

Adventure Aviation: Special Aircraft Operations

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 under Civil Aviation Rule Part 115 *Adventure Aviation Certification and Operations* relating to special aircraft operations.

Related Rules

This AC relates to Civil Aviation Rule Parts 115 – specifically Subpart O *Special Aircraft Operations*. It also refers to requirements in the operating rules of Parts 12, 43, 61, 91, 100, 101, 103 and 141. It also refers to Part 1, which provides for definitions and abbreviations used in the Civil Aviation Rules.

Change Notice

Revision 1 updates format and style to align with current ACs, moves a table to Appendix A, to make it easier to read, and adds a Version History.

Version History

History Log

Revision No.	Effective Date	Summary of Changes
0	24 June 2016	Initial issue of this AC.
1	13 June 2023	Updates format and style to align with current ACs Moves a table to Appendix A, to make it easier to read Adds a Version History

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Definition

For the purposes of this AC, ***Special Aircraft Operations*** is the operation of a standard category aircraft doing special (non-standard) activities, including, but not limited to, aerobatics or formation flights with passenger/s on board, flights where the passenger will be manipulating the controls, or a special category aircraft (primary, LSA or limited) doing standard operations.

See also Part 1 of the Civil Aviation Rules for other terms.

Rule 115.751 Aircraft airworthiness

The intent of this rule is to require that each aircraft used to conduct a special aircraft operation has an airworthiness certificate in either a:

- (a) *standard category* airworthiness certificate, or
- (b) *special category: primary* airworthiness certificate, or
- (c) *special category: LSA* airworthiness certificate, or
- (d) *special category: limited* airworthiness certificate,

as long as the flight manual for the aircraft permits the aircraft to be used for the types of manoeuvres intended to be performed on the operation.

Rule 115.753 Instruments and equipment

An aircraft operating under Subpart O must be equipped with instruments and equipment that meet the requirements of rule 91.509 with a means of indicating:

- (a) airspeed
- (b) Mach number, if the speed limitation specified in the aircraft flight manual is expressed in terms of Mach number
- (c) altitude in feet
- (d) magnetic heading
- (e) fuel tank contents, other than auxiliary fuel tank contents
- (f) engine revolutions of each engine
- (g) oil pressure of each engine using a pressure lubricating system
- (h) coolant temperature of each liquid-cooled engine
- (i) oil temperature of each engine rated at over 250 brake horsepower using a pressure lubricating system

- (j) manifold pressure of each supercharged or turbocharged piston engine, and each piston engine fitted with a constant speed propeller
- (k) cylinder head temperature of each air-cooled piston engine rated at over 250 brake horsepower
- (l) flap position, if flaps are fitted, unless the position of the flaps can be determined visually by the flight crew member
- (m) landing gear position, if the aircraft has retractable undercarriage
- (n) the correct functioning of electrical power generating equipment
- (o) the presence of carbon monoxide in the cabin if the aircraft is fitted with an exhaust manifold cabin heater or a combustion cabin heater.

The aircraft must be equipped with an automatic 406 MHz emergency locator transmitter (ELT) as per rule 91.529, which must be registered. The beacon can be registered online at <http://beacons.org.nz/>.

An aircraft is not required to carry a 406MHz ELT if:

- (a) equipped with no more than two seats (pilot(s)included), and
- (b) operated not more than 10 nm from the aerodrome from which it took off.

Rule 115.755 Aircraft maintenance

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

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

The maintenance programme consists of:

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

Maintenance instructions and procedures

The maintenance requirements as defined in rule 115.61 must be carried out to a standard equivalent to:

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

They must include procedures for:

- (a) recording defects, including samples of records
- (b) defect rectification and deferral of defects found during maintenance
- (c) inducting an aircraft onto the programme
- (d) ensuring that every maintenance action required by the programme is performed
- (e) retaining maintenance records under rule 91.623, and
- (f) retaining a description of work performed or reference to data acceptable to the Director and name of person certifying release-to-service, if work is performed outside the applicant's maintenance organisation.

Maintenance schedule

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 a review of airworthiness under rule 91.615.

Rule 115.757 Pilot qualifications and experience requirements

For a person to act as pilot-in-command (PIC) of an aircraft used to perform a special aircraft operation operating under Part 115, they must:

- (a) hold an appropriate and current commercial pilot licence
- (b) hold a valid aircraft type rating for the aircraft used for the operation
- (c) for single piston engine powered aeroplanes or helicopters special aircraft operation have:
 - (i) a minimum of 200 hours' flight time experience as PIC
 - (ii) at least 30 hours' flight time experience as PIC on the category of aircraft being used for the operation, or
 - (iii) for multi or turbine engine aeroplanes or helicopters, at least 300 hours' flight time experience as PIC, and
 - (iv) at least 30 hours' flight time experience as PIC on the category of aircraft being used for the operation

- (d) for single piston engine aeroplanes carrying out an adventure aviation aerobatic operation or a formation flight operation, or a simulated military operation, have 300 hours' flight time experience as PIC
- (e) for aeroplanes or helicopters carrying out an adventure aviation aerobatic operation or a formation flight operation, or a simulated military operation, hold a current aerobatic rating, and at least:
 - (i) 30 hours' flight time experience as PIC carrying out the types of manoeuvres to be performed during the operation
 - (ii) 300 hours' flight time experience as PIC, or
 - (iii) 30 hours' flight time experience as PIC carrying out the types of manoeuvres to be performed during the operation.

Appendix A: Pilot qualifications and experience requirements

Pilot Qualifications and Experience Requirements							
Qualification Operation Type	Current CPL	Aircraft Type Rating	Aerobatic Rating	Hours PIC Experience		May be included as part of total experience	
				single engine	multi or turbine engine	Min 30 Hrs as P in C on the Cat. Of A/C being used.	Min 30 Hrs as P in C carrying out the type of manoeuvres to be performed.
Special Aircraft Operation	✓	✓		200	300	✓	
Aerobatic Op	✓	✓	✓	300	300	✓	✓
Formation Flight Op	✓	✓	✓	300	300	✓	✓
Simulated Military Op	✓	✓	✓	300	300	✓	✓