Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 20-03 v1.1

Identification and management of aeronautical products

Date	December 2024
File ref	D17/203398

Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory Circulars should always be read in conjunction with the relevant regulations.

Audience

This Advisory Circular (AC) applies to:

- Subpart 21.G - Production Certificate holders
- Subpart 21.O - Australian Technical Standard Order Authorisation holders
- Subpart 21.K - Australian Parts Manufacturer Approval holders
- Part 42 - Continuous Airworthiness Management Organisations
- Part 145 - Aircraft Maintenance Organisations
- CAR 30 - Certificate of Approval holders for maintenance or distribution
- operators and maintainers of aircraft.

Purpose

The purpose of this AC is to provide guidance to the aviation community for identification of aircraft and aeronautical products.

For further information

For further information or to provide feedback on this AC, visit CASA's contact us page.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998* (CASR).

Status

This version of the AC is approved by the National Manager, Airworthiness and Engineering Branch.

Version	Date	Details
v1.1	December 2024	AC updated to provide additional guidance on unserviceable parts. The update incorporates minor changes and editorial improvements.
v1.0	March 2016	Initial version. Aeronautical product information published within Civil Aviation Advisory Publication (CAAP) 51-2, CAAP 42W-1 and other related airworthiness ACs were reviewed and updated for inclusion within this AC. Whilst previously drafted under AC 21.Q, CASA has determined that the contents apply to a wider set of regulations than under Subpart 21.Q and thus the generic 20 series numbering has now been utilised.

Contents

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	Advisory Circular
AD	Airworthiness Directive
AMO	Aircraft Maintenance Organisation
APMA	Australian Parts Manufacturer Approval
ARC	Authorised Release Certificate
ATSB	Australian Transport Safety Bureau
ATSO	Australian Technical Standard Order
AWB	Airworthiness Bulletin
CAAP	Civil Aviation Advisory Publication
CAO	Civil Aviation Order
CAR	*Civil Aviation Regulations 1988*
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
COTS	Commercial Off The Shelf
DRS	Defect Report Service
ETSO	European Technical Standard Order
FAA	Federal Aviation Administration (of the United States of America)
FITCOM	Fabrication In The Course Of Maintenance
ICAO	International Civil Aviation Organization
MITCOM	Manufacture In The Course Of Maintenance
NAA	National Aviation Authority
PMA	Parts Manufacturer Approval (FAA)
SUP	Suspected Unapproved Part
STC	Supplemental Type Certificate
TC	Type Certificate
TSO	Technical Standard Order (FAA)

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Term	Definition
Aeronautical product	Any part or material that is, or is intended by its manufacturer, to be a part of or used in an aircraft, unless excluded by the regulations - see Part I of the *Civil Aviation Act 1988* (the Act).
Aircraft component	(a) Any part or equipment for an aircraft that, when fitted to, or provided in an aircraft may, if it is not sound or functioning correctly, affect the safety of the aircraft, its occupants or its cargo or cause the aircraft to become a danger to person or property or (b) flotation equipment, evacuation equipment, ration packs, portable breathing apparatus, fire-fighting equipment, or any other equipment or apparatus, fitted to, or provided in, an aircraft for use in an emergency - see Regulation 2 of CAR.
Aircraft material	Material (including a fluid) for use in the manufacture, maintenance, servicing or operation of an aircraft or of an aircraft component, but does not include an aircraft component - see Regulation 2 of CAR.
Approved design	For an aeronautical product, other than an aircraft engine or propeller, that is approved in a manner mentioned in regulation 21.305 or 21.305A, the design specifications for the product and any changes to the design specifications made in accordance with a Part 21 approval.
Certificate of Conformance	Terminology used to describe a certificate issued by the manufacturer of a standard part, stating that the part conforms to a stated industry standard or specification.
Class I Product	Includes a complete aircraft, aircraft engine or propeller for which a foreign type certificate has been issued - see paragraph 21.321 (2) (a).
Class II Product	A major component of a Class I product, the failure of which would jeopardise the safety of a Class I product - see paragraph 21.321 (2) (b).
Class III Product	Any part or component which is not Class I or Class II product and includes standard parts - see paragraph 21.321 (2) (c).
Contracting state	A country that has signed the Convention on International Civil Aviation (the Chicago Convention).
Critical part	A part that must be inspected, overhauled, or removed or retired from the aircraft within a period specified in the Airworthiness Limitations section of the Manufacturer's Maintenance Manual (as published occasionally by the aircraft's manufacturer) for the aircraft or in the Manufacturer's Instructions for Continued Airworthiness (as published occasionally by the manufacturer) for the aircraft.
Distributor	Brokers, suppliers, resellers, or other individuals and agencies engaged in the sale of aircraft parts.
Instructions for continued airworthiness	Written instructions for an aircraft or aeronautical product as per Clause 10 of Part 3 of the CASR Dictionary.
Part	For the purpose of this AC, a part refers to any aeronautical product, aircraft component, product or appliance.
Standard part	A part that complies with a specification that is established, published and

Term	Definition
	maintained by an organisation that sets consensus standards for products or a government agency and includes design, manufacturing, test and acceptance criteria and requirements for the uniform identification of the part - see Part 1 of the CASR Dictionary.
Serviceable	An aeronautical product is serviceable if the product conforms with its approved design and is fit for its intended use - see subregulation 42.015 (6).
Time-lifed component	An aircraft component (including an engine or propeller) that the manufacturer of the component or if the component has been modified—the designer of the modification or CASA has instructed must be retired or overhauled or removed from an aircraft within a particular period.
Unsalvageable	An aeronautical product is unsalvageable if the product is unserviceable and cannot be made serviceable - see subregulation 42.015 (7).

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au

Document	Title
The Act	*Civil Aviation Act 1988* (the Act)
Subpart 21.Q	Identification of aircraft and aeronautical products
Subpart 21.K	Approval of materials, parts, processes and appliances
Subpart 21.O	Australian Technical Standard Order Authorisation
Subpart 42.E	Aeronautical products
CASR Dictionary	
Part 42 MOS	Manual of Standards (MOS) - CASR Part 42 — Continuing airworthiness requirements for aircraft and aeronautical products
Part 145 MOS	Manual of Standards - CASR Part 145 - Continuing airworthiness - Part 145 Approved Maintenance Organisations
Part 4A of CAR	Maintenance
Part 4D of CAR	Removal or alteration of data plates etc.
Regulation 30 of CAR	Certificates of approval
Regulation 42W of CAR	Installation and use of aircraft components in maintenance - Australian aircraft in Australian territory
Regulation 42WA of CAR	Requirements for authorised release certificate
Regulation 42ZA of CAR	Use of aircraft components, aircraft materials etc. in maintenance - Australian aircraft outside of Australian territory
Regulation 42ZP of CAR	Certification not to be made

Document	Title
Regulation 42ZQ of CAR	Related document - issued by manufacturer of an aircraft component or aircraft material
Regulation 47 of CAR	Maintenance release to cease to be in force
Regulation 50E of CAR	Inconsistent requirements - resolution of inconsistencies
Regulation 51A of CAR	Reporting of defects in Australian aircraft—general
Regulation 52 of CAR	Defects discovered in aircraft components
Regulation 52A of CAR	How must reports to Authority be made?
Regulation 52B of CAR	Keeping of defective aircraft and aircraft components
Regulation 53 of CAR	Investigation of defects of Australian aircraft
CAO 100.5	General requirements in respect of maintenance of Australian aircraft
CAO 100.16	Administration Procedure - distribution & rejection of aircraft components and materials

Advisory material

CASA's advisory materials are available at https://www.casa.gov.au/resources-and-education/publications/guidance-material

Document	Title
AC 20-06	Defect Reporting
AC 21-08	Approval of modification and repair designs under Subpart 21.M
AC 21-14	Production Certificates
AC 21-16	Approval of Materials, Parts, Processes and Appliances
AC 21-17	Export Airworthiness Approvals
AC 21-22	Approval of Imported Engines, Propellers, Materials, Parts and Appliances
AC 21-601	Australian Technical Standard Order Authorisation
AC 45-01	Nationality and Registration Marks
AMC/GM Part 42	Continuing airworthiness requirements for aircraft and aeronautical products
AMC/GM Part 145	Approved maintenance organisation requirements
CAAP 30-4	Certificate of Approval – Maintenance Organisation
CAAP 37-01	Minimum equipment lists (MEL)
CAAP 42.W-02	Authorised Release Certificate
AWB General Advice 01	Suspected Unapproved Parts - Notifications

Other references

Document	Title
Annex 8, Airworthiness of Aircraft to the Chicago	Annex 8, Airworthiness of Aircraft to the Convention on International Civil Aviation (the Chicago Convention)

Document	Title
Convention	
ICAO Doc 9760	Airworthiness Manual
ICAO Circular 95	The Continuing Airworthiness of Aircraft in Service
FAA Unapproved Parts Notifications (UPN)	
FAA AC 21-29D	Detecting and Reporting Suspected Unapproved Parts
FAA AC 21-43A	Production Under 14 CFR Part 21, Subparts F, G, K, and O

Forms

CASA's forms are available at http://www.casa.gov.au/forms

Form number	Title
Form 1	Authorised Release Certificate
Form 724	Statement of Conformity

2 Background

2.1 Aeronautical product and aircraft component

2.1.1 Figure 1 displays the relationship between an aeronautical product, component and part depending on applicable regulation. The paragraphs that follow describe these in detail.

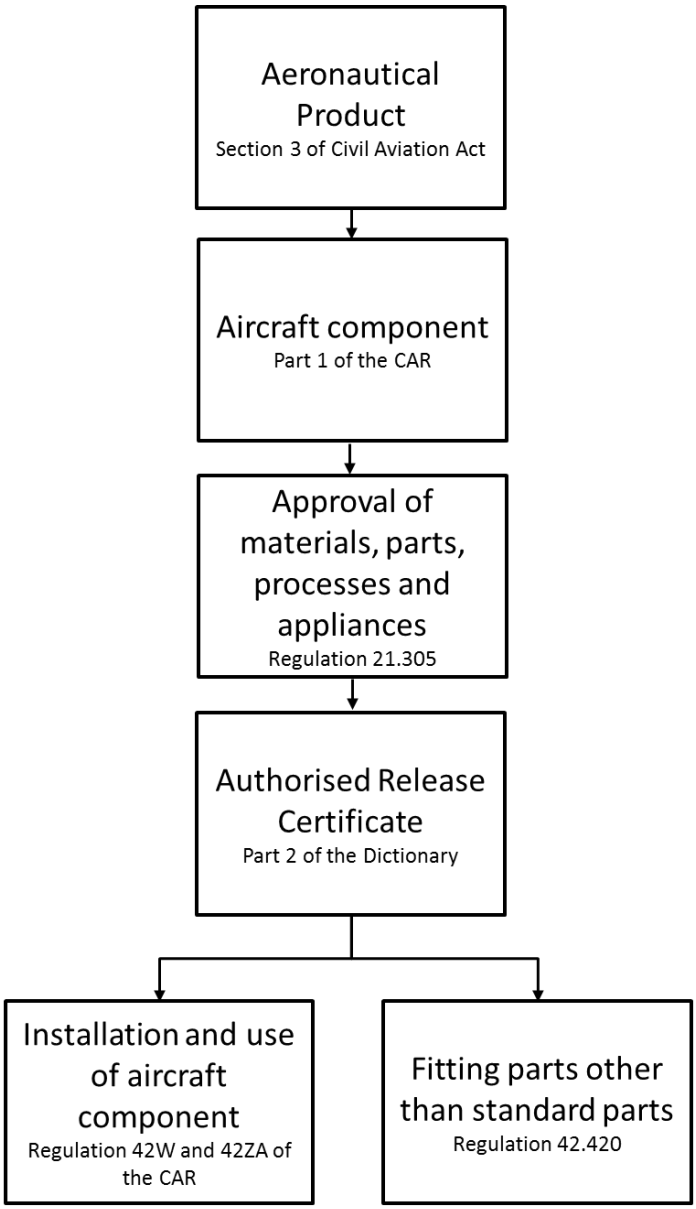

Figure 1: Relationship between aeronautical product and aircraft component or part

Aeronautical product

2.1.2 Section 3 of the Act defines an aeronautical product as any part or material that is, or is intended by its manufacturer to be, a part of or used in an aircraft, unless it is excluded by the regulations. Aeronautical product also covers equipment that does not come with an Authorised Release Certificate (ARC), but is intended for use in an aircraft—for example, night vision equipment.

2.1.3 Parts, materials, standard parts, components, appliances and equipment are all aeronautical products under the Act, unless excluded in a legislative instrument under subclause 1 (2) of Part 2 of the CASR Dictionary. Examples of parts excluded as aircraft components are headsets and night vision goggles.

Aircraft component

2.1.4 Part 1 of CAR provides the interpretation for an aircraft component in which the part or component may affect the safety of the aircraft, or is classified as emergency equipment. Aircraft components are required to have an ARC before installation.

Approval of materials, parts, processes and appliances

2.1.5 Regulation 21.305 provides different approval methods for parts. Regulation 21.305A provides an alternative approval method, whenever a part has not been approved during standard certification and production approvals.

Authorised Release Certificate

2.1.6 The ARC is a certificate of release to service for an aeronautical product that declares its serviceability. The ARC does not constitute approval to install the item on a particular aircraft or aeronautical product, but helps the end-user determine its airworthiness approval status.

2.1.7 ARCs are also issued by manufacturers under Part 21 or by Approved Maintenance Organisations (AMO).

Installation or fitment

2.1.8 For aircraft operating under Part 42, Table 12.3.1 of the Part 42 Manual of Standards (MOS) details which foreign countries' ARCs are accepted and also provides details on rejecting a defective part.

2.1.9 For aircraft operating under the CAR, Appendix 1 of Civil Aviation Order (CAO) 100.16 contains a table of appropriate documents for use as an ARC. For further details regarding the ARC see Civil Aviation Advisory Circular (CAAP) 42W-2.

2.1.10 If the components are accompanied by the correct documentation, subsequent installation of these aircraft components is allowed, depending on whether the regulations of the CAR or CASR apply. The following regulations specify requirements:

- regulations 42W and 42ZA of the CAR
- regulation 42.420.

2.2 Approved design

2.2.1 The approved design for an aeronautical product is conducted under regulation 21.305 or 21.305A, and includes the design specifications for the part and any changes in accordance with Part 21 approval.

2.2.2 Parts or materials not detailed in the approved design are ineligible for fitment.

2.3 Identification of parts

2.3.1 As per regulation 21.321, parts are identified by 3 different product classes. The documentation required to accompany a part is dependent on the product class. For example, in the case in Figure 2, the Class I product is a type certified engine. The engine has a Class II generator installed and the generator has Class III products such as terminal blocks and fasteners. Depending on the approved design, some Class II products may have other Class II products fitted to them as a sub assembly.

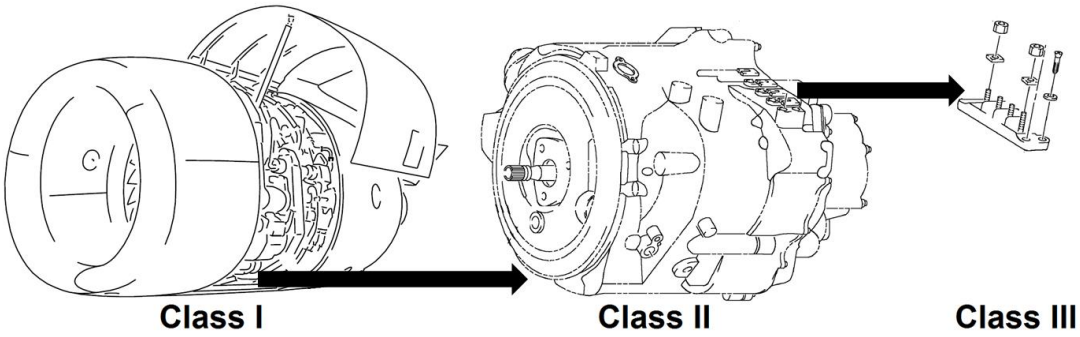

Figure 2: Classes of products

2.3.2 Class I products

2.3.2.1 Class I products are complete aircraft, aircraft engines or propellers that are type-certified. Class I products are identified by a manufacturers data plate or identification marks. Type-certified products are regulated under Division 21.Q.2 and require CASA's written approval (as per Part 45 of CASR or Part 4D of CAR) to remove manufacturer's data plates. It is acceptable to remove the plate in order to carry out maintenance followed by re-installation of the plate.[1]

2.3.2.2 The manufacturer's data plate is important for maintaining configuration, Airworthiness Directive (AD) compliance, overhaul, life-limited parts, module changes and compliance throughout the entire service life.

Note: Experimental aircraft are subject to ADs unless otherwise exempted.

2.3.2.3 The manufacturer's data plate serves as the baseline to control all maintenance activity accomplished. There is a concern that removal of data plates, other than for maintenance action, may cause loss of traceability to the originally type-certified product.

2.3.2.4 Division 21.Q.2 sets out the requirements for manufacturer’s data plate for aircraft and aircraft engines or identification marks for aircraft propellers. On occasion, a manufacturer’s data plate for aircraft, aircraft engines or identification marks for aircraft propellers can end up being:

- defaced
- detached
- lost

[1] For further information on removal of the manufacturer's data plates see CASA AC 45-01.

- destroyed in an accident
- of questionable validity.

2.3.2.5 Manufacturer's data plates of questionable validity are not explicitly stated in the regulations. If the type certificate (TC) holder is aware of their current serial number being the same as a scrapped aircraft (particular imported aircraft), they should contact the local CASA regional office with any relevant substantiating data. See paragraph 2.3.2.6 for procedures.

2.3.2.6 Procedures regarding the review of manufacturer's data plates:

- CASA may conduct an additional review of the bona fides of the class I product.
- CASA may seek further assistance from the TC holder.
- The TC holder will provide further information on how and who can install these data plates.
- CASA may request further verification of the proof of installation of the data plates.

2.3.2.7 The bona fides are established by either:

- conformity inspection of all components and sub-assemblies against the approved design by an approved maintenance organisation
- statutory declaration by an approved maintenance organisation attesting to the build status of the aircraft or aircraft engine.

2.3.2.8 In certain cases, an aircraft being imported may not have manufacturer’s data plate due to de-registration procedures by the relevant National Aviation Authority (NAA). This situation is treated in the same way as lost or detached manufacturers data plate referenced in the procedures in paragraph 2.3.2.6.

2.3.2.9 An aircraft or aircraft engine data plate remains with the particular aircraft or aircraft engine throughout its life unless otherwise authorised by CASA. In cases where a new data plate is pending and the bona fides of the aircraft or aircraft engine have been verified, CASA may allow the release to service of an aircraft or aircraft engine without a data plate on a case-by-case basis. This can involve the State of Design for the manufacturer of the aircraft or aircraft engine, and the TC holder. To establish the suitability of operation without data plates (refer to procedures in paragraph 2.3.2.6).

2.3.3 Class II products

2.3.3.1 Class II products are major components of a Class I products, the failure of which would jeopardise the safety of the Class I product. Class II products are approved under regulation 21.305 and 21.305A, and are usually serialised (see Figure 3).

Note: If an item is required to be approved for any airworthiness or operational purposes, it can only be approved under regulation 21.305.

2.3.3.2 An Australian Technical Standard Order (ATSO) is a minimum performance standard issued by CASA. ATSO markings are only allowed if an article meets the applicable performance standard as per regulation 21.603. ATSO articles require the following information:

- name and address of the manufacturer
- name, type, part number or model designation of the article
- serial number or date of manufacture of the article, or both

- applicable ATSO, Federal Aviation Administration (FAA) TSO or European Technical Standard Order (ETSO) number with the prefix ATSO.[2]

2.3.3.3 An Australian Parts Manufacturing Approval (APMA) covers approval for parts that are modifications or replacement parts. They are required to have the letters 'APMA' in front of the part number. If the part is identical, it may use the same number as the original part and it has a prefix to identify the manufacturer.[3]

2.3.4 Class III products

2.3.4.1 A Class III product is eligible for installation on a Class I or II product if it is listed in the approved design. Any parts or materials not specified in the approved design are ineligible for use. An approval process under Part 21 can approve alternate Class III products, if they are not detailed in the approved design.

2.3.4.2 Standard parts are supplied with a document issued under the law of an International Civil Aviation Organization (ICAO) contracting state and contains a statement that identifies the standard parts and the specification with which the part complies-for example, Army-Navy specification, National Aerospace or with SAE International.

2.3.4.3 Class III products can include standard and commercial off-the-shelf (COTS) parts.[4]

2.3.5 Critical parts

2.3.5.1 Critical parts are those that must be inspected, overhauled, removed or retired within a specific time period or number cycles. This period is specified in the airworthiness limitations section of the manufacturer's maintenance manual or the manufacturer's instructions for continued airworthiness (ICA).

2.3.5.2 Critical parts require part number and serial number information to be marked in a way that ensures it is not likely to be defaced.

2.3.6 Aircraft materials

2.3.6.1 Aircraft materials are used in product Classes I, II and III. An aircraft material is any material, including fluids, for use in the manufacture, maintenance, servicing or operation of an aircraft or aircraft component. Aircraft materials are approved under regulations 21.305 or 21.305A.

2.3.6.2 Aircraft materials are required to meet the type design of the type-certified product or approved design of the part under regulation 21.306. Materials that are not specified in the approved design are ineligible for use. An approval under Subpart 21.M can approve alternate materials if not detailed in the approved design.

2.3.6.3 Materials are required to have a document that was issued under the law of a contracting state, which contains a statement that identifies the material and specification.[5]

[2] For further information on ATSOs see AC 21-601.
[3] For further information on APMAs see AC 21-16.
[4] For further information on use of COTS parts see Appendix C of AC 21-08.
[5] For further information on using materials see GM 42.455(1) (a) for those aircraft and components maintained by a Part 145 organisation.

2.3.7 MITCOM/FITCOM

2.3.7.1 Manufacture in the course of maintenance (MITCOM) applies to maintenance organisations holding an approval under regulation 30 of CAR and aircraft being maintained under Part 4 or Part 4A of CAR.

2.3.7.2 Fabrication in the course of maintenance (FITCOM) applies to maintenance organisations holding an approval under Part 145 or the aircraft is being maintained under Part 42.

2.3.7.3 MITCOM/FITCOM is usually for Class III products that are used on an aircraft on which a maintenance organisation is carrying out maintenance. They are ineligible for sale or issue of an ARC.

2.3.7.4 In accordance with section 145.A.43 of the Part 145 MOS or subregulation 42W (4) of CAR (as appropriate) MITCOM and FITCOM parts must be marked accordingly:

- MITCOM parts must be marked using the original manufacturer's part number and the identification that clearly relates to the organisation's identity and manufacturing/inspection data.
- FITCOM parts require a part number that clearly relates to the manufacturing/inspection data and the organisation's identity on the part for traceability purposes. Parts that are considered too small for marking can use a tag for identification prior to fitment.[6]
- This marking of the organisation's identity is required for wiring unless an agreement is provided by the original manufacturer.

2.4 Approved parts and unapproved parts

2.4.1 Whenever a part is required to be approved by CASA, it is approved under a method identified in regulation 21.305. For example, if equipment is installed for PSEA[7], time between overhaul (TBO) extensions or emergency equipment, that equipment will require approval. Figure 3 provides a flowchart that will assist the reader in determining eligibility for aeronautical product fitment.

2.4.2 The approved data will specify the eligibility of approved parts for a specific installation. Not all service bulletins are mandatory unless required by an AD. However, it is recommended they are considered for any potential impacts. Parts such as military specification parts are acceptable if they are detailed in the approved design.

2.4.3 Unapproved parts have a specific meaning under regulation 42.470. This regulation covers intentional misrepresentation, modifications outside of Part 21 approvals and unauthorised maintenance.

2.4.4 For aircraft operating under the CAR, regulations 42W and 42ZA of CAR do not describe the term for an unapproved part. These regulations describe the eligibility of a part and requirements for its intended installation.

[6] For further information see CAAP 30-4 for MITCOM parts and the AMC/GM Part 145 for FITCOM parts.
[7] Prescribed Single-Engine Aeroplane

2.4.5 Suspected unapproved part

2.4.5.1 The term 'suspected unapproved part' (SUP) has been used to describe parts of unknown status or insufficient information at the time of discovery. It is suspected of not meeting the requirements for approved part and is a temporary status until verified as unapproved or serviceable.

2.4.5.2 A manufacturing or maintenance error may be the cause of the problem, in which case the part may be re-eligible for use after further verification, maintenance or modification (see Figure 3). Some generally used aviation terms are not defined under the CAR (e.g. there is no definition for 'unsalvageable' or 'unserviceable'). However, the methods described in the CASR may be relevant to all parts, regardless of which legislative scheme they are covered under (e.g. dealing with parts when they are no longer considered serviceable).

2.4.5.3 An approved part must meet all requirements in the approved design. This can represent failure to follow the approved design and ICA. Parts that are damaged due to shipping or warranty issues are not unapproved parts.[8]

2.4.5.4 CASA encourages reporting of any unapproved parts and SUPs via the CASA Defect Report Service (DRS) System/Portal.

2.5 Unserviceable parts

2.5.1 A serviceable part, as defined in regulation 42.015, is a part that conforms to its approved design and is fit for its intended purpose (see Figure 3). The maintenance engineer installing the part may suspect, for some reason, that a part is not fit for its intended purpose, therefore warranting further investigation.

2.5.2 Minimum equipment lists or permissible unserviceabilities do not automatically allow operations with equipment removed. Improper removal of equipment may have adverse effects on aircraft weight and balance, or operations of other critical systems. Removal of equipment outside the approved data will require additional approvals.[9]

2.5.3 The requirements in the regulations for serviceable components are in either:[10]

- regulations 42W and 42ZA of the CAR
- regulation 42.420.

2.6 Unsalvageable parts

2.6.1 An aeronautical product is unsalvageable if it is unserviceable and all attempts at maintenance cannot bring the part back to a serviceable state. Regulation 42.465 states the requirements for unsalvageable parts (see Figure 3). These regulations also apply if a registered operator voluntarily uses the aircraft maintenance services of a Part 145

[8] For further information on SUPs see CASA Airworthiness Bulletin General Advice 01 or FAA Unapproved Parts Notifications (UPN).
[9] For further information see CAAP 37-1.
[10] For further information on current airworthiness related unserviceabilities see CASA's Airworthiness Bulletins series.

AMO in lieu of maintenance services provided by a Certificate of Approval holder under regulation 30 of CAR.

2.6.2 For aircraft maintained under Part 4A of CAR, regulation 42W or 42ZA of CAR requires components to be un-damaged and in compliance with the manufacturer's specifications. The maintenance release for the aircraft ceases to be in force under regulation 47 of CAR if there is a major defect other than a permissible unserviceability.

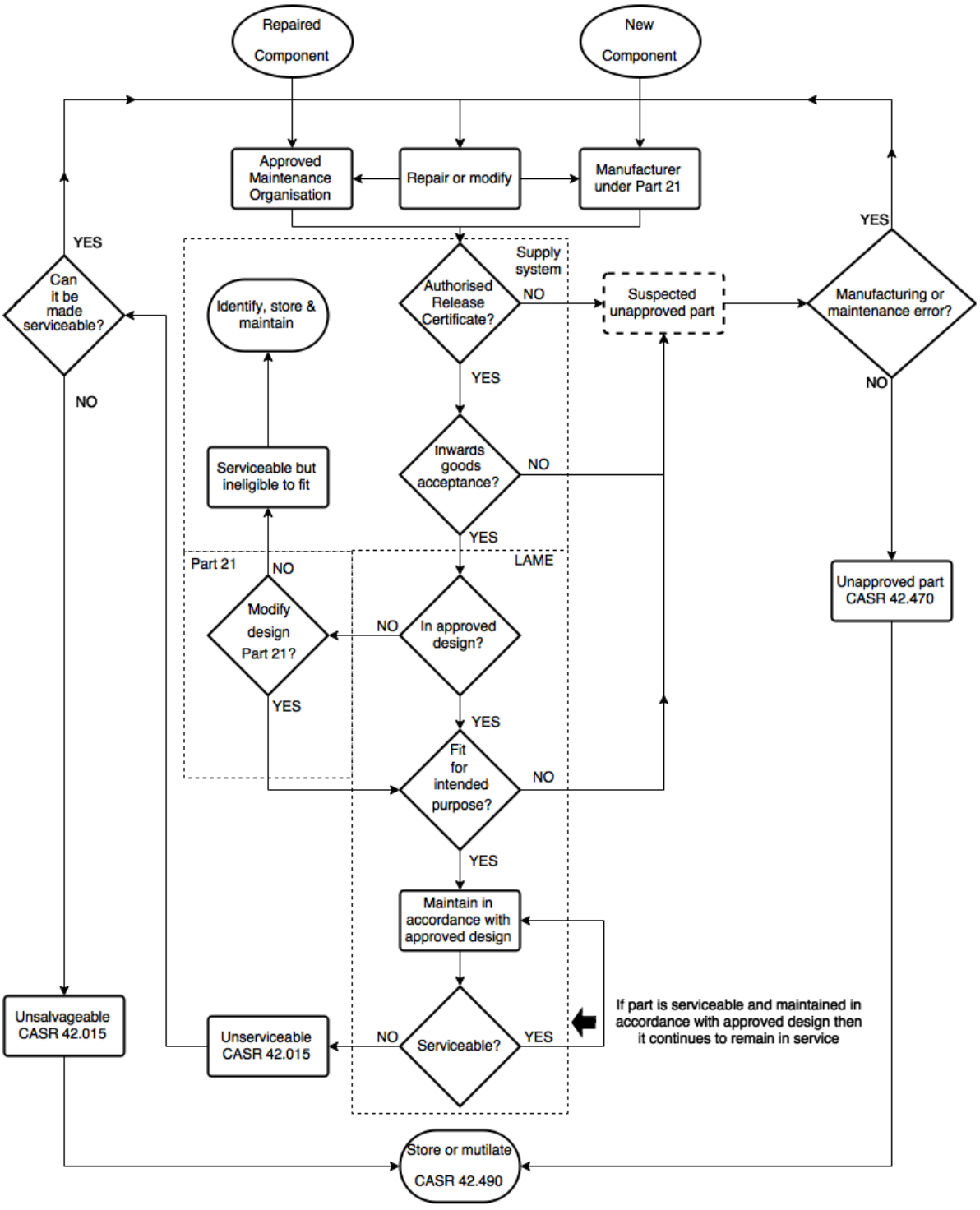

Figure 3: Component life cycle

3 Detection of unapproved parts

3.1 General

3.1.1 Positive identification of unapproved parts is often difficult, due to the similarity of unapproved part's characteristics. Some of the issues may not appear visually.

3.1.2 Reasons for suspecting that a part is unapproved can include:[11]

- different finish
- size
- colour
- improper identification
- incomplete or altered paperwork
- parts that do not conform to the approved design
- modifications on an aircraft or component that have not been approved
- parts that have not been passed through an approved quality system
- parts which cannot be traced to their original source
- parts maintained to superseded approved designs
- not following the relevant approved design
- parts maintained by facilities that are not authorised
- intentional misrepresentation
- any questionable identification.

3.2 Part records

3.2.1 Legibility of records or accuracy of electronic data storage is important for showing compliance with ADs and other mandatory requirements. If records for parts are unable to be read properly or a replacement obtained, they are assumed as incomplete.

3.2.2 Depending on the application, the requirements for records are detailed in:

- Part 4A of CAR and CAO 100.5
- regulation 42.260.

3.3 Procurement process

3.3.1 A procedure to prevent procurement of unapproved parts should be established prior to purchasing parts and materials for installation in type-certificated products.

3.3.2 This procedure should include the following elements as a minimum:

- methods to establish qualified suppliers who are authorised to manufacture and/or distribute parts they supply
- criteria to identify and screen potential suppliers of unapproved parts. The criteria should include the following considerations:
  - the quoted price or the price advertised in trade magazines is significantly lower than the price quoted by other suppliers of the same part

[11] FAA AC 21-29D has further information on detecting unapproved parts.

- a delivery schedule that is significantly shorter than that of other suppliers of the same part when existing stocks are exhausted
- the inability of a supplier to provide drawings, specifications, overhaul manuals, or substantiating data demonstrating the conformity of the part's repair/overhaul
- a distributor and/or supplier's inability or unwillingness to provide substantiating documentation that the part was produced pursuant to a NAA's approval, or inspected, repaired, overhauled, preserved or modified in accordance with the regulations
- sales quotes or discussions that create the perception that unlimited supplies of parts, components, or material are available to the end-user.

3.4 Acceptance procedures

3.4.1 Acceptance procedures should include a means of identifying possible unapproved parts during the receiving inspection so as to prevent their acceptance. Part 145 organisations are required to detail acceptance procedures for aeronautical products into their exposition.[12] [13]

3.4.2 The following suggested actions are provided as a guide:

- confirm the packaging of the part identifies the supplier or distributor, and is free from alteration or damage
- verify that the actual part and delivery receipt reflect the same information as the purchase order regarding part number, serial number, and historical information (if applicable)
- verify that the identification on the part has not been tampered with, for example:
  - serial number stamped over
  - label or part/serial numbers improper or missing
  - etched or serial numbers located at other than the normal location
- ensure that the shelf life and/or life limit has not expired (if applicable)
- conduct a visual inspection of the part and supporting documents to the extent necessary to determine if the part is traceable to an NAA's approved source
- check appropriate markings (see section 2.3)
- evaluate any visible irregularities, for example:
  - altered or unusual surface
  - absence of required plating
  - evidence of prior usage
  - scratches
  - new paint over old
  - attempted exterior repair
  - pitting or corrosion
- conduct random sampling of standard hardware packaged in large quantities in a manner which corresponds to the type and quantity of the parts

[12] See AMC/GM Part 145 for further details.
[13] For acceptance procedures for Certificate of Approval holders under regulation 30 of CAR, see CAAP 30-4.

- quarantine parts of questionable nature and attempt to resolve issues regarding the questionable status of each part (for example, obtain necessary documentation if inadvertently not provided, or determine if irregularities are a result of shipping damage and handle accordingly).[14]

3.5 Supplier evaluations

3.5.1 Procedures to conduct audits of suppliers on a scheduled basis, to ensure that suppliers have established and continue to maintain the quality system specified in purchase orders should be developed. Parts obtained from outside of CASA oversight or an NAA are not subject to surveillance. Part 145 organisations are required to detail supplier evaluation procedures for aeronautical products into their exposition.[15]

3.5.2 The following are examples of elements that should be included in an audit program:

- continued validity of NAA's approval
- design data control, to include latest revision (if applicable)
- supplier control
- material handling/control
- manufacturing/assembly controls
- tool and gauge control
- tests and inspections
- records.

3.5.3 For aircraft materials from a CASA-approved distributor, any of the following would be relevant:

- shipping invoices or orders showing traceability to heat treatment or lot of batch numbers
- a certified true copy of the shipping invoice or order
- a certificate of conformance from the manufacturer
- statement that the original shipping invoice or order is held on file or is accessible to the approved distributor
- other documentation such as the manufacturer's letter, which provides information relating to the physical or chemical properties, traceable to heat or lot or batch number.

3.5.4 For aircraft materials from other suppliers, the following would be relevant:

- manufacturer's report showing the physical or chemical properties, traceable to heat or lot or batch number
- certified true copy of such report
- certificate of conformance from the manufacturer.

[14] For further information on acceptable foreign ARCs see the Part 42 MOS or CAO 100.16.
[15] See AMC/GM Part 145 for further details. For supplier evaluations, see CAAP 30-4.

4 Reports

4.1 Unapproved parts

4.1.1 An unapproved part could meet the definition of a major defect depending on the criticality of failure. The CASR specifically deals with major defects of aeronautical products. Major defects require reporting to CASA.[16]

4.2 Reporting major defects

4.2.1 CAR

4.2.2 Regulation 51A of CAR defines a major defect in an aircraft, that has caused or could cause:

- primary structural failure
- control system failure
- engine structural failure
- fire.

4.2.3 Regulation 51A of CAR requires any person who, while involved in the operation or maintenance or an aircraft, discovers a major defect to report the defect to CASA immediately.

4.2.4 Regulation 52 of CAR requires reporting to CASA if an aircraft component is found to have a defect that, if the component were fitted to an aircraft, may affect the safety of the aircraft or cause the aircraft to become a danger to persons or property.

4.2.5 CASR

4.2.6 The CASR Dictionary defines a major defect in an aeronautical product as one that, if it is fitted to an aircraft, may affect the safety of the aircraft or cause the aircraft to become a danger to persons or property.

4.2.7 The AMO is required to report major defects in an aeronautical product to CASA in accordance with regulation 42.385.

4.2.8 Part 145 organisations are required to report occurrences and major defects for aeronautical products.[17]

4.3 Reporting to CASA

4.3.1 All defect reports, including reporting of unapproved parts can be submitted electronically through CASA Defect Report Service (DRS) System/Portal.

[16] See AC 20-06 for reporting of defects to CASA.
[17] See AMC/GM Part 145 for further details.

4.3.2 If necessary, reports can be mailed, free of charge from anywhere in Australia, to:

Civil Aviation Safety Authority
Reply Paid 2005
GPO Box 2005
CANBERRA CITY ACT 2601

Note: Mark 'IN-CONFIDENCE' if confidentiality is required.

4.4 Reporting to other approval holders

4.4.1 Australia has an obligation under the Chicago Convention to report malfunctions, failures, defects and other occurrences that might cause adverse effects on continuing airworthiness to the type design organisation.

4.4.2 In addition to reporting major defects to CASA, there is a requirement to report to holders of the following:

- type certificate
- supplemental type certificate (STC)
- APMA, European Part Approval (EPA), or FAA parts manufacturer approval (PMA)
- modification/repair design
- under any other relevant legislative instrument.

4.4.3 Regulation 21.003 requires that holders of a type certificate, an STC, an APMA or an ATSO authorisation, or the licensee of a type certificate or STC, must report to CASA any failure, malfunction or defect for any part or article that it has manufactured.

5 Salvaging parts

5.1 Overview

5.1.1 Salvaged aircraft parts can lack maintenance history and traceability. Many of these aircraft parts have been released to service after having been recovered from aircraft that may have been involved in accidents or incidents. The accident or incidents may have caused deterioration of the parts from any tolerances in the approved design. A part that has suffered deterioration may not show any visual signs of damage, distortion or changed characteristics; however, latent faults may be present.

5.1.2 The approved design may have insufficient detail to properly assess the parts to determine their serviceability. If the information in the approved design is insufficient to assess the serviceability of potentially deteriorated salvaged components, the operator should consult the Original Equipment Manufacturer for further guidance. Alternatively, an authorised person under Subpart 21.M or approved design organisations under Subpart 21.J can generate technical data that includes airworthiness limitations.

5.1.3 Depending on the design of the part, verification activities will confirm if it complies with its approved design.

5.1.4 To maintain aircraft components that are salvaged, the approved maintenance organisation should establish clear procedures that detail any additional precautionary steps that are applicable.

5.1.5 CAR

5.1.5.1 Paragraph 42W (2) (c) of CAR allows for replacement of components as long as the replacement component is not damaged and complies with its manufacturer's specification. Release of parts is in accordance with CASA approved documented procedures and/or procedures manuals.

5.1.6 CASR

5.1.6.1 Regulation 42.430 allows for fitting parts removed from aircraft, provided that maintenance has not been carried out on the part, to either a different place on an aircraft or to another aircraft.

5.1.6.2 The part can only be fitted to another aircraft or second aircraft if:

- The part was removed from a registered aircraft by a person who was permitted to carry out the maintenance
- maintenance has not been carried out on the part
- if the part was stored, it was done in conjunction with instructions issued by the manufacturer
- the part has not been immersed or exposed to extremes of stress or temperature
- the person responsible for continued airworthiness of the aircraft to which the part will be fitted agrees to the fitting.

5.1.6.3 Release of salvaged parts is in accordance with the CASA approved exposition.

6 Disposal of parts

6.1.1 According to 42W and 42ZA of CAR, unserviceable parts are ineligible for fitment on an Australian aircraft.

6.1.2 For aircraft maintained under CASR Part 42, Division 42.E.3 specifies requirements for controlling unserviceable and unsalvageable parts.

6.1.3 There are situations where unserviceable aeronautical products are under an ongoing evaluation. Typical examples would be:

- CASA and/or an authorised person conducting an investigation into a matter connected with a defect, and requiring a part or a component for inspection and tests.
- ATSB investigating a safety occurrence in accordance with the Australian Transport Safety Investigation Act 2003, and retaining aircraft parts as evidence.
- a part or component suspected to be unapproved only due to missing paperwork, or similar. The part is under investigation, awaiting final determination.

Such parts must be stored separately and secured from serviceable aeronautical products till a decision is made.

6.1.4 Once the unserviceable parts are no more subject to further action by CASA or ATSB, or if they are considered unsalvageable, they will be required to be any of the following:

- stored separately and secured from serviceable aeronautical products
- returned to the owner
- scrapped or have arrangements made for scrapping so they cannot be installed as a serviceable part.

6.1.5 **Permanent removal from service through mutilation:** Unsalvageable or scrapped parts, when disposed of, should be mutilated or clearly and permanently marked. Any technique(s) can be adopted as long as the scrapped parts become unusable for their original intended use. Typically, mutilating unsalvageable aircraft parts involves destroying the data plates, removing part identification details, and cutting, crushing, sawing, grinding, melting, burning, or using other means to prevent the parts from being misrepresented or used as serviceable aircraft parts.

The following unsalvageable/scrapped part procedures are not always effective and therefore should be avoided: stamping, spraying with paint, hammer marks, identification by tag or markings, drilling small holes, sawing in two pieces or similar.

6.1.6 **Permanent marking that assures items cannot be used:** It is acceptable to use unsalvageable parts as a training and education aid, or for research and development or for non-aviation applications, without mutilating them as long as they are permanently marked as unserviceable, and a record is kept of the disposition of the parts.