

Revision 2

27 April 2007

Identification of products and parts - Identification information, provision, and replacement

General

Civil Aviation Authority advisory circulars contain information about standards, practices and procedures that the Authority has found to be acceptable for compliance with the associated rule.

Consideration will be given to other methods of compliance which may be presented to the Authority.

When new standards, practices or procedures are found to be acceptable they will be added to the appropriate advisory circular.

In addressing a subject the use of the imperative *must* or *is to*, terms not normally welcome in an AC, is because it is associated with mandatory provisions of the Rule itself.

Each reference to a number in this AC, such as 21.15, is a reference to a specific rule within Part 21.

Purpose

This Advisory Circular (AC) provides methods acceptable to the Authority for showing compliance with Part 21 Subpart Q.

Focus

This material is intended for a product manufacturing organisation, or a person performing maintenance, in completing or replacing product identification markings.

Related Rules

This AC relates specifically to Part 21 Subpart Q, Identification of Products and Parts.

Change Notice

Revision 2 re-numbers this advisory circular from AC 21-80A to AC 21-6 as part of a project to standardise the numbering of all ACs.

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Identification of Products and Parts

To assist readers with cross referencing, the numbering of the paragraphs contained within this circular correspond generally with the numbering of Part 21 Subpart Q.

General

Identification is required on certain products and parts used in the aviation industry. This identification provides for traceability of the product or part, and confidence in the product's or part's fitness for use.

Identification information is required on—

- aircraft, aircraft engines, and propellers
- critical parts
- certain replacement and modification parts

In particular, Rules 21.191 and 21.193 require aircraft to be identified in accordance with Part 21, Subpart Q before they can be issued with a standard or restricted category, or experimental airworthiness certificate.

21.803 – Identification of aircraft, aircraft engines, and propellers

General

The identification information is to be marked—

- on a fireproof plate attached to the product
- directly on the part by an acceptable fireproof marking method

Acceptable fireproof marking methods include—

- etching
- stamping
- engraving

The identification should be easily accessible but protected from normal operating damage and the possibility of loss during an accident.

If the plate is covered under certain conditions, or enclosed in any manner, its accessibility would be considered acceptable if it can be revealed without the use of tools.

Aircraft identification

For an aircraft's fireproof plate the location may be—

- at an accessible location near an entrance
- externally on the fuselage

An accessible location near an entrance may be either external or internal. Internally, the plate would be considered acceptable if it is legible to a person at or within the entrance to the aircraft.

For an aircraft with more than one entrance, the appropriate entrance would be the one most used by the flight and servicing crews.

If the fireproof plate is located externally on the fuselage, it should be mounted near the tail surfaces and be legible to a person on the ground.

Modular turbine engine identification

With the advent of the turbine engine modular concept, separate sections of the engine, or modules, are devoted to particular functions. A typical engine consists of a compressor module, combustion module, turbine module, and exhaust module. Maintenance on modular engines is normally accomplished by replacing entire modules. These modules are approved as a part of the complete engine type design, and not independently approved.

Aircraft engine manufacturers will identify each complete engine by the means specified in 21.803, normally by affixing an engine data plate to one of the modules. The engine data plate does not identify the individual module but rather the assembly of modules that make up the complete engine. A particular module therefore serves only as a vehicle on which to affix the engine data plate.

For the purpose of equipment management, there is a need to maintain a continuous history on the basic engine, its modules, and any non-modular components such as fuel lines and accessories. This history is required notwithstanding that every module or component may have been replaced any number of times. The history of an engine, including its modular and non-modular components, is tracked by the engine serial number on the data plate and corresponding historical and modification records.

The replacement of a module to which the engine data plate is attached, *without* moving the data plate, results in a loss of identity for the engine. This loss of identity should be avoided.

The engine data plate serves at all times as the control for establishing and maintaining the engine approval status. The data plate installed by the engine manufacturer should, therefore, remain with the particular engine throughout its useful life.

Propellers, propeller blades and hubs identification

For ease of identification, the markings required on propellers and propeller blades and hubs should be placed in an area where they would be legible without disassembly or the propeller.

21.805 – Identification information

Minimum identification information

The product manufacturer's name, the model designation and the serial number are the minimum identification information that will be required.

Manufacturer's name

The manufacturer's name on the data plate may be—

- a corporation
- a company
- a partnership
- an association
- an individual, including an amateur-builder

Model designation

Many aircraft have popular names that are sometimes incorrectly considered as the model designation. Examples are—

- Cessna Skymaster (correct model designation T337G)
- Piper Tomahawk (correct model designation PA-38-112)

The correct model designation should be used on the data plate.

Serial number

The serial number should be the number supplied by the manufacturer but for an amateur-built aircraft, may be whatever the builder wishes provided it is unique.

Identification information variations

The identification required on products identified in Part 21 Subpart Q varies according to—

- the country of origin of the product
- the category of airworthiness certificate applied to the aircraft

Country of origin variations

Part 21 Subpart Q applies directly to those products produced in New Zealand by a certificated manufacturing organisation under Part 148.

Imported products and parts should carry identification information in accordance with the regulations of the country of manufacture. This identification information should—

- be comparable to that required by Part 21 Subpart Q
- be marked by a fireproof method such as those specified in Part 21 Subpart Q

Airworthiness certificate category variations

Standard and restricted categories

For the issue of a standard or restricted category airworthiness certificates Part 21 Subpart H requires aircraft, engines, and propellers to be identified by the means specified in Part 21 Subpart Q.

Experimental airworthiness certificates

For the issue of an experimental airworthiness certificate the aircraft must be identified by the means specified in Part 21 Subpart Q, but does not require all of the information that is prescribed for a standard or restricted category aircraft.

The identification of an aircraft to be issued with an experimental airworthiness certificate need only include—

- the manufacturer's name
- the model designation
- the manufacturer's serial number

For simplicity, the nationality and registration marking is considered acceptable to the CAA as the manufacturer's serial number.

Ex-military aircraft

For the issue of an experimental airworthiness certificate to an ex-military aircraft it will be acceptable for the identification information to vary slightly. 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 data 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.

21.807 – Removal, alteration, and replacement of identification information

This rule covers the removal, alteration and replacement of the identification *information*. It should not be confused with the removal and re-installation of the data *plate* which is covered by 21.809.

Standard and restricted category products

The identification attached to products should contain the original production information. The manufacturer must be contacted if this information is to be removed, altered or replaced.

If a new or modified data plate is required, a written submission should be made to the CAA containing the specific circumstances and the proposed action. The CAA will then check the product records and provide a suitable endorsement to the manufacturer. The manufacturer will approve the modification or re-issue a new data plate.

A maintenance logbook entry should be made with reference to the CAA's endorsement and manufacturer's approvals.

Experimental airworthiness certificated aircraft

An aircraft issued with an experimental airworthiness certificate does not require an original data plate, but the data plate used should contain the minimum information as detailed in this AC.

21.809 – Removal and reinstallation of data plate

Persons performing maintenance in accordance with Part 43 may remove the data plate containing the information prescribed in 21.805 when necessary during maintenance.

The requirements in this rule apply to all aircraft operated in accordance with New Zealand rules.

The removal of a data plate would be considered necessary during certain maintenance operations, including—

- caustic cleaning
- paint removal
- sandblasting
- when the structure to which the data plate is fastened has to be repaired or replaced for maintenance purposes

Replacing or repairing structure to which the data plate is attached generally refers to localised replacements and not complete replacement of the next highest assembly.

The product data plate removed during maintenance operations must be reinstalled on the same product and in the same location.

Methods, techniques and practices acceptable to the Director should be used when a product's data plate is to be replaced. This will include accepted product maintenance manual procedures.

21.811 – Identification of critical parts

The identification of critical parts should include the part number and serial number of the part. If identification numbers are to be used, they should be equivalent to the part and serial number and enable unique identification of the part.

21.813 – Identification of replacement and modification materials, parts, and appliances

For parts manufactured in accordance with a New Zealand Technical Standard Order authorisation or a New Zealand Parts Manufacturing Approval, the manufacturer is required to include specific information on the items produced by them.

If a replacement or modification item is manufactured for a person to install on their own product that item must be identified clearly to ensure the item—

- can be clearly identified separately from otherwise acceptable items
- can be related directly to its manufacturing data

The requirements for these items should ensure that they do not enter the normal parts market.