tanzania, it must have LSA Type Acceptance Certificate (LTAC) issued by the Authority.

4.1.2 All applications for LSA type acceptance shall therefore be submitted to the Authority for review. The application shall be made using form SR-ALS-001 and must reach the Authority 30 days prior to the date of application for registration of LSA.

4.1.3 The application shall be accompanied with data and documentation giving details of design and various conformances including conformance to the provision of this AIC.

4.1.4 Certification processes shall asses the aircraft's design, construction, performance, and safety features to ensure compliance with established airworthiness standards.

4.1.5 LTAC may be issued by the Authority as eligible for the issue of a Restricted Certificate Of Airworthiness if:

(a) evidence is provided that: -

i) a permit to fly or an experimental airworthiness certificate issued by a competent Authority is in force in respect of an aircraft of the type; or

ii) the type design conforms to the standards accepted by the Authority as equivalent; or

iii) aircrafts of the type have achieved a satisfactory airworthiness history in a Contracting State on a number of aircrafts of the same type and this shall be confirmed in writing by the responsible Authority.

(b) an aircraft of the type has been inspected by an Inspector and found to conform to good design practice; and

(c) data in the form of drawings, parts catalogs, operating manuals, and any other manuals sufficient to define the aircraft is provided by the applicant for retention by the Authority.

4.1.6 Upon successful completion of LSA type acceptance process, the Authority shall issue appropriate approvals or certificates authorizing the production and distribution of Light Sport Aircraft within Tanzania. (LTAC form SR-LSA-002).

5.0 REGISTRATION, DEREGISTRATION AND CHANGE OF OWNERSHIP

5.1 Light Sport Aircraft shall be required to be registered with the Authority before testing or operating within the country.

5.2 For LSA to be registered shall have LTAC issued by the Authority as per the provision in 2.1 above.

5.3 All applications for registration shall therefore be submitted to the Authority. The application shall be accompanied with data and documentation giving details concerning the aircraft's Airworthiness status.

5.4 A pre-registration inspection shall be carried out by the inspectors of the Authority and if accepted, a certificate of registration shall be issued by the Authority.

5.5 This certificate, which contains particulars of the nationality mark of the aircraft and the registration mark assigned to it by the Authority, shall be subject to the conditions specified in the Civil Aviation (Registration and Markings) Regulations, 2017 as amended.

5.6 The LSA shall not fly until the nationality and registration marks have been painted thereon or affixed there as per the current TCARs.

5.7 For deregistration and change of ownership of LSA registration, the application shall be made at least 14 days before the intended date of export or changes of ownership.

5.8 The manufacturer is responsible for the continuing airworthiness of the aircraft and therefore it is very important that the aircraft Owner/Registered Operator notify the manufacturer of a change of address or ownership.

5.9 In such circumstances where the manufacturer is not notified, the owner shall not be aware of critical safety issues that may require urgent inspection or modification therefore compromising the safety integrity of the aircraft.

5.10 Also if the manufacturer has issued mandatory requirements that have not been carried out due to the aircraft Owner/Registered Operator not notifying of change of address or ownership, then the Special Certificate of Airworthiness shall no longer be valid. Continued operation with an invalid Special Certificate of Airworthiness is a contravention of the regulations.

6.0 RESTRICTED CERTIFICATE OF AIRWORTHINESS ISSUANCE AND RENEWAL

6.1 All LSA registered in Tanzania shall not fly unless they hold a valid Restricted Certificate of Airworthiness issued by the Authority.

6.2 The Authority may issue a Restricted Certificate of Airworthiness for a LSA if:

(a) The aircraft is of a type which the Director General of the Authority has accepted as per the provision in 4.1 above; and

(b) the aircraft has been inspected by an Inspector of the Authority and found to be in a safe condition for flight.

(C) The Authority may prescribe conditions and limitations for LSA operation. Such conditions and limitations shall be complied with.

6.3 The Authority may issue safety airworthiness requirements to the owner in respect of a LSA, individually or in general, requiring such action, as he/she considers necessary in the interests of safety and such a directive shall be complied with.

6.4 A LSA, which has been modified in any way, which may affect airworthiness, shall not be flown unless the Authority has been informed, and any requirements notified by him have been complied with.

6.5 An aircraft in respect of which a Restricted Certificate of Airworthiness is in force shall be used only for private operations and shall be subject to such conditions as the Authority may endorse on it. If a LSA is to be used for commercial purposes or aerial work upon acceptance by the Authority shall be endorsed to the respective category.

6.6 An application for a Restricted Certificate of Airworthiness issue/renewal shall be made by completing the form prescribed by the Authority with proof of payment of the relevant fee.

6.7 An application for issuing a restricted certificate of airworthiness shall be made at least 30 days after the certificate is required.

6.8 The aircraft shall be weighed. The weight and balance report shall be retained in the aircraft records.

6.9 A LSA shall be returned to service in accordance with the current Civil Aviation (Airworthiness) Regulations in conjunction with the manufacturer's instructions.

6.10 The aircraft records shall be made available to the Authority during annual inspection and/or whenever required.

6.11 Before issuing or reissuing of Restricted Certificate of Airworthiness, the aircraft shall be test flown to a flight test schedule of a comparable standard. The results shall be certified by the test pilot and retained in the aircraft records, and a copy submitted to the Authority.

6.12 On the satisfactory completion of test flying and any additional work required by the Authority, a Restricted Certificate of Airworthiness valid for a period not exceeding twelve (12) months may be issued.

6.13 The Restricted Certificate of Airworthiness may be reissued for a further period to be specified if the Authority is satisfied with the condition of the aircraft. The aircraft shall be subjected to an inspection prior to renewal of a Restricted Certificate of Airworthiness by the Authority.

6.14 Restricted Certificate of Airworthiness remains valid provided the aircraft is maintained in

accordance with the requirements of the manufacturer and the aircraft has not been modified unless approved by the manufacturer.

6.15 For renewal of a restricted certificate of airworthiness, an application shall be made at least14 days before the certificate expires.

7.0 AMATEUR BUILT LSA

7.1 A LSA may be accepted by the Authority as suitable for amateur construction and be eligible for a Restricted Certificate of Airworthiness if:

(a) It can be constructed and maintained with the facilities ordinarily available to amateurs but may not be accepted if the design is considered too complicated for the capability and experience of the constructor.

(b) it follows the definition of a LSA detailed in 3.1 above

(c) An approved engine and propeller combination is to be used.

(d) It conforms to the aircraft manufacturing standard acceptable to the Authority through assessment by personnel designated by the Authority.

(e) The associated aircraft manufacturing standard shall be reviewed for acceptance by the Authority or Authority-designated personnel or institution.

NOTE: An approved engine and propeller combination is to have a combination previously type certificated or similarly approved by a Contracting State or which is acceptable to the Authority.

7.2 An applicant for acceptance of an aircraft type and permission to build it shall submit to the Authority, in the English language, such documents, data, and other evidence as are necessary to establish that the aircraft type and model meets the airworthiness standards and requirements. The application shall reach the Authority well in advance and at least thirty (30) days prior to the start of any construction

7.3 The Applicant shall arrange with the Authority or Authority-designated personnel or institution at his cost to have his facility inspected for acceptance prior to the commencement of the construction. The build-up shall commence only when written consent is obtained from the Authority on the facility and the type of aircraft to be built.

7.4 The type design of a LSA may be accepted by the Authority and authorized for amateur construction if it complies with the requirement mentioned in 2.1 above.

7.5 For every amateur-built aircraft of a type that has not previously been granted a Restricted Certificate of Airworthiness in Tanzania, the applicant, in addition to documents submitted as specified in 3.2 above, shall submit the following type of documentation:

(a) A complete set of drawings, including details of any modifications incorporated in the aircraft or proposed, giving sufficient details and data to permit satisfactory identification, manufacture, and inspection of all parts of the aircraft.

(b) If not included in the drawings, a schedule of the materials for all primary structural components and details of their heat treatment

(c) Detail of all flight limitations, mandatory operating procedures, and loading restrictions together with information on the operation of the aircraft, its engine, propeller, and equipment.

(d) Such additional information as the Authority may require in respect of any particular type. The above document shall be retained for use by the Authority.

7.6 Production facilities shall be maintained in a comprehensive record documenting the design, manufacturing processes, quality assurance procedures, and other relevant information pertaining to each aircraft produced.

8.0 EQUIPMENT, INSPECTION AND MAINTENANCE REQUIREMENTS

8.1 A LSA shall have the following minimum equipment installed prior to its certification:

8.1.1 Flight and Navigation:

(a) One Airspeed indicator;

(b) One Altimeter

(c) One direct reading compass

(d) VHF communication radio (trans/receiver)

8.1.2 Power plant:

(a) A fuel quantity indicator for each fuel tank, visible by a pilot when strapped in;

(b) An oil quantity indicator for each tank. [A dipstick for each tank may be an Acceptable alternative to an indicator;]

(c) Tachometer (RPM indicator), pressure, and temperature indications as the engine

(d) Manufacturer may require or as are necessary to operate the engine within its limitations;

(e) Engine “Kill” Switch

(f) A manifold pressure indicator for an engine equipped with a variable pitch propeller, where manifold pressure and rotational speed are independently controllable.

(g) Any Engine instrumentation as required by the engine Manufacturer.

8.1.3 Miscellaneous Equipment

(a) Safety harness for each occupant

(b) Master Switch and Electrical protective devices when an Electrical System is installed.

NOTE: In addition to the above the Director General may direct additional equipment to be installed if in his opinion it shall ensure the safe operation of the aircraft.

8.2 Radio trans/receiver installation in a LSA shall be approved by the Authority.

8.3 A simple drawing of the Aircraft (or photos) showing the position of the aerial, the location of the set, and the location of the power supply and associated wiring shall be presented to the Authority, who shall inspect the workmanship to ensure it complies with the drawing. A test shall

be carried out by an authorized person and a report furnished to the authority for approval on the radio station survey form.

8.4 All LSA shall, as a minimum, conform to the manufacturer's recommended inspection procedures and check cycles, and shall maintain a logbook for the purpose of the upkeep of all technical records. It is highly recommended to have two separate logbooks one for the airframe and the other for the engine.

8.5 LSA shall be maintained by persons in accordance with the current Civil Aviation (Airworthiness) in conjunction with the manufacturer's instructions.

8.6 LSA shall be maintained in accordance with the current Civil Aviation (Airworthiness) in conjunction with the manufacturer's instructions.

8.7 LSA shall be inspected in accordance with the current Civil Aviation (Airworthiness) in conjunction with the manufacturer's instructions.

8.8 Approval for the return to service of a LSA shall be made in accordance with the current Civil Aviation (Airworthiness) in conjunction with the manufacturer's instructions.

8.9 In general, the Authority may issue Airworthiness Directives (ADs) against type-certificated aircraft, and only in exceptional circumstances shall TCAA issue an AD against LSA. For critical safety of flight issues, the LSA Manufacturer shall be responsible for issuing Safety Directions, which are mandatory for production LSA.

8.10 The maintenance for aircraft issued with Restricted Airworthiness is required to be carried out in accordance with the manufacturer’s maintenance procedures. Note: In the case where the manufacturer no longer exists, TCAA may approve a person to perform the functions of the manufacturer to approve modifications and maintenance procedures.

8.11 The inspection of these aircraft is required to be in accordance with the manufacturer’s inspection procedures. If the aircraft is used for flying training, glider towing, or hire, the aircraft is to be inspected every 100 hrs Time in Service (TIS) or every year whichever occurs first. If the aircraft is used for private purposes only, the aircraft is required to be inspected every 12 months. If an aircraft has been idle for an extended period of 2 years or more, inspection and maintenance are required only once during the period but within 12 months of the next flight.

8.12 The manufacturer is responsible for the continuing airworthiness of their aircraft in accordance with the State of Design/Manufacturer standards for Continued Operational Safety Monitoring of Light Sport Aircraft. This requires the manufacturer to evaluate all significant defects and correct any unsafe condition that may exist in the remaining fleet. To achieve this, the manufacturer shall provide a method for the operator to report any service difficulty. It is therefore the responsibility of the registered operator to notify the manufacturer of any safety-of-flight issue or significant service difficulty upon discovery.

8.13 The manufacturer may decide that a Safety Direction (SD) is required to correct an unsafe condition. In such a circumstance, the manufacturer shall issue a notice to all the known registered operators of the affected aircraft. It is therefore very important and is a requirement with the LSA standard that all registered operators provide the manufacturer with current contact information.

8.14 When a registered operator receives a Safety Direction, the operator is required to comply with the requirements of the SD. The operator may apply to the manufacturer for a variation or exemption against the SD provided suitable safety justification is included in the application. The manufacturer may assess the application and if the safety justification satisfactorily addresses the safety issue, the manufacturer can approve an alternative means of compliance or grant an exemption against the SD. However, if the manufacturer does not approve an application, the registered operator is required to comply with the requirements of the SD. Failure to comply with SD is considered a serious breach of the regulations and could result in regulatory action.

8.15 Because the manufacturer is responsible for the continuing airworthiness of their LSA, the manufacturer shall have to approve all modifications to their aircraft. This is different from other aircraft where TCAA or a person authorised under TCARs approves modifications without notifying the manufacturer. Therefore if an owner of a production LSA contracts an engineer qualified in accordance with TCARs for an aircraft modification, the owner shall also be required to seek approval from the manufacturer prior to carrying out the modification.

8.16 The owner of a production LSA shall be aware that unapproved modification of the aircraft shall result in the Restricted Certificate of Airworthiness no longer being in force. In the interests of safety, the Authority may include additional operating limitations to an aircraft. This may only occur if TCAA considered that other requirements by the manufacturer were inappropriate or did not address a safety critical issue. In such circumstances, TCAA must write to the registered operator of the aircraft concerned detailing the operating limitations required for the aircraft. The operator is required to comply with the additional operating limitations to maintain the Restricted Certificate of Airworthiness for LSA

8.17 The owner of a LSA for which a RCA is required shall submit to the Authority, for acceptance a maintenance schedule(AMS) or document similar for the aircraft; The AMS is the owner/operator's responsibility.

8.18 The AMS referred to in regulation sub 4.17, contains a description of the procedures to be followed, to the extent applicable, to ensure that:

(a) the aircraft is maintained in an airworthy condition;

(b) the operational and emergency equipment, required for the intended flight, is serviceable;

(c) the RCA referred remains valid for each aircraft to which the AMS applies;

8.19 The AMS shall contain or reference the following information:

(a) maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilisation of the aircraft;

(b) when applicable, a continuing structural integrity program;

(c) procedures for changing or deviating from paragraphs (a) and (b) above

9.0 OPERATING REQUIREMENTS

9.1 LSAs are and are therefore subject to the same regulations and rules, which apply to other aircraft. In particular, operators of LSA are reminded of the requirements that:

9.2 No person may operate a LSA in a manner that creates a hazard to other persons or property;

9.3 No person may allow an object to be dropped from a LSA if such action creates a hazard to other persons or property;

9.4 Persons operating LSA shall maintain vigilance so as to see and avoid other aircraft and shall yield the right of way to unpowered craft;

9.5 No person shall operate a LSA in a manner that creates a collision hazard with regard to any other aircraft;

9.6 No person may operate a LSA over any congested area of a city, town, or settlement below except:

a) Such height as may enable the aircraft to alight clear of the area and without damage to persons or property on the surface in the event of the failure of the power unit; or
b) a height of 1,000 feet above the highest fixed object within 600 meters of the aircraft, whichever is higher.

9.7 No person may operate a LSA over, or within 1000 meters of any assembly in the open air of more than 1000. Persons assembled for the purpose of witnessing or participating in any organized event, except with the permission, in writing, of the Authority and in accordance with any conditions therein specified and with the consent in writing of the organizers of the event; or below such height as may enable it to alight clear of the assembly in the event of the failure of a power unit;

9.8 No person may operate a LSA closer than 500 feet to any person, vessel, vehicle or structure except:

a) when landing, or taking off, in accordance with normal aviation practice; or
b) when flying under, and in accordance with the terms of an aerial application certificate granted to an operator; or
c) while flying for the purpose of picking up or dropping tow ropes, banners or similar articles at an aerodrome;

9.9 No person may operate a LSA in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

9.10 LSA being like any other aircraft, are treated no differently for Air Traffic Control purposes. However, because they are slow and extremely vulnerable and can be upset by wake turbulence from heavier aircraft, air traffic control, therefore, adopts a cautionary procedure of denying clearance for LSA to enter regulated airspace in order to avoid unacceptable delays to other traffic and danger to the LSA.

9.11 It is, therefore, important that persons operating LSAs be made aware of any proposals to establish a LSA aerodrome near regulated airspace, prohibited or restricted areas, and civil aerodromes. Such established aerodromes shall have to be licensed.

10.0 PRODUCTION PROCEDURES

10.1 The production of LSA shall require procedures to be in place for controlling manufacturing processes to ensure each product and article conforms to its approved design.

10.2 The organization shall have procedures for ensuring all manufacturing processes (including special processes) that have been identified and defined by the State of Design are accounted for in the manufacturing process.

10.3 The organization shall ensure work instructions, and revisions to work instructions, are reviewed, approved, controlled, documented, and made available to the Authority

10.4 Appropriate personnel within the Organization shall substantiate and approve any new or changed processes. Traceability shall be maintained throughout the manufacturing process from raw material to completed product or article. Articles introduced into production before full acceptance shall have a process for identifying, controlling, and segregating them.

10.5 The organization is required to have procedures for inspections and tests used to ensure each product and article conforms to its approved design. These procedures are required to include the following, as applicable, a flight test of each aircraft produced unless that aircraft shall be exported as an unassembled aircraft, and a functional test of each aircraft engine and each propeller produced.

10.6 The organization shall have in place a comprehensive procedure of release back to service for an aircraft after being produced.

10.7 The organization shall have procedures documenting inspection methods for each product or article to ensure they conform to their approved design data. Procedures shall include methods that ensure identification of inspection status throughout the manufacturing process and storage. In addition, procedures shall ensure inspection marking devices are controlled and only issued to authorized persons.

10.8 The organization shall establish, maintain, and control test procedures, instructions, and subsequent changes. It shall ensure the appropriate organizations participate in reviewing test instructions or procedures. Products or articles that have been adjusted or reworked after test acceptance (such that the results of that testing could be affected) shall be retested using an approved process.

10.9 The organization shall document the use of statistical processes in the quality manual. Statistical processes shall ensure that criteria for acceptance or rejection prevent the acceptance of nonconforming products or articles.

10.10 Statistical sampling shall include sampling plans appropriate for the type of product or article being accepted. Personnel shall be trained in statistical sampling techniques.

10.11 Organizations that manufacture a complete aircraft shall ensure flight test procedures and subsequent changes are submitted to and approved by the Competent Authority. Flight test pilots shall be fully qualified, and flight check-off lists shall be properly completed.

10.12 The organization requires procedures to ensure calibration and control of all inspection, measuring, and test equipment used in determining conformity of each product and article to its approved design. Each calibration standard is required by the rule to be traceable to a standard acceptable to the State of Design.

10.13 Organizations shall have procedures ensuring tools, gages, and equipment are approved, periodically inspected, and calibrated. Standards used for calibration shall have adequate accuracy and be traceable to a standard acceptable to the State of Design. Any equipment required for special processing, such as tools, gages, instruments, and timers shall be available and calibrated.

10.14 The organization shall have a tool control procedure ensuring tools and gages used for product or article acceptance (including NDI equipment) are protected, maintained, and used in an acceptable environment. Procedures shall ensure Organization conducts an evaluation and takes necessary corrective action when a product or article has been accepted by an out-of-tolerance gage.

10.15 Organizations shall have procedures that define how inspection and test records are generated and maintained. It shall ensure supplier-furnished articles or services conform to the purchase order requirements, as applicable. Records of this verification shall be generated and maintained. Also, it shall ensure the inspection status of production products or articles are identifiable throughout the manufacturing cycle including any storage facility controlled by the Organization. In addition, It is responsible for generating and maintaining records of completed tests for aircraft, aircraft engines, or propellers.

10.16 Nonconforming Product and Article Control. Organizations shall have the procedures to ensure only products or articles that conform to their approved design are installed on a type-certificated product. These procedures are required to provide for the identification, documentation, evaluation, segregation, and disposition of nonconforming products and articles. Only authorized individuals may make disposition determinations.

10.17 The organization shall have procedures for implementing corrective and preventive actions to eliminate the causes of an actual or potential nonconformity to the approved design or noncompliance with the approved quality system. It is required to have procedures to eliminate the cause(s) of known nonconformities or noncompliances to prevent recurrence. Corrective actions shall be appropriate to the effects of the nonconformities or noncompliances encountered and address the following:

a) Review of nonconformities or noncompliances;

b) Identification of the cause(s) of nonconformities or noncompliances;

c) Evaluation of the need for action to ensure that nonconformities or noncompliances do not reoccur;

d) Identification and implementation of action(s) needed;

e) Recording of the results of action(s) taken;

f) Review of corrective action(s) taken; and

g) Flow-down of the corrective action requirement to a supplier, when it is determined that the supplier is responsible for the nonconformities or noncompliances.

10.18 Preventive Action. Organization is required to have procedures to eliminate the cause(s) of potential nonconformities or noncompliances to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems and shall address the following:

a) Identification of potential nonconformities/noncompliances and their causes;

b) Evaluation of the need for action to prevent the occurrence of nonconformities/noncompliances;

c) Identification and implementation of action(s) needed;

d) Recording of results of action(s) taken; and

e) Review of preventive action(s) taken.

10.19 When processes or procedures result in nonconforming products or articles, the organization shall monitor the response to, implementation of, and effectiveness of corrective and preventive actions.

10.20 Organizations shall have procedures to ensure only conforming and properly identified products or articles are placed in storage. These procedures shall also ensure traceability for split lots and control the removal or issuance of those products or articles.

10.21 The organization is responsible for the following:

a) Having procedures to ensure compliance with any special environmental controls during material storage, handling, manufacturing, and assembly of products or articles.

b) Identifying and controlling the shelf life of environmentally sensitive products or articles.

c) Properly separating and identifying products or articles in storage and manufacturing areas.

10.22 Organization is required to have a quality system to have the procedures for identifying, storing, protecting, retrieving, and retaining quality records and to retain these records for at least 5 years for the products and articles manufactured under the approval, and at least 10 years for critical components identified

10.23 The organization shall have procedures that account for all records generated, or needed, to show compliance with the applicable requirement including records generated throughout the supply chain. Additionally, it is responsible for controlling record storage facilities to ensure both against degradation of records and the availability of these records.

10.24 Records to be retained shall include but are not limited to, inspection and test records, calibration records, supplier records, special process certifications, MRB records, and production travelers. They shall be legible, complete, and accurate. Any storage media used for record retention shall exhibit legible data, acceptance stamps, and required signatures.

10.25 The organization shall establish a record retention schedule for various types of process, test, and quality and inspection system data. The procedures shall define how obsolete records shall be dispositioned or destroyed.

10.26 The organization is required to have procedures for planning, conducting, and documenting internal audits to ensure compliance with the approved quality system which includes reporting the results of internal audits to the manager responsible for implementing corrective and preventive actions. It shall have procedures that establish an internal audit program. The internal audit program shall verify compliance with established policies, procedures, and approved data. It also shall ensure the results of internal audits are reported to the appropriate level of management, and that audits are used for improving the quality system or products

10.27 Organization requires procedures for receiving and processing feedback on in-service failures, malfunctions, and defects. These procedures are required to include a process to assist design

approval holders in addressing any in-service problem(s) involving design changes and determine if any changes to the Instructions for Continued Airworthiness (ICA) are necessary. Organizations shall have procedures that establish a system for receiving, processing, and tracking of in-service failures, including how records are generated and maintained.

10.28 The organization shall ensure that service problems, unairworthy conditions, unsafe features, and unsafe characteristics reported by the TCAA, or users, are investigated and receive prompt corrective action.

10.29 The organization shall ensure service bulletins and changes to maintenance manuals are approved by authorized personnel and coordinated with the Competent Authority. It is also required to have procedures for identifying, analyzing, and initiating appropriate corrective action for products or articles that have been released from the quality system and that do not conform to the applicable design data or quality system requirements.

10.30 Organizations shall have procedures that document how they shall track, evaluate, categorize, and disposition all nonconforming products or articles. These procedures shall include actions to correct deficiencies in the quality system that allowed the quality to escape. It shall use trend analysis and risk assessment tools to determine the severity of, and long-term effects of, nonconformances. It shall notify users of products or articles when those products or articles are recalled for suspected or known nonconformance.

10.31 Organization structure, certification process, and required manuals must be acceptable to the Authority.

11.0 MANUFACTURING OF LSA

The certification and continuing airworthiness of LSA is the responsibility of the manufacturer. The manufacturer must ensure that LSA is designed and manufactured to meet the LSA standards.

11.1 MANUFACTURERS' QUALIFICATIONS

11.1.1 Manufacturers must demonstrate that they are suitably qualified to manufacture an LSA by:

a) holding a current production certificate. The Authority expects that:
   i. manufacturers will hold a production certificate for a similar aircraft to the manufactured LSA; and
   ii. the production certificate is in force and not under an enforcement action that would preclude the manufacturer from manufacturing an LSA to the applicable standards or

b) making a declaration in writing, if they do not hold a production certificate, indicating that they have:
   i. contracted engineering personnel or company with experience in ultralight or light aircraft design, to ensure compliance with LSA standards;
   ii. facilities and tools suitable for the production of the aircraft in accordance with the applicable LSA standards; and
   iii. competent personnel, with appropriate training, skills, and experience, to perform work that affects product quality.

11.2 OVERSEAS MANUFACTURERS

For LSA to be certified and operated in Tanzania, overseas LSA manufacturers are required to be from a Contracting State. To ensure compliance with the Tanzania LSA standards, overseas manufacturers will be required to show evidence that they meet similar requirements to local manufacturers. An overseas manufacturer who holds a production approval (however described) for a similar aircraft issued by their National Aviation Authority (NAA) or approved organisation delegated by their NAA, would satisfy these requirements.

11.3 LSA STANDARDS

11.3.1 The LSA must conform to LSA standards applicable to each class of LSA. These standards include the ASTM International (ASTM) standards and alternative standards that the Authority or state of design has approved as acceptable for this category of aircraft.

11.3.2 Although there is a range of different design standards, it is not acceptable to 'cherry-pick' selected paragraphs out of these standards when signing a statement of compliance. When a manufacturer selects a design standard, compliance should be shown with the entire standard. However, if the standard does not cover certain systems or products (e.g. kind of engine or variable pitch propeller) then the manufacturer may select a different LSA standard for that system or product. The manufacturer is responsible for identifying any potential issues associated with their selection of LSA standards for the aircraft, such as interface issues and other consequential design considerations (e.g. if the aircraft is designed with a variable pitch propeller then the manufacturer must consider the various configurations and show compliance with an LSA standard).

11.3.3 If a manufacturer is in any doubt about their selection of LSA standards or their capability and compatibility analyses, they should contact the Authority before moving into a certification process.

11.4 LSA STATEMENT OF COMPLIANCE

13.4.1 For an LSA to be issued with a Restricted Certificate of Airworthiness as per TCARs, the manufacturer is required to sign a statement of compliance, using form **SR-LSA-001**, for each aircraft produced. This statement of compliance will indicate that the aircraft complies with all applicable LSA standards.

13.4.2 Form SR-LSA-001 should only be completed and signed by the qualified manufacturer of the aircraft/kit or its authorised representative. Authorisation for a representative's signature must be in writing from the manufacturer and the process must be specified within the manufacturer's quality assurance system procedures. By signing form SR-LSA-001, the signatory makes a declaration that the aircraft and manufacturer comply with the requirements.

11.5 EXPORTING LSA OVERSEAS

Before designing and manufacturing aircraft for an overseas market, it is crucial that the manufacturer considers the applicable NAA requirements for LSA certification and operation in that particular country as other NAAs may have different requirements for LSA.

11.6 MANUFACTURING PRODUCTION AIRCRAFT

11.6.1 To produce an LSA, the manufacturer must consider the design and quality assurance of the product, and continuing airworthiness requirements. For a particular market, the manufacturer should choose the most applicable design standard prior to manufacturing the aircraft. The proposed market will influence the choice of standard.

11.6.2 The manufacturer must be suitably qualified (see subsection 13.1.1) and should comply with the quality assurance and production test acceptance standards.

11.6.3 As the Authority is not responsible for the continuing airworthiness of LSA, the manufacturer will be required to continually monitor the airworthiness of these aircraft in accordance with the acceptable standards for Continued Operational Safety Monitoring of Light Sport Aircraft. To comply with this requirement, the manufacturer should maintain a database of all owners of aircraft in Tanzania and overseas, investigate service defects, and address safety critical defects with corrective action by issuing safety directions (SD) to all affected owners/registered operators (see paragraph 14.2 for more information on SDs).

11.6.4 The manufacturer will also need to provide product information in accordance with the regulations and LSA standards. This includes conformity details of the aircraft, aircraft operating instructions, the aircraft flight training supplement, and maintenance and inspection procedures.

11.6.5 Once aircraft manufacture is complete, the manufacturer must sign a statement of compliance, using SR-LSA-001, to indicate that the aircraft conforms with the specified LSA standards. If the manufacturer resides/operates overseas, they will need to provide evidence that the aircraft was manufactured in a Contracting State and is eligible for a restricted certificate of airworthiness, or another document of similar effect, in the country of manufacture.

11.7 MANUFACTURING KIT-BUILT LSA

11.7.1 Before a kit-built LSA can be issued with an experimental certificate, the manufacturer will need to produce a production aircraft issued with a special flight permit in the LSA category of the same make and model.

11.7.2 A kit-built LSA must be manufactured to the same applicable LSA standards as the production aircraft of the same make and model, except that the standards relating to production testing are not required. Instead of complying with the production aircraft test standards, the manufacturer must identify the assembly instructions for the aircraft as meeting the applicable LSA standard for kit assembly.

11.7.3 For the kit-built aircraft to be eligible for an experimental certificate, satisfactory evidence needs to be presented to show that the aircraft was manufactured and assembled to the applicable LSA standards. Therefore, the manufacturer will need to:

a) provide the aircraft owner with a statement of compliance, using Authority Form SR-LSA-001, indicating that the aircraft kit complies with the applicable LSA standards for a kit aircraft.

b) provide information that shows a special certificate of airworthiness has been issued for a production aircraft of the same make and model.

c) provide aircraft assembly instructions, operating instructions, aircraft maintenance and inspection procedures, and an aircraft flight training supplement.

11.7.4 It is the owner's responsibility, not the manufacturer's, to assemble and acceptance test a kit-built aircraft.

12.0 CONTINUED OPERATIONAL SAFETY MONITORING OF LIGHT SPORT AIRCRAFT

The Authority requires the manufacturer to use a system to monitor and correct safety-of-flight issues in accordance with an approved LSA standard. For as long as an LSA is registered in Tanzania, it remains the manufacturer's responsibility to monitor for unsafe conditions in aircraft and notify owners/registered operators of corrective actions. It is incumbent on the manufacturer to evaluate all significant defects and correct any unsafe condition that may exist in the remaining fleet. To achieve this, the manufacturer should provide a method for the aircraft owner/registered operator to report any in-service difficulty.

12.1 SAFETY DIRECTIONS

12.1.1 The manufacturer may decide that an SD is required to correct an unsafe condition. In such a circumstance, the manufacturer should issue a notice to all the known owners/registered operators of the affected aircraft. It is therefore very important and is a requirement of the LSA standards, that the manufacturer has current contact information for all owners/registered operators of their aircraft, irrespective of whether they are located in the United Republic of Tanzania or overseas. The Authority recommends that the manufacturer include a statement in the documents provided with the aircraft to the effect that the manufacturer must be notified of the new owner/registered operator's name and address when the aircraft changes ownership.

12.1.2 The operating rules require the owner/registered operator to comply with the requirements of the SD. The owner/registered operator may apply to the manufacturer for a variation of, or exemption from, the SD if they have a suitable safety justification to substantiate their request. The manufacturer should assess the application and, if the justification satisfactorily addresses the safety issue, approve an alternative means of compliance against the SD. However, if the manufacturer does not approve an application, the owner/registered operator must comply with the requirements of the manufacturer's SD. Failure to comply with an SD is a breach of the regulations and would result in regulatory action against the owner/registered operator.

13.0 MODIFICATIONS

For production LSA issued with a restricted certificate of airworthiness under regulation TCARs, the aircraft may only be modified if the manufacturer authorizes the modification. All modifications should be made in accordance with the LSA standards applicable to the aircraft. Modifications that are not authorized by the manufacturer will result in the revocation of a restricted certificate of airworthiness.

14.0 PLACARDS AND WARNINGS

For production, LSA, the Authority requires that an information placard be displayed in the cabin or cockpit at a location in full view of the passenger and the pilot with the wording:

THIS AIRCRAFT WAS MANUFACTURED IN ACCORDANCE WITH THE LIGHT SPORT AIRCRAFT AIRWORTHINESS STANDARDS AND DOES NOT CONFORM TO STANDARD CATEGORY AIRWORTHINESS REQUIREMENTS.

15.0 WHAT HAPPENS IF A MANUFACTURER NO LONGER EXISTS?

15.1 In the event that a manufacturer no longer exists or can no longer provide continuing airworthiness support to owners/registered operators of their aircraft, a 'competent person' (see paragraph 16.2 below) may be appointed by the Authority to carry out the manufacturer's continuing airworthiness function. If no person satisfies Authority eligibility criteria or applies to the Authority for appointment, all affected LSA will have to cease operation under their restricted certificate of airworthiness issued under TCARs.

15.2 A 'competent person' should have:

a) a system to monitor and correct safety-of-flight issues in accordance with the approved standard for Continued Operational Safety Monitoring of Light Sport Aircraft.

b) access to the manufacturer's data for aircraft configuration and registered aircraft operators.

c) contracted engineering personnel with experience in ultralight/light aircraft design and repair and knowledge of the LSA standards.

d) facilities, tools, and trained or appropriately experienced staff that are suitable to provide continuing airworthiness support for affected LSA.

e) an audit system (internal or external) that complies with the LSA quality standards.

16.0 PRODUCTION TEST FLIGHT

The applicant for a Production Test Flight (PTF) shall provide a production test flight programme document that contains all the information pertaining to the test flight. The complexity of the programme shall essentially be a function of the nature of the purpose of the tests to be conducted.

The following are some of the elements which shall be composed in the flight test programme document:

16.1 In addition to the address of the base operation, the applicant must provide sufficient details of the areas over which the flights are to be conducted. The Authority shall establish boundaries of the flight test area and shall ensure that hazards to persons on the ground or water are minimized in densely populated areas or congested airways.

16.2 The desired flight test area shall be requested by the applicant, and it shall be approved and specified in the operating limitations. It shall usually encompass an area within a specified radius from the aircraft's base of operation or in a designated test area established by the Authority.

16.3 The area selected by the applicant for approval shall not be over built-up areas of a city or town or in congested airways, so that the flight testing may not likely pose any hazard to other aircraft in the airways or persons on the ground or water.

16.4 The initial confined area of operation shall be prioritized to show that the aircraft is controllable throughout its normal speed range and all maneuvers to be executed and has not displayed any hazardous operating characteristics or design features.

16.5 In the case of the first flight of an aircraft from an aerodrome surrounded by a densely populated area, but with at least one acceptable approach/departure corridor, The Authority shall ensure that a flight corridor is selected where no persons may be subjected to possible hazards. In

addition, upon leaving such an aerodrome, the aircraft shall be required to operate from an outlying aerodrome until its controllability, airworthiness, and safety are established, after which the aircraft may return to its base and use the established corridor for subsequent operations. The description of the area selected, as well as details defining any established approach/departure corridor(s) shall be made a part of the operating limitations.

16.6 In the case of an aircraft located at any aerodrome surrounded by built-up areas of a city or town and lacking any acceptable approach/departure corridor, the Authority shall not normally issue the permit to fly. The applicant shall be advised to relocate the aircraft by other means to a suitable aerodrome.

16.7 The Authority may amend the operating limitations to permit flight outside the assigned flight test area when satisfied that the applicant has conducted sufficient test flights to determine that the aircraft is controllable throughout its range of speeds and throughout all the maneuvers to be executed and has no hazardous operating characteristics. A certification to that effect must be made in the aircraft's records.

16.8 The Authority may choose to observe flights, inspect the aircraft, or carry out a review of the aircraft's maintenance records for the flight test period if deemed necessary, prior to amending the operating conditions. It shall be noted that there are no specific time recommendations for the operation of an experimental aircraft within an assigned test area.

16.9 Flight test aircrew shall be trained, current, and practiced in the type of aircraft or operation under test. Pilot experience and qualifications, in themselves, do not necessarily make for a fully prepared test pilot.

16.10 The applicant is strongly urged to conduct a detailed Hazard Analysis and Risk Management exercise as part of the test planning and the ongoing flight-testing processes. Risk management is the process by which:

a) hazards are identified where an assessment is made of the risks involved to the test pilot, other space users, and persons on the ground or water.

b) mitigating procedures are established to reduce or eliminate the risks and a conscious decision is made, at the appropriate level of authority, to accept residual risk shall be analysed and associated risk identified and classified. Risk shall be mitigated by appropriate limitations (altitude, safety equipment, chase aircraft, etc.). No flight shall be performed if the risk after mitigation is classified as catastrophic.

16.11 For the Authority to register and issue C of R for the production test flight, Authority personnel or designated personnel shall assess respective LSA and issue an associated report that includes a production release form acceptable to the Authority.

NB: Each case shall be judged on the individual conditions, such as the type and complexity of the aircraft.

17.0 INITIAL AUTHORITY TO FLY

17.1 LSA shall only be eligible for a Restricted Certificate of Airworthiness on successful completion of the relevant Production Test Flight(s). The application for a permit to conduct the PTF must

be accompanied by the following documents or information;

a) application form accompanied by the associated fee,
b) photographs or three-view drawings, to identify the aircraft,
c) copy of the declaration of construction completion
d) copy of insurance documents, including third-party insurance,
e) equipment list,
f) draft flight manual/ pilot operating handbook,
g) pitot static checks if applicable,
h) compass swings records,
i) ground test conducted and recorded on the flight folio,
j) certificate of registration,
k) radio station license,
l) inspection report
m) aircraft release statement by an Authorized Personnel,
n) mass and balance report,
o) Pilot license and rating,
p) modification and (AD/SB) status,
q) transponder checks (if applicable),
r) flight test plan,
s) evidence of the affixed identification plate,
t) evidence of inspections, such as logbook entries signed by the relevant approved person, describing all inspections conducted during the construction of the aircraft in addition to photographic documentation of construction details.

18.0 CERTIFICATION OF LSA PRODUCTION

To ensure compliance with LSA production standards detailed in the above provisions, any organization seeking LSA production approval must adhere to the following provisions.

18.1 There must be an agreement between the Authority (TCAA) and the Competent Authority from the State of design of the LSA on the safety-relevant items.

18.2 There must be a type acceptance document issued by the Authority in effect of the LSA type to be produced or proof of conformance to acceptable design standards.

18.3 There must be an agreement between the applicant and the foreign production organization from the State of design which shall ensure design, production, and manufacturing are complied with.

18.4 There must be a law/rule/regulation/legislation submitted in the English language from the State of Design which gives a mandate to any entity in that particular State to certificate the production of the LSA.

18.5 The organization that wishes to produce the LSA in the country must submit its application package to the Authority in a form and manner described by the Authority. The certification team shall evaluate the submitted application package to ascertain if all regulatory requirements are met.

18.6 The certification shall follow the famous five (5) phase certification process of which the contents shall be determined by the Authority on a case-by-case basis. Upon successful completion of the certification process, the Authority shall issue an approved certificate with details to be determined by the Authority.

18.7 Proof of legal clearance from all the stakeholders including relevant Government institutions must be submitted.

18.8 For the produced LSA to be registered and issued with restricted C of A provisions in TCARs shall be applicable.

18.9 Associated fees for the process shall be determined by the Authority from time to time.

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