



Advisory Circular

AC21-3

**Product certification - Airworthiness certificates
in special category**

Initial Issue

01 July 2002

GENERAL

Civil Aviation Authority Advisory Circulars (AC) contain information about standards, practices and procedures that the Director has found to be an Acceptable Means of Compliance (AMC) with the associated rule.

An AMC 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.

This Advisory Circular also includes Explanatory Material (EM) where it has been shown that further explanation is required. Explanatory Material must not be regarded as an acceptable means of compliance.

PURPOSE

This Advisory Circular provides methods, acceptable to the Director, for showing compliance with the special category airworthiness certification rules set out in Part 21 Subpart D.

RELATED CAR

This AC relates specifically to Civil Aviation Rule Part 21.

CHANGE NOTICE

There was no previous issue of this AC, consequently no change is in effect.

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General

Except where the operation of an aircraft is for the purpose of demonstrating the eligibility of the aircraft for the issue, renewal, or reinstatement of an airworthiness certificate, to be eligible to operate in Papua New Guinea, rule 91.101 requires all aircraft to have a current airworthiness certificate.

Rule Part 21 Subpart D prescribes the requirements for issue of airworthiness certificates to aircraft in one of three categories—

- standard
- restricted
- special

This advisory circular provides information to applicants for airworthiness certificates in the special category only.

The special category includes experimental certificates and special flight permits.

EM 21.33 Purpose

The rule is self explanatory.

EM 21.35 Certificate categories

In addition to the standard and restricted category, the following airworthiness certificates may be issued under Part 21:

- a special category experimental certificate; or
- a special flight permit.

For the purpose of these rules, a special flight permit is equally considered to be a special category airworthiness certificate even though it is in the form of a permit.

Rule 21.35(b) states that the Director may prescribe conditions and limitations, and purposes on an airworthiness certificate.

Limitations and conditions

Aircraft issued with a special category experimental airworthiness certificate or a special flight permit are subject to any conditions and limitations prescribed by the CAA Airworthiness Authority as appropriate to the use of the aircraft, together with the operational restrictions specified in 91.105—

- no operations involving the carriage of persons, or goods, for hire or reward except for conversion instruction of the operator; and
- no operations over a congested area of a city, town, or settlement, or over an open air assembly of persons.

In all cases the Director may impose limitations to ensure the safe operation of the aircraft.

Purposes

The purpose for which a special category experimental airworthiness certificate or a special flight permit is issued will be prescribed on that certificate or permit.

The following are the purposes applicable in each case:

- (a) A special flight permit may be issued to an aircraft for a particular flight and for a series of flights for a specific purpose, including—
 - ferry flight (within Papua New Guinea)
 - aircraft evacuation
 - customer demonstration
- (b) A special category experimental certificate may be issued to an aircraft for one or more of the following purposes:
 - research or development
 - showing compliance with the Rules
 - operations under Part 91 for an aircraft not eligible for the standard or restricted categories.

EM 21.37 Application for certificate

Special category experimental certificate

An application for a special category experimental airworthiness certificate is to be made on form CAA 21/03. This form is available from the CAA Airworthiness Authority.

The completed application form, together with the prescribed application fee, must be submitted to the CAA not less than 28 days prior to the date requested for the inspection of the aircraft.

All charges associated with the issue of a special category airworthiness certificate will be invoiced to the aircraft's registered owner.

Reason for application

Applications can be for—

- the **issue** of a certificate if no certificate exists or the application is made after the expiry date of an existing certificate
- the **re-issue** of a certificate if that certificate has an expiry date and application is made before the expiry date
- the **amendment** of a certificate where an aircraft already holds an airworthiness certificate in the standard or restricted category

Aircraft description

The applicant should ensure correct model designations are used.

The data plate should be checked to ensure that the information corresponds to references in the aircraft's documentation. If differences are found then the reasons for them should be determined and the CAA advised.

Supporting data

The data required by 21.43(b) should be provided with the application to enable the aircraft type, its purpose, and any documentation relating to its operation to be identified.

If any required information is not available, this should be advised separately, with reasons, in a covering

letter with the application.

Special flight permit

An application for a special flight permit should normally be made on form CAA 21/04. This form is available from the CAA Airworthiness Authority.

All charges associated with the issue of a special flight permit 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.

If any required information is not available when the application is completed, this should be advised separately, with reasons, in a covering letter with the application.

Aircraft description

The applicant should ensure correct model designations are used. The data plate should be checked to ensure that the information corresponds to references in the aircraft's documentation. If differences are found then the reasons for them should be determined and the CAA advised.

Purpose

The intended purpose of the flight should be specified (Refer EM 21.45 below).

Grounds for request

The application should contain the supporting reasons for the special flight permit. (Refer EM 21.45 below).

Flight details

Details pertaining to the specific flight, or flights should be provided, including—

- the proposed route
- the date of the flight
- the proposed crew
- the proposed operating limitations

Inspection

A fitness for flight certificate should be completed by a licensed aircraft maintenance engineer and forwarded to the CAA with the application.

EM 21.39 Issue of certificate

Rule 21.39(3) requires the level of safety for a special category experimental certificate or a special flight permit to be adequate for the purposes for which the aircraft is to be used.

The requirements to be met in regard to a level of safety adequate for the purpose are described in more detail in EM 21.43 and include conformity to an acceptable type design and flight evaluation.

EM 21.43 Experimental certificate requirements

Eligibility

An aircraft will be accepted as eligible for issue of an experimental certificate if the applicant shows—

- the aircraft type is not otherwise eligible for the issue of an airworthiness certificate in the standard or restricted category
- the aircraft is to be used for a specific purpose that requires an experimental certificate

It is not normally possible to elect to use an experimental certificate for an aircraft that is otherwise eligible for the standard category or the restricted category.

Types of aircraft

Aircraft types eligible for experimental certificates may include—

- amateur-built aircraft
- production non-type certificated (ex-military) aircraft
- historic aircraft
- other aircraft that do not qualify for airworthiness certificates in the standard or restricted category
- aircraft, including those normally eligible for standard or restricted category, to be used for research or development
- aircraft, including those normally eligible for standard or restricted category, to be used for showing compliance with the Rules

Amateur-built aircraft

Amateur-built aircraft are treated separately to other special category aircraft. Information regarding amateur-built aircraft will be promulgated in a future Advisory Circular.

Ex-military aircraft

Ex-military aircraft from any country of service or manufacture are eligible subject to meeting the requirements of 21.43. Aircraft that have previously operated on the civil register of a foreign country, and under similar operating rules to Papua New Guinea, may more easily meet these requirements. An aircraft designed primarily for experimentation or that had a poor service accident record, may not be acceptable. The CAA Airworthiness Authority should be contacted for advice on any new type not previously operated in Papua New Guinea.

Aircraft that are military variants of civil designs may be issued with an experimental certificate but will not subsequently be accepted for a standard or restricted category airworthiness certificate unless—

- full compliance can be shown with the civil type design
- evidence of conformity is provided as specified in 21.41.

Other aircraft

Other aircraft eligible for an experimental certificate include—

- aircraft that have not been type certificated
- aircraft manufactured in another country for which the model has been type certificated in that country but cannot be type accepted in Papua New Guinea because—
 - the design standards the aircraft was certificated to cannot be accepted by the Director under Part 21 Appendix B (a)(2) or (b)
 - the manufacturer is unable or unwilling to provide the information required by 21.43
 - there is no manufacturer or type certificate holder currently supporting the aircraft type

Research and development aircraft

An aircraft to be used for research and development is eligible for issue of an experimental certificate to examine—

- a new design concept
- new aircraft equipment or aircraft installations
- a new type or technique of operation

Such an aircraft may be otherwise eligible for, or even hold, a standard or restricted category airworthiness certificate. The experimental certificate would be valid for a specified period of time, indicated by the applicant as necessary for the flight testing, and supersede any other airworthiness certificate.

An experimental certificate for research and development would normally only be issued in support of a programme of product approval or certification. A research and development programme is likely to require the involvement of an aircraft design organisation certificated under Part 146.

Aircraft to be used for showing compliance with the rules

An aircraft to be used for showing compliance with the rules is eligible for an experimental certificate for—

- flight testing to show compliance with the applicable airworthiness requirements
- flight testing required to substantiate major design changes
- showing compliance with the function and reliability requirements of 21.43(c)(1).

Such an aircraft may be otherwise eligible for, or even hold, a standard or restricted category airworthiness certificate. The experimental certificate would be valid for a specified period of time, indicated by the applicant as necessary for the flight testing, and supersede any other airworthiness certificate.

An experimental certificate for showing compliance with the rules would normally only be issued in support of a programme of product approval or certification. A programme of showing compliance with the rules is likely to require the involvement of an aircraft design organisation certificated under Part 146.

Experimental certificate requirements – 21.43(b)

An applicant should provide the Director with—

- a statement of the purpose for which the aircraft is to be used
- sufficient data to identify the aircraft
- a flight manual
- a maintenance manual and a maintenance programme to be used to maintain the aircraft in accordance with Part 91 and Part 43
- any other safety related information

Identification

The identification of an aircraft should be of sufficient detail to enable an understanding of the general design and principles of operation. The identification could include three-view drawings or three-view dimensional photographs.

Flight manual

The flight manual should be the manual that originally applied for the aircraft type subject to any changes required by—

- the Director; and
- the applicant depending on the aircraft's use or modification state.

The document could be Pilot's Notes, Pilot's Operating Instructions, or similar, and must be in the English language. If an original manual is not available, a flight manual should be produced by the applicant and submitted to the Director for acceptance.

Flight manuals should contain the following—

- limitations on—
 - speed
 - number of occupants
 - weight
 - loading data
 - engine operating data
 - fuel and oil capacities
 - critical manoeuvres
- emergency procedures for—
 - engine failure
 - fire
 - landing gear operation
 - flight control failure
 - electrical malfunction

- crew evacuation
- normal procedures for—
 - engine start
 - fuel management
 - take-off
 - landing
 - shutdown
- parameters for determining—
 - take-off and landing distance
 - if applicable, single engine climb

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

Maintenance manual

The maintenance manual should be the manual issued by the manufacturer or a military authority. Applicants should also supply a list of any other relevant manuals held and provide the CAA with access to these manuals as required.

The flight manual and the maintenance manuals supplied to the Director may be copies rather than originals provided they are of an acceptable quality, are complete, and the information is legible.

Maintenance programme

Rule 91.621(c) requires aircraft with a special category airworthiness certificate to have a maintenance programme approved by the Director. This approval of the maintenance programme is completed at the time of issue of the airworthiness certificate. The Papua New Guinea programme should be based on that specified by the aircraft's previous authority and should include—

- a description of the programme
- a schedule of maintenance actions
- a list of any finite life items
- the identification of any mandatory modifications or inspections
- instructions for the conduct of the maintenance actions including—
 - data references
 - personnel qualifications
 - tooling and equipment requirements

AC91-10 provides additional information on maintenance programmes.

Identification and marking

An applicant should ensure that the aircraft is identified and marked in accordance with Part 21 Subpart J and Part 47, including—

- an identification plate affixed to the aircraft containing its nationality and registration marks
- a data plate affixed to the aircraft containing—
 - the manufacturer's name
 - the model designation
 - the manufacturer's serial number

The information should be marked on a fireproof plate secured near the main point of entrance. The plates are the identity of the aircraft and are critical for the continued eligibility of the aircraft for operations in Papua New Guinea. Operators should ensure that the plates are treated with care.

A single plate may be used for complying with the requirements of Part 21 Subpart J and Part 47.

AC47-1 provide additional information on the identification and marking requirements for aircraft.

Identification information may vary for an ex-military aircraft. The military designations assigned to the aircraft at the time of production may be used as the manufacturer's name, the model designation, and the manufacturer's serial number. If the original identification plate is missing, a replacement plate may be accepted if there is substantial documentary evidence that the identity to be used is that of the aircraft being certificated.

Part 47 requires that aircraft normally display nationality and registration markings. Where a special paint scheme is desired for historic or display purposes that does not include the display of marks, the provisions for identifiable paint schemes contained in Part 47 must be complied with. AC47-1 provides further information.

Placards

The marking EXPERIMENTAL should be shown on the external fuselage surface near the entrance of an experimental aircraft.

If passengers are to be carried, a placard containing the following should be displayed in the aircraft in full view of all passengers—

WARNING – EXPERIMENTAL
THIS AIRCRAFT DOES NOT MEET THE PAPUA NEW GUINEA AIRWORTHINESS
REQUIREMENTS FOR STANDARD OR RESTRICTED CATEGORY AIRCRAFT.
PASSENGERS FLY IN THIS AIRCRAFT AT THEIR OWN RISK

Experimental certificate requirements – 21.43(c)

An applicant for an experimental certificate to conduct research and development or to show compliance with the rules should provide the Director with—

- the purpose of the test including details of the actual flight testing required
- the time and number of flights
- the area over which the test will be conducted

Purpose

For aircraft to be issued with an experimental certificate for purposes other than showing compliance with 21.43(c)(1), the level of CAA involvement will depend on the nature of the flight testing and type and certification status of the aircraft involved. This involvement will be determined on a case by case basis.

For anything 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 required and would be expected to supervise that testing.

For aircraft to be issued with an experimental certificate for the purpose of showing compliance with 21.43(c)(1) the required flight evaluation 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. In cases where type conformity has been partially established by other means such as documented history or previous testing, flight evaluation requirements may be reduced or limited to specific aspects of the aircraft.

The objective of a testing programme is to show that the aircraft is safely controllable throughout its normal range of speeds and manoeuvres, as defined in the flight manual, and that it has no hazardous operating characteristics or design features.

The applicant should prepare a flight evaluation programme taking into account the aspects noted in this AC. For aircraft from a military system that uses a detailed post-maintenance test flight schedule, this schedule would be acceptable.

Period

The applicant should contact the CAA Airworthiness Authority to establish a mutually agreed flight evaluation period. Depending on the type of aircraft and its components this period may be up to 20 flight hours.

The period of flight evaluation for ex-military and historic aircraft will not normally exceed 10-15 flight hours, dependent on available data and operational history.

The period of flight evaluation required for the issue of an experimental certificate to other aircraft types will be assessed on a case by case basis.

Personnel

The pilot proposed for the flight test should be specified. He or she will have to be acceptable to the CAA based on their experience and ratings and the nature of the aircraft and testing involved.

No person, other than the 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.

Area

The areas over which flight testing will be conducted are required by 21.43(c)(3) to be stated by the applicant.

As a guide, the area requested should usually—

- be within a 35 km radius of the aircraft's base of operation
- not be over populated areas
- not be in congested airspace

If the desired flight testing areas are accepted as providing adequate safety, they will be specified as operating limitations in the experimental certificate. Alternatively, other areas will be specified to provide adequate safety.

Experimental certificate requirements – 21.43(d)

The applicant for an experimental certificate for a purpose other than research and development or showing compliance with the rules must decide from the available data and aircraft history the method for showing that the aircraft provides an acceptable level of safety. The method chosen will largely be driven by economics, in that the expense of flight evaluation may be offset by the provision of historical or type design data.

The provision of evidence of an equivalent level of safety involves sufficient data to identify and operate an aircraft including—

- conformity to an acceptable type design
- flight evaluation

If these two factors are considered to be points on a spectrum, various combinations of either may provide sufficient information for the issue of an airworthiness certificate. For example—

- an aircraft with complete conformity data to a type that has been shown to be acceptable will still require at least one flight to validate the limitations and operating envelope contained in the flight manual
- an aircraft type that has conformity data to a type that has only partially been shown to be acceptable, such as an adequate operational history, may require some flight evaluation to validate this history
- an aircraft where little or nothing is known about the acceptability of the type may be shown to be airworthy by flight evaluation alone

Conformity to an acceptable type design

One method for achieving airworthiness certification is by showing conformity to a type design that has been shown to provide an acceptable level of safety for the purpose. There are two methods of this—

- showing the aircraft type design complies with an appropriate airworthiness design standard
- providing information concerning the airworthiness history of aircraft that conform to the type design

In both cases a minimum of one flight is considered necessary to validate the limitations and operating envelope contained in the flight manual.

Airworthiness design standard compliance. The following are examples of circumstances where this option may be possible—

- the aircraft is a military variant of a type certificated aircraft
- the aircraft is an example of a model that has been type certificated in a foreign country but has not been type accepted in Papua New Guinea
- the aircraft has been designed against military design standards that have been evaluated against an equivalent civil design standard

Aircraft type operational history. The second method for showing conformity to an acceptable type design involves providing details of the airworthiness history of the aircraft type. The applicant should provide information showing that—

- the level of safety of the type in service was reasonable
- the information attesting to the level of safety in service remains valid for the types of operation to be accepted for an experimental certificate
- an acceptable level of safety for the type has been experienced when certified by other civil authorities to standards not below those accepted for experimental certificates

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

The operational history of an aircraft type is only applicable if the aircraft has not been modified since the history was compiled, except for modifications accepted by the Director.

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

Conformity by flight evaluation

If an applicant only partially establishes that an aircraft conforms to an acceptable design another method for achieving airworthiness certification is by flight evaluation.

Flight evaluation should show that the aircraft is controllable and has no hazardous operating characteristics or design features.

The nature and extent of the flight evaluation will be commensurate with the level of complexity of the aircraft type, and whether any examples of the type have previously been accepted in Papua New Guinea or a foreign country with similar operating rules to Papua New Guinea.

The assigned test area, flight content, period of evaluation, procedures to be used, form of recording and the limitations imposed will vary considerably. In cases where type conformity has been partially established by other means such as documented history or previous testing, flight evaluation requirements may be reduced or limited to specific aspects of the aircraft.

The objective of a testing programme is to show that the aircraft is safely controllable throughout its normal range of speeds and manoeuvres, as defined in the flight manual, and that it has no hazardous operating characteristics or design features.

All manoeuvres satisfactorily conducted during the flight evaluation are to be documented for later assessment by the CAA. Any manoeuvres considered to be acceptable but not contained in the flight manual may be permitted by the Director as a condition on the experimental certificate or through an amendment to the flight manual.

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

- documented results of the flight programme showing that—
 - the aircraft is controllable
 - no hazardous operating characteristics or design features were identified during the period of flight evaluation

- a signed statement in the aircraft logbook with the following or similar wording—

I certify that the prescribed flight 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)

Aircraft records

Previous history of any aircraft is desirable so that the level of inspection for acceptability or the amount of flight evaluation can be kept to a minimum.

To be acceptable to the Director, all data should be supplied at no cost and, unless otherwise agreed by the Director, presented in the English language. Aircraft records will be required for the aircraft and should include—

- finite lives or fatigue limits and documentary proof of the time in service
- any changes have been made to the aircraft
- what maintenance system has been applied
- any mandatory inspections that have been carried out

Finite lives

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.

Finite lives should be recorded in the aircraft maintenance documentation to ensure component life is not exceeded.

Instrumentation markings

Except for the altimeter, or the ASI for IFR equipped aircraft, instrument markings should be consistent with the flight manual limitations and any placards required by the flight manual will be required to be installed. In accordance with Part 91, altimeters are required to indicate feet and, for IFR operations, ASI's are required to indicate knots.

Maintenance inspection

The minimum inspection required to be have been carried out must comply with Part 43 Appendix C.

The inspection and all work carried out on the aircraft must be certified by a person authorised under Part 66.

Modifications to aircraft with experimental certificates

For most experimental certificate aircraft there is no defined type design with the design being that configuration of the aircraft at the time the airworthiness certificate was issued.

Aircraft without certificates Modifications to an aircraft that are installed prior to the issue of the airworthiness certificate may be—

- accepted by the issue of the certificate, but only if they have been clearly identified by a logbook entry at the time of inspection and there is a complete technical description of the modification and evidence that the modification does not affect the safe operation of the aircraft
- approved under Part 21 Subpart F where the applicable airworthiness requirements would be—
 - those that will apply at the time of issue of the airworthiness certificate
 - the civil airworthiness requirements that would have applied at the time that the aircraft was manufactured, if it had been type certificated

Such modifications would normally be limited to the removal of redundant equipment or the installation of safety equipment and avionics. If any major modifications are contemplated it is recommended that the CAA be contacted for advice.

Aircraft with certificates. For modifications to an aircraft with an experimental certificate there are two options—

- have the modification approved under Part 21 Subpart F where the applicable airworthiness requirements would be—
 - those that applied for the issue of the airworthiness certificate
 - the civil airworthiness requirements that would have applied at the time that the aircraft was manufactured, if it had been type certificated
- 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—
 - is controllable
 - has no hazardous operating characteristics or design features

Aircraft inspection

A CAA inspection of the aircraft is required to ensure no hazardous operating characteristics or design features are present, and that the aircraft is in a safe condition for flight.

The applicant should be prepared to furnish the following to the CAA inspector—

- an aircraft complete and ready to fly except for cowlings, fairings, and panels opened for inspection
- an aircraft that has had the following carried out—
 - weight and balance measurements
 - rigging checks
 - retraction tests
 - aircraft and engine duplicate control checks
 - fuel flow checks
 - full power engine runs

- taxi tests
- a compass swing
- an aircraft certificate of registration
- a logbook of the aircraft, engine, propeller to allow for the review of maintenance records and the recording of the inspection and certification by the CAA inspector
- evidence that the minimum inspection required by Part 43 has been carried out.

The applicant should arrange for the aircraft and all required documentation to be available for inspection by the CAA in a well lit and sheltered place. This could be an aircraft hangar where there is adequate room for inspection. All work on the aircraft should have been completed. Personnel should be available to open cowlings, fairings, and panels for inspection purposes.

Airworthiness certificate issue

An experimental certificate may be issued if an applicant establishes that the aircraft provides an acceptable level of safety for the purpose intended. The requirements of 21.43 are to provide evidence of an equivalent level of safety and involves sufficient data to identify and operate an aircraft including—

- conformity to an acceptable type design
- flight evaluation

In particular, an applicant should provide the Director with the information prescribed in—

- 21.43(b) and (c) for an aircraft to be used for—
 - research and development
 - showing compliance with the rules
- 21.43(b) and (d) for an aircraft to be used for other purposes

If an applicant needs to flight test an aircraft in support of 21.43(d)(1) then an experimental certificate for showing compliance with the rules will be required. In this case an applicant will also be required to provide the information in 21.43(c).

Limitations

Appropriate operating limitations will form part of the experimental certificate. It is the responsibility of the pilot to conduct all flights in accordance with Part 91 and within the operating limitations.

The limitations may vary for each aircraft and will normally be derived from the test flight report or an operating document produced by a foreign airworthiness authority.

As a result of non-compliance with Annex 8 of the Convention on International Civil Aviation (ICAO), aircraft with experimental certificates will not be permitted to operate over any foreign country without the permission of that country. Operators wishing to operate in a foreign country on an experimental certificate should seek guidance from the CAA Airworthiness Authority before making an approach to a foreign Authority.

Changes to limitations may be applied as a result of the level of safety shown by the operational history of the aircraft under its experimental certificate. Such changes may, for example, include the addition or deletion of the permission to carry passengers.

EM 21.45 Special flight permit requirements

General

A special flight permit may be issued to permit the operation of an aircraft that does not have a current airworthiness certificate and therefore is not in compliance with 91.101.

The reasons for the required airworthiness certificate not being issued or renewed may include the need to complete one or more of the following—

- an inspection
- a flight test
- modifications
- repairs
- compliance with a maintenance programme

Use of permit

An applicant for a special flight permit should indicate the purpose for which the permit is required. The purpose may be—

- ferry flight
- flight testing
- aircraft evacuation

The purpose will be prescribed on the special flight permit.

Ferry flight

A ferry flight may apply to an aircraft that—

- does not comply with applicable airworthiness requirements
- has been damaged
- has inoperative equipment
- otherwise cannot meet the requirements of Parts 43 or 91

Under a special flight permit the aircraft may be ferried to a facility where work on the aircraft is to be performed or where the aircraft is to be stored. A special flight permit will only be issued if the flight can be shown to meet an acceptable level of safety.

Aircraft evacuation

A special flight permit may be issued to permit an aircraft to be flown out of areas that are, or are expected to be, dangerous. Factors that could make an area dangerous include—

- flooding
- earthquake
- extreme weather
- other natural disasters

Certificate of fitness for flight

Normally when circumstances require the issue of a special flight permit, a certificate of release to service cannot be issued because certain airworthiness requirements are not met. Before a special flight permit may be issued, a certification in respect of the aircraft's fitness for flight will be required to be provided to the CAA.

The certificate of fitness for flight is not a release to service for the aircraft.

A form of certificate of fitness for flight is shown in Appendix 1. Alternatively, for organisations issued with continuing authorisations, a certified logbook entry using the same wording may be used.

EM 21.47 Special flight permit - continuing authorisation

For the purpose of ferrying aircraft to their maintenance base, a special flight permit with a continuing authorisation may be issued to the holder of an air operator certificate issued under Part 119.

The issue of a special flight permit with a continuing authorisation requires conditions and limitations for the application of that permit to be inserted in the holder's exposition. These conditions and limitations should include—

- acceptable routes
- identification of aircraft types
- pilot qualification
- flight authorisation
- the form of certification of fitness for flight
- any other procedures or considerations to ensure the conduct of the flight meets the conditions of the authorisation

EM 21.49 Duration of certificate

Special category experimental certificate

A special category experimental certificate issued to aircraft for the purposes of private operation under Part 91 will normally be issued as a non-terminating document. Aircraft types to which this applies may include amateur built aircraft, production non-type certificated (PNC) aircraft, historic aircraft and those aircraft which are no longer supported by a current type certificate.

A special category experimental certificate issued to an aircraft for the purposes of research and development or showing compliance with the rules will normally be issued for a maximum period of 12 months.

Special flight permit

Except for special flight permits with a continuing authorisation, a special flight permit will be issued with an expiry date appropriate to the purpose for which it is issued.

EM 21.51 Transfer of certificate

Under this rule, the airworthiness certificate must remain with the aircraft when it is transferred from one owner or operator to another. Where there is no holder of an airworthiness certificate, it is regarded as part of the aircraft.

APPENDIX 1
CERTIFICATE OF FITNESS FOR FLIGHT

CERTIFICATE OF FITNESS FOR FLIGHT

- 1. Aircraft Manufacturer.....
- Aircraft Manufacturer's Designation.....
- Aircraft Registration.....

2. It is hereby certified that the aircraft defined hereon has been inspected and is fit for flight provided it is properly loaded.

This Certificate is valid until.....or until the airworthiness condition of the aircraft is altered, whichever is earlier.

Signed.....Date...../...../.....

AME Licence No.....

Signed.....Date...../...../.....

AME Licence No.....

APPENDIX 2

ACCEPTABLE METHODS TO SHOW COMPLIANCE WITH AIRWORTHINESS REQUIREMENTS

Type Design Conformity Data Only

Including:

Aircraft Type Operational History; or

Airworthiness standards compliance

Airworthiness evaluation by supplied type conformity data only. Minimum of one flight test required to validate the limitations and operating envelope in the flight manual.

A combination of the available data and a short period of flight evaluation to validate the historical airworthiness data.

A minimum of technical or historic data combined with a flight evaluation programme of up to 15 flight hours.

Flight Evaluation Only

A flight evaluation programme of a period to be determined by the CAA, normally not more than 20 flight hours.