

## 1. Table of Contents

<b>1. TABLE OF CONTENTS .....</b>	<b>1</b>
<b>2. MAINTENANCE REQUIREMENTS .....</b>	<b>2</b>
1. <i>MICROLIGHT MAINTENANCE.....</i>	2
<b>3. MICROLIGHT INSPECTION AUTHORITY.....</b>	<b>3</b>
1. <i>MICROLIGHT INSPECTION AUTHORITY.....</i>	3
2. <i>APPLICATION PROCEDURE.....</i>	4
3. <i>TRAINING .....</i>	4
4. <i>VALIDITY.....</i>	5
5. <i>AIRCRAFT INSPECTION PROCEDURE.....</i>	5
<b>4. MICROLIGHT AIRCRAFT MODIFICATION.....</b>	<b>7</b>
1. <i>MICROLIGHT AIRCRAFT MODIFICATION .....</i>	7
<b>5. DEFECTS.....</b>	<b>9</b>
1. <i>DEFECTS.....</i>	9
<b>6. SAFETY DIRECTIVE &amp; AIRWORTHINESS DIRECTIVE COMPLIANCE .....</b>	<b>10</b>
1. <i>GENERAL.....</i>	10
<b>7. SERVICE BULLETIN OR AIRCRAFT CHANGE ASSESSMENT AND DISSEMINATION .....</b>	<b>11</b>
1. <i>GENERAL.....</i>	11
<b>8. MICROLIGHT TYPE ACCEPTANCE.....</b>	<b>12</b>
1. <i>CLASS 1 MICROLIGHT .....</i>	12
2. <i>ACCEPTANCE PROCEDURE.....</i>	12
3. <i>CLASS 2 MICROLIGHTS.....</i>	13
<b>9. HANGLIDER TOWING .....</b>	<b>15</b>
1. <i>AIRCRAFT EQUIPMENT AND REQUIREMENT.....</i>	15

## 2. Maintenance Requirements

### 1. *Microlight Maintenance*

- 1.1 Microlight Aircraft maintenance shall be the responsibility of the aircraft Operator.
- 1.2 An Inspection Authority Holder, may, upon request from the Operator, and without prejudice, inspect the aircraft and report to the Operator any maintenance aspects affecting the safety of the aircraft. All defects and deficiencies found should be listed and presented to the owner for rectification.
- 1.3 The operator is required to comply with any instructions contained in any applicable airworthiness directive issue by the Director (103.215(a)).
- 1.4 The operator shall ensure that the required instruments and equipment are fitted to the aircraft (103.221.)
- 1.5 On receipt of notice that the defects covered on the list have been rectified, the inspection Authority Holder may sign off the aircraft.
- 1.6 SAC recommends that all Microlight Operators maintain their aircraft, engines and equipment, in accordance with the Manufacturer's published Maintenance Schedules otherwise establish their own maintenance program acceptable to SAC or CAA where none exists.
- 1.7 Operators must enter all flying times, maintenance, and replacements in the aircraft logbooks within 24 hours of the event.
- 1.8 All Microlights must be presented to a person holding an Inspection Authority issued by an Aviation Recreation Organisation every 12 months for an Annual Condition Inspection (103.217(c)).
- 1.9 All Microlight helicopters are classified as Class 2 microlights.
- 2.0 Microlight Altimeters must be calibrated and checked by an authorised person if a transponder is fitted to that aircraft.
- 2.1 Transponders fitted to Microlight aircraft must be tested and calibrated as per rule 91.605(e)3
- 2.2 Floatation equipment carried must be checked as per rule 91.605(e)8

### **3. Microlight Inspection Authority**

#### **1. Microlight Inspection Authority**

##### **1.1 Qualifications**

A person wishing to hold a Microlight Inspection Authority with SAC must be a client in good standing and meet the following minimum-qualifications in order of preference:

- (a) Licenced Aircraft Maintenance Engineer; OR
- (b) Engineering Trade Certificate and microlight maintenance experience; OR
- (c) Considerable experience in the maintenance and repair of microlights; OR
- (d) Experience in building, repair and maintenance of amateur-built aircraft or microlights.

##### **1.2 Minimum knowledge requirements**

- (a) A working knowledge of relevant Civil Aviation Rules 103 Subpart G.
- (b) Knowledge of standard aircraft maintenance practices, repairs to structures and fabrics. (AC43.13-I A refers).
- (c) Knowledge of materials used in microlights, their properties, equivalents and aircraft hardware.
- (d) Knowledge of propeller construction, defects, repair and balancing.
- (e) Knowledge of 2 and 4 cycle engines, carburettion, ignition, cooling, generation and installation in microlight aircraft;
- (f) Knowledge of aircraft radio and aerial installation;
- (g) Knowledge of modification procedure for microlight aircraft and effect of modifications on weight and balance, performance and structural integrity.

- (h) In-depth knowledge of the Flight Permit validation procedure, and the responsibilities of being an inspector.
- (i) Familiarity with Part 43, Appendix C, as stated in Rule 103.217(d)(2).

## **2. Application Procedure**

- 2.1 Persons meeting the criteria set out above may apply to SAC for the granting of an Inspection Authority, using application form SAC Form 8.10.
- 2.2 Applicants should attach to this form any available supplementary evidence regarding qualifications or experience.
- 2.4 Applicants will be examined by the SAC Technical Officer against the qualifications and knowledge requirements on this page. Successful applicants will be placed on the next induction course.
- 2.5 The SAC Board of Directors will screen the application together with the recommendations of the Technical Officer. If approved, the Board will allocate an Authority Number to be used on all Inspections carried out by the Authority Holder.

## **3. Training**

- 3.1 SAC may run engineer induction and refresher training courses as required for persons wishing to become Inspection Authority holders and for existing Inspection Authority holders.
- 3.2 SAC may also authorise an existing Inspection Authority Holder to supervise and provide on-the-job training for any new applicant.

**4. Validity**

- 4.1 An Inspection Authority holder will remain valid, while they maintain a current SAC annual membership, subject to the SAC Technical officer, who may at any time, require a competency check be carried out or revokes their certificate at his/her discretion.

**5. Aircraft Inspection Procedure**

- 5.1 When an aircraft is due for permit revalidation, the operator shall contact an Inspection Authority Holder and ensure the aircraft is presented for inspection in a clean condition located out of the weather on firm dry ground.
- 5.2 The Inspection Authority Holder must gain the operator's permission to gain access to the inner structure for inspection purposes.
- 5.3 The Inspection Authority Holder shall carry out the Annual Condition Inspection to SAC Form 8.81. This form is used for both Class one and class two aircraft. Circle which is applicable at the top of the form.
- 5.4 If the Inspection Authority Holder finds any defects or wear that is unacceptable, these items must be listed and handed to the operator who must be advised to take action to rectify the aircraft to an airworthy state.
- 5.5 Once the Inspection Authority Holder is satisfied the aircraft is airworthy, the Annual Condition Inspection form should be signed off and a certification sticker affixed to the aircraft in a prominent place adjacent to the point of entry.
- (a) The sticker shall have the following information on it:
- (i) Aircraft Registration
  - (ii) Date aircraft is due for next Annual Inspection
  - (iii) Signature, date, and number of the Inspection Authority holder.
- 5.6 Any defects found during the Annual Condition Inspection shall be reported to SAC on SAC Form 8.9

- 5.7 Any modifications that, in the opinion of the inspector, have an adverse effect on airworthiness should be treated as a defect and reported to SAC.
- 5.8 Modifications carried out on aircraft designed under BCAR Section 'S' or Transport Canada TP10141 should be supported by written evidence from the manufacturer or designer. If the operator cannot provide supporting evidence, the modification should be treated as a defect and reported to SAC.

**Note:** SAC recommends that Inspectors do not carry out annual condition inspections on their own aircraft when relinquishing for sale, due to possible contention with a new owner.

While the law does not prohibit Inspectors carrying out annual condition inspections on their own aircraft SAC feels it is advisable to have an independent inspection carried out by another SAC inspector.

## 4. Microlight Aircraft Modification

### 1. *Microlight Aircraft Modification*

For microlight aircraft accepted under other acceptable standards, refer to the standard for guidance regarding continued compliance.

**Note.-** *Modification of Microlight Aircraft which conform to Transport Canada Aviation TP10141E requires written approval from the kitset manufacturer to ensure continued conformity with this standard.*

- 1.1 Any Class 2 Microlight that is modified in any manner that may adversely affect the airworthiness of the aircraft shall not be flown until the modification has been assessed and accepted by the SAC Technical Officer.
- 1.2 The procedure for acceptance of any modification for aircraft not requiring conformity to a published acceptable standard is as follows-
  - (a) The aircraft owner requesting acceptance of a modification shall submit all relevant data, including photographs where possible, to the SAC Technical Officer with a request that the modification be accepted and enclosing the appropriate fee.
  - (b) The SAC Technical Officer will assess the modification, if necessary utilising qualified outside help, the cost of which will be chargeable to the aircraft owner.
  - (c) The Microlight will be inspected by the Technical Officer or an Inspection Authority Holder at the Technical Officer's request. The inspection Authority Holder or SAC Technical Officer may require a test flight programme of a specified duration before the modification is accepted.
  - (d) Where a flight test programme is specified, a Special Flight Permit will be issued for the duration of that programme by SAC. Upon satisfactory completion of the Flight Test Programme, the aircraft will be re-inspected by the Technical Officer or nominated Inspection

Authority Holder and the modification accepted or rejected.

- (e) Upon acceptance of a modification SAC will notify the owner and, in the case of a Class 2 Microlight, will re-validate the Flight Permit for a further one-year period.

**Note:** Aircraft owners should be advised to submit their proposed modification for assessment and acceptance before commencing modification work on their aircraft.



## 5. Defects

### 1. Defects

- 1.1 Details of Microlight Defects may be submitted to SAC by any operator.
- 1.2 Reports shall be made on the Defect Reporting Form SAC 8.9 contained in the Forms Section of the Manual. Defect Reports should be brief and concise, and should be submitted within 1 month of the occurrence.
- 1.3 This is a Mandatory Reporting Scheme, designed to advertise to other Microlight operators any safety related matter involving the maintenance or operation of Microlight Aircraft, or other defects that individual operators have experienced and consider it advantageous that other operators be aware of.
- 1.4 Defects reported by this method will be assessed by the Technical Officer and Board of Directors, as part of their Meeting Agenda. If warranted, SAC. will publish them in the Official Medium. In any case, a monthly summary of Reports received will be forwarded to the Director, Civil Aviation Authority.
- 1.5 Defect Report details will be recorded by SAC. and will be held by the Company Secretary. Reports will be analysed when necessary to determine trends detrimental to safety, in accordance with the procedure.
- 1.6 It should be noted that the submission of this form to SAC. does NOT absolve the operator from compliance with any requirement in the Civil Aviation Act with respect to the notification of Aircraft Accidents.

## **6. Safety Directive & Airworthiness Directive Compliance**

### **1. General**

- 1.1 From time to time CAA and SAC may issue an Airworthiness Directive or Safety Directive when it is known that a defect affecting flight safety is occurring in an aircraft. This information may originate overseas or in New Zealand based on defect reports submitted to CAA or SAC.
- 1.2 All Airworthiness Directives will originate from CAA while Safety Directives will originate from SAC or another Part 149 Organisation.
- 1.3 SAC will publish Airworthiness Directives and Safety Directives in the Official Medium.
- 1.4 It shall be the operator's responsibility to comply with an Airworthiness Directive or Safety Directive.
- 1.5 A Microlight aircraft that is not in compliance with an applicable Airworthiness or Safety Directive shall not be flown.
- 1.6 Class 2 Microlight compliance with Airworthiness Directives and Safety Directives shall be checked upon the annual revalidation of the Flight Permit.

## **7. Service Bulletin or Aircraft Change Assessment and Dissemination**

### **1. General**

- 1.1 SAC will approach New Zealand Manufacturers and Importers of aircraft and equipment for subscriptions for Service Bulletins or Aircraft Change Notifications.
- 1.2 Service Bulletins will be assessed by the Technical Officer and the Board of Directors, and, if warranted, SAC. will publish them in the Official Medium.
- 1.3 It shall be the operator's responsibility to comply with the Service Bulletin.
- 1.4 In the case of Service Bulletins classified as MANDATORY by the Manufacturer, Class 2 Microlight compliance will be checked upon revalidation of the Flight Permit document.

## 8. Microlight Type Acceptance

### 1. **Class 1 Microlight**

- 1.1 SAC is responsible for acceptance and clearance of the design. Class 1 Microlight Aircraft are not subject to a Flight Permit, but must still be registered using Form CAA 24103/02 and are subject to an annual condition inspection report.

### 2. **Acceptance procedure**

- 2.1 For the first of a new type of Class 1 Microlight, the owner must submit to the SAC Board of Directors:
- (a) sufficient documentary evidence in the form of designs or specifications that the Microlight conforms to the definition of a Class 1 Microlight; and
  - (b) a written request for acceptance, PRIOR to application to the Civil Aviation Authority for Registration.
- 2.2 The SAC Technical Officer may request an Inspection Authority Holder to physically inspect the aircraft and provide written verification of conformity of the aircraft to SAC.
- 2.3 In the case of Microlights certified in another country acceptable under CAR Part 103, the Owner must produce verification from the relevant Civil Aviation Authority or the Manufacturer that such certification exists and has been complied with.
- 2.4 Certification from the operator will be required that the aircraft is built in accordance with the Manufacturer's instructions.
- 2.5 SAC will verify conformity to the definition and confirm such verification to the operator, who should submit the SAC acceptance document along with the Registration Application to CAA.
- 2.6 Where a hang-glider wing is to be used in the group, microlight configuration verification shall be sought for the

specific wing from the Hang-Gliding and Paragliding Association as being a satisfactory combination for flight.

- 2.7 Class 1 Microlights are subject to an annual inspection of condition. SAC Form 8.81 or 8.11 (Class 1 Aircraft) is to be used for this purpose. On meeting the requirements of the inspection, a serialised Inspection Validity Sticker valid for one year will be attached to the airframe in a prominent position.

### **3. Class 2 Microlights**

- 3.1 CAA is responsible for acceptance and clearance of the design of Class 2 Microlight Aircraft but may delegate the pre-certification inspection from time to time to SAC.
- 3.2 Class 2 Microlights are subject to a Microlight Flight Permit document, which is issued for the life of the aircraft, and revalidated annually by an inspection of the aircraft conducted by an Inspection Authority Holder.
- 3.3 No person shall fly a class 2 Microlight aircraft unless a valid flight permit has been issued.
- 3.4 Any changes of engine or propeller different to the details printed on the flight permit deems that permit invalid and the aircraft must not be flown until a new flight permit has been issued.
- 3.5 A Microlight Flight Permit may only be issued if the aircraft has had Registration Marks allocated by CAA as described in this Manual, has been inspected for Conformity with the Type Design, and the standard of workmanship checked as satisfactory by an SAC Inspector.
- 3.6 The Microlight Flight Permit document must be carried on the aircraft at all times, in a place accessible for inspection.
- 3.7 Class 2 Microlight aircraft are required to complete an Annual Condition Inspection Annually. This inspection is carried out by an Inspection Authority Holder to SAC Form 8.8
- 3.8 On meeting the requirements of the inspection a serialised Inspection Validity Sticker valid for one year will be attached to the airframe in a prominent position.

- 3.9 Inspection Authority Holders should have to hand such information pertaining to the Microlight Aircraft or Rotorcraft being inspected as SAC may issue from time to time.
- 3.10 Microlights must have a certificate of registration under part 47 CAA rules and meet basic low performance and momentum parameters acceptable to the director.
- 3.11 Endurance testing is required for new Microlight aircraft. The time period is based on how it was constructed. See (CAA rule 103.211).
- 3.12 After the endurance testing the pilot in command must enter the appropriate details as per (CAA rule 103.213) in the aircraft logbook.
- 3.13 Placards required on class 2 Microlight aircraft include:
- Certificated or design gross weight which ever is lesser.
  - Maximum and minimum payload for the aircraft.
  - Passenger warning – “This aircraft does not require an airworthiness certificate”

## 9. Hanglider Towing Aircraft

### 1. *Aircraft equipment and requirements.*

- 1.1 The Microlight aircraft must be equipped with a towing installation enabling the tow pilot to release the tow rope at any time, comprising a tow hook and attachment assembly which meets the aircraft design standard.
- 1.2 The towing aircraft must have a rear vision mirror.
- 1.3 The towing aircraft must have a tow line which has a weak link incorporated at the tow plane end with a breaking strength of not more than a 100kgs.
- 1.4 The hang glider must be equipped with a quick release mechanism for hang glider pilot activation with a simple and positive releasing action with tow rope loads of up to 100kgs rearward from the tow hook within a cone of 45 degrees upwards, 30 degrees downwards and 30 degrees sideward.