GA/AWK CONTINUING AIRWORTHINESS AND MAINTENANCE REGULATIONS PROJECT
ASAP TECHNICAL WORKING GROUP
TASKING INSTRUCTIONS AND SECOND TWG MEETING REPORT

The Part 43 Technical Working Group (TWG) is established and operates in accordance with the Terms of Reference of the Aviation Safety Advisory Panel (ASAP) dated September 2017 (or as amended).

PURPOSE

The role of the TWG will be to provide relevant technical expertise and industry sector insight for the development of legislation in accordance with the agreed policy principles.

The TWG will:

- Provide industry sector insight and understanding of current needs and challenges
- Provide current, relevant technical expertise for the development, analysis and review of legislative and non-legislative solutions to the identified issues
- Assist with the development of policies, regulations, advisory materials and transition strategies
- Provide endorsement and or conditional endorsement of policies, regulations, advisory materials and transition strategies for consideration by the ASAP and CASA.

KEY PRINCIPLES

The following principles for the reform are:

- compliance with the standards set by the ICAO for general aviation*
  - Annex 6 Part II — International General Aviation — Aeroplanes
  - Annex 6 Part III, Section III — International General Aviation — Helicopters
- a regulatory structure based to the maximum practical extent on an established and appropriate international standard
- minimum regulatory compliance burden consistent with ensuring a level of safety appropriate for the GA and AWK sectors
- any changes are intended to be cost neutral or provide savings for the GA and AWK sectors wherever possible.

** ICAO recognises AWK as a distinct aspect of civil aviation but has not prescribed AWK standards since ICAO separated AWK from GA in 1990.*

SPECIFIC OBJECTIVES

The project has three key components:

1. **Regulation model.** Review ICAO standards and international legislation with a view to adopting the model that most closely meets the key principles for the reform.
2. **Legislation**. Review the existing Australian legislation against the selected international legislation and determine:
   a. Any differences from the selected international legislation that are essential to address unique Australian conditions.
   b. Transitional strategies to minimise the disruption to current industry.
3. **Detailed policy development.** Prepare a comprehensive document setting out the detailed policy settings required for provision of drafting instructions

Timelines for specific outputs are:

- Project launch and initial submissions: August 2018
- **TWG meeting: September 2018**
- Public consultation on detailed policy: prior to end of 2018

- Policy finalisation: End 2018/early 2019
- Legislation drafting: Q2 2019
- **TWG meeting (if necessary): mid-2019**
- Public consultation of legislation and guidance material: mid-2019
- Regulatory package to Department: Q4-2019

REPORTING ARRANGEMENTS

The TWG will provide a status report to the regular meetings of the ASAP on progress.

Recommendations and reports of the working group will be provided to the Chair of the ASAP, through the secretariat.

ROLES AND RESPONSIBILITIES

CASA	TWG Members
Organise meetings and workshops, and produce agendas, papers and supporting materials Facilitate meetings and workshops Record insights and findings Communicate openly and consistently with working group members about project status and issues Respect the time of all working group members by minimising work required to achieve outcomes	Commit to supporting the project objectives and timeline Engage and collaborate constructively at all times Prepare for working group activities by reviewing agendas, papers and supporting materials Provide timely and considered advice in meetings, and between meetings as required Respond to requests for feedback on draft materials within agreed timeframes

CONSENSUS

A key aim of the TWG is that a consensus be reached, wherever possible, in the finalisation and preparation of advice for the Aviation Safety Advisory Panel and CASA.

The TWG will be guided by the ASAP Terms of Reference (Section 6) with respect to determining and documenting consensus.

MEMBERSHIP

Eric Benton***	Mike Higgins	Peter Pring-Shambler*
Warren Bossie	Rick Jones**	Charles Thompson**
David Boundy	Leslie McChesney	Perry McNeil
Jeff Boyd		

* Provided feedback in absentia (see attachment) and represented on teleconference by Andy Bishop

** Did not attend teleconference

*** Provided feedback in absentia

The TWG CASA Lead, Mick English was supported by Carl Madsen.

The ASAP Secretariat was represented by Matthew Bouttell.

PROCESS FOR ACHIEVING CONSENSUS

As required by the ASAP (& TWG) Terms of reference, there must be agreement by all participants on the method used for obtaining consensus.

To obtain consensus, the quorum of seven, agreed with the outcomes captured in this report in accordance with the ASAP terms of reference. All feedback was captured by the ASAP Secretariat.

The CASA Lead has also provided commentary of the effectiveness of the TWG and whether it's believed that the recorded outcomes are a fair representation of the TWG from a CASA perspective.

SUMMARY OF OUTCOMES – TWG Virtual Meeting 11 March 2019

By reviewing CASA's plans as outlined in this tasking instruction, the DRAFT Summary of Consultation (7 December 2018 – 31 January 2019) and Policy Decision Summary – SS05/01 – Part 43 of CASR Maintenance of Aircraft, this second meeting of the TWG provides feedback and advice to the ASAP to enable the ASAP to provide any further advice to CASA's Director of Aviation Safety.

A. Was consensus achieved among the TWG members that CASA's draft summary of consultation was a true reflection of industry feedback?

CONSENSUS / **GENERAL CONSENSUS / DISSENT**

Comments:
TWG members advise that feedback received from industry during the public consultation, and captured in the Summary of Consultation, is in alignment with anecdotal feedback received by TWG members over the past 6-8 weeks.

B. Does the TWG support the Policy Decision CASA has put forward post-public consultation?

SUPPORTED / UNSUPPORTED / FURTHER INFORMATION REQUIRED

Comments

TWG members have achieved **General Consensus** for CASA to proceed with Part 43 noting that further information is requested per the following:

- Noting New Zealand adopted FAR Part 43, TWG members ask that CASA look at the differences New Zealand have adopted and understand why they have made these changes . EG, Engine overhauls, propeller maintenance, etc.
- Noting that New Zealand have some differences to FAR Part 43, will this effect mutual acceptance of licenses and maintenance releases? Is there any effect to the provisions contained within the Trans-Tasman Mutual Recognition Act 1997?
- TWG members wish to have greater understanding on how New Zealand Part 66 licenses integrate with their Part 43.

The information sought regarding New Zealand is not to suggest that CASA adopt NZ regs, rather it is sought to have more understanding to ensure the correct policy is adopted in Australia. This information will be obtained and shared by the CASA Lead to TWG members for further discussion if required, to enable CASA to finalise policy.

All TWG members however have major reservations about the Part 135 maintenance requirements for Charter aircraft and that this must be looked at holistically.
It must be noted that all other jurisdictions use Part 43 for Part 135 operations. The TWG members have concerns that charter operators may incur significant cost burdens resulting in a probable reduction in Charter operators should they be required to implement Part 145 maintenance standards

Some TWG members expressed concern in allowing an independent B1 LAME perform special inspections, such as the 24 month checks of instrument systems and transponders.

CASA Lead Summary
Mick English
Comment: I feel that the TWG acted in a collegial manner and sought to resolve the issues that were raised during discussions. I noted that the major areas of concern are (1) the future of maintenance rules for charter aircraft: the TWG was in agreement that pushing charter maintenance into Part 145 would be disadvantageous to charter operators and the people maintaining their aircraft. (2) engine overhauls. This was an area of concern for some members, but I did not sense that it was a majority concern. I will continue to work with TWG members as required to resolve areas of concern, but I remain bound by the project terms of reference as endorsed by the ASAP, CASA executive and the Board of CASA.

Future plans for Part 43 and TWG involvement

Post this TWG meeting, the report will be provided to the ASAP as an update to assist them in formulating advice to the CASA Director of Aviation Safety with regards to Part 43.

APPENDIX

1. Extract from ASAP Terms of Reference
2. Emailed comments from TWG member Peter Pring-Shambler prior to meeting
3. Draft Summary of Consultation (SOC) on Part 43
4. Draft Policy Decision Summary – SS05/01

(*extract)* From ASAP and TWG Terms of Reference regarding Consensus

6.1 A key aim of the ASAP is that a consensus be reached, wherever possible, in the finalisation and preparation of advice to the CEO/DAS.

6.2 For present purposes, 'consensus' is understood to mean agreement by all parties that a specific course of action is acceptable.

6.3 Achieving consensus may require debate and deliberation between divergent segments of the aviation community and individual members of the ASAP or its Technical Working Groups.

6.4 Consensus does not mean that the 'majority rules'. Consensus can be unanimous or near unanimous. Consensual outcomes include:

6.4.1 Full consensus, where all members agree fully in context and principle and fully support the specific course of action.

6.4.2 General consensus, where there may well be disagreement, but the group has heard, recognised, acknowledged and reconciled the concerns or objections to the general acceptance of the group. Although not every member may fully agree in context and principle, all members support the overall position and agree not to object to the proposed recommendation.

6.4.3 Dissent, where differing in opinions about the specific course of action are maintained. There may be times when one, some, or all members do not agree with the recommendation or cannot reach agreement on a recommendation.

Determining and Documenting Consensus

6.5 The ASAP (and Technical Working Groups) should establish a process by which it determines if consensus has been reached. The way in which the level of consensus is to be measured should be determined before substantive matters are considered. This may be by way of voting or by polling members. Consensus is desirable, but where it is not possible, it is important that information and analysis that supports differing perspectives is presented.

6.6 Where there is full consensus, the report, recommendation or advice should expressly state that every member of the ASAP (or Technical Working Group) was in full agreement with the advice.

6.7 Where there is general consensus, the nature and reasons for any concern by members that do not fully agree with the majority recommendation should be included with the advice.

6.8 Where there is dissent, the advice should explain the issues and concerns and why an agreement was not reached. If a member does not concur with one or more of the recommendations, that person's dissenting position should be clearly reflected.

6.9 If there is an opportunity to do so, the ASAP (or Technical Working Group) should re-consider the report or advice, along with any dissenting views, to see if there might be scope for further reconciliation, on which basis some, if not all, disagreements may be resolved by compromise.

Bouttell, Matthew

From: Aviation Safety Advisory Panel
Subject: FW: CONFIRMED: Part 43 TWG - Videoconference meeting 11 March 2019 [SEC=UNCLASSIFIED]

From: Peter Pring-Shambler <pete.ps@bigpond.com>
Sent: Thursday, 28 February 2019 10:47 AM
To: Aviation Safety Advisory Panel <asap@casa.gov.au>
Cc: English, Michael <Michael.English@casa.gov.au>; Andrew Bishop <A.Bishop@aviationmuseum.com.au>
Subject: RE: CONFIRMED: Part 43 TWG - Videoconference meeting 11 March 2019 [SEC=UNCLASSIFIED]

Hi Matt
Would you mind if a had a stand in for the Videoconference on the 11th March?
I would like Andrew Bishop to stand in for me. He is the Chief Engineer at the Temora Aviation Museum and the President of the Australian Warbirds Association Limited. He also has very similar thoughts to me on Part 43.

I await your reply

Pete

Peter Pring-Shambler
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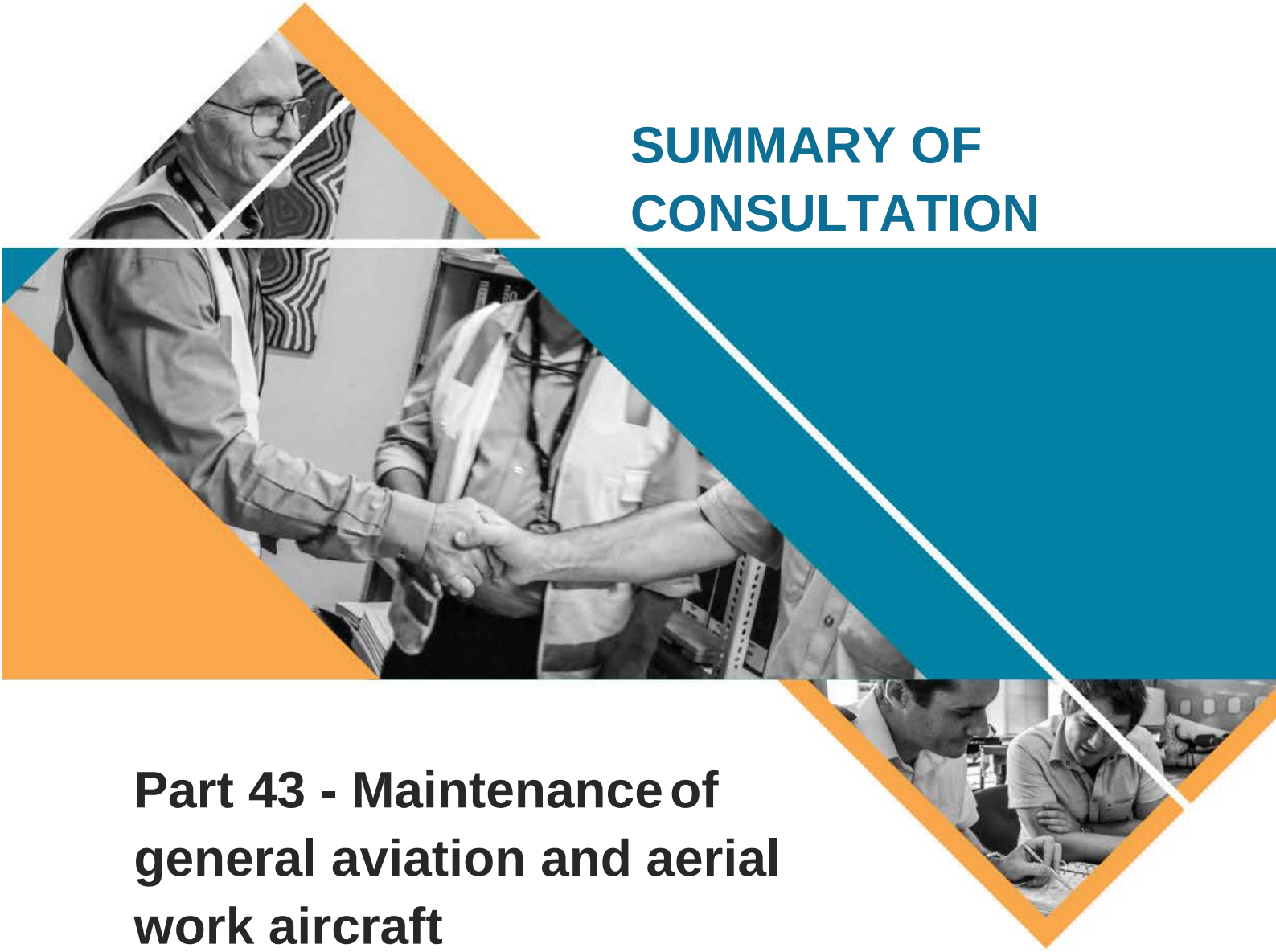
Australian Government
Civil Aviation Safety Authority

Draft for consultation with TWG



SUMMARY OF CONSULTATION

Part 43 - Maintenance of general aviation and aerial work aircraft

Date	March 2019
Project number	SS 05/01
File ref	D19/47956

Draft for consultation with TWG

Overview

CASA conducted an initial survey in August 2018 in which we asked the aviation industry and general public to tell us how they would like us to regulate for the maintenance of aircraft involved in General Aviation (GA) and Aerial Work (AWK). The initial survey showed a preference for CASA to replace CAR maintenance regulations for GA/AWK aircraft with a set of regulations based on the FARs with minimal changes.

CASA set out the policy outcomes that would eventuate from adopting the FARs, publishing CD 1812SS, comments for which closed on January 31st 2019.

This summary of consultation document provides a summary of the comments received. For brevity this document only focusses on areas of concern or requiring more clarity.

Summary of Respondents

CASA received 208 responses to the consultation, of which 99 respondents supported the proposals.

63 respondents expressed concerns with some aspects of the proposals and 46 respondents did not indicate a position.

35 respondents expressed concern about compromising of safety due to removal of the CAR 30 structure and associated organisational CASA surveillance.

56 CAR 30 approval holders provided responses. 15 CAR 30 respondents expressed concern about the economic effects on CAR 30 approval holders. 27 CAR 30 approval holders expressed overall satisfaction with the proposals.

7 respondents expressed concerns about a loss of insurance coverage if they were not able to continue operating under the umbrella of a CAR 30 approval.

84 LAMEs provided responses. 52 LAMEs expressed concerns with some aspects of the proposals. 32 expressed satisfaction with the proposals. 15 LAMEs were concerned about loss of privileges by B2 LAMEs

9 respondents were concerned about aspects of the Inspection Authorisation (IA) proposals, the 2 main areas of concern were the proposed requirement to pass an examination and cost of obtaining or renewing an IA.

55 aircraft owner/operators responded. 48 expressed satisfaction with the proposals, 3 opposed the proposals and 4 did not state a preference.

Summary of Concerns

Of the respondents who indicated a concern with some aspects of the proposals, or who did not support the proposals outright, reasoning was varied but most revolved around the following themes:

a. **Loss of business income:** The removal of CAR 30 approval requirements will lead to a loss of business by established maintenance organisations to low-budget start-ups.

CASA Response

i. CASA acknowledges that the new regulations will reduce barriers to new entrants. Overall CASA considers this a benefit to enable more flexibility and more entrants in a market with diminishing suppliers of maintenance services, in quantity and by physical location, particularly in rural and remote areas of Australia.

ii. Start-up maintainers will be required by regulations to have the required facilities, data, tooling and special and test equipment for the maintenance services being offered. Established maintenance providers who meet the requirements for a CAR 30 approval and have an existing customer base are expected to hold an advantage over new entrants.

iii. Based on a qualitative comparison of the regulatory requirements in CAR 30 and the FAR 43, CASA considers the proposals will reduce the overall cost of regulation on the sector. A detailed regulatory impact statement will be performed following the drafting of the legislation.

b. **Reduced safety:** By removing CAR 30 approvals, CASA will not have oversight of people doing maintenance, this will result in a reduction of safety standards.

CASA Response

i. The CAR 30 structure relies on CASA carrying out entry control and surveillance of an organisation, with a focus on organisational systems and procedures. For individuals and very small maintenance venues working on small simple aircraft, safety concerns arise from a lack of competency, and the actions or inactions of individuals. The Part 43 proposals would allow for better allocation of CASA oversight resources by visiting airports, inspecting aircraft and focussing on the maintenance performed, rather than examining procedures manuals.

ii. CASA surveillance will be supplemented by the Inspection Authorisation (IA) holders. The role of the IA is to inspect every aircraft not on an approved inspection program for ongoing conformity to its type certification basis. This function is not performed in the same way under the CAR 30 maintenance regulations. This approach has the opportunity of providing a higher safety assurance because aircraft are inspected against clearly defined airworthiness standards.

c. **Lack of insurance cover for independent LAMEs:** Some respondents stated that all independent LAMEs will now be required to carry insurance and that it will either not be available, or the costs will be prohibitive.

CASA response

i. CASA has held discussions with major insurance underwriters and has been advised that the same levels of insurance coverage will be provided for independent LAMEs as is currently available for CAR 30 organisations. Early indications are that the premium structures would be unchanged.

ii. One underwriter already provides an insurance policy for independent LAMEs, and the premium is based on annual turnover. A start-up LAME with turnover of $75,000 would pay less than $1100 for the first year of coverage.

d. **Loss of B2 privileges.** Under the FAA system, avionics technicians provide a support service to the A&P mechanic, but do not have any legislated release to service privileges. Respondents have stated concerns that in Australia, this format would disadvantage LAMEs who have invested in their avionics qualifications based on the Part 66 structure.

CASA response

i. CASA has reviewed the avionics maintenance provisions and will ensure that a B2 LAME will retain all certification privileges.

ii. While some avionics privileges will be shared with the B1 LAME under Part 43, CASA will only permit a B2 LAME to carry out major repairs or alterations to avionics systems or components.

iii. CASA has also made provision for a B2 LAME to be issued with an inspection authorisation (IA) which will allow the B2 IA to certify conformity of major avionics repairs and alterations – this will not be a shared privilege.

e. **Cost of obtaining/renewing an inspection authorisation:** Respondents stated that the cost of an IA is not justified because it only allows an LAME to continue doing what they are able to do under current legislation.

CASA response

i. The IA should be regarded as the CAR 30 of the future. It will permit an LAME to provide the maintenance services that are currently only permitted under cover of a CAR 30 approval (major repairs & modifications, annual inspections). The cost of obtaining and renewing an IA is anticipated to be less than the cost of obtaining and maintaining a CAR 30 approval.

ii. Under the proposal renewal of the IA at 2-yearly intervals would not require an examination to be passed – it is optional for IA holders who were not sufficiently active as an IA to qualify for renewal (under the provisions of 65.93). Other options will include attendance at a refresher course approved by CASA.

f. **Requirement for an IA examination:** Some respondents stated that the requirement to pass an examination every 2 years is an additional and unnecessary cost in time and money.

CASA response

i. CASA acknowledges that an LAME, as a general rule, is competent to conduct inspections and carry out modifications in accordance with approved data. The examination is intended to ensure that the LAME has the necessary knowledge required to assess an aircraft for conformity to its type approval basis as properly altered.

g. **Reduced safety standards**: Respondents voiced concerns that safety standards would be compromised because unqualified and untrained persons would be allowed to provide maintenance services.

CASA response

i. This is a misunderstanding of the proposal. No LAME is or will be permitted to perform or supervise maintenance unless the person holds a valid AMEL and has either been trained in the maintenance being performed, or has at a previous time, demonstrated competency to perform the task.

h. **Charter:** A number of charter operators and maintenance organisations submitted that the scope of the project should include charter aircraft.

CASA response

i. The Part 43 project is intended to provide a proportionate safety regulatory regime for private and aerial work aircraft, which comprise a significant proportion of non-airline aircraft in Australia.

ii. The required standard of continuing airworthiness regulation for charter aircraft requires a dedicated project. The aim of the project is to establish the acceptable

level of standard and the appropriate regulatory regime to meet community expectations. CASA is scheduled to commence this project in April 2019.

Future direction

CASA has prepared a draft policy decision summary (PDS) which takes into account, matters raised in consultation. The PDS will be published in March and will afford stakeholders an opportunity to review the final policy settings that flow out of the previous consultation and responses received. Concurrently, CASA will proceed with drafting of the legislation based on the final policy settings. CASA intends to publish a draft legislation package for public comment in June 2019, with making of Part 43 proposed for December 2019.

In response to public input, CASA has also prepared a set of information sheets which clarify the matters that have raised concerns.

Policy Decision Summary - SS05/01 - Part 43 of CASR - Maintenance of Aircraft

Update:

In 2018 CASA recommenced work on developing new maintenance regulations for the General Aviation (GA) and Aerial Work (AWK) sectors as part of the regulation reform program.

CASA conducted an initial survey in August 2018 in which we asked the aviation industry and general public to identify current challenges they experienced in GA/AWK maintenance and to consider various international standards as a suitable model for Australia. The initial survey showed a clear and strong preference for CASA to replace the current maintenance regulations for GA/AWK aircraft with a set of regulations based on the FARs with minimal changes.

CASA set out the policy outcomes that would flow out of FAR adoption and published CD1812SS, comments for which closed on January 31st 2019.

CASA received 208 responses to the consultation, of which 99 respondents supported the proposals. 63 respondents expressed concerns with various aspects and 46 respondents did not indicate a position (full details of the submissions and CASAs resulting actions can be seen at the Summary of Consultation).

This Document

This draft document sets out the final policy outcomes arising out of that consultation. It is set out in tabular form in which each FAR provision is listed, followed by a shaded box that provides clarification text as required and, where CASA has made or proposes to make changes, a description of those changes.

Part 43 Policies

Notes to reader
Reference to a subpart means subpart A, B or C of this document Reference to an Appendix means an Appendix at the end of subpart C. The FAA rules are generally presented in this document in their original format in which the male gender is used when describing persons. The equivalent CASR Part 43 provisions will be drafted in accordance with Australian gender-neutral guidelines.
Definitions used in this part *Accessory* has the dictionary meaning*: "*a subordinate part or object; something added or attached for convenience, attractiveness, etc". *Alteration* has the same meaning as modification

Appliance means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine, or propeller.

Consensus standard means, for the purpose of certificating light-sport aircraft, an industry-developed consensus standard that applies to aircraft design, production, and airworthiness. It includes, but is not limited to, standards for aircraft design and performance, required equipment, manufacturer quality assurance systems, production acceptance test procedures, operating instructions, maintenance and inspection procedures, identification and recording of major repairs and major alterations, and continued airworthiness.

Current when used in regard to instructions for continuing airworthiness, has the dictionary meaning: "belonging to the time actually passing" or "of the time".

Discrepancy has the dictionary meaning: "an instance of difference or inconsistency".

Large aircraft means aircraft of more than 12,500 pounds (5700kG), maximum certificated take-off weight.

Maintenance means inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance.

Major alteration means an alteration not listed in the aircraft, aircraft engine, or propeller specifications—

(1) That might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or

(2) That is not done according to accepted practices or cannot be done by elementary operations.

Major repair means a repair:

(1) That, if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or

(2) That is not done according to accepted practices or cannot be done by elementary operations.

Minor alteration means an alteration other than a major alteration.

Minor repair means a repair other than a major repair.

Preventive maintenance means simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

primary builder means: a person who has fabricated and assembled the major portion of an amateur-built aircraft

Small aircraft means aircraft of 12,500 pounds (5700kG) or less, maximum certificated take-off weight.
Shall has the same meaning as *must*

Subpart A – maintenance personnel

What this subpart does
This subpart sets out:

(1) the additional scope of maintenance that may be performed or supervised and released to service by a holder of a B1 or B2 licence;
(2) requirements for issue or renewal of an Inspection Authorisation (IA);
(3) privileges and limitations applicable to an IA;
(4) conditions applying to individuals performing maintenance and releasing aircraft to service under this Part;
(5) the requirements for persons performing inspections of amateur-built aircraft;
(6) the requirements for issue of repairman certificates;
(7) privileges and limitations of repairman certificates;

What this subpart does not do
This subpart does not apply to persons performing maintenance on aircraft that are subject to the Civil Aviation Regulations 1988 (CAR), or Part 42 of the Civil Aviation Safety Regulations 1998 (CASR).
This subpart does not provide expanded licence privileges to a Licenced Aircraft Maintenance Engineer (LAME) that may be exercised outside of Part 43.

65. 81 B1 LAME in Part 43
The B1 LAME is permitted to carry out repairs, inspections and alterations on any system of an aeroplane or helicopter. Restrictions will apply with regard to powerplants and helicopter flight controls.
The restrictions are:

(1) Subject to (3) and (4) a holder of a B1.1 or B1.3 may certify for all maintenance of an aeroplane or helicopter except maintenance of a piston engine.
(2) Subject to (3) and (4) a holder of a B1.2 or B1.4 may certify for all maintenance of an aeroplane or helicopter except maintenance of a turbine engine.
(3) A holder of a B1.1 or B1.2 who does not hold a credit for MEA 308 (Remove and install rotary wing rotor and flight control systems and components) may not certify for maintenance of helicopter flight controls.
(4) A B1 LAME may not

a. carry out repairs to aircraft instruments. This does not prevent the B1 LAME from testing instruments and systems or carrying out maintenance on instrument systems.
b. carry out major repairs or alterations to aircraft propellers
c. carry out or certify for completion of major repairs or alterations to avionics systems or components

(5) If a LAME has a powerplant (E3) exclusion, then they may not:
a. hold an Inspection Authorisation, or
b. certify maintenance on an engine or associated systems.

(6) A B1 LAME may not certify a maintenance task unless the task is:
a. a basic privilege of their licence, or
b. one that they have been trained to perform in a course acceptable to CASA, or
c. one that they have satisfactorily carried out under supervision of an LAME who may certify for the maintenance.

(7) A LAME who carries out a maintenance task under the above provisions, is required at all times to be able to provide evidence of their compliance with these requirements to CASA, or an RO for whom the work is being performed.

(8) A B1 LAME may not return an aircraft to service after an annual inspection, a stage of a progressive inspection, a major repair or a major alteration unless he or she holds an Inspection Authorisation issued under 61.91

(9) A B1 LAME or an AME may not carry out maintenance unless they use, and understand, the relevant manufacturer's current instructions for performing the maintenance, and they are required to use the techniques practices and standards specified in the instructions, or other methods techniques, practices and standards acceptable to CASA.

(10) If any tools (including test equipment) are called for in the instructions, the LAME or AME performing the work is required to use those tools or a substitute tool that will provide the same airworthiness outcome and is in accordance with accepted industry standards. This means that a person carrying out work such as welding or non-destructive inspections (NDI) will be required to do the welding or NDI to the same standard that would be expected of a person who holds a recognised qualification to do the work.

65.81 Changes made by CASA

It has been necessary to make various changes to 65.81 in order to adapt the intent to the Australian Part 66 licensing system. CASR Part 43 will not introduce a new Part 66 licence category or subcategory or an A&P-style licence.

B1 and B2 licence privileges will remain unchanged for use outside of Part 43.

The effect of this regulation is to provide for a B1 LAME to have the same privileges as would an A&P mechanic under the FARs when carrying out maintenance under Part 43 with the exception of major repairs or alterations to avionics systems or components.

What this regulation means

A B1 LAME may perform all maintenance of aircraft, airframes, engines, propellers and appliances but excluding maintenance of instruments or major repairs or alterations to avionics systems and components or propellers.

Maintenance includes inspection, repairs and alterations; however, the LAME must hold an Inspection Authorisation to return an aircraft to service after an annual inspection, a stage of a progressive inspection or major repairs or alterations.

A LAME may expand their scope of certification privileges on a task by task basis under supervision of a LAME who may certify the task. The task must be within the range of their core privileges.

65.82 B2 LAME in Part 43

(1) A holder of a B2 licence is permitted to perform and certify all maintenance and alterations of avionics equipment and systems.
(2) The exercise of the licence will not be affected by aircraft type ratings.
(3) A B2 LAME may release an aircraft to service after avionics maintenance, repairs or alterations that are not major repairs or alterations (only an IA holder will be permitted to return an aircraft to service after major repairs or alterations).
(4) If a B2 LAME installs, performs maintenance on, or alters an autopilot system and the work has involved disturbance of a flight control system, he or she may certify for the work however the aircraft may only be released to service by a B1 LAME.
(5) If a B2 LAME has certified for work carried out as part of a larger maintenance task being carried out by a B1 LAME, the certification by the B2 LAME may be taken as compliance with the requirement of FAR 43.9(3) to name the persons who have performed work.
(6) Involvement of a B2 LAME in annual or 100-hour inspections under Part 43 is at the discretion of the B1 LAME or IA holder who would be releasing the aircraft to service.
(7) If a B2 LAME completes an inspection of the avionics system of an aircraft during an annual or 100-hour inspection and makes an entry with certification for completion of the inspection, the certifying B1 or IA holder may rely on that certification when releasing the aircraft to service.
(8) If an avionics component (appliance) maintenance task is not covered by the scope of the B2 licence, the B2 LAME is permitted to carry out or supervise the task and return the component to service if the LAME has either:
    a. Previously carried out the task,
    b. Been successfully trained in the task by an appropriately qualified person, or
    c. Satisfactorily carried out the task under the supervision of a B2 LAME who may certify for the maintenance
(9) A B2 LAME who holds an avionics IA may certify conformity of a major repair or alteration to an avionics system or component.
(10) A holder of an IA (Avionics) may not release an aircraft to service after a major repair or alteration if the work has involved disturbance of a flight control system, or alteration of a structural or mechanical system or component.
(11) A B2 LAME who carries out a maintenance task under these provisions, is required at all times to be able to provide evidence of their compliance with these requirements to CASA, or an RO for whom the work is being performed.

65.82 What is it?

65.82 does not exist under the FARs. It is a new provision that CASA has drafted to preserve and expand the certification privileges of a B2 LAME and to allow for full avionics privileges in Part 43.

CASA has

- Introduced a limited (Avionics) IA for issue to a B2 LAME.
- made provision for major repairs and alterations to be certified for conformity and released to service by a B2 LAME who holds an avionics IA.
- defined major avionics repairs and alterations in paragraph (a) of Appendix A.

65.82 What it means.

- A B2 LAME will not be required to hold a CASA approval to provide avionics maintenance services for aircraft or appliances.
- A B2 LAME with an avionics IA may certify conformity of avionics major repairs and alterations
- If a major avionics alteration involves disturbance of a flight control system or affects a mechanical or structural component or system, the aircraft may only be returned to service by a B1 LAME. This means that 2 maintenance record entries will be required: (1) a certification by the avionics IA holder that the alteration conforms to the approved data, and (2) a certification by the LAME that the aircraft is approved for return to service. If the structural work is a major alteration, the B1 LAME returning the aircraft to service must hold an IA.
- A B2 LAME may expand their scope of certification privileges on a task by task basis under supervision of a LAME who may certify the task. The task must be within the range of their core privileges.

65.91 Inspection Authorisation

Application

An application for an Inspection Authorisation (IA) will be made to CASA Service Centre in a form acceptable to CASA.

Issue of an IA

The applicant is entitled to be granted an IA if the following conditions are met.

Requirements for issue of an IA

An applicant for an IA is required to:

(1) For a mechanical IA, hold a subcategory of B1 licence which does not have an engine exclusion. The licence must be valid and have been in effect for a total of at least 3 years;
(2) For an Avionics IA, hold a valid B2 licence that has been in effect for at least 3 years;
(3) have been actively engaged in exercising the privileges of their licence for at least the 2-year period before the date of application
(4) Have a fixed base of operations at which they may be located in person or by telephone during a normal working week, but it need not be the place where they will exercise the inspection authority;
(5) Have available to them the equipment, facilities, and inspection data necessary to properly inspect airframes, powerplants, propellers, or any related part or appliance; and
(6) Pass a written test on their ability to inspect according to safety standards for returning aircraft to service after major repairs and major alterations and annual and progressive inspections performed under subpart C.

65.91 Changes to be made by CASA

CASA will accept an LAME who holds an Instrument of Appointment for issuing a Certificate of Airworthiness (CofA) as satisfying requirement (5)

65.92 Inspection Authorisation: Duration

(a) Each inspection authorization expires on March 31 of each odd-numbered year. However, the holder may exercise the privileges of that authorization only while he holds a currently effective mechanic certificate with both a currently effective airframe rating and a currently effective powerplant rating.

(b) An inspection authorization ceases to be effective whenever any of the following occurs:

(1) The authorization is surrendered, suspended, or revoked.

(2) The holder no longer has a fixed base of operation.

(3) The holder no longer has the equipment, facilities, and inspection data required by §65.91(c) (3) and (4) for issuance of his authorization.

(c) The holder of an inspection authorization that is suspended or revoked shall, upon the Administrator's request, return it to the Administrator

Changes to be made by CASA

To avoid congestion and delays associated with large numbers of renewals, CASA will issue each IA for a 2-year period commencing from the date of issue or renewal.

How it will look

An inspection authorisation will be issued for a period of 2 years. However, holders of an IA may exercise the privileges of that authorisation only while they hold a current, valid AMEL.

An inspection authorisation ceases to be valid whenever any of the following occurs:

(1) The authorisation is surrendered, suspended, or revoked by CASA.
(2) The holder no longer has a fixed base of operation.
(3) The holder no longer has, or has access to, the equipment, facilities, and inspection data required for issuance of the authorisation.

65.93 Inspection Authorisation: Renewal.

(a) To be eligible for renewal of an IA, an applicant is required to present evidence that he still meets the requirements (1) through (4) of the eligibility criteria. In addition, during the time the applicant held the IA, they must show completion of one of the activities (1) through (5) below during each 12-month period:

(1) Performed at least one annual inspection for each 90 days that the applicant held the current authority; or
(2) Performed at least one repair or major alteration for each 90 days that the applicant held the current authority; or
(3) Performed or supervised and approved at least one progressive inspection; or
(4) Attended and successfully completed a refresher course, acceptable to CASA, of not less than 8 hours of instruction; or

(5) Passed a written test to determine that the applicant's knowledge of applicable regulations and standards is current.

(b) An IA will cease to be valid if the holder does not complete one of (1) through (5) by the end of the first year.

(c) The IA will be revalidated after the holder passes a written test to determine that the applicant's knowledge of the applicable regulations and standards is current.

(d) An IA holder who passes a written test for issue of an IA is deemed to have completed the requirements of the first year.

65.93 Changes to be made by CASA

CASA will accept issuance of a certificate of airworthiness as satisfaction of requirement (3)

65.95 Inspection authorization: Privileges and limitations.

(a) The holder of an inspection authorization may—

(1) Inspect and approve for return to service any aircraft or related part or appliance after a major repair or major alteration to it in accordance with subpart C, if the work was done in accordance with technical data approved by CASA; and

(2) Perform an annual or perform or supervise a progressive inspection according to 43.13 and 43.15 of this chapter.

(b) When he exercises the privileges of an inspection authorization the holder shall keep it available for inspection by the aircraft owner, the LAME submitting the aircraft, repair, or alteration for approval (if any), and shall present it upon the request of CASA or an authorized representative of the Australian Transportation Safety Board.

(c) If the holder of an inspection authorization changes his fixed base of operation, he may not exercise the privileges of the authorization until he has notified the responsible CASA office in writing, of the change.

65.95 Changes to be made by CASA

If an IA holder has an exclusion E12 (Propellers), or E 13 (Hydraulics) attached to their AME licence they will not be permitted to certify for completion of an annual inspection of an aircraft equipped with one or more of those systems unless the LAME has either:

a. successfully completed an examination in the relevant module of the Part 66 licence syllabus, or

b. satisfactorily carried out an inspection of the excluded system under the supervision of a person who is qualified to perform the inspection, or

c. satisfactorily carried out an annual inspection of a comparable aircraft under the supervision of an IA holder who is qualified to perform the inspection.

Note: Examples of comparable aircraft are:

- *a pressurised Piper Navajo, would be comparable to a pressurised Cessna 337*
- *a Cessna 421 would be comparable to a Beech King Air*

Note 2: A person who completes CASA examination FF (power fluid systems) and GC (propellers) will be deemed to have met the requirements of 12.

General information for IA holders

The following information has been extracted from FAA document FAA-G-8082-19 . The full guide can be downloaded at: https://www.faa.gov/training_testing/testing/test_guides/media/faa-g-8082-19.pdf

APPROVING MAJOR REPAIRS AND MAJOR ALTERATIONS

What to Look for During an Inspection

A primary responsibility of the holder of an IA is to determine airworthiness by inspecting repairs or alterations for conformity to approved data and assuring that the aircraft is in a condition for safe operation. During inspection of major repairs or major alterations, the holder of an IA must also determine that they are compatible with previous repairs and alterations that have been made to the aircraft.

The holder of an IA must personally perform the inspection (not the case in Australia). The regulations do not provide for delegation of this responsibility. Approving major repairs and major alterations is a serious responsibility. The approval action should consist of a detailed investigation to establish at least that:

1. All replacement parts installed conform to approved design and/or have traceability to the original equipment manufacturer (OEM).
2. As installed, the installation conforms to approved data that is applicable to the installation.
3. Workmanship meets the requirements of 43.13 (the aircraft or product is equal to its original or properly altered condition).
4. The data used is appropriate to the aircraft certification rule (CAR 3, 14 CFR part 23, etc.).
5. Work is complete and compatible with other structures or systems.

The holder of an IA *cannot* approve the *data* for major repairs or major alterations. He or she may, however, inspect to see that alterations conform to data previously approved by CASA (ref. 65.95). This means the holder of an IA ensures that approved data is available and is used as the basis for the approval. This availability determination should be made prior to beginning the repair or alteration. If data is unavailable, or if the holder of an IA is unsure of the acceptability of the available data, a subpart 21.M authorised person should be consulted.

Quite often major repairs are performed that are eventually covered by fabric, metal skin, or another structure. When this situation exists, the holder of an IA should have a clear understanding with the mechanic performing the repair that a precover inspection is necessary. The inspection should assure that the repair was made in accordance with acceptable methods, techniques, and practices prescribed by part 43 and that the structure to be covered is free from defects, corrosion, or wood rot, and is protected from the elements. In addition, the holder of an IA should inspect other affected areas for hidden damage if the aircraft has been involved in an accident or incident. An entry is required to be made in the maintenance record.

Minor deviation from approved data is permissible if the change is one that could be approved as a minor alteration when considered alone. Be sure to list the deviations when completing the aircraft records.

Repairmen

65.104 Repairman certificate—experimental aircraft builder—Eligibility, privileges and limitations.

(a) To be eligible for a repairman certificate (experimental aircraft builder), an individual must—

(1) Be at least 18 years of age;

(2) Be the primary builder of the aircraft to which the privileges of the certificate are applicable;

(3) Show to the satisfaction of CASA that the individual has the requisite skill to determine whether the aircraft is in a condition for safe operations; and

(4) Be an Australian citizen.

(b) The holder of a repairman certificate (experimental aircraft builder) may perform condition inspections on the aircraft constructed by the holder in accordance with the operating limitations of that aircraft.

65.104 What it means

Only one repairman certificate (experimental aircraft) is issued to a primary builder and it is specific to the aircraft for which it is issued. This means that if an aircraft changes hands and it is not possible for the new owner to have the original builder perform the condition inspection, then it must be performed by an A&P (LAME).

If an aircraft is constructed by a group, and no individual group member meets the primary builder requirements, a repairman certificate will not be issued for the aircraft. This means that only a B1 LAME may perform the condition inspections.

FAR 43 states that it does not apply to amateur-built experimental aircraft, which means that for an amateur-built aircraft, any person may perform maintenance tasks other than condition inspections regardless of credentials held.

The condition inspection may only be carried out by: the primary builder if he or she holds a repairman certificate for the aircraft, an LAME or a Part 145 AMO. An LAME or an AMO is not required to hold or engage an IA for the purpose of carrying out a condition inspection.

Condition inspections shall be recorded in the aircraft maintenance records showing the following or a similarly worded statement:

"I certify that this aircraft has been inspected on (insert date) in accordance with the scope and detail of appendix D to part 43 and found to be in a condition for safe operation." The entry will include the aircraft total time in service, and the name, signature, certificate number, and type of certificate held by the person performing the inspection.

Note: Inspections carried out in accordance with the CASA Inspection Schedule (schedule 5 of CAR) meet or exceed the scope and detail of Appendix D

65.105 Display of certificate.

Each person who holds a repairman certificate shall keep it within the immediate area where he normally exercises the privileges of the certificate and shall present it for inspection upon the request of the Administrator or an authorized representative of the National Transportation Safety Board, or of any Federal, State, or local law enforcement officer.

65.107 Repairman certificate (light-sport aircraft): Eligibility, privileges, and limits.

(a) Use the following table to determine your eligibility for a repairman certificate (light-sport aircraft) and appropriate rating:

To be eligible for	**You must**
(1) A repairman certificate (light-sport aircraft)	(i) Be at least 18 years old, (ii) Be able to read, speak, write, and understand English. If for medical reasons you cannot meet one of these requirements, CASA may place limits on your repairman certificate necessary to safely perform the actions authorized by the certificate and rating, and (iii) Demonstrate the requisite skill to determine whether a light-sport aircraft is in a condition for safe operation.
(2) A repairman certificate (light-sport aircraft) with an inspection rating	(i) Meet the requirements of paragraph (a)(1) of this section, and (ii) Complete a 16-hour training course acceptable to CASA on inspecting the particular class of experimental light-sport aircraft for which you intend to exercise the privileges of this rating.
(3) A repairman certificate (light-sport aircraft) with a maintenance rating	(i) Meet the requirements of paragraph (a)(1) of this section, and (ii) Complete a training course acceptable to CASA on maintaining the particular class of light-sport aircraft for which you intend to exercise the privileges of this rating. The training course must, at a minimum, provide 120 of hours of instruction.

(b) The holder of a repairman certificate (light-sport aircraft) with an inspection rating may perform the annual condition inspection on a light-sport aircraft:

(1) That is owned by the holder;

(2) That has been issued an experimental certificate for operating a light-sport aircraft under 21.191(i) of CASR; and

(3) That is in the same class of light-sport-aircraft for which the holder has completed the training specified in paragraph (a)(2)(ii) of this section.

(c) The holder of a repairman certificate (light-sport aircraft) with a maintenance rating may—

(1) Approve and return to service an aircraft that has been issued a special airworthiness certificate in the light-sport category under 21.186 of CASR, or any part thereof, after performing or inspecting maintenance (to include the annual condition inspection and the 100-hour inspection required by 91.327), preventive maintenance, or an alteration (excluding a major repair or a major alteration on a product produced under a CASA approval);

(2) Perform the annual condition inspection on a light-sport aircraft that has been issued an experimental certificate for operating a light-sport aircraft under 21.191(i) of CASR; and

(3) Only perform maintenance, preventive maintenance, and an alteration on a light-sport aircraft that is in the same class of light-sport aircraft for which the holder has completed the training specified in paragraph (a)(3)(ii) of this section. Before performing a major repair, the holder must complete additional training acceptable to the CASA and appropriate to the repair performed.

(d) The holder of a repairman certificate (light-sport aircraft) with a maintenance rating may not approve for return to service any aircraft or part thereof unless that person has previously performed the work concerned satisfactorily. If that person has not previously performed that work, the person may show the ability to do the work by performing it to the satisfaction of the CASA, or by performing it under the direct supervision of a certificated and appropriately licenced LAME, or a certificated repairman, who has had previous experience in the specific operation concerned. The repairman may not exercise the privileges of the certificate unless the repairman understands the current instructions of the manufacturer and the maintenance manuals for the specific operation concerned.

Changes made by CASA

CASA will only issue a repairman (maintenance) certificate for light sport aeroplanes. Maintenance of balloons, weight-shift controlled aircraft and powered parachutes is outside the scope of Part 43.

Subpart B – Operator Responsibilities

This subpart sets out the responsibilities of the registered operator of an aircraft that:

(a) is engaged in private, flying training or aerial work operations, and

(b) is not being maintained under Part 42 of CASR

Note: Part 43 does not apply to balloons, or aircraft maintained under different rules administered by a CASA-approved self-administering aviation organisation.

91.327 Aircraft having a special airworthiness certificate in the light-sport category: Operating limitations.

(a) No person may operate an aircraft that has a special airworthiness certificate in the light-sport category unless—

(1) The aircraft is maintained by a certificated repairman with a light-sport aircraft maintenance rating, an appropriately licenced LAME, or an appropriately rated repair station in accordance with the applicable provisions of part 43 of this chapter and maintenance and inspection procedures developed by the aircraft manufacturer or a person acceptable to the CASA;

(2) A condition inspection is performed once every 12 calendar months by a certificated repairman (light-sport aircraft) with a maintenance rating, an appropriately licenced LAME, or an appropriately rated repair station in accordance with inspection procedures developed by the aircraft manufacturer or a person acceptable to CASA;

(3) The owner or operator complies with all applicable airworthiness directives;

(4) The owner or operator complies with each safety directive applicable to the aircraft that corrects an existing unsafe condition. In lieu of complying with a safety directive an owner or operator may—

(i) Correct the unsafe condition in a manner different from that specified in the safety directive provided the person issuing the directive concurs with the action; or

(ii) Obtain a CASA waiver from the provisions of the safety directive based on a conclusion that the safety directive was issued without adhering to the applicable consensus standard;

(5) Each alteration accomplished after the aircraft's date of manufacture meets the applicable and current consensus standard and has been authorized by either the manufacturer or a person acceptable to CASA;

(6) Each major alteration to an aircraft product produced under a consensus standard is authorized, performed and inspected in accordance with maintenance and inspection procedures developed by the manufacturer or a person acceptable to CASA; and

(7) The owner or operator complies with the requirements for the recording of major repairs and major alterations performed on type-certificated products in accordance with 43.9(d), and with the retention requirements in 91.417.

(b) No person may operate an aircraft issued a special airworthiness certificate in the light-sport category to tow a glider for compensation or hire or conduct flight training for

compensation or hire in an aircraft which that person provides unless within the preceding 100 hours of time in service the aircraft has—

(1) Been inspected by a certificated repairman with a light-sport aircraft maintenance rating, an appropriately licenced LAME, or an AMO in accordance with inspection procedures developed by the aircraft manufacturer or a person acceptable to CASA and been approved for return to service in accordance with subpart C; or

(2) Received an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

91.403 General.

(a) The owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with part 39 of CASR.
(b) No person may perform maintenance, preventive maintenance, or alterations on an aircraft other than as prescribed in this subpart.
(c) No person may operate an aircraft for which a manufacturer's maintenance manual or instructions for continued airworthiness has been issued that contains an airworthiness limitations section unless the mandatory replacement times, inspection intervals, and related procedures specified in that section or alternative inspection intervals and related procedures approved by CASA or in accordance with an inspection program approved under 91.409(e) have been complied with.
(d) A person must not alter an aircraft based on a supplemental type certificate unless the owner or operator of the aircraft is the holder of the supplemental type certificate or has written permission from the holder.

91.403 What it means:

The registered operator (RO) is responsible for ensuring that the aircraft is not flown or made available for a flight if the aircraft is not in a condition for safe operation.

For an aircraft to be in a condition for safe operation, the RO must;

(1) Ensure that any maintenance required by an applicable Airworthiness Directive (AD) is carried out as required by the AD

(2) Comply with any requirements set out in the airworthiness limitations (AWL) for the aircraft unless CASA has approved an alternate means of compliance

(3) Ensure that any discrepancy or damage that could affect the safe operation of the aircraft is rectified before a flight

Additionally, the RO must not:

(1) Permit maintenance to be carried on the aircraft except in accordance with the requirements and limitations set out in this subpart and subparts A and C

(2) Incorporate a Supplemental Type Certificate (STC) in an aircraft without the written permission of the STC holder if the RO is not the holder.

91.405 Maintenance required.

Each owner or operator of an aircraft—

(a) Shall have that aircraft inspected in accordance with this subpart and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in subpart C;

(b) Shall ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service;

(c) Shall have any inoperative instrument or item of equipment that is fitted to the aircraft; and

(1) is not required by the certification basis for the aircraft; and

(2) is not required by or under these Regulations for the operation of the aircraft for the flight, repaired, replaced, removed, or inspected at the next required inspection; and

(d) When listed discrepancies include inoperative instruments or equipment, shall ensure that a placard has been installed as required by 43.11.

91.405 what it means:

This regulation:

(a) requires the RO to have the aircraft inspected in accordance with 91.409 and have rectifications carried out as required between inspections.

(b) If maintenance is carried on an aircraft, requires the RO to ensure that appropriate entries are made in the aircraft record indicating that the aircraft is approved for return to service before permitting the aircraft to be flown– regulations 43.9 and 43.11 set out the form and disposition of maintenance record entries.

(c) permits an aircraft to be operated with unrectified discrepancies if the discrepancies are in an instrument or item of equipment that are not required by the aircrafts type certification and are not required for a flight.

(d) If an aircraft is to be operated in accordance with (c), requires the RO to ensure that a placard has been installed in accordance with 43.11

Note: paragraph (c) does not permit an aircraft to be flown if an instrument or equipment that is listed as an airworthiness limitation (AWL) or that is required to be operational by an AD, is inoperative.

Examples of discrepancies that could be permitted would include:

(1) A defective transponder if the aircraft is to be operated under VFR and outside of controlled airspace for which a transponder is required.

(2) Defective position lights if a flight is to be made in VFR by day

(3) Defective crew oxygen systems if a flight is to be made below levels for which oxygen is required

(4) An unserviceable co-pilot AH for a single pilot operation

91.407 Operation after maintenance, preventive maintenance, rebuilding, or alteration.

(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—

1. It has been approved for return to service by a person authorized under 43.7; and
2. The maintenance record entry required by 43.9 or 43.11, as applicable, has been made.

(b) No person may carry any person (other than crewmembers) in an aircraft that has been maintained, rebuilt, or altered in a manner that may have appreciably changed its flight characteristics or substantially affected its operation in flight until an appropriately rated pilot with at least a private pilot licence flies the aircraft, makes an operational check of the maintenance performed or alteration made, and logs the flight in the aircraft records.

(c) The aircraft does not have to be flown as required by paragraph (b) of this section if, prior to flight, ground tests, inspection, or both show conclusively that the maintenance, preventive maintenance, rebuilding, or alteration has not appreciably changed the flight characteristics or substantially affected the flight operation of the aircraft.

91.407 What it means:

The RO is required to ensure that when maintenance is carried out on the aircraft, the aircraft is released to service by a person who holds the appropriates licence, certificate or authorisation for the type of maintenance. The RO must not let the aircraft be flown unless the release to service has been mad.

Additionally, if the maintenance may have appreciably affected the flight characteristics of the aircraft, the RO must not let it be flown with a person, other than a crew member on board, until a satisfactory operational check flight has been performed by a person who holds at least a private pilot licence (PPL).

If ground tests or inspections are able to satisfactorily determine that the aircraft will not be appreciably affected by the changes, an operational check flight will not be required.

Changes to be made by CASA

In response to submissions received, CASA will retain the requirement to have a second person conduct an inspection if maintenance has disturbed a flight control system (Independent Inspection). The RO will be responsible for ensuring that the inspection is

recorded in the maintenance records before permitting an aircraft to be flown after maintenance to a flight control system.

91.409 Inspections

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—

(1) An annual inspection in accordance with subpart C and has been approved for return to service by a person authorized by 43.7; or

(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of CASR.

No inspection performed under paragraph (b) may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.

(b) Except as provided in paragraph (c), no person may operate an aircraft carrying any person (other than a crewmember) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection and been approved for return to service in accordance with subpart C or has received an inspection for the issuance of an airworthiness certificate in accordance with part 21 of CASR. The 100-hour limitation may be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service.

(c) Paragraphs (a) and (b) of this section do not apply to—

(1) An aircraft that carries a special flight permit, a current experimental certificate, or a light-sport or provisional airworthiness certificate;

(2) An aircraft inspected in accordance with an approved aircraft inspection program;

(3) An aircraft subject to the requirements of paragraph (d) or (e); or

(4) Turbine-powered rotorcraft when the operator elects to inspect that rotorcraft in accordance with paragraph (e) of this section.

(d) ***Progressive inspection.*** Each registered owner or operator of an aircraft desiring to use a progressive inspection program must submit a written request to the responsible Flight Standards office, and shall provide—

(1) A LAME holding an inspection authorization, a Part 145 AMO, or the manufacturer of the aircraft to supervise or conduct the progressive inspection;

(2) A current inspection procedures manual available and readily understandable to pilot and maintenance personnel containing, in detail—

(i) An explanation of the progressive inspection, including the continuity of inspection responsibility, the making of reports, and the keeping of records and technical reference material;

(ii) An inspection schedule, specifying the intervals in hours or days when routine and detailed inspections will be performed and including instructions for exceeding an inspection interval by not more than 10 hours while en route and for changing an inspection interval because of service experience;

(iii) Sample routine and detailed inspection forms and instructions for their use; and

(iv) Sample reports and records and instructions for their use;

(3) Enough housing and equipment for necessary disassembly and proper inspection of the aircraft; and

(4) Appropriate current technical information for the aircraft.

The frequency and detail of the progressive inspection shall provide for the complete inspection of the aircraft within each 12 calendar months and be consistent with the manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The progressive inspection schedule must ensure that the aircraft, at all times, will be airworthy and will conform to all applicable aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data. If the progressive inspection is discontinued, the owner or operator shall immediately notify the responsible Flight Standards office, in writing, of the discontinuance. After the discontinuance, the first annual inspection under 91.409(a)(1) is due within 12 calendar months after the last complete inspection of the aircraft under the progressive inspection. The 100-hour inspection under 91.409(b) is due within 100 hours after that complete inspection. A complete inspection of the aircraft, for the purpose of determining when the annual and 100-hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection. A routine inspection of the aircraft and a detailed inspection of several components is not considered to be a complete inspection.

(e) ***Large airplanes and turbine-powered aircraft.***
No person may operate a large airplane, turbojet multiengine airplane, turbopropeller-powered multiengine airplane, or turbine-powered rotorcraft unless the replacement times for life-limited parts specified in the aircraft specifications, type data sheets, or other documents approved by the certifying NAA are complied with and the airplane or turbine-powered rotorcraft, including the airframe, engines, propellers, rotors, appliances, survival equipment, and emergency equipment, is inspected in accordance

with an inspection program selected under the provisions of paragraph (f) of this section, except that, the owner or operator of a turbine-powered rotorcraft may elect to use the inspection provisions of 91.409(a), (b), (c), or (d) in lieu of an inspection option of 91.409(f).

Turbine powered helicopters and single engine turbine powered aeroplanes

Turbine powered aircraft that are being inspected in accordance with 91.409(a), (b), (c), or (d), must have their turbine engines inspected in accordance with a manufacturers recommended progressive inspection schedule or an annual inspection checklist provided by the manufacturer.

(f) *Selection of inspection program under paragraph (e) of this section*.

The registered owner or operator of each airplane or turbine-powered rotorcraft described in paragraph (e) of this section must select, identify in the aircraft maintenance records, and use one of the following programs for the inspection of the aircraft:

(1) A continuous airworthiness inspection program that is part of a continuous airworthiness maintenance program currently in use by an RO.

(2) An approved aircraft inspection program approved by CASA.

(3) A current inspection program recommended by the manufacturer.

(4) Any other inspection program established by the registered owner or operator of that airplane or turbine-powered rotorcraft and approved by the Administrator under paragraph (g) of this section. However, the Administrator may require revision of this inspection program in accordance with the provisions of 91.415.

Each operator shall include in the selected program the name and address of the person responsible for scheduling the inspections required by the program and make a copy of that program available to the person performing inspections on the aircraft and, upon request, to the Administrator.

(g) ***Inspection program approved under paragraph (e) of this section.***

Each operator of an airplane or turbine-powered rotorcraft desiring to establish or change an approved inspection program under paragraph (f)(4) of this section must submit the program for approval to the responsible Flight Standards office. The program must be in writing and include at least the following information:

(1) Instructions and procedures for the conduct of inspections for the particular make and model airplane or turbine-powered rotorcraft, including necessary tests and checks. The instructions and procedures must set forth in detail the parts and areas of the airframe, engines, propellers, rotors, and appliances, including survival and emergency equipment required to be inspected.

(2) A schedule for performing the inspections that must be performed under the program expressed in terms of the time in service, calendar time, number of system operations, or any combination of these.

(h) ***Changes from one inspection program to another.***
When an operator changes from one inspection program under paragraph (f) of this section to another, the time in service, calendar times, or cycles of operation accumulated under the previous program must be applied in determining inspection due times under the new program.

91.409 What it means

The RO is required to have the aircraft inspected at regular intervals to determine that it remains in a condition for safe operation and continues to comply with its type certification basis.

There are 3 options from which the RO may choose to have an aircraft inspected.

Option 1: The aircraft may be inspected annually (annual inspection) in accordance with Part 43, specifically regulation 43.15 and Appendix D of Part 43.
This option is not permitted for large aircraft (MTOW>5700kG) or multi-engine turbine powered aircraft.

Note: If an aircraft is being inspected under Part 43, and is operated in aerial work or flying training, it must also be inspected at each 100 hours of operation.

Option 2: The aircraft may be inspected under a progressive inspection schedule based on Part 43. The progressive inspection must be overseen by a holder of an IA

Option3: The aircraft may be inspected under an inspection program approved by CASA or an Authorised Person (AP).
An inspection program may be one of the following:

(1) A system of maintenance previously approved by CASA
(2) A continuous airworthiness inspection program that is part of a continuous airworthiness maintenance program
(3) An inspection program recommended by the aircraft manufacturer
(4) An inspection program approved by CASA or an authorised person.

Large aircraft and multi-engine turbine powered aircraft

Large aircraft and multi-engine turbine powered aircraft must be inspected in accordance with option 3. If the aircraft is being maintained under a program that incorporates a manufacturer's recommended component overhaul or retirement intervals, those intervals are mandatory. Otherwise, the life limitations set out in relevant AWLs and ADs are applicable.

Light Sport aircraft and experimental aircraft

91.409 does not apply to light sport and experimental aircraft.
Experimental aircraft are required to have a condition inspection in accordance with operating limitations attached to their certificates.
Light sport aircraft are required to be inspected in accordance with their manufacturers requirements.

Changes to be made by CASA

(1) Progressive inspections:

CASA proposes to retain the progressive inspection provisions currently set out in paragraph 2.5 of CASA Schedule 5
http://classic.austlii.edu.au/au/legis/cth/consol_reg/car1988263/sch5.html
The CASA progressive schedule is simpler, requires less documentation and may be adopted by the RO as an election not requiring CASA approval.

(2) Planning tolerances

100-hourly inspections: a 10-hour planning tolerance will be permitted, however the total flight time between any two consecutive inspections must not exceed 200 hours. If the aircraft is inspected under an approved program, the total flight time between any 2 consecutive inspection must not exceed the nominal flight time for a 2-year period.
For example, if an inspection program calls for 150-hour inspections, the total flight time between 2 consecutive insections must not exceed 300 hours TIS.
Annual inspections, a 10-day planning tolerance will be permitted, however the total calendar time between any 2 consecutive annual inspections must not exceed 24 months.

(3) Turbine powered helicopters and single engine aeroplanes.

Based on FAA advice, CASA requires all turbine engines to be inspected in accordance with a manufacturers recommended progressive inspection or an annual checklist that is provided by the manufacturer.

(4) Limited category aircraft

Limited category aircraft must be inspected in accordance with a schedule approved by an administering organisation for the aircraft. If no administering organisation exists for the aircraft, the aircraft must be inspected in accordance with a schedule approved by CASA or an authorised person.

91.411 Altimeter system and altitude reporting equipment tests and inspections.

(a) No person may operate an aeroplane, or helicopter, in controlled airspace for which a transponder is required to be carried, or under IFR unless—

(1) Within the preceding 24 calendar months, each static pressure system, each altimeter instrument, and each automatic pressure altitude reporting system has been tested and inspected and found to comply with appendices E and F of Subpart C;

(2) Except for the use of system drain and alternate static pressure valves, following any opening and closing of the static pressure system, that system has been tested and inspected and found to comply with paragraph (a), appendix E, of Subpart C; and

(3) Following installation or maintenance on the automatic pressure altitude reporting system of the ATC transponder where data correspondence error could

be introduced, the integrated system has been tested, inspected, and found to comply with paragraph (c), appendix E, of Subpart C.

(b) The tests required by paragraph (a) of this section must be conducted by—

(1) The manufacturer of the aeroplane, or helicopter, on which the tests and inspections are to be performed;

(2) A Part 145 AMO

(c) Altimeter and altitude reporting equipment approved under Technical Standard Orders are considered to be tested and inspected as of the date of their manufacture.

(d) No person may operate an aeroplane, or helicopter, in controlled airspace under IFR at an altitude above the maximum altitude at which all altimeters and the automatic altitude reporting system of that aeroplane, or helicopter, have been tested.

91.411 What it means:

Testing of altimeters, static pressure measuring systems and pressure altitude reporting systems are only required to be carried out for aircraft that are to be operated under IFR or in controlled airspace for which a transponder is required. The main difference between this regulation and current practice is that the testing requirement will be based on the type of operation and will no longer be required to be carried out every 2 years regardless of aircraft utilisation.

Changes made by CASA

CASA also requires testing of static pressure systems, altimeters and pressure altitude reporting systems for aircraft operating under VFR if they are to be operated in controlled airspace for which a transponder is required to be carried.

Testing of static systems, altimeters and pressure altitude reporting systems may be carried out by a holder of a B1 or B2 licence if the LAME has the use of the requisite testing equipment and has been instructed in the use of it. Instruction in the use of the testing equipment may be provided by any of the following means.

(1) The manufacturer of the test equipment, or an appointed agent may provide training in the form of verbal instruction, demonstrations (including demonstrations provided on public media platforms) or written instructions.

(2) An LAME who has been instructed in the operation of the test equipment may instruct a person in the use of it

(3) An accredited training provider may provide training in the use of the test equipment

91.413 ATC transponder tests and inspections.

(a) No persons may use an ATC transponder that is to be operated in controlled airspace for which a transponder is required or under IFR unless, within the preceding 24 calendar months, the ATC transponder has been tested and inspected and found to comply with appendix F of Subpart C; and

(b) Following any installation or maintenance on an ATC transponder where data correspondence error could be introduced, the integrated system has been tested, inspected, and found to comply with paragraph (c), appendix E, of Subpart C.

(c) The tests and inspections specified in this section must be conducted by—

(1) A Part 145 AMO;

(2) A holder of a B2 AMEL; or

(3) A holder of a B1 AMEL who has been trained in the operation of the test equipment

(4) The manufacturer of the aircraft on which the transponder to be tested is installed, if the transponder was installed by that manufacturer.

91.413 Changes made by CASA

Testing of transponders will be permitted to be carried out by a holder of a B1 or B2 licence if the LAME has the use of the requisite testing equipment and has been instructed in the use of it. Instruction in the use of the testing equipment may be provided by any of the following means.

(1) The manufacturer of the test equipment, or an appointed agent may provide training in the form of verbal instruction, demonstrations (including demonstrations provided on public media platforms) or written instructions.

(2) An LAME who has been instructed in the operation of the test equipment may instruct a person in the use of it

(3) An accredited training provider may provide training in the use of the test equipment

91.415 Changes to aircraft inspection programs.

(a) Whenever CASA finds that revisions to an approved aircraft inspection program are necessary for the continued adequacy of the program, the owner or operator must, after notification by CASA, make any changes in the program found to be necessary by CASA.

(b) The owner or operator may petition CASA to reconsider the notice to make any changes in a program in accordance with paragraph (a) of this section.

(c) The petition must be filed with CASA within 30 days after the certificate holder or fractional ownership program manager receives the notice.

(d) Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by CASA.

91.415 What it means

CASA may direct the RO to amend an aircraft inspection program if CASA forms the view that the program is deficient and that the deficiency may create an unacceptable risk to safety.

Changes to be made by CASA: No changes. Notwithstanding that this provision is a duplication of regulation 11.245 of CASR**,** CASA will retain the FAR provision in order to preserve the right of the RO to petition CASA in the event of a direction being given.

91.417 Maintenance records.

(a) Except for work performed in accordance with 91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:

(1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—

(i) A description (or reference to data acceptable to CASA) of the work performed; and

(ii) The date of completion of the work performed; and

(iii) The signature, and certificate number of the person approving the aircraft for return to service.

(2) Records containing the following information:

(i) The total time in service of the airframe, each engine, each propeller, and each rotor.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required.

(vi) Copies of documents relating to major alterations or repairs that are mentioned in 43.9(d)

(b) The owner or operator shall retain the following records for the periods prescribed:

(1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.

(2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(3) A list of discrepancies furnished to a registered owner or operator under 43.11 shall be retained until the discrepancies are repaired and the aircraft is approved for return to service.

(c) The owner or operator shall make all maintenance records required to be kept by this section available for inspection by CASA or any authorized representative of the Australian Transportation Safety Board (ATSB)

(d) When a fuel tank is installed within the passenger compartment or a baggage compartment pursuant to Subpart C, a copy of the instructions for operation of the fuel system shall be kept on board the modified aircraft by the owner or operator.

91.417, What it means

The requirements of this section do not apply to records relating to testing of altimeters, static pressure systems and transponders. However, this does not diminish the requirement under 43.9 to make an appropriate entry in the aircraft maintenance records (see paragraphs (d) of Appendix E and (k) of Appendix F).

Changes made by CASA:

Documents relating to major repairs or alterations

CASA does not propose to introduce a Form 337. Under existing regulations, major alterations and repairs are required to be recorded in the aircraft maintenance records. The maintenance record is required to provide information that identifies the data used for the repair or

alteration. Under these circumstances, a Form 337 would be a duplication of maintenance documentation. It will remain the registered operator's responsibility to keep maintenance records for their aircraft. It will be the registered operator's responsibility to provide records to an IA as required for annual inspections.

Changes to be made by CASA:

(1) Aircraft operating limitations

If a repair or alteration is made to the aircraft that has an effect on operating limitations set out in the aircrafts approved flight manual, the IA inspecting the work must provide to the RO, any approved documentation that sets out the changed operating limitations.

(2) Weight and Balance

If a repair or alteration affects the empty weight or the position of the centre of gravity at empty weight of an aircraft to the extent that use of the flight manual or placarded loading instructions could result in the aircraft being loaded outside the aircraft's approved flight manual limitations, the IA must provide a new loading system to the RO that will ensure correct loading of the aircraft.

91.419 Transfer of maintenance records.

Any owner or operator who sells a U.S.-registered aircraft shall transfer to the purchaser, at the time of sale, the following records of that aircraft, in plain language form or in coded form at the election of the purchaser, if the coded form provides for the preservation and retrieval of information in a manner acceptable to CASA:

(a) The records specified in 91.417(a)(2).

(b) The records specified in 91.417(a)(1) which are not included in the records covered by paragraph (a) of this section, except that the purchaser may permit the seller to keep physical custody of such records. However, custody of records by the seller does not relieve the purchaser of the responsibility under §91.417(c) to make the records available for inspection by CASA or any authorized representative of the Australian Transportation Safety Board (ATSB).

91.421 Rebuilt engine maintenance records.

(a) The owner or operator may use a new maintenance record, without previous operating history, for an aircraft engine rebuilt by the manufacturer or by an agency approved by the manufacturer.

(b) Each manufacturer or agency that grants zero time to an engine rebuilt by it shall enter in the new record—

(1) A signed statement of the date the engine was rebuilt;

(2) Each change made as required by airworthiness directives; and

(3) Each change made in compliance with manufacturer's service bulletins, if the entry is specifically requested in that bulletin.

(c) For the purposes of this section, a rebuilt engine is a used engine that has been completely disassembled, inspected, repaired as necessary, reassembled, tested, and approved in the same manner and to the same tolerances and limits as a new engine with either new or used parts. However, all parts used in it must conform to the production drawing tolerances and limits for new parts or be of approved oversized or undersized dimensions for a new engine.

91.421 Changes to be made by CASA

Feedback received during consultation highlighted to CASA that the FARs only permit engines to be rebuilt by the manufacturer or an agency approved by the manufacturer. US engine manufacturers specify that engines must be returned to the OEM for rebuilding. For operators and maintainers in the US, this is not excessively onerous, however the cost of shipping engines to and from Australia would render rebuilding of engines uneconomic.

CASA will therefore replace “agency approved by the manufacturer” with “appropriately rated AMO”.

Note: An engine manufacturer is required to provide ICAs for engines produced under a production approval. However, rebuilding of an engine is not classed as maintenance. Therefore, a manufacturer is not required to make proprietary production data available to an RO or an AMO. If an AMO is unable to obtain manufacturers approved copies of production drawing tolerances and limits, then the AMO may only release an engine as overhauled.

Subpart C – Performance rules

What this subpart does.

This subpart sets out the requirements that apply to persons carrying out maintenance, preventive maintenance, inspections, alterations or rebuilds to aircraft, airframes, engines propellers and appliances. This subpart is about who can perform maintenance and how maintenance is to be performed, recorded and released to service.

What this subpart does not do

This subpart does not specify what sort of maintenance or inspection must be carried out or when it must be done. Those requirements are set out in subpart B

43.1 - Applicability

(a) Except as provided in paragraphs (b) and (d) of this section, this subpart prescribes rules governing the maintenance, preventive maintenance, rebuilding, and alteration of any—

(1) Aircraft engaged in private, aerial work and flying training operations;

(2) Airframe, aircraft engines, propellers, appliances, and component parts of aircraft engaged in private, aerial work and flying training operations.

(b) This subpart does not apply to

(1) Any aircraft for which CASA has issued an experimental certificate, unless CASA has previously issued a different kind of airworthiness certificate for that aircraft;
(2) Any aircraft for which CASA has issued an experimental certificate under paragraph 21.191(g), (h), (j) or(k) of CASR;
or
(5) Any aircraft subject to the provisions of part 101 of CASR

(c) This subpart applies to all life-limited parts that are removed from a type certificated product, segregated, or controlled as provided in 43.10.

(d) This subpart applies to any aircraft issued a special airworthiness certificate in the light-sport category except that the listing of major alterations and major repairs specified in paragraphs (a) and (b) of appendix A of this subpart is not applicable to products not produced under a Part 21 approval.

43.1 What it means

Part 43 does not apply to an amateur-built aircraft, an experimental aircraft such as a prototype for which a different CofA has not been previously issued, or an aircraft that is subject to Part 101.

43.2 - Records of overhaul and rebuilding.

(a) No person may describe in any required maintenance entry or form an aircraft, airframe, aircraft engine, propeller, appliance, or component part as being overhauled unless—

(1) Using methods, techniques, and practices acceptable to the Administrator, it has been disassembled, cleaned, inspected, repaired as necessary, and reassembled; and

(2) It has been tested in accordance with approved standards and technical data, or in accordance with current standards and technical data acceptable to the Administrator, which have been developed and documented by the holder of the type certificate, supplemental type certificate, or a material, part, process, or appliance approval under part 21 of this chapter.

(b) No person may describe in any required maintenance entry or form an aircraft, airframe, aircraft engine, propeller, appliance, or component part as being rebuilt unless it has been disassembled, cleaned, inspected, repaired as necessary, reassembled, and tested to the same tolerances and limits as a new item, using either new parts or used parts that either conform to new part tolerances and limits or to approved oversized or undersized dimensions.

43.2 What it means.

This regulation when read in conjunction with 91.421 means that an LAME may overhaul an engine in accordance with paragraph (a), however only a manufacturer or an AMO may rebuild an engine in accordance with paragraph (b).

43.3 - Persons Authorized to Perform Maintenance, Preventive Maintenance, rebuilding, and alterations

(a) Except as provided in this section and 43.17, no person may maintain, rebuild, alter, or perform preventive maintenance on an aircraft, airframe, aircraft engine, propeller, appliance, or component part to which this part applies. Those items, the performance of which is a major alteration, a major repair, or preventive maintenance, are listed in appendix A.

(b) The holder of a Part 66 AMEL may perform maintenance, preventive maintenance, and alterations as provided in subpart A.

(c) The holder of a repairman certificate may perform maintenance, preventive maintenance, and alterations as provided in subpart A.

(d) A person working under the supervision of a LAME or repairman may perform the maintenance, preventive maintenance, and alterations that his supervisor is authorized to perform, if the supervisor personally observes the work being done to the extent necessary to ensure that it is being done properly and if the supervisor is readily available, in person, for consultation. However, this paragraph does not authorize the performance of any inspection required by 91.409 or any inspection performed after a major repair or alteration.

(e) An AMO may perform maintenance, preventive maintenance, and alterations as provided in Part 145.

(f) The holder of an air carrier operating certificate or an operating certificate issued under Part 121 or 135, may perform maintenance, preventive maintenance, and alterations as provided in Part 121 or 135.

(g) Except for holders of a sport pilot certificate, the holder of a pilot certificate issued under part 61 may perform preventive maintenance on any aircraft owned or operated by that pilot which is not used under part 121, 129, or 135 of this chapter. The holder of a sport pilot certificate may perform preventive maintenance on an aircraft owned or operated by that pilot and issued a special airworthiness certificate in the light-sport category.

(h) Notwithstanding the provisions of paragraph (g) of this section, the Administrator may approve a certificate holder under Part 135 of this chapter, operating rotorcraft in a remote area, to allow a pilot to perform specific preventive maintenance items provided—

(1) The items of preventive maintenance are a result of a known or suspected mechanical difficulty or malfunction that occurred en route to or in a remote area;

(2) The pilot has satisfactorily completed an approved training program and is authorized in writing by the certificate holder for each item of preventive maintenance that the pilot is authorized to perform;

(3) There is no certificated LAME available to perform preventive maintenance;

(4) The certificate holder has procedures to evaluate the accomplishment of a preventive maintenance item that requires a decision concerning the airworthiness of the rotorcraft; and

(5) The items of preventive maintenance authorized by this section are those listed in paragraph (c) of appendix A of this part.

(i) Notwithstanding the provisions of paragraph (g) of this section, in accordance with an approval issued to the holder of a certificate issued under part 135 of this chapter, a pilot of an aircraft type-certificated for 9 or fewer passenger seats, excluding any pilot seat, may perform the removal and reinstallation of approved aircraft cabin seats, approved cabin-mounted stretchers, and when no tools are required, approved cabin-mounted medical oxygen bottles, provided—

(1) The pilot has satisfactorily completed an approved training program and is authorized in writing by the certificate holder to perform each task; and

(2) The certificate holder has written procedures available to the pilot to evaluate the accomplishment of the task.

(j) A manufacturer may—

(1) Rebuild or alter any aircraft, aircraft engine, propeller, or appliance manufactured by him under a type or production certificate;

(2) Rebuild or alter any appliance or part of aircraft, aircraft engines, propellers, or appliances manufactured by him under a Technical Standard Order Authorization, a Parts Manufacturer Approval, or Product and Process Specification issued by the certifying NAA; and

(3) Perform any inspection required by part 91 on aircraft it manufactured under a type certificate, or currently manufactures under a production certificate.

(k) Updates of databases in installed avionics meeting the conditions of this paragraph are not considered maintenance and may be performed by pilots provided:

(1) The database upload is:

(i) Initiated from the flight deck;

(ii) Performed without disassembling the avionics unit; and

(iii) Performed without the use of tools and/or special equipment.

(2) The pilot must comply with the certificate holder's procedures or the manufacturer's instructions.

(3) The holder of operating certificates must make available written procedures consistent with manufacturer's instructions to the pilot that describe how to:

(i) Perform the database update; and

(ii) Determine the status of the data upload.

43.3 What it means

43.3(a) specifies that only persons nominated in 43.3 and 43.17 may inspect, rebuild, repair, overhaul or alter an aircraft, engine, propeller or component. This subsection also makes reference to Appendix A of Part 43 which sets out what actions are a major repair or major alteration for the purpose of Part 43

43.3 (b) permits an LAME to perform all maintenance actions that are listed in subpart A (see 64.81, 65.82 and 65.95). This permission over-rides limitations imposed on a Part 66 licence by licence subcategory and exclusions. The permissions are subject to conditions and competency requirements set out in Subpart A and do not translate across to maintenance under CAR or Part 42 of CASR.

43.3(c) permits a holder of a repairman certificate to perform maintenance in accordance with the privileges and limitations set out in Subpart A. These privileges do not translate across to maintenance under any other CASR Part.

43.3(d) permits a person who is not an LAME or repairman, to perform maintenance tasks under the supervision of a LAME or repairman.

The permission does not include performance of inspections required under 91.409 or an inspection after a major repair or alteration, and is restricted to the type of

maintenance, preventive maintenance or alteration that is within the scope of the supervising LAME or repairman.

The person supervising must personally observe the work to the extent necessary to ensure that the work has been carried out properly and be readily available in person for consultation during the maintenance.

This provisions also means that a non-LAME may not perform an annual inspection of an aircraft or an inspection after a major repair or alteration under supervision. It does not preclude an LAME from performing the inspections under supervision of another LAME or IA as applicable.

This subsection does not permit a pilot to supervise preventive maintenance or pilot maintenance tasks listed in paragraph (d) of Appendix A.

43.3(e) permits a Part 145 AMO to perform maintenance, preventive maintenance and alterations to part 43 aircraft, their engines, propellers and appliances. The AMO would perform an inspection using an appropriate checklist and in accordance with the procedures set out in its exposition.

An AMO when performing maintenance will use the appropriate manufacturers instructions and release an aircraft, engine, propeller or accessory to service using its approved procedures and documentation.

43.3(f) has no relevance at this time (to be revisited when Part 135 policy settings are finalised)

43.3(g) will permit a pilot to perform preventive maintenance on an aircraft which is owned by the pilot. This subsection will also permit a pilot to perform preventive maintenance to any aircraft that the pilot is licenced to fly as pilot in command provided that the pilot has the permission of the RO to perform the maintenance.

This subsection also permits a holder of a recreational pilot licence to carry out preventive maintenance to a light sport aircraft that he or she owns.

43.3(h) will permit a pilot to perform maintenance that is listed in paragraph (d) of Appendix A, to aircraft engaged in flying training or aerial work, provided that the RO has ensured that the pilot is competent to perform the task. The competency may be established by any combination of instruction and/or observed performance of the tasks. The subsection does not specify that the pilot must hold a commercial pilot licence or an instructor rating. The RO is required to authorise the pilot in writing, specifying the particular tasks that the pilot is authorised to perform.

43.3(i) has no relevance at this time (to be reviewed when Part 135 policy settings are completed)

43.3(j) will permit a manufacturer to rebuild or alter aircraft, engines, propellers or appliances that it has manufactured under a production certificate.

This subsection will also permit a manufacturer to:

- Rebuild or alter any appliance or part of an aircraft that it has manufactured under a Part 21 approval (PMA, APMA, TSO)
- perform any inspection required by 91.409 on an aircraft that it has manufactured under a type certificate or production certificate

43.3(j) specifies that updating of a navigational or communication database is not a maintenance function.

Note: 43.3(j) does not apply to updating of maintenance related databases or software updates.

43.5 Approval for return to service after maintenance, preventive maintenance, rebuilding, or alteration.

No person may approve for return to service any aircraft, airframe, aircraft engine, propeller, or appliance, that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—

(a) The maintenance record entry required by 43.9 or 43.11, as appropriate, has been made;

(b) If a repair or an alteration results in any change in the aircraft operating limitations or flight data contained in the approved aircraft flight manual, those operating limitations or flight data are appropriately revised and set forth as prescribed in Subpart B.

43.5 What it means.

This requirement applies equally to a pilot, an LAME, a repairman or a manufacturer who is returning to service, an aircraft, an airframe or an engine, propeller or appliance that has been inspected or had any form of maintenance, preventive maintenance, overhaul or alteration carried out to it.

43.5(a) requires that:

(1) a maintenance record entry as specified in 43.9 must be made for any maintenance, preventive maintenance overhaul or alteration task before the aircraft is released to service (the making of the maintenance record constitutes a return to service for this requirement), and

(2) if the maintenance action is an inspection required by 91.409, an inspection record entry must be made in accordance with 43.11.

Operating limitations and aircraft weight and balance: 43.5 (b) specifies that if a repair or alteration has an effect on the operation limitations set out in the aircrafts approved flight manual, or the aircraft weight and balance, the person returning the aircraft to service must provide the RO with information about the changes and any approved flight manual supplement that accompanies the repair or alteration instructions. (ref FAR 91.9)

43.7 - Persons Authorized to Approve Aircraft for Return to Service

(a) Except as provided in this section and 43.17, no person may approve an aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service after it has undergone maintenance, preventive maintenance, rebuilding, or alteration.

(b) The holder of an AMEL or an inspection authorisation may approve an aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service as provided in Subpart A.

(c) A Part 145 AMO whose approval certificate permits the particular maintenance may approve an aircraft, airframe, aircraft engine, propeller, appliance, or component part for return to service.

(d) A manufacturer may approve for return to service any aircraft, airframe, aircraft engine, propeller, appliance, or component part which that manufacturer has worked on under 43.3(h). However, except for minor alterations, the work must have been done in accordance with technical data approved by CASA.

(f) A person holding at least a private pilot licence may approve an aircraft for return to service after performing preventive maintenance under the provisions of 43.3(g).

(g) The holder of a repairman certificate may approve an aircraft issued a special airworthiness certificate in light-sport category for return to service, as provided in Subpart A

(h) The holder of at least a recreational pilot licence may approve an aircraft owned or operated by that pilot and issued a special airworthiness certificate in the light-sport category for return to service after performing preventive maintenance under the provisions of 43.3(g).

43.7 What it means

This section provides the permissions for LAMEs, repairmen, AMOs and manufacturers to return an aircraft to service after maintenance that they are permitted to perform under 43.3

43.7 (d) requires a manufacturer to use approved technical data for inspections, rebuilds and alterations, other than minor alterations.

43.9 - Content, Form, and Disposition of Maintenance Records

(a) *Maintenance record entries.* Except as provided in paragraphs (b) and (c) of this section, each person who maintains, performs preventive maintenance, rebuilds, or alters an aircraft, airframe, aircraft engine, propeller, appliance, or component part shall make an entry in the maintenance record of that equipment containing the following information:

(1) A description (or reference to data acceptable to the Administrator) of work performed.

(2) The date of completion of the work performed.

(3) The name of the person performing the work if other than the person specified in paragraph (a)(4) of this section.

(4) If the work performed on the aircraft, airframe, aircraft engine, propeller, appliance, or component part has been performed satisfactorily, the signature, certificate number, and kind of certificate held by the person approving the work. The signature constitutes the approval for return to service only for the work performed.

(b) Each holder of an air carrier operating certificate or an operating certificate issued under Part 121 or 135, that is required by its approved operations specifications to provide for a continuous airworthiness maintenance program, shall make a record of the maintenance, preventive maintenance, rebuilding, and alteration, on aircraft, airframes, aircraft

engines, propellers, appliances, or component parts which it operates in accordance with the applicable provisions of Part 121 or 135 of this chapter, as appropriate.

(c) This section does not apply to persons performing inspections in accordance with Part 91, 125, §135.411(a)(1), or §135.419 of this chapter.

43.9 What it means

The maintenance records described in 43.9 (a) are required to be made after maintenance, preventive maintenance, rebuilds or alterations but not for an inspection made in accordance with 91.409.

The certification described in 43.9(a)(5) is also the return to service with respect to the maintenance described in the maintenance record entry. It is not a statement about the general airworthiness of the aircraft.

43.10 - Disposition of Life Limited Aircraft Parts

(a) Definitions used in this section. For the purposes of this section the following definitions apply.

Life-limited part means any part for which a mandatory replacement limit is specified in the type design, the Instructions for Continued Airworthiness, or the maintenance manual.

Life status means the accumulated cycles, hours, or any other mandatory replacement limit of a life-limited part.

(b) Temporary removal of parts from type-certificated products. When a life-limited part is temporarily removed and reinstalled for the purpose of performing maintenance, no disposition under paragraph (c) of this section is required if—

(1) The life status of the part has not changed;

(2) The removal and reinstallation is performed on the same serial numbered product; and

(3) That product does not accumulate time in service while the part is removed.

(c) Disposition of parts removed from type-certificated products. Except as provided in paragraph (b) of this section, each person who removes a life-limited part from a type-certificated product must ensure that the part is controlled so as to prevent the installation of the part on a type certificated aircraft after it has reached its life limit.

Acceptable methods include:

(1) **Record keeping system.** The part may be controlled using a record keeping system that substantiates the part number, serial number, and current life status of the part. Each time the part is removed from a type certificated product, the record must be updated with the current life status. This system may include electronic, paper, or other means of record keeping.

(2) **Tag or record attached to part**. A tag or other record may be attached to the part. The tag or record must include the part number, serial number, and current life status of the part. Each time the part is removed from a type certificated product, either a new tag or record must be created, or the existing tag or record must be updated with the current life status.

(3) **Non-permanent marking**. The part may be legibly marked using a non-permanent method showing its current life status. The life status must be updated each time the part is removed from a type certificated product, or if the mark is removed, another

method in this section may be used. The mark must be accomplished in accordance with the instructions under 45.16 of this chapter in order to maintain the integrity of the part.

(4) **Permanent marking**. The part may be legibly marked using a permanent method showing its current life status. The life status must be updated each time the part is removed from a type certificated product. Unless the part is permanently removed from use on type certificated products, this permanent mark must be accomplished in accordance with the instructions under 45.16 of this chapter in order to maintain the integrity of the part.

(5) **Segregation.** The part may be segregated using methods that deter its installation on a type-certificated product. These methods must include, at least—

(i) Maintaining a record of the part number, serial number, and current life status, and

(ii) Ensuring the part is physically stored separately from parts that are currently eligible for installation.

(6) **Mutilation**. The part may be mutilated to deter its installation in a type certificated produce. The mutilation must render the part beyond repair and incapable of being reworked to appear to be airworthy.

(7) **Other methods**. Any other method approved or accepted by CASA.

(d) **Transfer of life-limited parts.** Each person who removes a life-limited part from a type certificated product and later sells or otherwise transfers that part must transfer with the part the mark, tag, or other record used to comply with this section, unless the part is mutilated before it is sold or transferred

43.10 What it means.

mandatory replacement limit has different meanings, depending on the context in which it is being considered. For aircraft engaged in private and aerial work, a mandatory replacement limit is:

(1) any limit specified in the aircrafts airworthiness limitations (AWL) section of the maintenance manual. For a US-manufactured aircraft, these limits must be identified in the manual as:

"The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§ 43.16 and 91.403 of Title 14 of the Code of Federal Regulations unless an alternative program has been FAA approved."

Similar requirements are imposed under type certification rules in other countries.

(2) a limit specified in an AD.

A manufacturer may specify other limits in the ICAs for an aircraft, but these limits, which are accepted by the NAA are not mandatory unless the RO has elected or been directed by CASA to use a maintenance or inspection schedule that incorporates manufacturers ICAs. If an operator is using an inspection schedule that incorporates manufacturers ICAs, the operator must comply with all of those ICAs; they may not pick and choose from those limits and requirements according to convenience.

Disposition of parts removed.

This regulation places the responsibility on the person removing a time-expired part to take steps to ensure that the part is not reinstalled in a type certificated aircraft. Various options

are described, and it should be noted that the person is not required to do damage to the component; the rules do not preclude use of the part on a non-type certificated aircraft.

43.11 - Content, Form, and Disposition of Records for Inspections

(a) **Maintenance record entries**. The person approving or disapproving for return to service an aircraft, airframe, aircraft engine, propeller, appliance, or component part after any inspection shall make an entry in the maintenance record of that equipment containing the following information:

(1) The type of inspection and a brief description of the extent of the inspection.

(2) The date of the inspection and aircraft total time in service.

(3) The signature and the licence (and IA if applicable) details of the person approving or disapproving for return to service the aircraft, airframe, aircraft engine, propeller, appliance, component part, or portions thereof.

(4) **Except for progressive inspections**, if the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement— "I certify that this aircraft has been inspected in accordance with (insert type) inspection and was determined to be in airworthy condition."

(5) **Except for progressive inspections**, if the aircraft is not approved for return to service because of needed maintenance, noncompliance with applicable specifications, airworthiness directives, or other approved data, the following or a similarly worded statement—"I certify that this aircraft has been inspected in accordance with (insert type) inspection and a list of discrepancies and unairworthy items dated (date) has been provided for the aircraft owner or operator."

(6) **For progressive inspections**, the following or a similarly worded statement—"I certify that in accordance with a progressive inspection program, a routine inspection of (identify whether aircraft or components) and a detailed inspection of (identify components) were performed and the (aircraft or components) are (approved or disapproved) for return to service." If disapproved, the entry will further state "and a list of discrepancies and unairworthy items dated (date) has been provided to the aircraft owner or operator."

(7) If an inspection is conducted under an inspection program, the entry must identify the inspection program, that part of the inspection program accomplished, and contain a statement that the inspection was performed in accordance with the inspections and procedures for that particular program.

(b) **Listing of discrepancies and placards.** If the person performing any inspection finds that the aircraft is unairworthy or does not meet the applicable type certificate data, airworthiness directives, or other approved data upon which its airworthiness depends, that persons must give the owner or lessee a signed and dated list of those discrepancies. For those items permitted to be inoperative that person shall place a placard, on each inoperative instrument and the cockpit control of each item of inoperative equipment, marking it "Inoperative," and shall add the items to the signed and dated list of discrepancies given to the owner or lessee.

43.11 What it means

When an LAME or IA makes an entry completes an inspection as described in 43.11(a), the requirement under 91.409 is satisfied and no further action is required by the person performing the inspection.

If a person performing an inspection disapproves return to service and provides a list of discrepancies in accordance with 43.11(b), the inspection is now completed. The RO is now responsible for dealing with those discrepancies and is not required to have the aircraft re-inspected once the discrepancies have been rectified by an LAME.

Three important points to note,

(1) Not all discrepancies require mandatory rectification before flight.

43.11 (b) says *"….the aircraft is unairworthy or does not meet the applicable type certificate data, airworthiness directives, or other approved data upon which its airworthiness depends"*. For a Part 91 aircraft, "*approved data"* means AWLs and ADs. If the RO is using an inspection or maintenance program that incorporates a manufacturers ICAs, "*approved data"* also includes the manufacturers recommended maintenance.

(2) If the RO is presented with a list of discrepancies for some of which rectification is mandatory, the aircraft may not be flown except under a special flight permit, until the discrepancies are rectified. The person who completed the inspection may be engaged to carry out the rectifications, but the rectifications are not part of the inspection and may be carried out or supervised by any LAME with appropriate licence coverage.

(3) For discrepancies which are permitted to be inoperative (ref. 91.405(c)) the person releasing the aircraft to service must ensure that each instrument or control that is inoperative is placarded as inoperative in addition to providing the RO with a list of the discrepancies. These discrepancies do not require rectification before further flight.

43.12 - Maintenance Records: Falsification, Reproduction, or Alteration

(a) No person may make or cause to be made:

(1) Any fraudulent or intentionally false entry in any record or report that is required to be made, kept, or used to show compliance with any requirement under this part;

(2) Any reproduction, for fraudulent purpose, of any record or report under this part; or

(3) Any alteration, for fraudulent purpose, of any record or report under this part.

(b) The commission by any person of an act prohibited under paragraph (a) of this section is a basis for suspending or revoking the applicable authorisations held by that person

Note Re 43.12

These provisions may be made under Part 11 of CASR or given effect under other legislation.

43.13 - Performance Rules (General)

(a) Each person performing maintenance, alteration, or preventive maintenance on an aircraft, engine, propeller, or appliance shall use the methods, techniques, and practices

prescribed in the current manufacturer's maintenance manual or Instructions for Continued Airworthiness prepared by its manufacturer, or other methods, techniques, and practices acceptable to CASA, except as noted in 43.16. He shall use the tools, equipment, and test apparatus necessary to assure completion of the work in accordance with accepted industry practices. If special equipment or test apparatus is recommended by the manufacturer involved, he must use that equipment or apparatus or its equivalent acceptable to CASA.

(b) Each person maintaining or altering, or performing preventive maintenance, shall do that work in such a manner and use materials of such a quality, that the condition of the aircraft, airframe, aircraft engine, propeller, or appliance worked on will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness).

43.13 What it means

The regulation applies equally to an LAME and a person working under supervision of an LAME (an AME for instance or an avionics technician or a component maintenance provider who was formerly a CAR 30 holder under CAR) regardless of whether or not the person is releasing the thing to service after maintenance.

When performing maintenance (which includes inspections), the LAME/AME must use the methods techniques and practices (MTP) set out in the aircraft manufacturer's current maintenance manual or ICAs, or other MTPs acceptable to CASA. This means that a maintainer may deviate from manufacturer's instructions provided that they can demonstrate that the MTPs that they have used will meet the relevant regulatory requirements.

"Current" means the manuals or ICAs that are published by the manufacturer at the time of doing the work. It does not include Service Bulletins (SBs). However, If the RO elects to have an SB incorporated that specifies accomplishment instructions, the SB must be fully complied with.

It is also important to note that the RO of a small Part 91 aircraft is not required to comply with manufacturers recommended maintenance intervals unless an RO is using a maintenance or inspection program that incorporates the manufacturers recommendations. 43.13(a) says: *"each person performing maintenance.."* this is describing the action of doing something, it does not specify what should be done or when it should be done.

AWLs are mandatory with regard to required maintenance and maintenance intervals if specified.

The regulation also requires the person carrying out maintenance to use those tools, equipment and test apparatus necessary to assure that the work is completed in accordance with accepted industry practices. This means that if a person carries out work such as NDT or welding, that person must be capable of performing the work to a standard that would be

expected of a trained and qualified person. Additional requirements apply if the work is a major repair or alteration (see Appendix A and 65.95(a)(i)).
The requirement to use special equipment or test apparatus that is recommended by the manufacturer involved, or its equivalent acceptable to CASA provides scope for a person to source or fabricate apparatus or equipment that will provide the same airworthiness outcome.

Paragraph (b) requires maintainers to use materials of such a quality that the aircraft, appliance etc will be at least equal to its original or properly altered condition. This effectively means that commercial grade materials would be unacceptable unless the specifications and traceability could demonstrate that the material is equivalent to that used in the manufacture of the aircraft.

When installing components, appliances etc, the maintainer is required to use those components and appliances that are used or approved by the aircraft manufacturer, unless an alteration is made that includes use of an alternative part or component.

43.15 - Additional Performance Rules for Inspections.

(a) **General**. Each person performing an inspection required by Subpart B, shall—

(1) Perform the inspection so as to determine whether the aircraft, or portion(s) thereof under inspection, meets all applicable airworthiness requirements; and

(2) If the inspection is one provided for in 91.409(h) of Subpart B, perform the inspection in accordance with the instructions and procedures set forth in the inspection program for the aircraft being inspected.

(b) **Rotorcraft**. Each person performing an inspection required by Subpart B on a rotorcraft shall inspect the following systems in accordance with the maintenance manual or Instructions for Continued Airworthiness of the manufacturer concerned:

(1) The drive shafts or similar systems.

(2) The main rotor transmission gear box for obvious discrepancies.

(3) The main rotor and center section (or the equivalent area).

(4) The auxiliary rotor on helicopters.

(c) **Annual and 100-hour inspections**.

(1) Each person performing an annual or 100-hour inspection shall use a checklist while performing the inspection. The checklist may be of the person's own design, one provided by the manufacturer of the equipment being inspected or one obtained from another source. This checklist must include the scope and detail of the items contained in appendix D to this part and paragraph (b) of this section.

(2) Each person approving a reciprocating-engine-powered aircraft for return to service after an annual or 100-hour inspection shall, before that approval, run the aircraft engine or engines to determine satisfactory performance in accordance with the manufacturer's recommendations of—

(i) Power output (static and idle r.p.m.);

(ii) Magnetos;

(iii) Fuel and oil pressure; and

(iv) Cylinder and oil temperature.

(3) Each person approving a turbine-engine-powered aircraft for return to service after an annual, 100-hour, or progressive inspection shall, before that approval, run the aircraft

engine or engines to determine satisfactory performance in accordance with the manufacturer's recommendations.

(d) **Progressive inspection**.

(1) Each person performing a progressive inspection shall, at the start of a progressive inspection system, inspect the aircraft completely. After this initial inspection, routine and detailed inspections must be conducted as prescribed in the progressive inspection schedule. Routine inspections consist of visual examination or check of the appliances, the aircraft, and its components and systems, insofar as practicable without disassembly. Detailed inspections consist of a thorough examination of the appliances, the aircraft, and its components and systems, with such disassembly as is necessary. For the purposes of this subparagraph, the overhaul of a component or system is considered to be a detailed inspection.

(2) If the aircraft is away from the station where inspections are normally conducted, an LAME, an AMO, or the manufacturer of the aircraft may perform inspections in accordance with the procedures and using the forms of the person who would otherwise perform the inspection.

When an inspection is performed and a determination of airworthiness is required, ICAs must be used (or other data acceptable to CASA) as stated in 43.13. The ICAs are used to determine HOW an inspection is to be performed and to determine whether any wear or damage is within allowable limits.

The term *"all applicable airworthiness requirements"* has important implications for a person releasing an aircraft to service after completing an inspection in accordance with 43.15(a)(1). The FAA Office of Chief Counsel states: *"it is well established that an aircraft is deemed 'airworthy' only when it conforms to its type certificate (if and as that certificate has been modified by supplemental type certificates and by Airworthiness Directives), and is in a condition for safe operation"* (Rebecca, B, McPherson, Office of Chief Counsel to Dassault Aircraft services, 13th August 2009)

Limited Category Aircraft.

For limited category aircraft, the reference to a type certificate is not applicable. The requirement is that the aircraft must be in a condition for safe operation and must comply with any conditions applicable under Part 132 of CASR.

43.16 - Airworthiness Limitations

Each person performing an inspection or other maintenance specified in an Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness shall perform the inspection or other maintenance in accordance with that section or an inspection program approved under 91.409(h).

Part 43 MOS Appendices

This proposed appendices replicate the appendices of FAR Part 43

Appendix A to Part 43—Major Alterations, Major Repairs, and Preventive Maintenance

(a) *Major alterations—*

1. *Airframe major alterations.* Alterations of the following parts and alterations of the following types, when not listed in the aircraft specifications issued by CASA or the certifying NAA, are airframe major alterations:
   - (i) Wings.
   - (ii) Tail surfaces.
   - (iii) Fuselage.
   - (iv) Engine mounts.
   - (v) Control system.
   - (vi) Landing gear.
   - (vii) Hull or floats.
   - (viii) Elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowling, fairings, and balance weights.
   - (ix) Hydraulic and electrical actuating system of components.
   - (x) Rotor blades.
   - (xi) Changes to the empty weight or empty balance which result in an increase in the maximum certificated weight or center of gravity limits of the aircraft.
   - (xii) Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, de-icing, or exhaust systems.
   - (xiii) Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.
2. (*Powerplant major alterations.* The following alterations of a powerplant when not listed in the engine specifications issued by CASA or the certifying NAA, are powerplant major alterations.
   - (i) Conversion of an aircraft engine from one approved model to another, involving any changes in compression ratio, propeller reduction gear, impeller gear ratios or the substitution of major engine parts which requires extensive rework and testing of the engine.
   - (ii) Changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not specifically approved by CASA.
   - (iii) Installation of an accessory which is not approved for the engine.
   - (iv) Removal of appliances that are listed as required equipment on the aircraft or engine specification.
   - (v) Installation of structural parts other than the type of parts approved for the installation.
   - (vi) Conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications.
3. *Propeller major alterations.* The following alterations of a propeller when not authorized in the propeller specifications issued by CASA or the certifying NAA are propeller major alterations:
   - (i) Changes in blade design.

(ii) Changes in hub design.
(iii) Changes in the governor or control design.
(iv) Installation of a propeller governor or feathering system.
(v) Installation of propeller de-icing system.
(vi) Installation of parts not approved for the propeller.

4. *Appliance major alterations.* Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with an Airworthiness Directive are appliance major alterations. In addition, changes in the basic design of radio communication and navigation equipment approved under type certification or a Technical Standard Order that have an effect on frequency stability, noise level, sensitivity, selectivity, distortion, spurious radiation, AVC characteristics, or ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment are also major alterations.

Changes proposed by CASA

Avionics major alterations

- Installation of a radio communication or navigation system
- A change of radio communication or navigation equipment that requires structural alterations
- Conversion of an instrument panel from mechanical flight instrumentation of electronic flight instrumentation systems
- Installation of an autopilot system, flight management system, stability augmentation system
- Installation of a radar system including radar altimteter

(b) *Major repairs—*

1. *Airframe major repairs. Repairs to the following parts of an airframe and repairs of the following types, involving the strengthening, reinforcing, splicing, and manufacturing of primary structural members or their replacement, when replacement is by* fabrication such as riveting or welding, are airframe major repairs.
(i) Box beams.
(ii) Monocoque or semi monocoque wings or control surfaces.
(iii) Wing stringers or chord members.
(iv) Spars.
(v) Spar flanges.
(vi) Members of truss-type beams.
(vii) Thin sheet webs of beams.
(viii) Keel and chine members of boat hulls or floats.
(ix) Corrugated sheet compression members which act as flange material of wings or tail surfaces.
(x) Wing main ribs and compression members.
(xi) Wing or tail surface brace struts.
(xii) Engine mounts.
(xiii) Fuselage longerons.

(xiv) Members of the side truss, horizontal truss, or bulkheads.
(xv) Main seat support braces and brackets.
(xvi) Landing gear brace struts.
(xvii) Axles.
(xviii) Wheels.
(xix) Skis, and ski pedestals.
(xx) Parts of the control system such as control columns, pedals, shafts, brackets, or horns.
(xxi) Repairs involving the substitution of material.
(xxii) The repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction.
(xxiii) The repair of portions of skin sheets by making additional seams.
(xxiv) The splicing of skin sheets.
(xxv) The repair of three or more adjacent wing or control surface ribs or the leading edge of wings and control surfaces, between such adjacent ribs.
(xxvi) Repair of fabric covering involving an area greater than that required to repair two adjacent ribs.
(xxvii) Replacement of fabric on fabric covered parts such as wings, fuselages, stabilizers, and control surfaces.
(xxviii) Repairing, including rebottoming, of removable or integral fuel tanks and oil tanks.

Changes proposed by CASA

Avionics major repairs

- Repairs or replacement of components of a TCAS system
- Repairs or replacement of components of a TAWS system

This provision is reserved pending industry discussion.

2. *Powerplant major repairs.* Repairs of the following parts of an engine and repairs of the following types, are powerplant major repairs:
(i) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger.
(ii) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing.
(iii) Special repairs to structural engine parts by welding, plating, metalizing, or other methods.
3. *Propeller major repairs.* Repairs of the following types to a propeller are propeller major repairs:
(i) Any repairs to, or straightening of steel blades.
(ii) Repairing or machining of steel hubs.
(iii) Shortening of blades.
(iv) Retipping of wood propellers.
(v) Replacement of outer laminations on fixed pitch wood propellers.
(vi) Repairing elongated bolt holes in the hub of fixed pitch wood propellers.
(vii) Inlay work on wood blades.

(viii) Repairs to composition blades.
(ix) Replacement of tip fabric.
(x) Replacement of plastic covering.
(xi) Repair of propeller governors.
(xii) Overhaul of controllable pitch propellers.
(xiii) Repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminium blades.
(xiv) The repair or replacement of internal elements of blades.

4. *Appliance major repairs.* Repairs of the following types to appliances are appliance major repairs:
(i) Calibration and repair of instruments.
(ii) Calibration of radio equipment.
(iii) Rewinding the field coil of an electrical accessory.
(iv) Complete disassembly of complex hydraulic power valves.
(v) Overhaul of pressure type carburetors, and pressure type fuel, oil and hydraulic pumps.

(c) *Preventive maintenance.*

Preventive maintenance is limited to the following work, provided it does not involve complex assembly operations:

(1) Removal, installation, and repair of landing gear tires.
(2) Replacing elastic shock absorber cords on landing gear.
(3) Servicing landing gear shock struts by adding oil, air, or both.
(4) Servicing landing gear wheel bearings, such as cleaning and greasing.
(5) Replacing defective safety wiring or cotter keys.
(6) Lubrication not requiring disassembly other than removal of nonstructural items such as cover plates, cowlings, and fairings.
(7) Making simple fabric patches not requiring rib stitching or the removal of structural parts or control surfaces. In the case of balloons, the making of small fabric repairs to envelopes (as defined in, and in accordance with, the balloon manufacturers' instructions) not requiring load tape repair or replacement.
(8) Replenishing hydraulic fluid in the hydraulic reservoir.
(9) Refinishing decorative coating of fuselage, balloon baskets, wings tail group surfaces (excluding balanced control surfaces), fairings, cowlings, landing gear, cabin, or cockpit interior when removal or disassembly of any primary structure or operating system is not required.
(10) Applying preservative or protective material to components where no disassembly of any primary structure or operating system is involved and where such coating is not prohibited or is not contrary to good practices.
(11) Repairing upholstery and decorative furnishings of the cabin, cockpit, or balloon basket interior when the repairing does not require disassembly

of any primary structure or operating system or interfere with an operating system or affect the primary structure of the aircraft.

(12) Making small simple repairs to fairings, nonstructural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper air flow.

(13) Replacing side windows where that work does not interfere with the structure or any operating system such as controls, electrical equipment, etc.

(14) Replacing safety belts.

(15) Replacing seats or seat parts with replacement parts approved for the aircraft, not involving disassembly of any primary structure or operating system.

(16) Trouble shooting and repairing broken circuits in landing light wiring circuits.

(17) Replacing bulbs, reflectors, and lenses of position and landing lights.

(18) Replacing wheels and skis where no weight and balance computation is involved.

(19) Replacing any cowling not requiring removal of the propeller or disconnection of flight controls.

(20) Replacing or cleaning spark plugs and setting of spark plug gap clearance.

(21) Replacing any hose connection except hydraulic connections.

(22) Replacing prefabricated fuel lines.

(23) Cleaning or replacing fuel and oil strainers or filter elements.

(24) Replacing and servicing batteries.

(25) Replacement or adjustment of nonstructural standard fasteners incidental to operations.

(26) The installations of anti-misfueling devices to reduce the diameter of fuel tank filler openings provided the specific device has been made a part of the aircraft type certificate data by the aircraft manufacturer, the aircraft manufacturer has provided instructions for installation of the specific device, and installation does not involve the disassembly of the existing tank filler opening.

(27) Removing, checking, and replacing magnetic chip detectors.

(28) The inspection and maintenance tasks prescribed and specifically identified as preventive maintenance in a primary category aircraft type certificate or supplemental type certificate holder's approved special inspection and preventive maintenance program when accomplished on a primary category aircraft provided:

(i) They are performed by the holder of at least a private pilot licence issued under part 61 who is the registered owner (including co-owners) of the affected aircraft and who holds a certificate of competency for the affected aircraft (issued by a school that has a course approved byCASA; and

(ii) The inspections and maintenance tasks are performed in accordance with instructions contained by the special inspection

and preventive maintenance program approved as part of the aircraft's type design or supplemental type design.

(29) Removing and replacing self-contained, front instrument panel-mounted navigation and communication devices that employ tray-mounted connectors that connect the unit when the unit is installed into the instrument panel, (excluding automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)). The approved unit must be designed to be readily and repeatedly removed and replaced, and pertinent instructions must be provided. Prior to the unit's intended use, and operational check must be performed in accordance with the applicable sections of part 91 of this chapter.

Changes to be included by CASA

(d) Pilot maintenance tasks that may be performed by a pilot who has been trained and authorised in accordance with 43.3 (h)

(1) Turbine engine compressor wash/rinse
(2) PWC PT6 compressor turbine wash
(3) Bell 206 series weekly inspection
(4) Robinson R22 and R44 50-hour inspections
(5) Removal and installation of role equipment
(6) Replenish of oxygen systems
(7) Replace windshield wiper blades
(8) Wipline float 25/50 hour inspection
(9) Fire extinguisher reweigh
(10) ELT self-test

Appendix D to Part 43—Scope and Detail of Items (as Applicable to the Particular Aircraft) To Be Included in Annual and 100-Hour Inspections

(a) Each person performing an annual or 100-hour inspection shall, before that inspection, remove or open all necessary inspection plates, access doors, fairing, and cowling. He shall thoroughly clean the aircraft and aircraft engine.

(b) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the fuselage and hull group:

(1) Fabric and skin—for deterioration, distortion, other evidence of failure, and defective or insecure attachment of fittings.

(2) Systems and components—for improper installation, apparent discrepancies, and unsatisfactory operation.

(c) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the cabin and cockpit group:

(1) Generally—for uncleanliness and loose equipment that might foul the controls.

(2) Seats and safety belts—for poor condition and apparent discrepancies.

(3) Windows and windshields—for deterioration and breakage.

(4) Instruments—for poor condition, mounting, marking, and (where practicable) improper operation.

(5) Flight and engine controls—for improper installation and improper operation.

(6) Batteries—for improper installation and improper charge.

(7) All systems—for improper installation, poor general condition, apparent and obvious discrepancies, and insecurity of attachment.

(d) Each person performing an annual or 100-hour inspection shall inspect (where applicable) components of the engine and nacelle group as follows:

(1) Engine section—for visual evidence of excessive oil, fuel, or hydraulic leaks, and sources of such leaks.

(2) Studs and nuts—for improper torquing and obvious discrepancies.

(3) Internal engine—for cylinder compression and for metal particles or foreign matter on screens and sump drain plugs. If there is weak cylinder compression, for improper internal condition and improper internal tolerances.

(4) Engine mount—for cracks, looseness of mounting, and looseness of engine to mount.

(5) Flexible vibration dampeners—for poor condition and deterioration.

(6) Engine controls—for discrepancies, improper travel, and improper safetying.

(7) Lines, hoses, and clamps—for leaks, improper condition and looseness.

(8) Exhaust stacks—for cracks, discrepancies, and improper attachment.

(9) Accessories—for apparent discrepancies in security of mounting.

(10) All systems—for improper installation, poor general condition, discrepancies, and insecure attachment.

(11) Cowling—for cracks, and discrepancies.

Turbine engines

Inspect the engine in accordance with the manufacturers recommended progressive inspection schedule or a 100-hour inspection check list provided by the manufacturer.

(e) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the landing gear group:

(1) All units—for poor condition and insecurity of attachment.

(2) Shock absorbing devices—for improper oleo fluid level.

(3) Linkages, trusses, and members—for undue or excessive wear fatigue, and distortion.

(4) Retracting and locking mechanism—for improper operation.

(5) Hydraulic lines—for leakage.

(6) Electrical system—for chafing and improper operation of switches.

(7) Wheels—for cracks, discrepancies, and condition of bearings.

(8) Tires—for wear and cuts.

(9) Brakes—for improper adjustment.

(10) Floats and skis—for insecure attachment and obvious or apparent discrepancies.

(f) Each person performing an annual or 100-hour inspection shall inspect (where applicable) all components of the wing and center section assembly for poor general condition, fabric or skin deterioration, distortion, evidence of failure, and insecurity of attachment.

(g) Each person performing an annual or 100-hour inspection shall inspect (where applicable) all components and systems that make up the complete empennage assembly for poor general condition, fabric or skin deterioration, distortion, evidence of failure, insecure attachment, improper component installation, and improper component operation.

(h) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the propeller group:

(1) Propeller assembly—for cracks, nicks, binds, and oil leakage.

(2) Bolts—for improper torquing and lack of safetying.

(3) Anti-icing devices—for improper operations and obvious discrepancies.

(4) Control mechanisms—for improper operation, insecure mounting, and restricted travel.

(i) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the radio group:

(1) Radio and electronic equipment—for improper installation and insecure mounting.

(2) Wiring and conduits—for improper routing, insecure mounting, and obvious discrepancies.

(3) Bonding and shielding—for improper installation and poor condition.

(4) Antenna including trailing antenna—for poor condition, insecure mounting, and improper operation.

(j) Each person performing an annual or 100-hour inspection shall inspect (where applicable) each installed miscellaneous item that is not otherwise covered by this listing for improper installation and improper operation.

Appendix E to Part 43—Altimeter System Test and Inspection

Each person performing the altimeter system tests and inspections required by 91.411 must comply with the following:

(a) Static pressure system:

(1) Ensure freedom from entrapped moisture and restrictions.

(2) Perform a proof test to demonstrate the integrity of the static pressure system in a manner acceptable to CASA. For airplanes certificated under part 25 of CASR, determine that leakage is within the tolerances established by regulation 25.1325.

(3) Determine that the static port heater, if installed, is operative.

(4) Ensure that no alterations or deformations of the airframe surface have been made that would affect the relationship between air pressure in the static pressure system and true ambient static air pressure for any flight condition.

(b) Altimeter:

(1) Test by in accordance with the following subparagraphs. Unless otherwise specified, each test for performance may be conducted with the instrument subjected to vibration. When tests are conducted with the temperature substantially different from ambient temperature of approximately 25 degrees C., allowance shall be made for the variation from the specified condition.

i) *Scale error.* With the barometric pressure scale at 1013 hPa the altimeter shall be subjected successively to pressures corresponding to the altitude

specified in Table I up to the maximum normally expected operating altitude of the aeroplane in which the altimeter is to be installed. The reduction in pressure shall be made at a rate not in excess of 20,000 feet per minute to within approximately 2,000 feet of the test point. The test point shall be approached at a rate compatible with the test equipment. The altimeter shall be kept at the pressure corresponding to each test point for at least 1 minute, but not more than 10 minutes, before a reading is taken. The error at all test points must not exceed the tolerances specified in Table I.

(ii) *Hysteresis.* The hysteresis test shall begin not more than 15 minutes after the altimeter's initial exposure to the pressure corresponding to the upper limit of the scale error test prescribed in subparagraph (i); and while the altimeter is at this pressure, the hysteresis test shall commence. Pressure shall be increased at a rate simulating a descent in altitude at the rate of 5,000 to 20,000 feet per minute until within 3,000 feet of the first test point (50 percent of maximum altitude). The test point shall then be approached at a rate of approximately 3,000 feet per minute. The altimeter shall be kept at this pressure for at least 5 minutes, but not more than 15 minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until the pressure corresponding to the second test point (40 percent of maximum altitude) is reached. The altimeter shall be kept at this pressure for at least 1 minute, but not more than 10 minutes, before the test reading is taken. After the reading has been taken, the pressure shall be increased further, in the same manner as before, until atmospheric pressure is reached. The reading of the altimeter at either of the two test points shall not differ by more than the tolerance specified in Table II from the reading of the altimeter for the corresponding altitude recorded during the scale error test prescribed in paragraph (b)(i).

(iii) *After effect.* Not more than 5 minutes after the completion of the hysteresis test prescribed in paragraph (b)(ii), the reading of the altimeter (corrected for any change in atmospheric pressure) shall not differ from the original atmospheric pressure reading by more than the tolerance specified in Table II.

(iv) *Friction.* The altimeter shall be subjected to a steady rate of decrease of pressure approximating 750 feet per minute. At each altitude listed in Table III, the change in reading of the pointers after vibration shall not exceed the corresponding tolerance listed in Table III.

(v) *Case leak.* The leakage of the altimeter case, when the pressure within it corresponds to an altitude of 18,000 feet, shall not change the altimeter reading by more than the tolerance shown in Table II during an interval of 1 minute.

(vi) *Barometric scale error.* At constant atmospheric pressure, the barometric pressure scale shall be set at each of the pressures (falling within its range of adjustment) that are listed in Table IV, and shall cause the pointer to indicate the equivalent altitude difference shown in Table IV with a tolerance of 25 feet.

(2) Altimeters which are the air data computer type with associated computing systems, or which incorporate air data correction internally, may be tested in a manner and to specifications developed by the manufacturer which are acceptable to CASA.

(c) Automatic Pressure Altitude Reporting Equipment and ATC Transponder System Integration Test. The test must be conducted by an appropriately rated person under the conditions specified in paragraph (a). Measure the automatic pressure altitude at the output of the installed ATC transponder when interrogated on Mode C at a sufficient number of test points to ensure that the altitude reporting equipment, altimeters, and ATC transponders perform their intended functions as installed in the aircraft. The difference between the automatic reporting output and the altitude displayed at the altimeter shall not exceed 125 feet.

(d) Records: Comply with the provisions of 43.9 of this subpart as to content, form, and disposition of the records. The person performing the altimeter tests shall record on the altimeter the date and maximum altitude to which the altimeter has been tested and the persons approving the aeroplane for return to service shall enter that data in the aeroplane log or other permanent record.

TABLE I

Altitude	Equivalent pressure (hectopascals)	Tolerance ±(feet)
–1,000	1050	20
0	1013	20
500	995	20
1,000	977	20
1,500	960	25
2,000	942	30
3,000	908	30
4,000	875	35
6,000	812	40
8,000	753	60
10,000	697	80
12,000	644	90

14,000	595	100
16,000	549	110
18,000	506	120
20,000	466	130
22,000	428	140
25,000	376	155
30,000	301	180
35,000	238	205
40,000	188	230
45,000	147	255
50,000	116	280

TABLE II—TEST TOLERANCES

Test	Tolerance (feet)
Case Leak Test	±100
Hysteresis Test:	
First Test Point (50 percent of maximum altitude)	75
Second Test Point (40 percent of maximum altitude)	75
After Effect Test	30

TABLE III—FRICTION

Altitude (feet)	Tolerance (feet)
1,000	±70
2,000	70
3,000	70
5,000	70
10,000	80
15,000	90
20,000	100
25,000	120
30,000	140

35,000	160
40,000	180
50,000	250

TABLE IV—PRESSURE-ALTITUDE DIFFERENCE

Pressure (hectopascal)	Altitude difference (feet)
952	−1,727
965	−1,340
982	−863
999	−392
1013	0
1033	+ 531
1046	+ 893
1049	+ 974

Appendix F to Part 43—ATC Transponder Tests and Inspections

The ATC transponder tests required by §91.413 of this chapter may be conducted using a bench check or portable test equipment and must meet the requirements prescribed in paragraphs (a) through (j) of this appendix. If portable test equipment with appropriate coupling to the aircraft antenna system is used, operate the test equipment for ATCRBS transponders at a nominal rate of 235 interrogations per second to avoid possible ATCRBS interference. Operate the test equipment at a nominal rate of 50 Mode S interrogations per second for Mode S. An additional 3 dB loss is allowed to compensate for antenna coupling errors during receiver sensitivity measurements conducted in accordance with paragraph (c)(1) when using portable test equipment.

(a) Radio Reply Frequency:

(1) For all classes of ATCRBS transponders, interrogate the transponder and verify that the reply frequency is 1090 ±3 Megahertz (MHz).

(2) For classes 1B, 2B, and 3B Mode S transponders, interrogate the transponder and verify that the reply frequency is 1090 ±3 MHz.

(3) For classes 1B, 2B, and 3B Mode S transponders that incorporate the optional 1090 ±1 MHz reply frequency, interrogate the transponder and verify that the reply frequency is correct.

(4) For classes 1A, 2A, 3A, and 4 Mode S transponders, interrogate the transponder and verify that the reply frequency is 1090 ±1 MHz.

(b) Suppression: When Classes 1B and 2B ATCRBS Transponders, or Classes 1B, 2B, and 3B Mode S transponders are interrogated Mode 3/A at an interrogation rate between 230 and 1,000 interrogations per second; or when Classes 1A and 2A ATCRBS Transponders, or Classes 1B, 2A, 3A, and 4 Mode S transponders are interrogated at a rate between 230 and 1,200 Mode 3/A interrogations per second:

(1) Verify that the transponder does not respond to more than 1 percent of ATCRBS interrogations when the amplitude of P_2 pulse is equal to the P_1 pulse.

(2) Verify that the transponder replies to at least 90 percent of ATCRBS interrogations when the amplitude of the P_2 pulse is 9 dB less than the P_1 pulse. If the test is conducted with a radiated test signal, the interrogation rate shall be 235 ±5 interrogations per second unless a higher rate has been approved for the test equipment used at that location.

(c) Receiver Sensitivity:

(1) Verify that for any class of ATCRBS Transponder, the receiver minimum triggering level (MTL) of the system is −73 ±4 dbm, or that for any class of Mode S transponder the receiver MTL for Mode S format (P6 type) interrogations is −74 ±3 dbm by use of a test set either:

(i) Connected to the antenna end of the transmission line;

(ii) Connected to the antenna terminal of the transponder with a correction for transmission line loss; or

(iii) Utilized radiated signal.

(2) Verify that the difference in Mode 3/A and Mode C receiver sensitivity does not exceed 1 db for either any class of ATCRBS transponder or any class of Mode S transponder.

(d) Radio Frequency (RF) Peak Output Power:

(1) Verify that the transponder RF output power is within specifications for the class of transponder. Use the same conditions as described in (c)(1)(i), (ii), and (iii) above.

(i) For Class 1A and 2A ATCRBS transponders, verify that the minimum RF peak output power is at least 21.0 dbw (125 watts).

(ii) For Class 1B and 2B ATCRBS Transponders, verify that the minimum RF peak output power is at least 18.5 dbw (70 watts).

(iii) For Class 1A, 2A, 3A, and 4 and those Class 1B, 2B, and 3B Mode S transponders that include the optional high RF peak output power, verify that the minimum RF peak output power is at least 21.0 dbw (125 watts).

(iv) For Classes 1B, 2B, and 3B Mode S transponders, verify that the minimum RF peak output power is at least 18.5 dbw (70 watts).

(v) For any class of ATCRBS or any class of Mode S transponders, verify that the maximum RF peak output power does not exceed 27.0 dbw (500 watts).

NOTE: The tests in (e) through (j) apply only to Mode S transponders.

(e) Mode S Diversity Transmission Channel Isolation: For any class of Mode S transponder that incorporates diversity operation, verify that the RF peak output power transmitted from the selected antenna exceeds the power transmitted from the nonselected antenna by at least 20 db.

(f) Mode S Address: Interrogate the Mode S transponder and verify that it replies only to its assigned address. Use the correct address and at least two incorrect addresses. The interrogations should be made at a nominal rate of 50 interrogations per second.

(g) Mode S Formats: Interrogate the Mode S transponder with uplink formats (UF) for which it is equipped and verify that the replies are made in the correct format. Use the surveillance formats UF = 4 and 5. Verify that the altitude reported in the replies to UF = 4 are the same as that reported in a valid ATCRBS Mode C reply. Verify that the identity reported in the replies to UF = 5 are the same as that reported in a valid ATCRBS Mode 3/A reply. If the transponder is so equipped, use the communication formats UF = 20, 21, and 24.

(h) Mode S All-Call Interrogations: Interrogate the Mode S transponder with the Mode S-only all-call format UF = 11, and the ATCRBS/Mode S all-call formats (1.6 microsecond P_4 pulse) and verify that the correct address and capability are reported in the replies (downlink format DF = 11).

(i) ATCRBS-Only All-Call Interrogation: Interrogate the Mode S transponder with the ATCRBS-only all-call interrogation (0.8 microsecond P_4 pulse) and verify that no reply is generated.

(j) Squitter: Verify that the Mode S transponder generates a correct squitter approximately once per second.

(k) Records: Comply with the provisions of §43.9 of this chapter as to content, form, and disposition of the records.

Savings Provisions

Systems of Maintenance
CASA will preserve Systems of Maintenance approved under regulation 42M of CAR

Transitional arrangements

CAR 30 component maintenance CASA will provide for maintainers to accept and use components repaired or overhauled by a holder of a CAR 30 approval
Interim issue of Inspection Authorisations. CASA will issue IAs to LAMEs who meet the requirements other than completion of the examination if they are currently authorised to issue maintenance releases on behalf of a CAR 30 COA holder. The IAs will be valid for 2 years, after which the examination must be passed before renewal.
Maintenance releases (Form 918) When Part 43 comes into effect, aircraft will not be required to undergo an annual inspection while a maintenance release exists for the aircraft. A maintenance release that is suspended under regulation 45 or ceases to be in force under regulation 47, may continue to be the maintenance release for the aircraft until its stated expiry date or time in service however the terms of any suspension would continue to apply as stated.