

Revision 1

Adventure Aviation: Microlight Aircraft Operations

13 June 2023

General

Civil Aviation Authority (CAA) Advisory Circulars (ACs) contain information about standards, practices, and procedures that the Director has found to be an **acceptable means of compliance** with the associated rule.

Consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices, or procedures are found to be acceptable they will be added to the appropriate AC.

Purpose

This AC describes an acceptable means of compliance with Civil Aviation Rule Part 115, *Adventure Aviation, Initial Issue: Certification and Operations*, relating to microlight aircraft operations.

Related Rules

This AC relates to Civil Aviation Rule Part 115 – specifically Subpart P – Microlight Aircraft Operations, Parts 61, 91 and 103.

Change Notice

Revision 1 clarifies rule 115.811, *Minimum heights*, updates format and style to align with current ACs, and adds a Version History.

Version History

History Log

Revision No.	Effective Date	Summary of Changes
0	28 April 2016	Initial issue of this AC.
1	13 June 2023	Clarifies rule 115.811, <i>Minimum heights</i> Updates format and style to align with current ACs Adds a Version History

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Rule 115.801 Airworthiness

The intent of this rule is to limit adventure aviation microlight operations to Class 2 microlight aircraft with a flight permit issued by the Director under section 9 of the Civil Aviation Act (the Act), Part 103 and conforming to the type design standards detailed in rule 103.207.

Rule 115.803 Instruments and equipment

- (a) Microlight aircraft operating under this Subpart must be equipped with the applicable instruments and equipment specified in rules 91.509 and 103.221(a) with a means of indicating:
- (i) airspeed
 - (ii) Mach number, if the speed limitation specified in the aircraft flight manual is expressed in terms of Mach number
 - (iii) altitude in feet
 - (iv) magnetic heading
 - (v) fuel tank contents, other than auxiliary fuel tank contents
 - (vi) engine revolutions of each engine
 - (vii) oil pressure of each engine using a pressure lubricating system
 - (viii) coolant temperature of each liquid-cooled engine
 - (ix) oil temperature of each engine rated at over 250 brake horsepower using a pressure lubricating system
 - (x) manifold pressure of each supercharged or turbocharged piston engine, and each piston engine fitted with a constant speed propeller
 - (xi) cylinder head temperature of each air-cooled piston engine rated at over 250 brake horsepower
 - (xii) flap position, if flaps are fitted, unless the position of the flaps can be determined visually by the flight crew member
 - (xiii) landing gear position, if the aircraft has retractable undercarriage
 - (xiv) the correct functioning of electrical power generating equipment, and
 - (xv) the presence of carbon monoxide in the cabin if the aircraft is fitted with an exhaust manifold cabin heater or a combustion cabin heater.
- (b) Microlight aircraft must be equipped with an automatic 406 MHz emergency locator transmitter (ELT) or at least one person be equipped with a personal locator beacon (PLB) or ELT (S) as per rule 91.529, which must be registered and maintained in

accordance with rule 91.605(e). The beacon can be registered online at <http://beacons.org.nz/> .

A Class 2 microlight aircraft on adventure aviation operations does not have to comply with the seat requirements of rule 91.501(2)(i). However, operators should consider for aircraft fitted with lap seat belts only if best practice would suggest the fitment of harness and/or inertial reel systems for the pilot and passenger is justified. If a decision to do so is made, the standard modification approval system for Class 2 microlight aircraft is to be followed.

Although not required by rule 115.803, operators of microlight aircraft, especially for flex wing aircraft with generally lighter structure, should consider the installation of ballistic recovery parachutes as a best practice option to provide structural redundancy not otherwise available to the design.

Rule 115.805 Maintenance

The intent of this rule is to ensure that the inherent airworthiness of a microlight aircraft is maintained throughout its operational life.

Any maintenance performed must ensure the microlight aircraft continues to meet the type design standards. Every applicable airworthiness directive (AD) must be complied with, any defects rectified, and an annual condition inspection carried out. If fitted with transponder or floatation equipment the applicable requirements of rule 91.605(e) should be complied with.

The maintenance programme required by rule 115.61 is a compilation of the individual maintenance and inspection functions used by an operator, and listed on the operations specification, to maintain airworthiness of the specific microlight aircraft.

The maintenance programme consists of:

- (a) instructions and procedures that maintenance is to be performed in accordance with, which must be equivalent to paragraph (b), and
- (b) a schedule of the maintenance actions including required inspections and tests of the microlight aircraft and its components together with details of parts and areas that:
 - (i) must be inspected, and
 - (ii) could result in a failure, malfunction, or defect endangering the safe operation of the aircraft.

The instructions and procedures define **how** maintenance requirements as defined in rule 115.61 are to be carried out and must be equivalent to:

- (a) the applicable requirements prescribed in Subpart G of Part 91, and
- (b) the manufacturer's maintenance schedule.

The maintenance programme must include procedures for:

- (a) recording defects including examples of records

- (b) the correction or deferral of defects found during maintenance
- (c) inducting a microlight aircraft onto the maintenance programme
- (d) ensuring that every inspection required by the programme is performed, and
- (e) the retention of maintenance records under rule 91.623.

The maintenance programme must include a schedule for performance of required maintenance expressed in terms of:

- (a) time in service
- (b) cycles
- (c) calendar time, and
- (d) number of system operations or any combinations of these, including an annual condition inspection.

The annual condition inspection must be performed or supervised by a person who holds an appropriate qualification issued by the Director under the Act and Part 66.

The annual condition inspection form must include:

- (a) aircraft registration
- (b) aircraft type, and
- (c) the date at which inspection is due, and
- (d) signature, name and certificate or license number of the person carrying out the inspection.

A signed copy of the inspection form should be attached to the microlight in a prominent place adjacent to the point of entry. Details of maintenance carried out and certification must be entered in the appropriate maintenance logbooks for the microlight in accordance with rule 91.617.

Rule 115.807 Technical log

Adventure aviation microlight aircraft operators must provide a technical log for the microlight aircraft to record:

- (a) the name of the operator
- (b) the registration mark, type, and model of the aircraft
- (c) the identity of the maintenance programme or schedule required under rule 115.61 to which the aircraft is maintained
- (d) a statement of the maintenance status of the aircraft, including:

- (i) the identity of the next scheduled inspection and the date or hours due, and
 - (ii) any requirement under rule 43.103(a)(4)(i) for an operational flight check to be carried out
- (e) the date or hours at which any other maintenance is due prior to the next scheduled inspection
- (f) the date at which the next annual condition check is due
- (g) the daily hours flown
- (h) the total time in service
- (i) if applicable:
 - (i) the daily cycles used, and
 - (ii) the total cycles
- (j) any defects found during the pre-flight inspection, during a flight, or following a flight
- (k) details of the rectification of defects that occur between scheduled inspections and the certification for release-to-service for the rectification, and
- (l) details of any deferred rectification of defects including any instruments and equipment that are inoperative in accordance with rule 91.537.

The operator of a microlight aircraft must ensure that the information is accurately recorded in the technical log and is current.

The holder of an adventure aviation operations certificate issued in accordance with Part 115 may record in a format other than in the technical log:

- (a) the identity of the next scheduled inspection and the date or hours due
- (b) the date or hours at which any other maintenance is due prior to the next scheduled inspection
- (c) the total time-in-service, and
- (d) the total cycles

if that format and the associated procedures detailed in the exposition are acceptable to the Director, and the information is accurate and available to the pilot-in-command (PIC) on request.

Rule 115.809 Pilot qualification and experience requirements

For a person to act as PIC of a microlight aircraft operating under Part 115, they must:

- (a) hold a current and appropriate commercial pilot licence

- (b) hold an appropriate aircraft type rating for the aircraft, and
- (c) have acquired at least:
 - (i) 200 hours' flight time experience as PIC of an aircraft, and
 - (ii) 30 hours' flight time experience as pilot-in-command of the type of microlight aircraft used for the adventure aviation operation.

Rule 115.811 Minimum heights

This rule confirms that two rules, rules 91.311(c) and 103.153, (which allow pilots of microlights on private operations to fly below 500 ft above the surface in some circumstances) are not available during adventure aviation operations performed under Part 115. This means that the PIC of a microlight aircraft operating under Part 115 must not operate:

- (a) over a congested area of a city, town, or settlement
- (b) over any open-air assembly of persons, or any obstacle that is within a horizontal radius of 600 metres from the point immediately below the aircraft, or
- (c) at a height of less than 500 feet above the surface except for take-off or landing.