

## Product Certification–Airworthiness Certificates in the *Special Category*

30 September 2015

### General

Civil Aviation Authority advisory circulars contain information about standards, practices and procedures that the Director has found to be an **acceptable means of compliance** with the associated rules in the Civil Aviation Rules.

An acceptable means of compliance is not intended to be the only means of compliance with a rule, and 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 advisory circular.

An advisory circular may also include **guidance material** to facilitate compliance with the rule requirements.

### Purpose

This advisory circular provides guidance and acceptable means of compliance with the *special category* airworthiness certification requirements under Civil Aviation Rule Part 21 Subpart H.

### Related Rules

This advisory circular relates specifically to Civil Aviation Rule Part 21 Subpart H *Airworthiness Certificates*.

### Change Notice

Revision 3 makes the following changes to this advisory circular.

- Introduces the additional subcategories of *special category* to align with the updated requirements of Part 21.
- Deletes reference to special flight permits which are now covered in advisory circular AC21-9.
- Re-numbers headings and subheadings as part of a systematic update to standardise the formatting of all advisory circulars. The renumbering is intended to clarify the content of the advisory circular.

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## 1. Introduction

Subpart H of Part 21 of the Civil Aviation Rules (Rules) together with section 9 of the Civil Aviation Act 1990 prescribes the requirements for the issue of airworthiness certificates for aircraft. Airworthiness certificates are issued in four categories—

- (a) *standard category; and*
- (b) *restricted category; and*
- (c) *special category; and*
- (d) *provisional category.*

The *special category* includes a number of subcategories to reflect different standards of airworthiness certification and some different specific classes of aircraft.

A *special category* airworthiness certificate can be issued to an aircraft, that cannot meet the criteria for the issue of an airworthiness certificate in the *standard category* or *restricted category*, such as ex-military, historic, or amateur - built aircraft, light sport aircraft (LSA), or primary category aircraft, or aircraft being used for experimental purposes for research and development or flight evaluation.

This advisory circular provides guidance to applicants for the issue of an airworthiness certificate in all the special subcategories, except amateur - built aircraft and LSA.

The following are other advisory circulars that are available for Part 21 Subparts H and I:

AC21-1	<i>Product Certification—Type Certificates and Type Acceptance Certificates</i>
AC21-1 Appendix 2	<i>List of Type Certificated and Type Accepted Aircraft Models—Appendix 2 to AC21-1</i>
AC21-2	<i>Product Certification—Airworthiness Certificates in the Standard and Restricted Category</i>
AC21-4	<i>Product Certification—Amateur - Built Aircraft</i>
AC21-9	<i>Special Flight Permits</i>

## 2. Special Category Airworthiness Certificates

### 2.1 General

Aside for some specific exceptions, rule 91.101 prohibits a person from operating an aircraft without a current airworthiness certificate. Airworthiness certificates are issued under Subpart H of Part 21 in one of four categories:

- (a) *standard category*:
- (b) *restricted category*:
- (c) *special category*:
- (d) *provisional category*.

Part 21 now provides for a series of subcategories under the *special category*, to cater for specific classes of aircraft and certification options. The purpose of the different subcategories is to recognise that the various privileges granted under an airworthiness certificate depend on the level of compliance with some type of airworthiness design standard able to be demonstrated for the aircraft.

The following are the *special category* subcategories.

#### (a) Experimental

A *special category—experimental* airworthiness certificate can be issued to aircraft that are being used for research and development and/or for showing that an aircraft is in compliance with the Rules. Aircraft in this category would typically be prototypes, or aircraft embodying a modification that is in the process of being approved. In addition, most *special category* aircraft will be issued with a special category—experimental airworthiness certificate initially, while they undergo a period of flight evaluation for the issue of any other subcategory special airworthiness certificate, to establish that they have no hazardous operating characteristics.

#### (b) Primary

The *special category—primary* airworthiness certificate corresponds to a specific Federal Aviation Administration (FAA) airworthiness category defined under regulation 21.24 of the Federal Aviation Regulations (FAR). An aircraft approved under this United States regulation can be issued with a type certificate, although the design standard might not qualify as being an equivalent under Appendix C of Part 21 for the issue of a *standard or restricted category* airworthiness certificate

#### (c) Light Sport Aircraft (LSA)

The LSA category was developed by the FAA and is recognised by many countries, although their implementation may vary in detail. LSA have a defined airworthiness process based on manufacturer declaration of compliance with ASTM “industry” consensus standards, with usually no involvement from the manufacturer’s national airworthiness authority. (Although EASA currently requires a type certificate for an LSA aircraft.) LSA may be used for hire and reward for flight training. As mentioned above, this advisory circular does not discuss the LSA category any further.

#### (d) Amateur - Built

The *special category—amateur - built* airworthiness certificate is intended to apply in the case of homebuilt aircraft, where the person constructing the aircraft has built the majority of the aircraft for his or her own education or recreation. As mentioned above, this advisory circular does not discuss the amateur - built category any further.

Note: Advisory circular AC21-4 provides details on the certification of amateur - built aircraft.

(e) Limited

*Special category—limited* airworthiness certificates may be issued to aircraft that have been built in a production environment and subject to some type of formal airworthiness review process. This could include acceptance by a recognised military service, or by another country whose civil design standards have not been shown to be equivalent to Appendix C of Part 21. Limited category is also available to aircraft which are no longer able to be issued with a standard or restricted category airworthiness certificate for some reason. Aircraft which are issued with a *special category—limited* airworthiness certificate may be able to be used for hire and reward operations under the provisions of Part 115. Examples of this class of aircraft include the de Havilland Vampire, North American Harvard, Yakovlev Yak-52, and the Auster series.

(f) Exhibition

*Special category—exhibition* airworthiness certificates may be issued to aircraft which are not suitable for any other subcategory provided they can still establish an acceptable level of safety. As this subcategory has the lowest level of proven airworthiness assessment, it is subject to the most severe limitations.

## 2.2 Purpose

One of the requirements that must be assessed when considering issuing a special category airworthiness certificate, is whether the Director is satisfied that the applicable certification requirements are met in respect of the purpose, for which the aircraft is to be operated.

The purpose is important because the Director has the power under section 7(3) of the Civil Aviation Act 1990, to impose such conditions on an airworthiness certificate as considered appropriate. As part of the certification process, an applicant must satisfy the Director that the aircraft is in a condition for safe operation. The purpose the aircraft is to be used for, will affect the Director's assessment of the acceptable level of safety. For example: the Director has imposed a prohibition on underslung lifting operations by *special category* helicopters, when it was discovered that some were being used for logging operations. Using the helicopters for logging operations was not declared, when the aircraft were originally certified. Therefore the safety implications for this type of operations had not been considered, in relation to the aircraft life-limited parts or the maintenance program.

## 2.3 Limitations and restrictions

Aircraft with a *special category* airworthiness certificate are subject to the operational restrictions specified in rule 91.105 applicable to their subcategory. Aircraft that are issued with a *special category* airworthiness certificate are subject to the following general limitations—

- (a) no operations involving the carriage of persons or goods for hire or reward except as provided in rule 91.105(b); and
- (b) unless taking off or landing, no operations over a congested area of a city or town, except with the written permission of the Director.

In addition, each subcategory of *special category* has a set of limitations specific to the class of aircraft (rule 91.105).

Appendix 2 provides a generic list of conditions that may be included on the airworthiness certificate, relating to the experimental and the limited or exhibition airworthiness certificate subcategories.

## 2.4 When is a special category certificate appropriate?

It is appropriate to apply for a *special category* airworthiness certificate if:

- (a) the aircraft type is not otherwise eligible for the issue of an airworthiness certificate in the *standard or restricted category*; or
- (b) the aircraft is to be used for a specific purpose that requires a *special category—experimental* airworthiness certificate.

CAA used to require an aircraft to operate with the highest category of airworthiness certificate for its type. In accordance with the principle that operating privileges should relate to the level of certification achieved, the CAA now allows type certificated aircraft to operate in one of the subcategories, if it is for a justifiable reason. This could be that type acceptance was difficult to obtain, because the manufacturer no longer existed, or was unwilling to provide technical support. Alternatively, it may be difficult to maintain strict type design conformity due to scarcity of original spare parts (for example: type certificated wooden propellers for vintage aircraft). However, the *special category* airworthiness certificate cannot be used, as a means to bypass normal airworthiness requirements for design changes.

For example, if an applicant wished to fit an uncertified engine, such as an automotive—derived engine, to a type certificated aircraft like the Cessna 150, this would only be appropriate for a *special category—experimental* airworthiness certificate as part of a programme, to evaluate or certify the engine. This is because the design rules for an aircraft type certificate require the engine itself to be type certificated. Such a *special category—experimental* airworthiness certificate would normally be issued with a period of validity of 12 months and may be subject to strict conditions such as—

- (a) a limited area of operation; and
- (b) required crew qualifications; and
- (c) use of an approved flight test schedule.

After a *special category—experimental* airworthiness certificate expires, to operate the aircraft a standard or restricted certificate will be required. Approval of the modification to allow the aircraft to remain in the *standard or restricted category* would require compliance with the original airworthiness design requirements.

### 3. *Special Category*—Subcategories

#### 3.1 *Special category*—*experimental* airworthiness certificate

An aircraft issued with a *special category—experimental* airworthiness certificate can only be used for the following purposes specified in rule 91.105(e):

- (a) Research and development of new aircraft design concepts, new aircraft equipment, new aircraft installations, new aircraft operating techniques, or new uses for aircraft. This would apply to a prototype aircraft for example, or a type certificated aircraft, which had been subsequently modified with new equipment or aircraft installations, or wanted to use a new type or technique of operation.
- (b) Showing that the aircraft complies with applicable airworthiness rules.
- (c) Performing flight evaluation. All candidates for one of the other subcategories of *special category* (except primary and LSA) are required to undergo a period of flight evaluation, to demonstrate function and reliability requirements, and to show they have no hazardous operating characteristics.
- (d) Giving conversion instruction for an aircraft type rating on the aircraft.

A *special category—experimental* airworthiness certificate issued for research and development would be required, when a test aircraft was in the prototype configuration. Once the design is proven, the aircraft would then need to show compliance with the Rules. For this reason, a *special category—experimental* airworthiness certificate can be issued for both purposes.

A *special category—experimental* airworthiness certificate can be issued to an existing aircraft, on which a new design change has been embodied, or to a completely new prototype aircraft. For an existing aircraft, when the configuration had been removed or approved, the aircraft would then revert back to operating under its original *standard or restricted category* airworthiness certificate.

When a *special category—experimental* airworthiness certificate is issued in support of a programme of product approval or certification, the CAA would generally expect to see an aircraft design organisation certificated under Part 146 involved, in the preparation and supervision of such a research and development programme.

#### 3.2 *Special category*—*amateur - built* airworthiness certificate

Advisory circular AC21-4 provides further details on certification of *amateur-built* aircraft.

#### 3.3 *Special category*—*primary* airworthiness certificate

To be eligible in the primary subcategory an aircraft needs to have been issued with a type certificate.

#### 3.4 *Special category*—*limited* airworthiness certificate

The *limited* subcategory is intended to apply to aircraft which have been built in a production environment, and subject to some previous formal acceptance process. This would include ex-military aircraft with a satisfactory safety record, from any country of service or manufacture.

It could also include older civil aircraft which were originally type certificated, but for which meeting type acceptance requirements would now be difficult because:

- (a) the design standards the aircraft was certificated to cannot be accepted by the Director as equivalent under Part 21 Appendix C (a)(2) or (b) (these are typically aircraft from the old Soviet Bloc countries):
- (b) the manufacturer is unable or unwilling to provide the information required by rule 21.43:

- (c) there is no manufacturer or type certificate holder currently supporting the aircraft type (although this is not necessarily an insurmountable obstacle to obtaining type acceptance).

The criteria applied includes that the aircraft should have been factory-produced in series, and have had a known satisfactory service history, with a full set of operating and maintenance documentation available. Aircraft that have previously operated on the civil register of a foreign country, which has similar operating rules to New Zealand may more easily meet these requirements. An aircraft designed primarily for experimentation or that had an unsatisfactory service accident record may not be acceptable. CAA should be contacted for advice on any type not previously operated in New Zealand.

Aircraft that are military variants of civil designs may be issued with a *special category – limited* airworthiness certificate. However, it is likely to be difficult for these aircraft to subsequently be granted *standard or restricted category* airworthiness certificate, unless full conformity can be shown with the civil approved type design, and evidence of conformity is provided as specified in rule 21.191(a).

Aircraft that held *standard or restricted category* airworthiness certificates, that expired under rule 21.179(b)(2) because the type acceptance certificate expired, may also be issued with a *special category—limited* airworthiness certificate.

### **3.5 Special category—exhibition airworthiness certificate**

The exhibition subcategory is available to any aircraft, which may not meet the criteria for the issue of any other subcategory of *special category*. Thus, as it is effectively the minimum category of airworthiness, it has the most severe limitations applied to protect the pilot and the public.

Examples of aircraft in this category would be:

- (a) one-off show or competition aircraft which were factory produced but do not have any airworthiness design standard certification:
- (b) very old aircraft, or replicas of very old aircraft, which predate the development of airworthiness design standards because of their age:
- (c) individual aircraft which would not meet the criteria for issue of other subcategories for some specific reason.



## 4. Airworthiness Certificate Issue Process – General

### 4.1 Application

An application for a *special category* airworthiness certificate must be made on form CAA 24021/06. This form is available on the [CAA website](#).

The completed application form should be submitted to the CAA no less than 28 days prior to the intended inspection date (refer to Section G of the form CAA 24021/06), to allow the CAA to process the application in time, for when the airworthiness certificate is required.

*Note: All charges associated with the issue of the special category airworthiness certificate will normally be invoiced to the aircraft's registered owner. The CAA will invoice another client if it receives a written request and that client has agreed in writing to accept the charges.*

### 4.2 Aircraft inspection

A CAA inspection of any aircraft is required prior to the issue of an airworthiness certificate, including all special subcategories. The purpose is to confirm that the aircraft is in a safe condition for flight, and meets the other rule requirements for the issue of the certificate. The CAA will send out a detailed letter to the applicant, explaining the process that will be followed, for the CAA survey and what will be expected to be provided in the way of records and aircraft access.

Applications for registration and issue of a *special category* airworthiness certificate should contain sufficient information for the CAA to correctly identify and enter the aircraft on the civil aircraft register. It is usually helpful for this purpose to include a photograph of the aircraft data plate if it has one.

Identification information may vary for an ex-military aircraft. The identification used by the CAA for civil registration of ex-military aircraft is normally the manufacturer's serial number rather than the service serial number. However the military designations assigned to the aircraft at the time of production may be used as the model designation (for example: Devon C.1 instead of D.H.104 Dove). If there is no original manufacturer's data plate, the CAA should be consulted to ensure the aircraft is correctly identified.

An application for the issue of a *special category—experimental* airworthiness certificate, for a prototype aircraft should include a three-view drawing or three-view dimensional photographs.

### 4.3 Limitations

Appropriate operating limitations in the form of conditions may form part of the *special category* airworthiness certificate, to protect the pilot and the general public.

A standard set of operating limitations for each subcategory of *special category* are specified on the reverse of the airworthiness certificate.

In line with the requirements of ICAO Annex 8 *Airworthiness of Aircraft*, the *special category* airworthiness certificate will contain the limitation, which the aircraft may not operate over any foreign country, without the permission of that country. Operators wishing to operate over a foreign country on a *special category* airworthiness certificate should request permission directly from the applicable national airworthiness authority of that country.

### 4.4 Duration

As it is intended for test purposes, a *special category—experimental* certificate is likely to be issued for a maximum period of no more than twelve months.

A *special category—experimental* airworthiness certificate issued for the purpose of flight evaluation of an aircraft prior to applying for another subcategory of *special category*, is likely to be issued for a minimum number of flight test hours. This number will depend on the aircraft type

and history, and will be discussed during the aircraft survey. It is likely to be the minimum time needed to complete the flight evaluation plus some reliability flying.

The other subcategories of *special category* would normally not specify an expiry date.

#### 4.5 Aircraft documentation

The applicant will be expected to use the full documentation which was previously used in the operating system, under which the type has shown a satisfactory operating history. This will include all applicable safety directives, mandatory modifications, or equivalent instructions.

##### (a) Flight manual

The applicant should nominate a document to be used as the flight manual. The document should be in English language and it could be the original military pilot's notes or a similar document from the previous operating system.

If a manual from a previous operating system is not available for some reason (for example: a very old aircraft), a flight manual should be produced by the applicant and submitted to the Director for acceptance.

For military manuals the Director may require changes to be made such as:

- (i) to delete reference to military procedures or limitations:
- (ii) to delete reference to equipment which has been removed.

Flight manuals should be comprehensive and contain a full set of operating limitations, normal and emergency procedures, and performance data.

*Note: Rule 21.203(a)(8) contains specific flight manual requirements for special category— limited aircraft.*

Flight manual changes, if required by the Director, should be produced by the applicant and submitted for acceptance. The document accepted as the flight manual will be referenced on the airworthiness certificate.

*Note: The aircraft documentation supplied to the Director may be copies rather than originals provided they are of an acceptable quality, are complete, and the information is legible.*

##### (b) Maintenance manual

The maintenance manual and continuing airworthiness information should be those publications specified by the manufacturer or a military authority. Applicants should also supply a list of any other relevant manuals for the engines, propellers, and components held, and provide the CAA access to these manuals as required.

One of the concerns of the CAA with non-type certificated aircraft is ensuring that the available continuing airworthiness information, particularly mandatory airworthiness directives, service bulletins or equivalent, and limitations related to component lives, etc. are complete and current. As the aircraft are not controlled by a state-of-design's national airworthiness authority, there is no centralised depository for such information to be readily accessed. The operator will be asked to demonstrate to the CAA that they have the latest available safety information applicable to the aircraft.

#### 4.6 Maintenance programme

Rule 91.605(b)(3) requires an applicant for an aircraft with a *special category* airworthiness certificate to have a maintenance programme approved by the Director. Approval of the maintenance programme should be completed before the aircraft can be inspected for the issue of the airworthiness certificate.

Note: Advisory circular AC91-12 provides additional information on maintenance programmes. A template is also available on the [CAA website](#).

#### 4.7 Registration marks

Part 47 requires that the aircraft display registration markings. However *special category* aircraft may have an identifiable paint scheme approved by the Director.

Note: Advisory circular AC47-1 provides further details on registration marks.

#### 4.8 Placards

The marking EXPERIMENTAL must be shown on the external fuselage surface near the entrance of an aircraft operating with a *special category – experimental* airworthiness certificate.

If passengers are permitted to be carried in a *special category* aircraft, a placard containing the following should be displayed in the aircraft in full view of all passengers:

**WARNING**

**THIS IS A SPECIAL CATEGORY – (Subcategory) AIRCRAFT AND DOES NOT MEET THE NEW ZEALAND CIVIL AVIATION AIRWORTHINESS REQUIREMENTS FOR A STANDARD CATEGORY AIRCRAFT TO CARRY PASSENGERS ON AN AIR TRANSPORT OPERATION.**

**PASSENGERS FLY IN THIS AIRCRAFT AT THEIR OWN RISK**

## 5. Rule 21.193: *Special Category – Experimental Certification Requirements*

### 5.1 Purpose

For aircraft to be issued with a *special category—experimental* airworthiness certificate for a purpose, other than performing a flight evaluation for the issue of another subcategory of special airworthiness certificate, the level of CAA’s involvement in assessing the application will depend on the nature of the flight testing to be carried out, and the type and certification status of the aircraft involved. This involvement will be determined on a case by case basis.

If the aircraft is to be used for purposes other than a simple flight test with minimal complications, the involvement of an aircraft design organisation certificated under Part 146 would be expected. This organisation could produce the flight test schedule and would be expected to supervise the testing.

For aircraft to be issued with a special category—experimental certificate for the purpose of performing a flight evaluation, the required flight test programme will be commensurate with the level of complexity of the aircraft type. The flight content, procedures to be used, form of recording, and the limitations imposed, will vary considerably.

The objective of a flight evaluation is to demonstrate that the aircraft—

- (a) is safely controllable throughout its normal range of speeds and manoeuvres (as defined in the flight manual); and
- (b) has no hazardous operating characteristics or design features.

In addition there may also be a period of flying to demonstrate the aircraft has satisfactory reliability.

The applicant should prepare a flight test programme taking into account the aspects noted in this advisory circular. For aircraft from a military system that uses a detailed post-maintenance test flight schedule, this would be acceptable. The CAA can provide a generic sample flight test template if required.

### 5.2 Personnel

The test pilot to be used for experimental flying must have a test pilot approval issued under rule 19.405.

The certificate would normally include a condition that no person, other than the test pilot, is to be carried while the aircraft is being flight evaluated. A designated engineer may be carried after a specified period of preliminary evaluation when the aircraft has been shown to be controllable and free of any hazardous feature, if so specified on the airworthiness certificate.

### 5.3 Area

The applicant is required under rule 21.193(1)(iii) to provide the details of the area over which the operation will be conducted.

As a guide, the area requested should usually—

- (a) be within a specified radius of the aircraft’s base of operation; and
- (b) not be over populated areas; and
- (c) not be in congested airspace.

The flight test area would normally be specified as an operating limitation in the form of a condition on the *special category—experimental* airworthiness certificate.

## 6. Rules 21.195 and 21.203: *Special Category – Exhibition and Limited Requirements*

### 6.1 Application

The applicant for a *special category—exhibition or special category—limited* airworthiness certificate should be able to demonstrate to the CAA, that the aircraft type has a satisfactory airworthiness history in previous service elsewhere. If the aircraft has no previous history there is no process available for an aircraft to be approved, other than for an amateur - built aircraft or a full type certification programme. All countries require some form of airworthiness process prior to issue of an airworthiness certificate, and therefore a situation should not normally arise where an aircraft is imported into New Zealand with no previous airworthiness history. In the case of a New Zealand designed aircraft, CAA should be consulted early in the project to agree the airworthiness process to be followed.

### 6.2 Conformity to an acceptable type design

An aircraft in the limited or exhibition subcategories will be expected to show conformity to a type design that has been shown, to provide an acceptable level of safety in previous service.

The difference between the *exhibition* and *limited* subcategories is that for the *limited* one the aircraft should have been produced in series, factory built in a controlled design environment and been accepted for civil or military operations. This means it would have been subjected to a formal acceptance process against defined airworthiness design standards.

Information regarding an aircraft type's operational history should be supported by a statement from a civil aviation authority, a military authority, or an appropriately certificated organisation.

If the operational record of the type discloses any unsatisfactory characteristics that the Director considers may be minimised, or avoided by the imposition of appropriate performance, physical, or area conditions, the aircraft may be accepted subject to these conditions being included on the airworthiness certificate. An applicant may be required to provide further information in support of such conditions.

(a) Life-limited components

Finite lives imposed on the aircraft type, or a component of the type design by a manufacturer, or a recognised military or civil authority, will apply unless otherwise accepted by the Director.

(b) Instrument markings

Instrument markings should be consistent with the flight manual limitations. Any placards required by the flight manual will be required to be installed. In accordance with Part 91, altimeters are required to indicate in feet.

### 6.3 Flight evaluation

Before an aircraft can be issued a *special category—limited* or *special category—exhibition* airworthiness certificate, the aircraft must complete the flight evaluation required by rules 21.203(a)(12) or 21.195(a)(9). On satisfactory completion of an aircraft inspection, and if all other requirements under the Act and Rules are met, the aircraft will be issued with a short-term *special category—experimental* airworthiness certificate for the purpose of flight evaluation.

The flight evaluation will be carried out in accordance with an acceptable flight test schedule, by a test pilot approved by the CAA under rule 19.405. As well as evaluating flight characteristics, the flight testing will be used to demonstrate a level of reliability of the aircraft. Therefore a minimum number of flight hours will be expected to be completed. This figure will be discussed at the time of issue of the special experimental certificate. Depending on the type and individual aircraft

history, the flight evaluation period for ex-military and historic aircraft would typically range from 5 to 15 flight hours.

When the period of flight evaluation has been completed the owner should submit—

- (a) documented results of the test flight programme by the test pilot showing that—
  - (i) the aircraft is controllable; and
  - (ii) no hazardous operating characteristics or design features were identified during the period of flight evaluation; and
- (b) a signed statement in the aircraft logbook by the test pilot with the following or similar wording—

*I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and manoeuvres, has no hazardous operating characteristics or design features, and is safe for operation.*

*The manoeuvres executed were:*

*(list all manoeuvres executed)*

#### **6.4 Modifications to aircraft with *special category* certificates**

For aircraft with *special category—limited* or *special category—exhibition* airworthiness certificates, the aircraft type design should be as defined by the applicable manufacturers or military publications. However some variations and design changes (for example avionics installations, or removal of non-required equipment, or material substitutions with modern replacements during an aircraft rebuild) can be accepted by the Director, prior to or during the aircraft inspection. The aircraft type design will then become that configuration at the time the airworthiness certificate is issued.

For modifications to an aircraft which have already been issued with a *special category—limited* or *special category—exhibition* airworthiness certificate there are two options:

- (a) the modification can be approved under Part 21 Subpart C where the applicable airworthiness requirements would be:
  - (i) those that applied for the issue of the airworthiness certificate; or
  - (ii) the civil airworthiness requirements that would have applied at the time that the aircraft was manufactured, if it had been type certificated:
- (b) apply for a re-issue of the airworthiness certificate to return the aircraft to a flight evaluation programme, commensurate with the level of complexity of the modification, to determine that the aircraft:
  - (i) is controllable; and
  - (ii) has no hazardous operating characteristics or design features.

## APPENDIX 1

### Operations for Airworthiness Certificate Categories

NEW ZEALAND AIRWORTHINESS CERTIFICATION					
NZ Manufactured Aircraft - Type Certificate Imported Aircraft - Type Acceptance Certificate		Non-Type Certificated or non-Type Accepted			Limitations or Restrictions
Airworthiness Design Standards iaw Part 21, Appendix C or Accepted Equivalents (see AC21-1)	Other Equivalent Airworthiness Design Standards to be Accepted by the Director	Full Type Design	Minimum One Test Flight	No Flight Test Programme	
		Some Type Design	Short Flight Test Programme		
		No Type Design	Full Flight Test Programme		
<b>STANDARD</b>				Nil	
	<b>RESTRICTED</b>				- No Air Transport Operations
	- Internal Dispensing Ag - International Ferry Flight - Special Purpose operations				
		<b>SPECIAL</b>			
		<u>Primary</u>	- Has type certificate in Primary Category		- Hire or Reward for flight training
		<u>LSA</u>	- Meets ASTM Industry standards		
		<u>Limited</u>	- Ex-Military or Historic (Production)		- Hire or Reward only under Part 115
		<u>Amateur-Built</u>	- Built by owner for recreation/education		- Non-Hire or Reward Ops
		<u>Exhibition</u>	- All other aircraft		- Limited Area - VFR Day
		<u>Experimental</u>	- Research and Development - Showing Compliance with Rules		- Limited Area - Limited Hrs - Crew Only
		<b>NOTE</b> <i>Excludes</i>	- <i>Microlight Aircraft</i> - <i>Hang Gliders</i>	<u>Special Flight Permits</u> - Ferry Flight - Production Flight Testing - Aircraft Evacuation.	- Specific Flights Only



## APPENDIX 2

### Example *special category* airworthiness certificate conditions that may be specified on a certificate

#### 1. *Special category—experimental* airworthiness certificates.

- (a) Prior to the operation of an aircraft pursuant to this *special category—experimental* airworthiness certificate, the aircraft shall be inspected by an appropriately rated and licensed aircraft maintenance engineer who shall issue a certificate of fitness for flight in duplicate. One copy to be carried on board the aircraft and one copy kept with the aircraft records. If the original airworthiness condition of the aircraft is affected during the period of validity the certificate shall be re-issued.
- (b) Operations are to be conducted within a XX nautical mile radius of XXXX airfield, not over populated areas or in congested airspace, unless otherwise authorised by the CAA in writing.
- (c) The aircraft shall be maintained in accordance with the existing maintenance programme for the aircraft.
- (d) The aircraft shall be flown only by test pilots approved under Rule 19.405 for test flying XXXX type aircraft. One flight test observer may also be carried, who must be approved in writing by XXXX. No person other than flight crew members required to perform a function essential to the operation of the aircraft shall be carried during the flight test, unless otherwise authorised by the CAA in writing.
- (e) If any person is carried on board the aircraft other than the test pilot, the placarding requirement in Rule 21.205 must be complied with.
- (f) The aircraft must be placarded with the word EXPERIMENTAL in letters at least 50mm high prominently on the external fuselage surface near the entrance to the aircraft.
- (g) Flights conducted under the authority of this airworthiness certificate shall be carried out by day VFR only.
- (h) Flight is not permitted into areas of known or forecast icing conditions.
- (i) Operations must be conducted in accordance with all the limitations and procedures in the CAA flight manual identified on the front of this certificate, except as superseded by the flight test schedule.
- (j) Flights must be individually authorised and carried out in accordance with a flight test schedule approved in advance by the CAA project engineer or the supervising Part 146 *Aircraft Design Organisations—Certifications*.
- (k) Continuous VHF radio contact must be maintained with the ground.
- (l) For spin testing a parachute must be worn by each person on board.
- (m) When operating pursuant to this *special category—experimental* airworthiness certificate the aircraft does not comply with the ICAO Annex 8.
- (n) The installation of any test equipment, including attachments and restraint, must be authorised by the supervising Part 146 Aircraft Design Organisation.

**2. Special category—limited or exhibition airworthiness certificates**

- (a) No person may operate this aircraft other than to accomplish the flight evaluation outlined in Rules 21.195(a)(9) or 21.203(a)(12).
- (b) The pilot-in-command of this aircraft shall hold a test pilot approval issued in accordance with Rule 19.405.
- (c) This aircraft shall be flown solo during the flight evaluation period.
- (d) No person may operate this aircraft for the carriage of persons or goods for hire or reward.
- (e) Operations shall be conducted in accordance with applicable air traffic control and general operating rules of Part 91, and all additional limitations prescribed herein.
- (f) An application must be made to the CAA for any revision to these limitations and conditions.
- (g) The initial flight evaluation period shall be a minimum of XX flight hours, or that time required to complete the flight test schedule agreed in writing with the CAA.
- (h) The initial flight evaluation period shall be conducted within the geographical area described as the area within XX nautical miles of XXXX airport.
- (i) The aircraft shall not be operated unless it is maintained in accordance with the maintenance programme approved for the aircraft under Rule 91.607. The identity of the maintenance programme must be recorded in the aircraft maintenance logbooks.
- (j) The CAA must be notified and their response received in writing prior to flying this aircraft after incorporating a major modification or repair as defined in Part 1.
- (k) No modification may be made to the basic type design of this aircraft, as defined by applicable military manuals, except in accordance with acceptable technical data as defined by Part 21 Appendix D.
- (l) This aircraft shall not be operated over a congested area of a city, town or settlement or over an open-air assembly of persons except with the written permission of the Director.
- (m) If any person is carried on board the aircraft other than the test pilot, the placarding requirement in Rule 21.205 must be complied with.
- (n) The aircraft must be placarded with the word EXPERIMENTAL in letters at least 50mm high prominently on the external fuselage surface near the entrance to the aircraft.
- (o) This aircraft is approved for day VFR operations only.
- (p) Flight into known or forecast icing conditions is prohibited.
- (q) No external load operations are permitted.
- (r) The operator of this aircraft shall notify the control tower of the experimental nature of this aircraft when operating into or out of airports with operating towers or when flying in a TMA.
- (s) This aircraft does not meet the requirements of the applicable, comprehensive, and detailed airworthiness code as provided in ICAO Annex 8. This aircraft may not be operated over any other country without the permission of that country.
- (t) The test flight schedule, test report, and logbook statement will be completed by the nominated test pilot.

- (u) Following satisfactory completion of the required number of flight hours in the flight test area, the test pilot shall certify in the logbook that the aircraft has been shown to comply with relevant Rules with the following statement:

*"I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its range of speeds and throughout all manoeuvres to be executed, and has no hazardous operating characteristics or design features, and is safe for operation." (List all manoeuvres executed)*