Civil Aviation Safety Authority
of Papua New Guinea

Advisory Circular

AC21-5

Identification of Products and Parts

Issue 1

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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 begiven 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 thatfurther 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 product identification requirements of Part 21 Subpart J and explanatory material to assist in showing compliance.

RELATED CAR

This AC relates specifically to Civil Aviation Rule Part 21 Subpart J.

CHANGE NOTICE

This AC replaces Initial Issue dated 01 July 2002.

APPROVAL

This AC has been approved for publication by the Director of Civil Aviation.

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EM Identification of Products and Parts

EM 21.107 Purpose

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.

In particular, rule 21.41 require aircraft to be identified in accordance with Part 21, Subpart J before they can be issued with a standard or restricted category airworthiness certificate.

The purpose of Part 21 Subpart J is therefore to prescribe rules governing the identification of—

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

EM 21.109 Identification of Aircraft, Aircraft Engines, and Propellers

EM General

Rule 21.109 requires each aircraft, engine and propeller type accepted in PNG to be identified in the manner prescribed in the design standard for the product.

The information detailed below generally reflects the identification requirements contained in airworthiness design standards. The information is provided here to assist owners and operators seeking certification under Part 21, however the definitive reference remains the product design standard, e.g. FAR 23.

EM Minimum Identification Information

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

EM Manufacturer's Name - the manufacturer's name on the data plate may be—

- a corporation
- a company
- a partnership
- an association
- an individual

EM 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 used on the data plate should be that stated in the applicable type certificate data sheet.

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

EM Country of Origin Variations

Imported products and parts should carry identification information in accordance with the regulations of the authority responsible for type certification and manufacture of the product or part. This identification information should be comparable to that required by Part 21 Subpart J but where differences occur, the design standard requirements take precedence.

EM Airworthiness Certificate Category Variations

Standard and Restricted Categories

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

Marking

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 possibilityof 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.

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 notindependently approved.

Aircraft engine manufacturers will identify each complete engine by the means specified in 21.109, 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 thereforeserves 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. Thehistory 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.

AMC 21.111 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 21.113.

Standard and Restricted Category Products

The identification plate 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 CASA containing the specific circumstances and the proposed action. The CASA will then check the product records and provide a suitable recommendation to the manufacturer. The manufacturer will approve the modification or re-issue a new data plate.

A logbook entry must be made with reference to the CASA's endorsement and manufacturer's approvals.

EM 21.113 Removal and Reinstallation of Data Plate

Persons performing maintenance in accordance with Part 43 may remove the data plate containing the information prescribed in 21.109 when necessary during maintenance.

The requirements in this rule apply to all aircraft operated in accordance with Papua New Guinea 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 andin the same location without alteration.

If as a result of maintenance, it is found necessary to replace a product's data plate, the CASA and the manufacturer must be consulted as discussed above under AMC 21.111.

EM 21.115 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.

EM 21.117 Identification of Replacement and Modification Materials, Parts and Appliances

If a person manufactures a replacement or modification item in accordance with 21.103(2) that item must be

identified clearly to ensure the item—

- can be clearly identified separately from otherwise acceptable items; and
- can be related directly to the data used for manufacture.

The intent of this rule is to ensure *locally manufactured* parts produced by persons performing maintenance can be clearly distinguished from parts obtained from normal suppliers and that such persons can be readily identified and held accountable for manufacturing to acceptable standards and specifications.

The markings used must enable identification of the organisation conducting the maintenance during which the part was manufactured as well as traceability to the design. The markings applied to replacement parts may include the original manufacturer's part number but must include additional data that distinguishes the source of the replacement part from the original.