Australian Government
Civil Aviation Safety Authority

PART
43
MAINTENANCE OF AIRCRAFT IN PRIVATE AND AERIAL WORK OPERATIONS
PLAIN ENGLISH GUIDE

REGULATORY PROGRAM


Consultation Draft

About this guide

Maintenance of aircraft is currently regulated under the Civil Aviation Regulations (1988) (CAR). The regulations, which have not undergone a comprehensive review in that time, were structured around the maintenance requirements for everything from a single-seat trainer to an air transport aircraft.

CASA is transferring maintenance regulations for private and aerial work aircraft to the Civil Aviation Safety Regulations (1998) (CASR), specifically Part 43 of CASR Maintenance of private and aerial work aircraft, which will modernise and simplify the regulations governing maintenance of these aircraft.

This guide summarises and restates *Part 43 Maintenance of Aircraft* of the *Civil Aviation Safety Regulations (CASR)* and *Part 43 Manual of Standards (MOS)* in Plain English. Further, this guide makes it easier for registered operators of Part 43 aircraft to understand their obligations, and for maintainers to understand and apply the rules for maintenance of Part 43 aircraft.

By following this guide, it is expected you will be able to comply with rules applicable to maintenance of aircraft for private and aerial work operations. This guide should not be used as a substitute for Part 43 of the CASR or its MOS, as it does not reproduce all the text that appears in the legislation. However, this guide does refer to the corresponding provisions appearing in Part 43 regulation and the MOS. If you need to refer to the full text of Part 43 and the MOS, it can be found on the Federal Register of Legislation website.

We are committed to providing you with information that is accurate, consistent, and clear to help you understand your obligations. The information contained in this guide was correct at the time of publication but is subject to change without notice. If you rely in good faith on information appearing in this guide that turns out to be incorrect, we will consider any resultant non-compliance with the legislative requirements in accordance with the 'just culture' principles set out in CASA's Regulatory Philosophy in determining what action, if any, we take. Please visit CASA website regularly for updates.

Acronyms

AD Airworthiness Directive

AIP approved inspection program

AMEL aircraft maintenance engineering licence

AMO approved maintenance organisation (under Part 145 of CASR)

AMT aircraft maintenance technician

AMTC aircraft maintenance technician certificate

AP authorised person

ASAO approved self-administering aviation organisation

AWL airworthiness limitation

CAR Civil Aviation Regulations (1988)

CAO Civil Aviation Order

CofA certificate of airworthiness

CRS certificate of release to service

ELSA experimental light sport aircraft

FAA Federal Aviation Administration (United States of America)

FAR Federal Aviation Regulation (United States of America)

GA general aviation

IA inspection authorisation

IoA instrument of appointment (external CASA delegate)

ICA instruction for continued airworthiness

LAME licensed aircraft maintenance engineer

LSA light sport aircraft

MA maintenance authorisation

MR maintenance release

MTP methods, techniques and practices

NDT non-destructive testing

RO registered operator

TTIS total time in service

TSO time since overhaul

How to use the guide

The guide talks to you

In this guide, certain words have been defined to avoid repetition and improve readability. The most important of these is the use of *you* as the maintainer. *We* refer to CASA or the Authority. Where we do not define a word, you should consider its meaning to be that given in the Macquarie Dictionary or the regulations.

This means that in many parts of this guide, *we* will be talking to *you*.

The guide describes:

- the requirements for performance of maintenance under Part 43
- the obligations applying to the registered operator of a Part 43 aircraft
- the privileges and limitations associated with persons carrying out maintenance for Part 43 aircraft.

Important

Regulation 43(020) specifies a general offence covering the MOS. This means that wherever the MOS states that you must, or must not do a thing, failure to comply with that requirement is an offence.

As the MOS for Part 43 is a "one-stop shop", you may not need to refer to other legislation to fully comprehend your Part 43 obligations.

Regulation Part 43 contains many defined terms, so you may need to refer to the CASR dictionary. The Part 43 MOS also contains a dictionary that defines words and expressions that are specific to Regulation Part 43.

For improved understanding, the guide includes *comments* to assist in explaining the requirement. This commentary is not intended to introduce any new requirement, but to provide a more detailed explanation. The comments are generally based on CASA's Advisory Circulars (AC) and Guidance Material (GM).

To enhance the experience with digital interactive elements included in this guide, save this guide to your device. Then:

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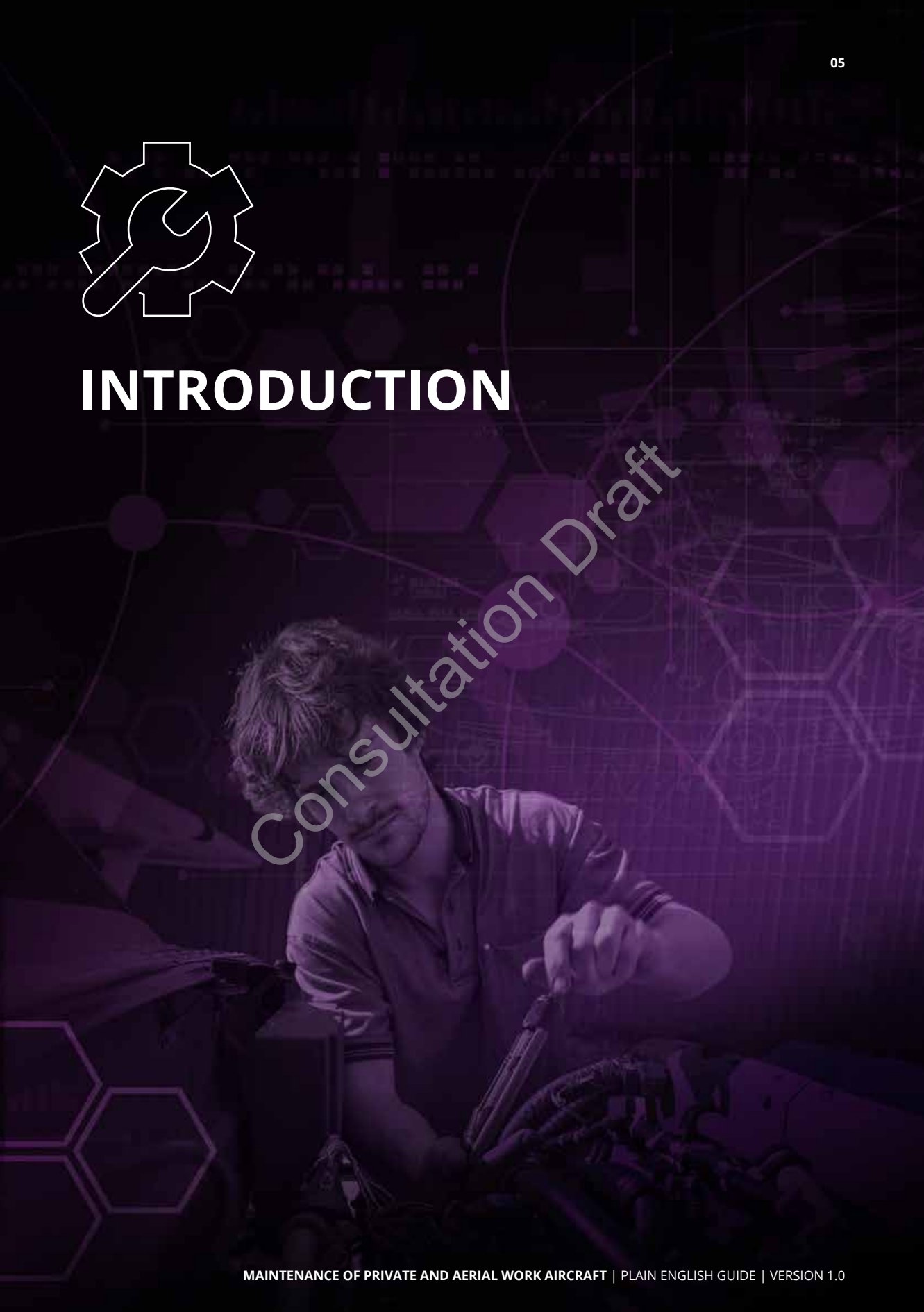


Transition from CAR 30 to Part 43 of CASR

Why introduce Part 43?

The basic architecture for maintenance of general aviation (GA) aircraft has not changed in 30 years and is regulated under Parts 4 and 4A of the CAR. When originally drafted, CARs were required to encompass maintenance of aircraft of all sizes and complexity, operating in private, aerial work, charter and air transport operations.

The broad scope of the CARs necessitated a large and complex suite of regulations, orders and legislative instruments which were naturally weighted toward the highest level of regulation associated with maintenance of air transport aircraft. The effect of this complexity resulted in a set of regulations that have proven burdensome for operators and maintainers of GA aircraft.

GA industry feedback over the years has repeatedly indicated that maintenance rules for the private and aerial work sectors are unnecessarily complex and impose a significant compliance burden on the industry.

In July 2018, the Minister for Infrastructure, Transport and Regional Development advised the GA industry that CASA had commenced work on the development of a new set of modernised maintenance regulations for GA, in co-operation with the GA industry.

In August 2018 CASA consulted with industry representatives and the general public on the intended policies for the new maintenance regulations. The consultation showed overwhelming support by 78% of respondents for a set of maintenance regulations based on the Federal Aviation Regulations (FAR)s of the United States of America.

Part 43 of the CASR is the result of that consultation. The key drivers for Part 43 are:

- reduction in the costs of providing maintenance
  - independent LAMEs permitted to provide most maintenance services that do not require CASA approval, thus avoiding associated approved maintenance organisation (AMO) set-up costs
- simplified maintenance requirements
  - scheduled inspections replacing scheduled maintenance
  - helicopters included in the generic inspection schedule
  - CAR schedule 6 replaced by a simple approval for return to service
  - maintenance release forms no longer required
  - type ratings no longer required
  - any subcategory of B1 LAME able to certify for maintenance of aeroplanes, helicopters, piston engines, turbine engines and aeronautical product, subject to conditions specified in the LAME privileges section (Appendix 1).
  - maintenance related parts of CAR and Civil Aviation Orders (CAO)s no longer relevant
- reduced “red tape”
  - Part 21 approvals no longer required for minor repairs and modifications.

What will Part 43 require for implementation?

Part 43 will introduce a regulation suite for independent maintainers, remove the requirement for maintenance organisation approvals and exempt maintainers from restrictions based on type-rated aircraft.

As a result, transition from the CARs to Part 43 will require a low-level of industry adjustment.

The principal factors affecting implementation will be:

- Inspection authorisation – The inspection authorisation (IA) is an individual authorisation which will provide safety assurance previously managed via CAR 30 maintenance organisations. CASA will be ensuring that sufficient IA holders are available for the implementation of Part 43 so that operations are not disrupted.
- Aircraft maintenance technician certificates (AMTC) – These will require moderate industry input. Existing maintenance authorisation holders will be transitioned to AMTCs without loss of privileges.

When will Part 43 commence?

Commencement of Part 43 and its associated MOS will be configured to allow early uptake by maintainers and registered operators who are Part 43 ready. However, a 12-month transition period from the date of commencement in third quarter of 2022 will provide time for Part 43 authorisations to become fully established before current functions under the CARs such as maintenance authorisations and the issuing of maintenance releases are phased out.

What are the key issues you need to know about?

Imported used aircraft

Part 43 does not require design approval for minor modifications or repairs. Amendments to Part 21 permit the importation and certification of Part 43 aircraft which have had minor modifications or repairs carried out without the need for Part 21 assessment and approval. Part 21 requirements for major modifications and repairs remain unchanged.

Part 66 – Type ratings and expanded licensed aircraft maintenance engineer (LAME) privileges

Amendments to Part 66 ensure type-rating restrictions, exclusions and subcategory limitations will not affect the take-up of expanded LAME privileges under Part 43.

Operation of an aircraft with an existing maintenance release at commencement

In order to permit aircraft to continue to operate using a CASA maintenance release (MR) during the transition period, a savings provision will allow an aircraft for which a valid maintenance release is in force to continue to operate as if it has had an annual inspection in accordance with the Part 43 MOS.

Operation of an aircraft with an existing system of maintenance at commencement

Systems of maintenance will be preserved and may be used instead of an inspection program without further CASA approval.

Part 145 - Maintenance of Part 43 aircraft by approved maintenance organisations (AMO)s

Part 145 AMOs will be authorised under Part 43 to carry out maintenance, certify for maintenance and approve Part 43 aircraft for return to service.

CAR 30 – Maintenance by CAR 30 organisations

Maintenance organisations approved under CAR 30 to carry out maintenance of aircraft, will be permitted to carry out Part 43 maintenance in accordance with their quality/procedures, manuals and issue maintenance releases for a period of 36 months after implementation.

Maintenance authority holders

Holders of maintenance authorisations (MA) issued under CAR will be issued with an AMTC without loss of privileges and CASA will transition MA holders to an equivalent AMTC at no charge during transition.

MA holders will be permitted to continue exercising the privileges of their MA during the transition period.

Inspection authorisations

CASA will make the IA training course available on the CASA web site at or before commencement. LAMEs who complete the course ahead of implementation will be issued with a certificate of completion.

B1 LAMEs who complete the training course before the commencement of operation of Part 43 will be able to make an application for issue of an IA immediately upon the regulation taking effect.

Frequently asked questions

What aircraft can I maintain as an independent LAME under Part 43?

Any aircraft operated in private or aerial work categories. However, only an AMO may release a transport category aircraft to service after scheduled maintenance or a major modification or repair.

What licences, certifications and practices are needed to maintain a Part 43 aircraft?

When performing maintenance, you are required to:

- hold an AMEL or AMTC with the appropriate scope or
- be working under the supervision of a LAME or AMTC holder
- use methods, techniques, and practices (MTP) set out in appropriate maintenance instructions or MTPs that provide an equivalent maintenance outcome
- use tools, equipment, and test apparatus necessary to ensure that the work is completed in accordance with accepted industry practice
- if an Instruction for Continuing Airworthiness (ICA) requires the use of a particular tool or test equipment, you must use that item or an alternative tool that ensures the equivalent airworthiness outcome
- carry out inspections and repairs in such a manner to ensure that the aircraft, engine, propeller, or aeronautical product being worked on will be at least equal to its originally certificated or properly modified condition
- have adequate facilities.

Note that you will not require:

- CASA permission
- a certificate of approval
- a procedures manual
- a quality system or internal audits.

How does Part 43 affect a registered operator?

The registered operator (RO) will remain responsible for ensuring that an aircraft's, certificate of airworthiness remains valid, and all required inspections and rectifications have been properly carried out and approved for return to service.

The RO will be required to keep a system of records for:

- total flight times for aircraft, engines and propellers (kept up to date)
- maintenance of airframes, engines and adjustable propellers
- all maintenance carried out
- certifications for completion of all maintenance
- details of inspection requirements and records of completion of inspections.

How does Part 43 affect me as a LAME?

The new regulations allow:

- LAMEs to certify maintenance without needing to also hold a CASA maintenance organisation approval (excludes scheduled inspections and maintenance of transport category aircraft which must be carried out by an AMO)
  - A B1 LAME to release an aircraft to service after 100-hour inspections, minor repairs and minor modifications
  - A B2 LAME to release an aircraft to service after avionics maintenance including minor repairs and modifications that have not disturbed a mechanical, structural or powerplant system.
- simpler means for LAMEs to demonstrate competency and expand their maintenance certification scope, particularly for tasks on type rated aircraft

- LAMEs to certify maintenance of aircraft and repair and overhaul of aeronautical products within the existing certification arrangements but not limited by licence subcategories
- continuation of CASR Part 66 – the Australian licensing system for licensing aircraft maintenance engineers – without any changes to the LAME's core responsibilities.

Additional scope for LAMEs, gained under the Part 43 regulations, may only be used on aircraft being maintained under the Part 43 regulations. Aircraft being maintained under CAR Part 4A or CASR Part 42 must be maintained in accordance with those regulations.

How do I get an IA?

This authorisation is required to ensure the new inspection-based system achieves the required airworthiness standards by providing for oversight of safety critical maintenance activities by experienced LAMES who have demonstrated the required competencies for the role.

To obtain an Inspection Authorisation (IA) a person must have:

- a Part 66 licence with the relevant scope
- stipulated minimum experience
- an additional assessment to ensure that the licence holder has demonstrated a sound understanding of aircraft type certification (i.e. the basis of the periodic inspection)
- ongoing currency as set out in the Part 66 MOS

The IA holder will be responsible for carrying out or overseeing annual and progressive inspections and inspecting major repairs and modifications for conformity to the approved data.

What is an AMTC?

An aircraft maintenance technician certificate (AMTC) is an individual authorisation to perform or supervise maintenance of an aircraft, engine, propeller or aeronautical product and authorise its return to service.

The certificates supplement the Part 66 licence structure and provide for maintenance authorisations to be issued to non-LAMEs.

The AMTC essentially replicates the current maintenance authority scheme – it provides a proportionate pathway for CASA to transition existing small CAR 30 engine, propeller and aeronautical product maintenance organisations into the new regulations.

It will also allow for non-LAMEs to maintain experimental, amateur-built, light sport and limited category aircraft under certain conditions.

If Part 43 is inspection-based what about maintenance?

Under Part 43, a maintenance program or system of maintenance is not required. The inspection schedule will drive the maintenance requirements for the aircraft.

If a LAME or IA conducts an inspection, they must ensure that the aircraft is airworthy before approving it for return to service.

This means anything that causes the aircraft to be unairworthy will require rectification before the aircraft, engine, propeller or aeronautical product can be approved for return to service.

Will CASA conduct oversight and audits of Part 43 maintainers – aircraft maintenance technicians (AMT)s, LAMEs and IAs?

Yes. The audits will be different as maintainers under Part 43 will not be subject to scheduled systems-based audits. Instead, CASA will conduct product audits, meaning inspections of aircraft and aeronautical products during or after maintenance.

What does Part 43 cover?

CASR Part 43 will be the default continuing airworthiness and maintenance regulations for all aircraft engaged in the private and aerial work sectors, including: private flying, photography, aerial surveying, aerial mustering, aerial application, agricultural, firefighting, towing, emergency services, search and rescue operations and flying training. These are collectively described as Part 43 aircraft.

These regulations will also apply to the maintenance of Australian Part 43 aircraft outside Australian territory.

The policies described in this document do not apply to aircraft carrying out air transport operations (i.e. aircraft operating under Part 121, 133 or 135 of CASR).

Source material for Part 43

Federal Aviation Regulations (of the United States)

- Part 43 – Maintenance, preventive maintenance, rebuilding and alteration
- Part 65 – Certification: airmen other than flight crewmembers
- Part 91 – General operating and flight rules

Civil Aviation Safety Regulations 1998

- Part 21 – Certification and airworthiness requirements for aircraft and parts
- Part 66 – Continuing airworthiness: aircraft engineer licences and ratings
- Part 91 – General operating and flight rules

What types of operations are covered?

- Private aircraft-operating under CASR Part 91
- Aerial work aircraft operating under Part 138, Part 137, Part 141 and Part 142

What types of aircraft are covered?

Large aeroplanes and multi-engine turbine-powered aeroplanes are subject to additional inspection requirements, normally based on an aircraft manufacturer's recommended inspection schedule.

Small aeroplanes are subject to inspection requirements, normally based on Schedule 1 of the MOS, based on Appendix D of FAR Part 43.

Helicopters are subject to inspection requirements, normally based on Schedule 1 of the MOS, based on Appendix D of FAR Part 43.

Transport category aircraft that are being used for private or aerial work operations and maintained under Part 43 are required to have scheduled inspections and maintenance carried out by an AMO.

Light sport aircraft (LSA) may be inspected and maintained by AMOs, LAMEs, and holders of an appropriate AMTC.

A holder of an AMTC 3 can carry out condition inspections of experimental LSA. However, only an AMO, a LAME or a holder of an AMTC 4 can carry out inspections and maintenance of LSA certified under regulation 21.186 of CASR.

Amateur-built aircraft (includes kit-built aircraft and experimental LSA) will not require a qualified person or approvals to carry out maintenance. However, if any maintenance carried out has made the aircraft unsafe, the registered operator (RO) is required to ensure that the aircraft is not permitted to be flown until the unsafe condition is rectified.

For maintenance of Limited category aircraft, a limited category organisation will be permitted to issue an AMTC 5 to individuals who meet the experience requirements specified in the MOS or complete a training course approved by the organisation.

Note: Aircraft whose maintenance is administered by an approved self-administering aviation organisation (ASAO) are not subject to Part 43.

Examples of maintenance/ inspection tasks

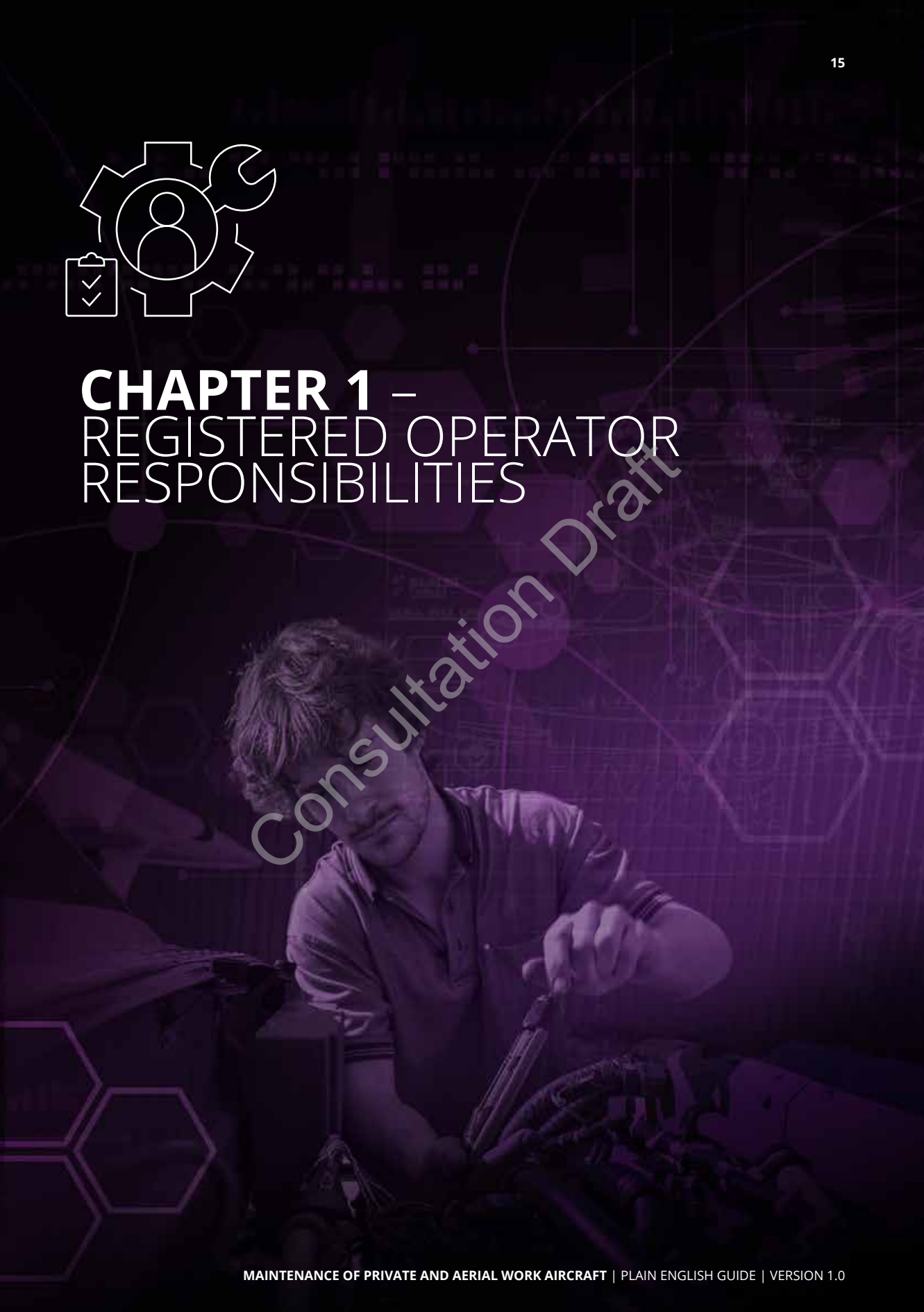
Below are examples of tasks for operations designated as private and aerial work under Part 43 maintenance performance rules, showing the person(s) permitted to undertake the tasks.

TASKS performed under Part 43 maintenance performance rules	**Small aeroplanes, single-turbine engine aeroplanes, helicopters**	**Large aeroplanes and multi-turbine powered aeroplanes**	**Transport aircraft certified in Part 25 or Part 29 where operations are private or aerial work.**
Propeller overhaul/ Major repair as component maintenance	AMO or AMTC1 specialist 	AMO or AMTC1 specialist 	AMO or AMTC1 specialist 
Aircraft major repair/ **major** modification with conformity certification	Independent LAME with IA for conformity inspection & certification 	Independent LAME with IA for conformity inspection & certification 	AMO (No requirement for the IA conformity inspection when within AMO procedures) 
Aircraft minor repair/ **minor** modifications	Independent LAME 	Independent LAME 	Independent LAME for unscheduled events and/or AMO for scheduled maintenance 
Piston Engine maintenance and repairs, top overhaul, part replacement, periodic inspections, functional checks, ground runs	Independent LAME 	N/A Majority of this category has turbine engine(s)	N/A All of this category has turbine engine(s)
Piston Engine overhaul	Independent B1 LAME or AMTC1 authority holder 	N/A Majority of this category has turbine engine(s)	N/A All of this category has turbine engine(s)

TASKS performed under Part 43 maintenance performance rules	Small aeroplanes, single-turbine engine aeroplanes, helicopters	Large aeroplanes and multi-turbine powered aeroplanes	Transport aircraft certified in Part 25 or Part 29 where operations are private or aerial work.
Turbine engine repairs, hot section inspections – scheduled maintenance and inspections on wings	Independent LAME or AMTC1 authority holder 	Independent LAME or AMTC1 authority holder 	AMO 
Turbine engine major repairs, overhauls, major modifications	AMO 	AMO 	AMO 
Annual inspections As per an inspection checklist based on the Part 43 MOS Schedule 1	Independent LAME with IA for certification of aircraft as airworthy 	N/A – These aircraft are required to have an AIP or manufacturer's schedule and nominated person responsible.	N/A – These aircraft are required to have an AIP or manufacturers schedule and a nominated person responsible.
100 hourly inspections As per an inspection checklist based on the Part 43 MOS Schedule 1	Independent LAME 100 hourly inspections required for aircraft in aerial work operations 	N/A- These aircraft are required to be inspected as per an AIP or manufacturer's schedule and a nominated person responsible.	N/A – These aircraft are required to have an AIP or manufacturers schedule and nominated person responsible.
Approved inspection program (AIP) **Manufacturer's inspection schedule**	Optional	Independent LAME with responsible person nominated to manage the inspection program 	AIP or manufacturers schedule required with responsible person nominated. 
Unscheduled maintenance (breakdowns, defect rectification)	Independent LAME 	Independent LAME 	Independent LAME 

TASKS performed under Part 43 maintenance performance rules	Small aeroplanes, single-turbine engine aeroplanes, helicopters	Large aeroplanes and multi-turbine powered aeroplanes	Transport aircraft certified in Part 25 or Part 29 where operations are private or aerial work.
Component repair, inspection, overhaul e.g. Magnetos, Starter motor, prop gov, wheels, brakes, actuators (trim, flap, hydraulic etc.), pumps (vacuum, hydraulic, fuel etc..), batteries	Independent B1 LAME or AMTC1 specialist 	Independent B1 LAME or AMTC1 specialist 	AMO 
Component repair, calibration, modification, overhaul for instruments and avionic components	Independent B2 LAME or AMTC1 specialist or AMO 	Independent B2 LAME or AMTC1 specialist or AMO 	AMO 
Pitot-static system test **ATC transponder** test/ check.	Independent LAME 	Independent LAME 	AMO or Independent LAME 
Non destructive testing (NDT), painting, welding, borescope or other specialist activities that require unique skills	AMTC1 specialist or independent LAME 	AMTC1 specialist or independent LAME 	As per AMO procedures/ rules 

CHAPTER 1 – REGISTERED OPERATOR RESPONSIBILITIES



Registered Operator (CASR 47.100)

If you are the owner of an aircraft, you become the registered operator (RO) by default unless you appoint another person to be the RO in your place and notify CASA of the appointment.

CASR regulation 47.100 (link) refers to the identity of the registered operator. As the RO for an aircraft, you are responsible for:

- *continuing airworthiness of your aircraft*
- *record-keeping as required*
- *reporting major defects (link).*

Continuing airworthiness of your aircraft (MOS 3.1)

You are responsible for:

- maintaining that aircraft in an airworthy condition, including compliance with Part 43. (MOS 3.09)
- ensuring that the aircraft is not permitted to be flown unless it is airworthy (MOS 3.08)
- ensuring that the airworthiness limitations are complied with (MOS 4.24)
- ensuring that the aircraft is inspected in accordance with the nominated schedule and approved for return to service by a LAME or an IA holder as required under MOS 4.17. You may at your discretion have inspections carried out by a Part 145 approved maintenance organisation (an AMO) or a CAR 30 organisation (MOS 3.15 (6)(a) or (b)
- having defects or damage rectified if the defect or damage is not deferrable (MOS 3.09)
- ensuring that a defective control or instrument is clearly identified with a placard as inoperable so that a pilot can readily understand its status (MOS 3.09)
- ensuring that a passenger is not carried in the aircraft until an operational check flight is carried out after maintenance that may have appreciably affected the flight characteristics or operation of the aircraft in flight (MOS 3.13).

Record keeping (MOS 3.26)

You are responsible for:

- making an entry in the maintenance records stating the inspection schedule applicable to your aircraft (MOS Division 3.4 N)
- keeping an up-to-date system of maintenance records for the aircraft ensuring that:
  - all inspections rectifications and modifications are recorded in the maintenance records and properly certified by a person whose licence, IA, AMTC or AMO approval, permits them to make the certification for maintenance
  - major modifications are carried out in accordance with approved data, and a holder of a mechanical or avionics IA as applicable has certified that the work conforms to the data
  - a maintenance entry includes sufficient detail so that another person can understand what was done and how it was done
  - if the data used for a major modification is not publicly available, a copy of the data is included in the record entry or sufficient information is available for another person to access the information
  - an up-to-date record of the aircraft's total time in service (TTIS) is kept
  - an up-to-date record of the aircraft's empty weight and loading details is kept.

Reporting

You are responsible for:

- reporting major defects to CASA within 2 business days (MOS 3.11).

CHAPTER 2 – AUTHORITY TO CONDUCT MAINTENANCE AND INSPECTION – ELIGIBILITY AND PRIVILEGES

Overview of persons with authority

A maintainer is any person carrying out maintenance on an aircraft or aeronautical product. The person can be a LAME, an AMTC holder, or a person working under their supervision.

The performance rules apply equally to a person working under supervision as to a person supervising maintenance.

An inspection authorisation (IA) holder performs an important safety role in Part 43 maintenance by providing an independent review of an aircraft's condition during annual inspections and following major repairs or modifications. The IA holder will be an experienced LAME who has satisfied CASA that he or she understands the type certification process and the importance of ensuring that an aircraft continues to comply with the certification standards throughout its working life.

Requirements for maintenance and inspection

Maintenance by B1 licensed aircraft maintenance engineer (B1 LAME) (MOS Division 2.2)

- When carrying out maintenance, you must comply with the performance rules (MOS 4.04).
- When you complete a maintenance task you must record the work in the aircraft's maintenance records and certify its completion (MOS 4.13).
- if carrying out maintenance that is outside the scope of your licence and you are doing it for the first time, you must comply with task familiarisation requirements (MOS 2.08).

if you are using the expanded scope provisions to perform maintenance, you must be able to show documentary proof of compliance with any task familiarisation requirements on request by CASA or an RO for whom you are performing the maintenance (MOS 2.08).

Maintenance by B2 licensed aircraft maintenance engineer (B2 LAME) (MOS 2.10)

A B2 LAME may perform and certify any electrical or avionics maintenance and approve it for return to service provided that the work has not affected a mechanical or primary structural system or aeronautical product.

If the maintenance is a major avionics repair or modification, a holder of an avionics IA must approve the aeronautical product or system for return to service.

If any avionics maintenance has affected a mechanical or primary structural element, the aircraft, engine, propeller or an aeronautical product may only be returned to service by a B1 LAME.

Aircraft maintenance organisations (AMO)s

AMOs may perform any Part 43 maintenance that falls within the scope of their approval rating. Any maintenance they perform must comply with Part 43 requirements. However, an AMO is not required to employ an IA to carry out a Part 43 annual inspection.

Requirements for Inspection Authorisation (IA) holders (MOS 2.15)

To obtain a mechanical IA, an applicant must:

- have a valid B1 LAME licence which they have held for at least 3 years prior to applying for an IA
- have been actively engaged in using the licence for the previous 2 years
- have a fixed base of operations
- have, or have use of the necessary data facilities and equipment for carrying out inspections of aircraft engines and propellers
- complete a CASA approved course of training for IAs. CASA provides an on-line course for applicants, but
  - if a person holds an IA issued by the US Federal Aviation Administration (FAA) or the NZ Civil Aviation Authority, or CASA authorisation, the course is not required.

An applicant for an Avionics IA must have held a valid B2 LAME licence for at least 3 years and meet requirements 2, 3 and 4 above.

Maintenance by holders of Aircraft maintenance technician certificates (AMTC)s

Different AMTC categories are detailed in Division 2.5:

- AMTC 1 – a CASA issued authorisation to carry out maintenance on type certificated aircraft, engines, propellers and aeronautical products
- AMTC 2 – an authorisation for a primary builder to carry out annual condition inspections of amateur-built experimental aircraft
- AMTC 3 – an authorisation for a non-builder to carry out annual condition inspections of amateur-built aircraft
- AMTC 4 – an authorisation to carry out maintenance of light sport aircraft
- AMTC 5 – an authorisation to carry out maintenance on limited category aircraft.

Requirements for obtaining aircraft maintenance technician certificates (AMTC)s

An applicant for an AMTC1 must complete either:

- at least 18 months experience in the type of maintenance for which the AMTC is intended, or
- training approved by CASA for the purpose of the AMTC.

An applicant for an AMTC 2 must:

- be the primary builder of the aircraft for which the AMTC is required, and
- satisfy the authorised person that they have sufficient skill to determine whether an aircraft is in a condition for safe operation.

An applicant for an AMTC 3 must:

- complete an approved course of at least 16 hours instruction in inspecting the kind of amateur-built aircraft or experimental LSA for which it is intended.

An applicant for an AMTC 4 must:

- complete an approved course of at least 120 hours instruction in maintenance of the kind of LSA for which it is intended.

An applicant for an AMTC 5 must:

- have at least 18 months experience in the kind of maintenance for which the AMTC is intended, or
- complete a course of training approved by the administering organisation for the aircraft.

| *Refer to Appendix 1 for details.*

CHAPTER 3 – PERFORMING MAINTENANCE AND INSPECTIONS

Performing maintenance (MOS 4.04)

When performing maintenance, you must:

- use the manufacturers recommended methods techniques and practices (MTP)
- use any special tools or jigs that are called for in the maintenance instructions
- ensure that:
  - the work is within the scope of your Part 66 licence and Chapter 2 of the Part 43 MOS (reproduced in Appendix 1 for convenience)
  - you are familiar with the type of work you are going to do and that you understand the manufacturer's instructions for accomplishing the maintenance where applicable
  - an independent inspection of a flight control system is carried out if maintenance has been carried out on the system. The inspection may be carried out by
    - a LAME or AMTC holder who did not do the maintenance, or
    - a holder of a pilot licence other than a recreational pilot licence (MOS 4.20)

when you carry out maintenance, you must ensure that the condition of the aircraft or aeronautical product following the maintenance is at least equal to that of its original or previously modified condition, having regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting the airworthiness of the aircraft (MOS 4.04).

Useful information

Wherever you are required to use manufacturers' MTPs for carrying out maintenance, you may use other MTPs that you reasonably consider to be consistent with accepted industry methods, techniques, and practices for the carrying out of that kind of maintenance task (MOS 4.04).

If a tool, jig, test equipment etc. is required by the manufacturer's maintenance instructions and is not reasonably available, you can use a tool which would provide an equivalent maintenance outcome. It is acceptable to fabricate a tool for this purpose (MOS 4.04).

Return to service after maintenance (MOS 4.11)

An aircraft may only be returned to service after maintenance if the person carrying out the maintenance certifies completion of the maintenance in the aircraft records. The certification is the approval for return to service

The RO may return the aircraft to service without a further inspection once the defects (link) have been rectified or deferred (MOS 4.17).

Performing inspections (MOS 3.15, 4.18)

An inspection schedule is a key element in the Part 43 processes for ensuring continuing airworthiness of an aircraft. It is a checklist of visual inspections and functional checks to be carried out either annually, at 100-hour intervals, or as specified in a manufacturers schedule or an approved inspection program (MOS 3.15 and 3.19).

The majority of Part 43 aircraft will be required to be inspected annually using a checklist based on Schedule 1 of the MOS.

An annual inspection may be carried out in sections under the Progressive inspection schedule provisions (MOS 3.15).

Aircraft engaged in flying training and aerial work in which a person is carried for payment (for example a mission specialist) will be required to undergo a 100-hour inspection in addition to the annual inspection (MOS 3.15). A 100-hour inspection will use the same checklist (above) as the annual inspection, but the documentation review section is not applicable.

Large aeroplanes and multi-engine turbine powered aeroplanes will be required to adopt an inspection schedule based on the manufacturer's recommended schedule or an approved inspection program (MOS 3.19).

Annual inspections and stages of progressive inspections must be carried out or supervised by a holder of a mechanical IA (MOS 3.15).

100-hour inspections must be carried out by a B1 LAME (MOS 3.15).

When performing the annual inspection, the inspection authorisation holder must review Airworthiness Directives (ADs) and if any ADs, airworthiness limitations (AWL)s or defects are outstanding, the inspection authorisation holder provide the owner/operator of the aircraft with a list of required items/areas for maintenance (MOS 4.17 and Schedule 1).

At that time, the inspection authorisation holder has fulfilled his or her obligations and responsibility for correcting the defects passes to the aircraft owner/operator. The RO may engage the IA holder to carry out the repairs or take the aircraft to another place for maintenance (MOS 4.17).

A scheduled inspection is completed when an entry is made in the maintenance records and certified as complete by a person who is authorised to do so under section 4.17 of the MOS.

Note: if an IA holder on completion of an annual inspection hands the RO a list of defects, the RO may take the aircraft to a place of his or her choice for rectification. However, if any of the defects are not deferrable, the RO must obtain a special flight permit for the aircraft to be flown to a place for the maintenance.

Rotorcrafts – additional inspection requirements (MOS 4.21)

Rotors and drive systems

For annual inspections of a helicopter, whether or not a progressive inspection, or a 100-hour inspection, the following systems of the rotorcraft must be inspected in accordance with the manufacturer's maintenance instructions before returning the aircraft to service (MOS 4.21):

- the drive shafts or similar systems
- the main rotor transmission gear box, for obvious defects
- the main rotor and centre section (or equivalent area)
- if the rotorcraft is a helicopter, the auxiliary rotor.

For turbine powered helicopters being inspected under Schedule 1, each engine must be inspected in accordance with clause 6 of Schedule 1 of the MOS.

Inspection requirements for an amateur-built aircraft and experimental light sport aircraft (ELSA) (MOS 3.04)

An amateur-built aircraft or ELSA aircraft is required to have a condition inspection annually. The inspection is required to cover the scope and detail of Schedule 1 of the Part 43 MOS and must be carried out and certified by any of the following:

- an approved maintenance organisation (AMO) (MOS 3.04)
- a B1 LAME (MOS 3.04)
- the holder of an AMTC 2, AMTC 3, or AMTC 4, provided the aircraft is in the same class of amateur-built aircraft for which the holder has completed the training. (MOS Division 2.5).

Inspection of LSA (aircraft certificated under regulation 21.186)

Requirement

- LSA are required to have an annual condition inspection (MOS 3.04).
- If the aircraft is to be used for flying training or glider towing it is also required to be inspected at 100-hour intervals.
- The condition inspection and 100-hour inspections must be carried out in accordance with the manufacturer's instructions if any.
- If there are no manufacturer's instructions, schedule 1 of the Part 43 MOS must be used.

Inspections may be carried out and certified by:

- a holder of an AMTC4 that applies to the aircraft
- a B1 LAME
- a Part 145 AMO
- a CAR 30 organisation.

Return to service after inspections (MOS 3.15)

An RO may only return an aircraft to service after a scheduled inspection if the person certifying for completion of the inspection has certified that the aircraft is airworthy and is approved for return to service (MOS 4.17).

A scheduled inspection is completed when an entry is made in the maintenance records and certified as complete by a person who is authorised to do so under section 4.17 of the MOS (a B1 LAME for 100-hour inspections or a holder of a mechanical IA for annual inspections and stages of a progressive inspection) (MOS 4.17).

If the aircraft is not airworthy, the person certifying completion of the inspection must make an entry in the maintenance records describing the type of inspection that has been carried out and stating

- that the aircraft is not airworthy and is not approved for return to service, and
- that the RO has been handed a signed and dated list of defects. (MOS 4.17).

Major repairs and modifications (MOS 4.12)

Major repairs and major modifications must be carried out in accordance with approved data and the completed work must be certified by an IA holder as conforming to the approved data. For more information about approved data (MOS 4.11 (1)(d)(ii), see AC43-12.

Modifications of LSA may only be carried out in accordance with manufacturer's instructions or a written approval from the manufacturer (MOS 3.06). If an LSA is modified without a manufacturer's approval, it must revert to ELSA (Note at end of MOS 3.06).

Maintenance by an AMO (MOS 4.05)

An AMO may carry out any maintenance for Part 43 aircraft that is permitted by its approval rating (MOS 4.05).

The AMO provides the maintenance and issues a certificate of release to service (CRS) for the maintenance in accordance with its exposition (145.045). Part 43 provides that a CRS issued by an AMO has the same effect as an approval for return to service (MOS 4.12).

If you are an RO engaging an AMO to carry out maintenance, you must:

- give the AMO a written order describing the maintenance required (MOS 4.05)
- if the maintenance is an inspection, you must provide the AMO with a copy of the inspection schedule or the relevant section where applicable for the aircraft (MOS 4.19)
- ensure that employees of the AMO performing the inspection do so using:
  - the inspection schedule chosen by the RO under MOS section 4.18, or
  - the approved inspection program selected under MOS section 3.15 or 3.19.

Maintenance by a pilot (MOS 4.06)

As a pilot, you may carry out preventive maintenance on an aircraft if:

- you hold a pilot licence, other than a recreational pilot licence, which permits you to fly the aircraft as pilot in command and you either:
  - are the RO for the aircraft, or
  - you have been authorised by the RO of the aircraft to carry out the maintenance.

For aircraft engaged in flight training or aerial work, you may carry out:

- preventive maintenance, and
- pilot maintenance if:
  - you hold a pilot licence other than a recreational pilot licence, which permits you to fly the aircraft as pilot in command
  - the RO of the aircraft has authorised you in writing to carry out the pilot maintenance tasks.

if you are the RO of an LSA, you may carry out preventive maintenance if you hold a recreational pilot licence (MOS 4.06(5)).

APPENDIX 1 – MAINTAINER QUALIFICATIONS AND PRIVILEGES

B1 Licensed aircraft maintenance engineers (B1 LAME)s (MOS Division 2.2)

As a B1 LAME you may certify for completion of maintenance on any aircraft (aeroplane or helicopter, piston engine or turbine powered), including electrical and avionics maintenance regardless of the subcategory of your licence, subject to the following:

- to perform or certify powerplant maintenance you must either hold the relevant subcategory (B1.1 or B1.3 for turbine engines and B1.2 or B1.4 for piston engine maintenance), or
- if you do not hold the appropriate subcategory or your licence is subject to an E3 or E12 exclusion, you may certify for powerplant maintenance tasks if you:
  - hold the engine basic examination credits GA and GB (piston engines) or GG and GH (turbine engines) or a pass in Part 66 licence syllabus module 15 or 16 as applicable, and
  - have demonstrated familiarity with a task.
- to certify for maintenance of helicopter rotor controls, you must either hold a:
- subcategory B1.3 or B1.4 licence or
- subcategory B1.1 or B1.2 licence and a credit for CASA basic examination FR (Helicopter controls and systems) or EASA module 12 or MEA 308 (Remove and install rotary wing rotor and flight control systems and aeronautical product).
- you may not certify for major repairs or modifications unless you hold a mechanical IA.
- you may not certify for major repairs or modifications to avionics and electrical systems unless you also hold a B2 licence and an avionics IA.

you do not need to demonstrate familiarity with a maintenance task if it is a basic privilege of your licence as specified in the Part 66 MOS.

Aircraft engine ground runs

A holder of a B1 licence may operate an aircraft engine for the purpose of carrying out function checks during maintenance MOS 2.03 (2).

Type rated aircraft

Many maintenance tasks that you will carry out on a type rated aircraft are common to non-type rated aircraft and do not require specialised knowledge or skills beyond those exercised in the normal course of your work. These tasks can be performed by any LAME who has carried out similar work on other aircraft types.

As a B1 LAME, if a maintenance task is unique to a type rated aircraft and you do not hold the relevant aircraft type rating you may carry out the maintenance task provided that the maintenance is within the scope of your licence category, and you have:

- previously carried out the maintenance under Reg 31 of CAR
- successfully completed a CASA approved course covering the maintenance or
- demonstrated familiarity with the task

Demonstrating familiarity with a task

You are familiar with a maintenance task if you have:

- previously carried out the work, or
- been trained in the particular maintenance task, or
- satisfactorily carried out the work for the first time under the supervision of a person who is permitted under Part 43 to certify for the maintenance.

Maintenance of turbine engines

An independent B1 LAME may carry out and certify for completion of scheduled inspections and routine maintenance of a turbine engine.

Preventive maintenance

A B1 LAME may carry out and certify for completion of preventive maintenance listed in Schedule 6 of the Part 43 MOS.

B2 Licensed aircraft maintenance engineers (B2 LAME)s

General privileges MOS Division 2.3

As a B2 LAME you may

- exercise the privileges of your licence and you are not required to hold:
  - type ratings
  - CASA approvals under CAR 30 or Part 145 of CASR to carry out maintenance or set up an avionics and electrical aeronautical product maintenance shop without CASA approval.

If you make a maintenance record entry for an aeronautical product, the B1 LAME will be able to accept that record as a return to service for the aeronautical product.

If the maintenance is not a privilege of your licence, you may carry out maintenance on avionics and electrical system or system aeronautical product, and authorise the return of the aircraft or aeronautical product to service provided you have:

- previously carried out the maintenance under Reg 31 of the CAR 1988
- successfully completed a CASA approved training course covering the maintenance, provided by a qualified person, or
- satisfactorily carried out the maintenance under the supervision of a B2 LAME entitled to certify for the maintenance.

Scheduled maintenance

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 approving return of the aircraft to service.

When a B2 LAME completes an inspection of the avionics system during an annual or 100-hour inspection and makes a certification for the inspection they completed in the maintenance records, the certifying B1 LAME or IA holder may rely on that certification when completing the approval or disapproval for return to service of the aircraft.

Avionics maintenance, modifications, and repairs

Only a B2 LAME holding an avionics inspection authorisation (IA) will be permitted to approve the return of an aircraft to service after major avionics or electrical system repairs or modifications.

If a B2 LAME installs, performs maintenance on, or modifies an avionics or electrical system which has a mechanical or powerplant system interface and the work has involved disturbance of the mechanical/powerplant interface or mechanical/powerplant system or primary structural aeronautical product, they would be permitted to certify for the work, however the aircraft may only be approved for return to service by a B1 LAME.

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 subsection 4.13(1)(c) of the Part 43 MOS to name the person(s) who have performed the work.

A B2 LAME may perform preventive maintenance tasks listed in Schedule 5 of the Part 43 MOS, provided the task is within their B2 licence privileges.

Transport category aircraft

An independent B2 LAME may not approve the return to service of an aircraft following scheduled inspections, scheduled maintenance or major repairs and modifications if the aircraft is type certificated in transport category. These aircraft must have this level of maintenance carried out under the control of an approved maintenance organisation (MOS 3.19(4)(b)).

However, minor scheduled maintenance and minor repairs may be carried out by the independent LAME when directed by the RO. Minor maintenance includes such tasks as:

- Replacing a panel mounted Nav/Comm (not requiring specialised equipment)
- MEL “M” items
- Other similar “line” maintenance items which can be performed using simple methods and processes.

Aircraft maintenance technicians (MOS 2.20)

An aircraft maintenance technician certificate (AMTC) (MOS 2.20) is an individual authorisation to perform or supervise maintenance of an aircraft, engine, propeller, or aeronautical product and authorise its return to service.

The certificates supplement the Part 66 licence structure and provide for maintenance authorisations to be issued to individuals who do not have a Part 66 licence, but who have a particular set of skills that are recognised as valuable to the aircraft maintenance sector.

The certificates allow for appropriately qualified individuals to perform specific maintenance activities without the need for oversight by a LAME or maintenance organisation approval.

Additionally, a person may not exercise the privileges of the AMTC unless he or she understands the current instructions of the manufacturer and the maintenance manuals for the specific operation concerned.

There are 5 types of certificates based on the FAA-style repairman certificates. The certificates are:

- AMTC 1 CASA defined
- AMTC 2 Experimental Aircraft Builder
- AMTC 3 Inspection, Amateur-built and Light Sport Aircraft
- AMTC 4 Light Sport aircraft- Maintenance
- AMTC 5 Special (for maintainers of limited category aircraft).

AMTC 1 (MOS 2.23)

Eligibility requirements for an AMTC 1 CASA defined authorisation

To be eligible for an AMTC 1 an individual must:

- be at least 18 years of age
- be able to read, write, speak, and understand the English language, and
- have either completed:
  - at least 18 months of practical experience in procedures, practices, inspection methods, materials, tools, machine tools, and equipment generally used in the maintenance duties for which the person is to be certificated, or
  - formal training that is acceptable to CASA and is specifically designed to qualify the applicant for the certificate being sought. (MOS 2.21, 2.22)

Documented evidence of the individual's experience and or training must be provided. Records of experience must contain traceable work details and supporting certifications by individuals who can verify the claims made.

Training records in the form of TAFE results or Part 147 maintenance training organisation results will only be acceptable if the training included "hands on" or supervised task performance in addition to theoretical training.

Allied trades experience will be accepted on a case-by-case basis.

Additional eligibility requirements apply for a person seeking an AMTC 1 for welding or non-destructive testing. Refer to AC 43-15 for these eligibility requirements.

Applying for an AMTC 1

Once you have met the eligibility requirements, an application for an AMTC 1 can be made to CASA via applications@casa.gov.au. The application can be made using form 43-02.

Privileges of an AMTC 1 authorisation MOS 2.23

The holder of an AMTC 1 authorisation may carry out or supervise the maintenance, preventive maintenance, or modification of aircraft or aircraft aeronautical product as specified on the certificate.

The AMTC holder is treated as an independent maintainer and is not required to hold a Part 66 licence, nor are they required to work under an organisation approval.

Limitations to an AMTC 1 authorisation

The holder of an AMTC 1 authorisation may not:

- perform maintenance on an aircraft or aeronautical product that is not specified on the certificate
- perform or supervise duties under the certificate unless the holder of the certificate has access to and understands the manufacturer's instructions for continued airworthiness relating to the specific operations concerned. They must also have access to any specialised tools or test equipment required for performance of the maintenance (MOS 2.23, also MOS 4.04 (3))
- perform a maintenance activity on any aircraft to which Part 43 does not apply (MOS 2.20).

CASA defined AMTC 1 certificates

An AMTC can be issued for any maintenance activity, however CASA will initially make provision for:

- AMTC 1 Engine overhaul
- AMTC 1 Aircraft welding
- AMTC 1 Non-destructive testing
- AMTC 1 Propeller overhaul
- AMTC 1 Aeronautical product maintenance
- AMTC 1 Engine/Propeller overhaul
- AMTC 1 Maintenance of fabric aircraft coverings
- AMTC 1 Maintenance of wood aircraft
- AMTC 1 Maintenance of composite aircraft structures
- AMTC 1 Maintenance of metal aircraft structures.

CASA acknowledges that some providers of aeronautical product and engine/propeller maintenance will not require a Part 145 approval if they do not wish to service air transport operators. In particular, overhaulers who service niche markets such as historic, warbird, antique and replica aircraft may find a good "fit" with the AMTC.

AMTC 1 Aeronautical product maintenance

An AMTC1 can be issued for maintenance of aeronautical product such as: hydraulic aeronautical product, magnetos, generators, alternators, gearboxes etc.

This provides individuals, who currently carry out aeronautical product maintenance under a CAR 30 approval with an opportunity to continue to do so as an aviation maintenance technician if they do not wish to employ a LAME or transition to Part 145 approved maintenance organisation.

The certificate may be subject to conditions and limitations. Any conditions and limitations will be listed on the certificate.

Other possible AMTC 1 uses

The purpose for which an AMTC1 may be issued is not limited to the above list, if there is a need for AMTC authorisation to perform other specialised maintenance such as turbine engine borescope inspections and PT6 hot section inspections, CASA will issue an appropriate AMTC if an applicant meets the eligibility requirements.

AMTC 2 and AMTC 3 (MOS 2.24, 2.25, 2.26, 2.37)

Who is entitled to an AMTC 2 Certificate?

To be eligible for an AMTC 2 an individual must be:

- at least 18 years of age
- able to read, write, speak, and understand the English language
- the primary builder (usually known as major portion builder) of an aircraft.

The primary builder is only entitled to an AMTC2 while he or she remains the owner of the aircraft. If the owner sells the aircraft and buys another amateur-built aircraft, the AMTC2 is no longer valid, and the owner would have to obtain an AMTC3 for the new aircraft.

The person issuing the experimental Certificate of Airworthiness for the aircraft will issue the AMTC 2 to the primary builder.

AC 43-16 provides further information and guidance for AMTC 2 holders, including their regulatory responsibilities with regard to carrying out the annual condition inspection and keeping records.

If an aircraft is constructed by a group, and no individual member meets the primary builder requirements, an AMTC 2 will not be issued to an individual within the group. A person from the group may complete a training course and qualify for an AMTC 3.

Issue of an AMTC 3

CASA has made provision for an owner of an amateur-built aircraft, who is not the primary builder, to undertake a condition inspection course of training - acceptable to CASA – on a particular class of amateur-built experimental aircraft.

The course must include at least 16 hours instruction in the performance of an annual condition inspection on the aircraft for which the certificate is to be issued. On satisfactory completion of the course, the aircraft owner may be issued with an AMTC 3 by the training provider.

To be eligible for an AMTC 3 an individual must:

- be at least 18 years of age
- be able to read, write, speak, and understand the English language
- have completed the training course as described above.

refer to AC43-16 and AC43-17 for further information on training providers.

AMTC 4 (MOS 2.28, 2.29)

Eligibility for an AMTC 4

As with other AMT certificates, to be eligible for an AMTC 4 an individual must be:

- at least 18 years of age, and
- able to read, write, speak, and understand the English language.

In addition, the person must successfully complete an approved training course on maintaining the class of light-sport aircraft for which the person intends to exercise the privileges of the certificate. The training course must, at a minimum, provide 120 of hours of instruction. (MOS 2.28).

Maintenance for LSA (factory built and certified) aircraft

The holder of an AMTC 4 may approve for return to service an aircraft that has been issued a special airworthiness certificate in the light-sport category or any part thereof, after performing or inspecting maintenance. (MOS 2.29(1)(c))

Maintenance includes the annual condition inspection and the 100-hour inspection, preventive maintenance, or a modification, except a major repair or a major modification on a product produced under a CASA approval.

The holder of an AMTC 4 may 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(j) or (k) of CASR.

The holder of an AMTC 4 may only perform maintenance, preventive maintenance, and a modification on a Part 21.186 light-sport aircraft that is in the same class of light-sport aircraft for which the holder has completed the training (MOS 2.29(1)(a)).

Before performing a major repair, the holder must complete additional training acceptable to CASA and appropriate to the repair performed (MOS 2.29 (3)(b)).

Limitations on an AMTC 4 holder

The holder of an AMTC 4 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 CASA, or by performing it under the direct supervision of an appropriately licenced LAME, or a certificated AMT, who has had previous experience in the specific operation concerned (MOS 2.29(6)).

Approval of AMTC training courses

CASA's Recreational and Sports Aviation branch will assess training courses for AMTCs 3 and 4. As a general rule, equivalent courses that have been accepted by a recognised national aviation authority, will be acceptable to CASA.

AMTC 5 (MOS 2.30)

Authorising a limited category aircraft for return to service

Limited category generally refers to warbirds, historical or replica aircraft (WHR aircraft). A limited category aircraft can be authorised for return to service by: (MOS 4.04))

- a pilot who is authorised by the administering authority (AA)
- an appropriately rated AMO
- a LAME with appropriate licence coverage
- a holder of an authorisation under Regulation 33B or sub-regulation 42ZC (6) of Civil Aviation Regulation (CAR)
- a holder of an aircraft maintenance technician certificate (AMTC 5).

An aircraft maintenance technician (AMTC 5) is a certificate issued to an individual by the AA. It permits the holder to perform or supervise maintenance that is specified on the certificate and authorise the return of an aircraft to service after maintenance.

Requirements for issue of an AMTC 5

To be eligible for an aviation maintenance technician certificate (AMTC 5) a person must:

- be at least 18 years of age
- be able to read, write, speak, and understand the English language.
- have either (MOS 2.30):
  - at least 18 months of practical experience in the procedures, practices, inspection methods, materials, tools, machine tools, and equipment generally used in the maintenance duties of the specific job or aircraft for which the person is to be certificated.
  - completed formal training that is acceptable to the AA and is specifically designed to qualify the applicant for the certificate being sought; and
  - provide evidence that they have, or have use of adequate facilities and the infrastructure, data, tools, including any required specialised tooling or testing equipment required for the proposed scope of the certificate.

Administering Authority

The administering authority (AA) for a limited category aircraft is an organisation approved by CASA under sub-regulation 262AN (1) to administer the operation and maintenance of limited category aircraft. If no organisation has been approved to administer a particular type of aircraft, CASA remains the AA.

English language proficiency

Applicants for an AMTC for whom English is not their first language, may be granted an AMTC if they can speak and understand English sufficiently to exercise the privileges of the AMTC.

APPENDIX 2 – MAINTENANCE SCHEDULES AND OVERHAULS

Schedule 1 – Checklist requirements for annual, progressive, and 100-hour inspections (MOS paragraph 4.18(1)(a) refers)

Under section 4.18 of the Part 43 MOS, if an aircraft must be inspected in accordance with an inspection checklist based on this Schedule, the checklist must include each provision of this Schedule that applies in relation to the aircraft and the kind of inspection.

1 Preliminary

(1) In this Schedule:

the person means the person performing an annual, progressive or 100-hour inspection of an aircraft.

(2) Clause 13 applies only in relation to an annual or progressive inspection of an aircraft.

2 General

The person must, at the start of the inspection:

(a) remove or open all necessary inspection plates, access doors, fairing, and cowling; and

(b) thoroughly clean the aircraft and aircraft engine.

3 Fuselage and hull

The person must inspect the following aeronautical product or systems of the fuselage and hull of the aircraft as follows:

(a) fabric and skin — for deterioration, distortion, other evidence of failure, and defective or insecure attachment of fittings

(b) all systems and aeronautical product — for improper installation, apparent defects, and unsatisfactory operation.

4 Cabin and cockpit

(1) The person must generally inspect the cabin and cockpit of the aircraft for uncleanliness that might foul the controls or loose equipment that might interfere with the controls.

(2) The person must inspect the following aeronautical product and systems of the cabin and cockpit of the aircraft as follows:

(a) seats and safety belts — for poor condition and apparent defects

(b) windows and windshields — for deterioration and breakage

(c) instruments — for poor condition, mounting, marking, and (where practicable) improper operation

(d) flight and engine controls — for improper installation and improper operation

(e) batteries — for improper installation and improper charge

(f) all systems — for improper installation, poor general condition, apparent and obvious defects, and insecurity of attachment.

5 Engines — general

The person must inspect the following aeronautical product and systems of each engine and engine nacelle of the aircraft as follows:

(a) engine section — for visual evidence of excessive oil, fuel, or hydraulic leaks, and sources of such leaks

(b) studs and nuts — for improper torquing and obvious defects

(c) 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

(d) engine mount — for cracks, looseness of mounting, and looseness of engine to mount

(e) flexible vibration dampeners — for poor condition and deterioration

(f) engine controls — for defects, improper travel and improper safety

(g) lines, hoses, and clamps — for leaks, unsafe condition and looseness

(h) exhaust stacks — for cracks, defects, and unsafe attachment

(i) accessories — for apparent defects in security of mounting

(j) all systems — for unsafe installation, poor general condition, defects, and insecure attachment

(k) cowling — for cracks and defects.

6 Turbine engines

(1) The person must inspect each turbine engine of the aircraft in accordance with the recommended engine inspection schedule or checklist provided in the aircraft manufacturer's instructions for continuing airworthiness (ICAs).

(2) However, if there is no engine inspection schedule or checklist provided in the aircraft manufacturer's ICAs, the person must inspect each turbine engine of the aircraft in accordance with:

(a) the engine inspection schedule or checklist provided in the engine manufacturer's ICAs; or

(b) if there is no engine inspection schedule or checklist provided in the engine manufacturer's ICAs — a schedule or checklist provided in a service instruction, service bulletin or any other document provided by the aircraft or engine manufacturer.

In the MOS, Instructions for continuing airworthiness has the same meaning as in Part 3 of the CASR Dictionary. ICAs are written instructions, as in force from time to time, that specify requirements, procedures, and standards for the continuing airworthiness of the aircraft or aeronautical product and are issued by certain specified persons.

7 Landing gear

The person must inspect the following aeronautical product of the landing gear of the aircraft as follows:

(a) all units — for poor condition and insecurity of attachment;

(b) shock absorbing devices — for deterioration of rubber aeronautical product and, if the landing gear has oleo struts, improper oleo fluid level;

(c) linkages, trusses, and members — for undue or excessive wear fatigue, and distortion;

(d) retracting and locking mechanism — for improper operation;

(e) hydraulic lines — for leakage;

(f) electrical system — for chafing and improper operation of switches;

(g) wheels — for cracks, defects, and condition of bearings;

(h) tyres — for wear and cuts;

(i) brakes — for improper adjustment;

(j) floats and skis — for insecure attachment and obvious or apparent defects.

8 Wing and centre section

The person must inspect all aeronautical product of the wing and centre section of the aircraft for poor general condition, fabric or skin deterioration, distortion, evidence of failure, and insecurity of attachment.

9 Empennage

The person must inspect all aeronautical product and systems that make up the complete empennage of the aircraft for poor general condition, fabric or skin deterioration, distortion, evidence of failure, insecure attachment, unsafe aeronautical product installation, and unsafe aeronautical product operation.

10 Propellers

The person must inspect the following propeller aeronautical product and mechanisms as follows:

(a) propellers — for cracks, nicks, binds, and oil leakage

(b) bolts — for improper torque and safety

(c) anti-icing devices — for unsafe operation and obvious defects

(d) control mechanisms — for operation, insecure mounting, and restricted travel.

11 Radio communication and navigation systems

The person must inspect the following aeronautical product of the radio communication and navigation systems of the aircraft as follows:

(a) radio and electronic equipment — for unsafe installation and insecure mounting

(b) wiring and conduits — for unsafe routing, insecure mounting, and obvious defects

(c) bonding and shielding — for unsafe installation and poor condition

(d) antenna including trailing antenna — poor condition, insecure mounting, and unsafe operation.

12 Other installed items

The person must inspect each installed miscellaneous item that is not otherwise covered by this checklist for unsafe installation and unsafe operation.

13 Document review

(1) If the person is performing an annual inspection or a progressive inspection of an aircraft, the person must conduct a review of the maintenance records for the aircraft to check that, if a major modification or major repair has been carried out on the aircraft, aircraft engine, or aircraft propeller:

(a) the major modification or major repair has been certified by a person who holds an inspection authorisation or by a Part 145 organisation as conforming to the technical data approved by CASA under regulation 21.009 of CASR for the major modification or major repair, and

(b) the certification provides details of the technical data approved under regulation 21.009 of CASR under which the major modification or major repair was carried out.

If an uncertified major repair or major modification is found, the aircraft is not to be returned for service and the inspection certification statement mentioned in item 2 of Table 4.16 of the MOS, or a similarly worded statement, must be included in the aircraft's maintenance records.

(2) If the person is performing an annual inspection or a progressive inspection of a type certificated aircraft, the person must check that:

(a) any placards required by the aircraft's type certificate data sheet (TCDS) are current and in place, and

(b) the documentation required by the TCDS for the operation of the aircraft is current and readily available to the pilot in command.

Note: For example, the aircraft's flight manual and pilot operating instructions.

Schedule 2 – Stages of progressive inspections

1 This Schedule applies if the registered operator of an aircraft has elected under MOS 3.15 (7) to have a required annual inspection of the aircraft performed as a progressive inspection.

2 Subject to clauses 3 and 4, each stage of the progressive inspection must occur within whichever of the following periods expires first:

(a) 18 months from the day on which the most recent inspection or annual inspection was completed

(b) 18 months from the day on which the last maintenance release inspection of the aircraft was completed

(c) 18 months from the day on which the aircraft's current certificate of airworthiness was issued.

3 Each subsequent stage of the progressive inspection must be carried out within 12 months of the completion of the previous inspection of that stage.

4 The registered operator may elect to have a stage or stages of a progressive inspection, other than the final stage, completed by up to 12 months and 10 days after the expiry of the period within which the stage must be carried out under clause 2.

5 If the aircraft is required to undergo annual inspections and 100-hour inspections, each stage of the progressive inspection must be completed within 100 hours of time-in-service of, or the 12 months after, the last 100-hour inspection, whichever occurs first.

Schedule 3 – Altimeter system and altitude reporting equipment testing and inspection (refer MOS sections 3.21 and 3.23)

Part 1 General

1.1 Definition

In this Schedule:

the person means the person mentioned in section 3.24 who is performing the test of, or inspecting, the static pressure system, altimeter, or automatic pressure altitude reporting system of an aircraft to determine if the instrument or system complies with the requirements of this Schedule.

Part 2 Static pressure system

2.1 Inspection

The person must inspect the static pressure system to ensure that:

(a) it is free from entrapped moisture and restrictions, and

(b) any installed static port heater is inoperative, and

(c) no modifications 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.

2.2 Parts repair and purging

The person must:

(a) repair or replace any parts of the static pressure system that are defective, and

(b) if purging of the system is necessary, use compressed air or nitrogen to remove any foreign matter that has accumulated in the tubing, first ensuring that all static instruments are disconnected before commencing to purge.

2.3 Proof testing of static pressure systems

(1) The person must perform the proof test in accordance with this clause.

(2) The person must, if the aircraft has more than one static pressure system, test each system separately to assure its independence and ensure that the leak rate for each system is within tolerance.

(3) The person must, if it is practicable, connect the test equipment directly to the static ports.

(4) If the test equipment cannot be connected directly to the static ports, the static ports must be sealed off and the connection made to a static system drain or tee connection at a point where it may be readily inspected for system integrity after the system is returned to its normal configuration.

(5) If the aeroplane is unpressurised:

(a) the static pressure system must be evacuated to a pressure differential of approximately 33 hPa or to a reading on the altimeter that is 1,000 feet above the airplane elevation, at the time of the test, and

(b) without additional pumping for one minute, the loss of indicated altitude must be not more than 100 feet on the altimeter.

(6) If the aeroplane is pressurised:

(a) the static pressure system must be evacuated until a pressure differential is achieved that is equivalent to the maximum cabin pressure differential for which the airplane is type certificated, and

(b) without additional pumping for one minute, the loss of indicated altitude must be not more than 2 percent of the equivalent altitude of the maximum cabin differential pressure or 100 feet, whichever is greater.

Note: The tests mentioned in subclauses (5) and (6) are based on those set out in FARs subparagraphs 25.1325 (c) (2) (i) and (ii).

(7) On completion of the static pressure system test, the person must ensure that all static port seals are removed.

Part 3 Pitot-system testing

(1) The person must test the pitot-system for leaks by applying enough pressure at the pitot head to cause the airspeed indicator to read at least 40 knots but not more than 100 knots.

(2) The pitot-system must be sealed for a period of 10 seconds and there must be no decrease in the reading mentioned in subclause (1) during that period.

Part 4 Altimeters

4.1 General testing requirements

(1) The person must test the altimeter for performance in accordance with this Part.

(2) Unless the written specifications for the testing of the altimeter provide otherwise, the altimeter may be tested subject to vibration.

(3) If the test is conducted with the temperature substantially different from ambient temperature of approximately 25°C, the person must make allowance for the variation of temperature when conducting the test.

4.2 Scale error test

(1) With the barometric pressure scale at 1,013 hPa, the person must successively subject the altimeter to the pressure mentioned in an item of Table 1 for the altitude mentioned in the item — up to the maximum, normally expected, operating altitude of the aircraft in which the altimeter is, or is to be, installed.

(2) The reduction in pressure must be made at a rate of not more than 20,000 feet per minute, to within approximately 2,000 feet of the test point.

(3) The test point must be approached at a rate compatible with the test equipment.

(4) The altimeter must be kept at the pressure corresponding to each test point for at least one minute, but not more than 10 minutes, before a reading is taken.

(5) The error at all test points must not exceed the tolerance mentioned in an item of Table 1 for an altitude mentioned in the item.

Table 1 — Altimeter test pressures and tolerances

Item	Column 1 Altitude (feet)	Column 2 Equivalent pressure (hectopascals)	Column 3 Tolerance (± feet)
1	−1,000	1050	20
2	0	1013	20
3	500	995	20
4	1,000	977	20
5	1,500	960	25
6	2,000	942	30
7	3,000	908	30
8	4,000	875	35
9	6,000	812	40
10	8,000	753	60
11	10,000	697	80
12	12,000	644	90
13	14,000	595	100
14	16,000	549	110
15	18,000	506	120
16	20,000	466	130
17	22,000	428	140
18	25,000	376	155
19	30,000	301	180
20	35,000	238	205
21	40,000	188	230
22	45,000	147	255
23	50,000	116	280

4.3 Altimeter hysteresis test

(1) The person must begin a hysteresis test of the altimeter:

(a) within 15 minutes of the instrument's initial exposure to the pressure corresponding to the upper limit of the scale error test mentioned in clause 3.2, and

(b) while the altimeter is at the pressure mentioned in paragraph (a).

(2) Pressure must 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% of maximum altitude) mentioned in item 1 of Table 2.

(3) The test point must then be approached at a rate of approximately 3,000 feet per minute.

(4) The altimeter must be kept at this pressure for at least 5 minutes, but not more than 15 minutes, before the test reading is taken.

(5) After the reading has been taken, the pressure must be increased further, in the same way as before, until the pressure mentioned in item 2 of Table 2 for the second test point (40% of maximum altitude) is reached.

(6) The altimeter must be kept at this pressure for at least 1 minute, but not more than 10 minutes, before the test reading is taken.

(7) After the reading has been taken, the pressure must be increased further, in the same way as before, until atmospheric pressure is reached.

(8) The reading of the altimeter at either of the two test points must not differ by more than the tolerance mentioned in column 2 of the item in Table 2 that mentions the test point from the reading of the altimeter for the corresponding altitude recorded during the scale error test.

(9) Not more than 5 minutes after the completion of the hysteresis test, the person must perform an after effect test, in which the reading of the altimeter (corrected for any change in atmospheric pressure) must not differ from the original atmospheric pressure reading by more than the tolerance mentioned in column 2 of item 3 of Table 2 for the after effect test.

Table 2 — Hysteresis test — tests, test points and tolerances

Item	Test or test point	Tolerance (± feet)
1	Hysteresis test — First test point (50% of maximum altitude)	75
2	Hysteresis test — Second Test Point (40 % of maximum altitude)	75
3	After effect test	30
4	Case leak test	100

4.4 Case leak test

(1) During the altimeter hysteresis test the person must perform a test of the altimeter case for leakage.

(2) The leakage of the altimeter case, when the pressure within it corresponds to an altitude of 18,000 feet in accordance with Table 1, must not change the altimeter reading by more than the tolerance shown in column 2 of item 4 of Table 2 during an interval of 1 minute.

4.5 Friction

(1) The person must subject the altimeter to a steady rate of decrease of pressure approximating 750 feet per minute.

(2) At each altitude mentioned in column 1 of an item in Table 3, the change in reading of the pointers after vibration (using a light tapping of the instrument panel adjacent to the altimeter of the altimeter does not have an integral vibrator) must be not more than the tolerance mentioned in column 2 of the item.

(3) If the altimeter fails the friction test while installed on the aircraft, the altimeter must be removed and retested.

Table 3 — Friction

	Column 1	Column 2
Item	Altitude (feet)	Tolerance (± feet)
1	1,000	70
2	2,000	70
3	3,000	70
4	5,000	70
5	10,000	80
6	15,000	90
7	20,000	100
8	25,000	120
9	30,000	140
10	35,000	160
11	40,000	180
12	50,000	250

4.6 Barometric scale error test

The person must, at constant atmospheric pressure:

(a) set the barometric pressure scale at each of the pressures (falling within its range of adjustment) that are listed in column 1 of an item in Table 4, and

(b) ensure that this causes the pointer to indicate the altitude difference shown column 2 of the item in Table 4 for the pressure listed in the item, with a tolerance of 25 feet.

Table 4 — Pressure-altitude difference

	Column 1	Column 2
Item	**Pressure (hectopascals)**	**Altitude difference (feet)**
1	952	−1,727
2	965	−1,340
3	982	−863
4	999	−392
5	1013	0
6	1033	+ 531
7	1046	+ 893
8	1049	+ 974

4.7 Air data computer type altimeters

Altimeters which are of the air data computer type with associated computing systems, or which incorporate air data correction internally, must be tested in the way, and to the specifications, mentioned in:

(a) the manufacturer's maintenance instructions issued by the aircraft manufacturer for the maintenance of the altimeter, or

(b) if the manufacturer's maintenance instructions issued by the aircraft manufacturer do not mention the way the altimeter is to be tested and to which specifications — the manufacturer's maintenance instructions issued by the altimeter manufacturer.

Part 5 Automatic Pressure Altitude Reporting Equipment and ATC Transponder system integration test

(1) The person must perform an Automatic Pressure Altitude Reporting Equipment and ATC Transponder System Integration Test after inspecting the static pressure system in accordance with clause 2.1.

(2) The automatic pressure altitude must be measured at the output of the installed ATC transponder when interrogated on Mode C at enough test points to ensure that the altitude reporting equipment, altimeters, and ATC transponders perform their intended functions as installed in the aircraft.

(3) The difference between the automatic reporting output and the altitude displayed at the altimeter must be not more than 125 feet.

Part 6 Record keeping of altimeter tests

(1) The person must record the following information on the altimeter tested by the person:

(a) the date the altimeter was tested

(b) the maximum altitude to which the altimeter was tested.

(2) The person approving the aircraft for return to service must include the information mentioned in subclause (1) in the maintenance records for the aircraft.

Note: The person must also include in the aircraft's maintenance records the information required under subsection 3.25 (2) in relation to tests performed under this Schedule. See also section 3.27 for record keeping time periods.

Schedule 4 – ATC transponder testing and inspection (Refer MOS sections 3.22 and 3.23)

Part 1 Preliminary

1.1 Definition

In this Schedule:

the person means the person mentioned in section 3.24 who is performing, in accordance with section 3.23, a test or inspection of an ATC transponder to determine if the ATC transponder complies with the requirements of this Schedule.

Part 2 Test procedures

2.1 General

(1) The person must perform each test of an ATC transponder:

(a) using a bench check or portable test equipment, and

(b) in accordance with this Schedule.

(2) If portable test equipment with coupling to the aircraft antenna system is used to perform an ATC transponder test, the person must operate the test equipment:

(a) if it is an air traffic control radar beacon system (ATCRBS) transponder – at a nominal rate of 235 interrogations per second to avoid possible ATCRBS interference, and

(b) if the ATC transponder is a Mode S transponder – at a nominal rate of 50 Mode S interrogations per second.

(3) The person may allow an additional 3 dB loss to compensate for antenna coupling errors during receiver sensitivity measurements conducted in accordance with paragraph 2.3 (1) (b) when using portable test equipment.

2.1 Radio reply frequency

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

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

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

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

2.2 Suppression

(1) If the person is testing a class 1B or 2B ATCRBS transponder, or a Class 1B, 2B or 3B Mode S ATC transponder, the person must interrogate the transponder Mode 3/A at an interrogation rate between 230 and 1,000 interrogations per second.

(2) If the person is testing a class 1A or 2A ATCRBS transponder, or a class 1B, 2A, 3A or 4 Mode S ATC transponder, the person must interrogate the transponder in Mode 3/A at an interrogation rate of between 230 and 1,200 interrogations per second.

(3) A person testing a transponder as mentioned in subclause 2.2 (1) or (2) must verify that the transponder:

(a) 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, and

(b) 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.

(4) If a test of an ATC transponder is performed with a radiated test signal, the interrogation rate must be 235 ±5 interrogations per second, unless a higher rate has been approved by air traffic control for the test equipment used at that location.

2.3 Receiver sensitivity

(1) The person must verify that:

(a) if an ATCRBS transponder of any class is being tested — the receiver minimum triggering level (MTL) of the system is −73 ±4 dbm, and

(b) if any class of Mode S transponder is being tested — the receiver MTL for Mode S format (P6 type) interrogations is −74 ±3 dbm by use of a test set:

(i) connected to the antenna end of the transmission line, or

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

(iii) utilising radiated signal.

(2) The person must verify that the difference in Mode 3/A and Mode C receiver sensitivity is not more than 1 db for any class of ATCRBS transponder or any class of Mode S transponder.

2.4 Radio frequency peak output power

(1) The person must test the radio frequency (RF) output power of the ATC transponder:

(a) to verify that it complies with the specifications for RF output power of the class of the transponder, and

(b) using a test set as described in paragraph 2.3 (1) (b).

(2) If a class 1A or 2A ATCRBS transponder is being tested, the person must verify that the minimum RF peak output power of the transponder is at least 21.0 dbw (125 watts).

(3) If a class 1B or 2B ATCRBS transponder is being tested, the person must verify that the minimum RF peak output power is at least 18.5 dbw (70 watts).

(4) If any of the following kinds of transponders are being tested, the person must verify that the minimum RF peak output power is at least 21.0 dbw (125 watts).

(a) a class 1A, 2A, 3A, or 4 ATC transponder

(b) a class 1B, 2B, and 3B Mode S ATC transponder that include the optional high RF peak output power.

(5) If a class 1B, 2B, or 3B Mode S ATC transponder is being tested, the person must verify that the minimum RF peak output power is at least 18.5 dbw (70 watts).

(6) The person must verify that the maximum RF peak output power of any class of ATCRBS transponder, or any class of Mode S ATC transponder is not more than 27.0 dbw (500 watts).

2.5 RF peak output power — additional requirements for Mode S ATC transponders

(1) This clause only applies to the testing of a Mode S ATC transponder.

Mode S diversity transmission channel isolation

(2) If the Mode S ATC transponder incorporates diversity operation, the person must verify that the RF peak output power transmitted from the selected antenna exceeds the power transmitted from the non-selected antenna by at least 20 db.

Mode S address

(3) The person must interrogate the Mode S ATC transponder:

(a) to verify that it replies only to its assigned address, and

(b) using the correct address and at least 2 incorrect addresses, and

(c) making the interrogations at a nominal rate of 50 interrogations per second.

Mode S formats

(4) The person must interrogate the Mode S ATC transponder:

(a) with uplink formats (UF) for which it is equipped and verify that the replies are made in the correct format, and

(b) using the surveillance formats UF = 4 and 5.

(5) The person must verify that:

(a) the altitude reported in the replies to UF = 4 are the same as that reported in a valid ATCRBS Mode C reply, and

(b) the identity reported in the replies to UF = 5 are the same as that reported in a valid ATCRBS Mode 3/A reply.

(6) If the transponder is so equipped, the person must use the communication formats UF = 20, 21 and 24 for the purposes of subclauses (4) and (5).

Mode S All-call interrogations

(7) The person must interrogate a Mode S ATC transponder with the Mode S-only all-call format UF = 11, and the ATCRBS/Mode S all-call formats (1.6 microsecond P4 pulse), and verify that the correct address and capability are reported in the replies downlink format (DF) DF = 11).

ATCRBS-only all-call interrogation

(8) The person must interrogate a Mode S with the ATCRBS-only all-call interrogation (0.8 microsecond P4 pulse) and the person must verify that no reply is generated.

Squitter

(9) The person must verify that the ATC transponder generates a correct squitter approximately one per second.

Note: The person must also include in the aircraft's maintenance records the information required under subsection 3.26(2) in relation to tests performed under this Schedule. See also subsection 3.28 for record keeping time periods.

Schedule 5 – Major modifications and major repairs

(MOS Dictionary definitions of major modification and major repair)

Source Appendix A to Part 43 of subchapter C of the FARs

Note: Major repairs and major modifications (other than to propellers) may only be approved for return to service by a holder of an IA.

Part 1 Major modifications

Note: The modifications listed in this Part are not the only major modifications — see definition of major modification in the MOS Dictionary.

1.1 Airframe major modifications

Modifications of the following parts and modifications of the following kinds, when not listed in the aircraft specifications issued by CASA or the certifying NAA, are airframe major modifications:

(a) wings

(b) tail surfaces

(c) fuselage

(d) engine mounts

(e) control system

(f) landing gear

(g) hull or floats

(h) elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowling, fairings, and balance weights

(i) hydraulic and electrical actuating system of aeronautical product

(j) rotor blades

(k) changes to the empty weight or empty balance which result in an increase in the maximum certificated weight or centre of gravity limits of the aircraft

(l) changes to the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, de-icing, or exhaust systems

(m) changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.

1.2 Powerplant major modifications

The following modifications of a powerplant when not listed in the engine specifications issued by CASA or the certifying NAA, are powerplant major modifications:

(a) 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

(b) changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not approved by CASA

(c) installation of an accessory which is not approved for the engine

(d) removal of aeronautical products that are listed as required equipment on the aircraft or engine specification

(e) installation of structural parts other than the type of parts approved for the installation

(f) conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications.

1.3 Propeller major modifications

The following modifications of a propeller when not authorized in the propeller specifications issued by CASA or the certifying NAA are propeller major modifications:

(a) changes in blade design

(b) changes in hub design

(c) changes in the governor or control design

(d) installation of a propeller governor or feathering system

(e) installation of propeller de-icing system

(f) installation of parts not approved for the propeller.

1.4 Aeronautical product major modifications

(1) Modifications of the basic design of an aeronautical product that is not made in accordance with recommendations of the product manufacturer or in accordance with an Airworthiness Directive are major modifications.

(2) Changes in the basic design of radio communication and navigation equipment approved under the type certification basis for the aircraft, or a Technical Standard Order that applies for the aeronautical product, 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 modifications.

1.5 Avionics major modifications

Note: Avionics major modifications are not included in Appendix A to Part 43 of subchapter C of the FARs.

The following kinds of installations and changes are avionics major modifications:

(a) installation of avionics systems that perform critical functions, other than installation of basic attitude, altitude, and airspeed instruments, or are highly integrated with complex switching interfaces with other equipment and systems

(b) installation of flight-critical electrical/electronic equipment and systems such as electronic flight controls or the engine control system, full-authority digital electronic control (FADEC), electronic engine control (EEC), or fly-by-wire

(c) installation of a radio communication or navigation system

(d) a change of radio communication or navigation equipment that requires structural modifications

(e) installation of electronic flight instrument systems (EFIS) that display primary flight information to meet regulatory operating requirements

(f) installation of autopilots (AP), flight guidance systems, automatic flight control systems (AFCS), flight directors (FD) or stability augmentation systems

(g) installation of a radar system including radar altimeter

(h) installation of ground proximity warning systems (GPWS), terrain awareness systems (TAWS), or emergency vision assurance systems (EVAS)

(i) installation of night vision goggle (NVG) lighting and night vision systems (NVS)

(j) installation of cockpit voice recording (CVR) or flight data recording (FDR) systems

(k) installation of aircraft or engine health and usage monitoring systems

Note: Examples of these systems are Engine Condition Trend Monitoring (ECTM) and Health and Usage Monitoring Systems (HUMS).

(l) installation of specialist mission equipment

Note: Examples of such equipment are Light Direction and Ranging systems (LiDAR), Laser Airborne Depth Sounder systems (LADS) and thermal imaging surveillance systems.

(m) installation of passenger address (PA) systems and in-flight entertainment (IFE) systems.

Part 2 Major repairs

Note: The repairs listed in this Part are not the only major repairs — see definition of major repair in the MOS Dictionary.

2.1 Airframe major repairs

Repairs to the following parts of an airframe and repairs of the following kinds, 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:

(a) box beams

(b) monocoque or semi monocoque wings or control surfaces

(c) wing stringers or chord members

(d) spars

(e) spar flanges

(f) members of truss-type beams

(g) thin sheet webs of beams

(h) keel and chine members of boat hulls or floats

(i) corrugated sheet compression members which act as flange material of wings or tail surfaces

(j) wing main ribs and compression members

(k) wing or tail surface brace struts

(l) engine mounts

(m) fuselage longerons

(n) members of the side truss, horizontal truss, or bulkheads

(o) main seat support braces and brackets

(p) landing gear brace struts

(q) axles

(r) wheels

(s) skis, and ski pedestals

(t) parts of the control system such as control columns, pedals, shafts, brackets, or horns

(u) repairs involving the substitution of material

(v) repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction

(w) repair of portions of skin sheets by making additional seams

(x) splicing of skin sheets

(y) repair of three or more adjacent wing or control surface ribs or the leading edge of wings and control surfaces, between such adjacent ribs

(z) repair of fabric covering involving an area greater than that required to repair two adjacent ribs

(za) replacement of fabric on fabric covered parts such as wings, fuselages, stabilizers, and control surfaces

(zb) repairing, including re-bottoming, of removable or integral fuel tanks and oil tanks.

2.2 Avionics major repairs

Note: Avionics major repairs are not included in Appendix A to Part 43 of subchapter C of the FARs.

Repairs to, or replacement of, aeronautical product of a system listed in clause 1.5 (Avionics major modifications) are avionics major repairs.

2.3 Powerplant major repairs

The following kinds of repairs are powerplant major repairs:

(a) separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger

(b) separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing

(c) special repairs to structural engine parts by welding, plating, metalizing, or other methods.

2.4 Propeller major repairs

Note: Propeller major repairs or modifications may only be carried out by an AMTC holder or an AMO.

The following kinds of repairs to a propeller are propeller major repairs:

(a) any repairs to or straightening of steel blades

(b) repairing or machining of steel hubs

(c) shortening of blades

(d) re-tipping of wood propellers

(e) replacement of outer laminations on fixed pitch wood propellers

(f) repairing elongated bolt holes in the hub of fixed pitch wood propellers

(g) inlay work on wood blades

(h) repairs to composition blades

(i) replacement of tip fabric

(j) replacement of plastic covering

(k) repair of propeller governors

(l) overhaul of controllable pitch propellers

(m) repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminium blades

(n) repair or replacement of internal elements of blades.

2.5 Aeronautical product major repairs

Repairs of the following kinds to aeronautical products are aeronautical product major repairs:

(a) calibration and repair of instruments

(b) calibration of radio equipment

(c) rewinding the field coil of an electrical accessory

(d) complete disassembly of complex hydraulic power valves

(e) overhaul of pressure type carburettors, and pressure type fuel, oil and hydraulic pumps.

Schedule 6 – Preventive maintenance and pilot maintenance

(MOS Dictionary definitions of preventive maintenance and pilot maintenance tasks)

Part 1 Preventive maintenance

A pilot may carry out preventive maintenance subject to conditions, see section 4.06 of the Part 43 MOS.

Note: The tasks listed in this Part are not the only preventive maintenance tasks — see definition of preventive maintenance in the MOS Dictionary.

The following tasks are preventive maintenance, provided the task does not involve complex assembly operations:

(a) removal, installation, and repair of landing gear tires and tubes

(b) replacing elastic shock absorber cords on landing gear

(c) servicing landing gear shock struts by adding oil, air, or both

(d) servicing landing gear wheel bearings, such as cleaning and greasing

(e) replacing defective safety wiring or cotter keys

(f) lubrication not requiring disassembly other than removal of non-structural items such as cover plates, cowlings, and fairings

(g) 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

(h) replenishing hydraulic fluid in the hydraulic reservoir

(i) 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

(j) applying preservative or protective material to aeronautical product 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

(k) making small simple repairs to fairings, non-structural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper air flow

(l) replacing side windows in an unpressurised aircraft where that work does not interfere with the structure or any operating system such as controls and electrical equipment

(m) replacing safety belts and harnesses

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

(o) trouble shooting and repairing broken circuits in landing light wiring circuits

(p) replacing bulbs, reflectors, and lenses of position and landing lights

(q) replacing wheels and skis where no weight and balance computation is involved

(r) replacing any cowling not requiring removal of the propeller or disconnection of flight controls

(s) replacing or cleaning spark plugs and setting of spark plug gap clearance

(t) replacing any hose connection except hydraulic connections

(u) replacing prefabricated fuel lines

(v) cleaning or replacing fuel and oil strainers or filter elements

(w) replacing and servicing batteries

(x) replacing or adjusting non-structural standard fasteners incidental to operations

(y) the installations of anti-misfuelling devices to reduce the diameter of fuel tank filler openings provided:

(i) the device is included in the type certificate data sheet for the aircraft, and

(ii) the aircraft manufacturer has provided instructions for installation of the device, and

(iii) installation does not involve the disassembly of the existing tank filler opening

(z) removing, checking, and replacing magnetic chip detectors

(za) inspection and maintenance tasks to be carried out in relation to a primary or intermediate category aircraft that are prescribed in any special inspection and preventive maintenance program approved as part of the aircraft's type design or supplemental type design, provided:

(i) they are performed by a person who is the registered operator of the aircraft and holds a pilot licence, other than a recreational pilot licence, under which the person may fly the aircraft, 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

(zb) 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)

(zc) performing an operational ground check or flight check of each device mentioned in paragraph (zb) that is installed on the aircraft.

Note: These devices are designed to be readily and repeatedly removed and replaced, and instructions for their removal and replacement are provided by the manufacturer of the aircraft in the Instructions for Continuing Airworthiness.

(zd) removing and replacing optional dual controls in an aircraft without the use of any tools for the purpose of transitioning the aircraft from single to dual, or dual to single, pilot operation

(ze) carrying out of an inspection under section 3.12 of a flight control system that has been assembled, adjusted, repaired, modified or replaced

(zf) changing and replenishing engine oil

(zg) performing inspections or checks mentioned in any of the following documents if the document states that the maintenance may be carried out by the pilot of the aircraft and the maintenance does not require the use of any tools or equipment:

(i) the instructions for continuing airworthiness issued by the aircraft manufacturer

(ii) the aircraft's flight manual or an equivalent document

(iii) if there is a foreign type certificate for the aircraft, any instructions issued by the NAA that issued the foreign type certificate, and if there is a type certificate for the aircraft, any instructions issued by CASA

(zh) removal or refitting of a door, only if:

(i) no disassembly of the primary structure or operating system of the aircraft is involved, and

(ii) if the aircraft is to be operated with the door removed — the aircraft has a flight manual that indicates that the aircraft may be operated with the door removed.

Part 2 Pilot maintenance (MOS 4.06)

The following maintenance tasks are pilot maintenance tasks that may be performed by a pilot in accordance with subsection 4.06 (2):

(a) turbine engine compressor wash/rinse

(b) PWC PT6 compressor turbine wash

(c) Bell 206 series weekly inspection

(d) Robinson R22 and R44 50-hour inspections

(e) removal and installation of role equipment

(f) replenish of oxygen systems

(g) replace windshield wiper blades

(h) wipline float 25/50-hour inspection

(i) fire extinguisher reweigh

(j) ELT self-test

(k) any other maintenance task approved by CASA.

Performing engine overhaul (MOS 4.03)

Turbine engine overhaul (MOS 4.03)

Turbine engines and accessories essential to the operation of the engine may only be overhauled by:

› the manufacturer of the engine (MOS 4.0, 4.12)

› a part 145 AMO that is approved to carry out the maintenance (MOS 3.34, 4.12).

The modification must be carried out using manufacturers instructions and any special tools, jigs and testing apparatus specified in the manufacturer's instructions (MOS 4.04).

Performance of the overhaul (MOS 4.03)

Overhaul records (MOS 4.14)

The organisation approving an overhauled turbine engine for return to service must include the following information in the maintenance record for the engine:

(a) a statement that the engine has been overhauled

(b) the date of completion of the overhaul

(c) the total time-in-service of the engine at the start of the overhaul

(d) details of any airworthiness directives that have been carried out

(e) details of the overhaul instructions that were followed

(f) details of any new or used replacement parts (by part number and serial number if applicable)

(g) any service bulletins, service letters and service instructions that were followed in the overhaul

(h) details of engine test stand and measuring equipment used in the overhaul

(i) details of the engine test results

(j) the signature, ARN and kind of licence or certificate held by the person.

Note: The signature of the person approving the engine overhaul constitutes the approval for return to service of the aircraft in relation to the engine overhaul. MOS 4.12 sets out who may approve an overhauled engine for return to service.

Piston engine overhauls (MOS 4.03)

Piston engine overhauls may be carried out by:

MOS 4.03, 4.04, 4.11, 4.12 and 4.13 refer

- the manufacturer of the engine
- a Part 145 AMO that is approved to carry out the maintenance
- a CAR 30 organisation that is approved to carry out the maintenance
- a holder of an AMTC that permits the maintenance
- a B1 LAME who:
  - has been trained in the overhaul procedures
  - has previously carried out an overhaul of an engine of the same kind
  - has satisfactorily carried out at least one overhaul of the kind of engine under the supervision of a person who is permitted under Part 43 to certify for completion of the overhaul.

Performance of the overhaul (MOS 4.04)

When carrying out an overhaul you must use:

- any methods, techniques and practices specified in the manufacturer's maintenance instructions for the maintenance task, or
- other methods, techniques and practices that you reasonably consider to be consistent with accepted industry methods, techniques and practices for the carrying out the overhaul
- any tool (including test equipment) required by the manufacturer's maintenance instructions for the task, or
  - if a tool required by the manufacturer's maintenance instructions is not reasonably available — a tool the use of which would provide an equivalent maintenance outcome.

You must carry out the maintenance in a way, and use materials of a quality, so that the condition of the aircraft or aeronautical product following the maintenance is at least equal to that of its original or previously modified condition, having regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting the airworthiness of the aircraft.

Note: It is an offence for a person to carry out maintenance that is unsafe (MOS 4.04(7)).

Overhaul records (MOS 4.14)

When you approve an overhauled piston engine for return to service you must include the following information in the maintenance record for the engine:

(a) a statement that the engine has been overhauled

(b) the date of completion of the overhaul

(c) the total time-in-service of the engine at the start of the overhaul

(d) details of any airworthiness directives that have been carried out

(e) details of the overhaul instructions that were followed

(f) details of any new or used replacement parts (by part number and serial number if applicable)

(g) any service bulletins, service letters and service instructions that were followed in the overhaul

(h) details of engine test stand and measuring equipment used in the overhaul

(i) details of the engine test results

(j) the signature, ARN and kind of licence or certificate held by the person.

Note: The signature of the person approving the engine overhaul constitutes the approval for return to service of the aircraft in relation to the engine overhaul. MOS section 4.12 sets out who may approve an overhauled engine for return to service.

APPENDIX 3 – CASRS, CARS, CAOS NO LONGER APPLICABLE

(Please describe or provide a link to a webpage)

- CAR
  - Parts 4A to 4D
  - regulations 229
  - regulation 230
  - regulation 262APA
- CAO 95, all orders
- CAO 100, all orders
- CAO 108, all orders.

APPENDIX 4 – DICTIONARY

Capture all definitions in CASRs, MOSs, Parts which apply to Part 43 and state the sources for definitions

Accepted industry practice

accessory has the dictionary meaning: "a subordinate part or object; something added or attached for convenience, attractiveness, etc".

administering authority, for a limited category aircraft, has the meaning given by regulation 132.010 of CASR.

Aeronautical product means any part or material that is, or is intended by its manufacturer to be, a part of or used in an aircraft, unless excluded by the regulations.

aircraft refers to aeroplanes and helicopters.

Aircraft maintenance technician certificate (AMTC) means an individual who holds an AMTC that is in force.

Airworthiness limitation (AWL) means a maintenance requirement listed in the aircraft maintenance manual specifying a mandatory replacement time, structural inspection interval, and related structural inspection procedure. AWLs must be approved by the certifying authority and compliance with AWLs is mandatory.

Airworthy means an aircraft conforms to its type certificate as properly altered, complies with all mandatory maintenance requirements and is in a condition for safe operation.

Alteration has the same meaning as modification.

Amateur-built aircraft means an aircraft described in paragraph 21.191(g) of CASR.

annual condition inspection, for an LSA or experimental aircraft, means an inspection of the aircraft to determine if it is airworthy that is performed:

(a) annually, in accordance with section 3.15 of the MOS, and

(b) in accordance with:

  (i) the version of the aircraft manufacturer's inspection schedule that applies to the aircraft under MOS section 4.17, or

  (ii) if no manufacturer's inspection procedures exist — using a checklist based on schedule 1, that ensures the inspection is conducted in accordance with each item of the schedule that applies to the particular aircraft and an annual inspection.

annual inspection, for an aircraft, means an inspection of the aircraft to determine if it is airworthy that is performed:

(a) annually, in accordance with MOS section 3.04; and

(b) in accordance with the requirements of MOS section 4.18 for annual inspections.

appliance means an aeronautical product.

approval refers to an approval provided in writing by CASA under Part 21, Part 43 or Part 145.

Approved data for a Part 43 aircraft means AWLs, ADs, the TCDS and data approved as part of a modification or repair design approval under Part 21 of CASR. If the RO is using an inspection or maintenance program that incorporates a manufacturers ICAs, *"approved data"* also includes the manufacturers recommended maintenance schedule/program.

Approved inspection program

Approved Maintenance Organisation (AMO) means a Part 145 approved maintenance organisation

Authorisation means an authorisation under this Act or the regulations to undertake a particular activity (whether the authorisation is called an AOC, permission, authority, licence, certificate, rating or endorsement or is known by some other name).

CASA issued authorisation

Authorised Person for a provision of CASR in which the expression occurs, means a person who is appointed under regulation 201.001 to be an authorised person for these regulations or the provision.

B1 LAME B1 LAME means a category B1 licence holder as defined in regulation 66.010 of CASR.

B2 LAME B2 LAME means a category B2 licence holder as defined in regulation 66.010 of CASR.

CASA Basics examination FF means the core subject examination "Power fluid systems" mentioned in Table 1 — Examinations for category engines, of CASA instrument number 203/14 *Specification — examinations for aircraft maintenance engineer licence category engines*, as it is in force at the time this instrument commences.

CASA Basics examinations GA and GB means the following core subject examinations mentioned in Table 1 — Examinations for category engines, of CASA instrument number 203/14 *Specification — examinations for aircraft maintenance engineer licence category engines*, as it is in force at the time this instrument commences:

- "Piston engine theory and construction" with the code "GA"; and
- "Piston engine systems" with the code "GB".

CASA Basics examinations GG and GH means the following core subject examinations mentioned in Table 1 — Examinations for category engines, of CASA instrument number 203/14 *Specification — examinations for aircraft maintenance engineer licence category engines*, as it is in force at the time this instrument commences:

- "Gas turbine engine theory and construction" with the code "GG"; and
- "Gas turbine engine systems" with the code 'GH".

CASA Maintenance Organisation Approval

category B1 licence: see Part 3 of the CASR Dictionary.

category B2 licence: see Part 3 of the CASR Dictionary.

certifying for maintenance means making a certification in the maintenance records for an aircraft indicating that specified maintenance carried out on the aircraft, or aeronautical product for the aircraft, complies with:

- the manufacturer's maintenance instructions for the maintenance; and
- any applicable airworthiness directive.

competency units MEA 308 means the competency units MEA 308 (Remove and install rotary wing rotor and flight control system aeronautical product) mentioned in Appendix IV to the Part 66 MOS.

E3 exclusion means an E3 (Excluding powerplant systems) aircraft system exclusion under the Part 66 MOS.

Aeronautical product 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.

Part 43 regulation and MOS use the term aeronautical product, for the guide we use the more familiar component which is interchangeable with aeronautical product.

Certificate for release into service

Condition inspection means annual inspection of a Light Sport Aircraft, an aircraft with a Special, Experimental or Limited Certificate of Airworthiness and amateur built aircraft.

Current when used regarding instructions for continuing airworthiness, has the dictionary meaning: "belonging to the time actually passing" or "of the time", defects are any fault or imperfection in an aircraft or aeronautical product that is not within design tolerances. Defects may be the result of manufacturing fault, wear, misuse, maintenance errors or accidental damage.

This is good to know

When discussing aircraft manufacturers' recommended inspection and retirement intervals, current means the intervals that that were in force at the time of manufacture of the aircraft or component unless stated otherwise in a regulation or AD. When discussing manufacturers' instructions for doing a maintenance action, it means the instructions in force at the time of doing the work.

deferable defect means a defect any defective or damaged instrument or aeronautical product that is fitted to the aircraft and is not required by the certification basis for the aircraft, or by the regulations or the MOS for the operation of the aircraft for a flight and are permitted to be inoperative until later rectified.

equipment means any reference to equipment being required, fitted, carried or accessible means – equipment which is operative or serviceable.

experimental light sport aircraft or **experimental LSA** means aircraft for which an experimental certificate has been issued for a purpose mentioned in paragraph 21.191 (j) or (k) of CASR.

Exposition means the approved exposition of a Part 145 maintenance organisation.

General aviation (GA) is a generic term meaning private, aerial work and charter operations. In the context of Part 43 discussion, it refers to aircraft engaged in private and aerial work only.

Helicopter A helicopter is a heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power driven rotors.

Inspection schedule

Inspection Authorisation (IA) means an avionics or mechanical IA.

Instruction for Continuing Airworthiness (ICA) ICAs are written instructions, as in force from time to time, that specify requirements, procedures, and standards for the continuing airworthiness of the aircraft or aeronautical product and are issued by certain specified persons.

Licensed aircraft maintenance engineer (LAME) means an individual who holds an aircraft engineer licence that is in force.

large aircraft or **large aeroplanes** means aircraft of more than 12,500 pounds (5700kg), maximum certificated take-off weight.

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

Light sport aircraft means an aeroplane, sailplane or balloon for which a special certificate under regulation 21.186 of CASR is in force.

Limited category aircraft means an aircraft for which a special certificate is in force for a special; purpose operation under regulation 21.189 of VCASR.

Limited category organisation means a self-administering organisation approved by CASA to administer operations and maintenance of limited category aircraft.

Maintainer is any person carrying out maintenance on an aircraft or aeronautical product.

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

maintenance records, for an aircraft, means the records relating to maintenance of the aircraft or aeronautical products for the aircraft that the Part 43 MOS requires the registered operator to keep.

Maintenance schedule means a document that sets out maintenance actions to be carried out on an aircraft, engine or aeronautical product and when they are to be carried out. Maintenance schedules are not required under Part 43, however if an aircraft has an approved maintenance schedule, it can be used under Part 43 in place of an inspection schedule.

major defect means:

- in relation to a aeronautical product that is not fitted to an aircraft — a defect of such a kind that the aeronautical product, if fitted to an aircraft, may affect the safety of the aircraft or cause the aircraft to become a danger to persons or property, and
- in relation to an aircraft — a defect of such a kind that it may affect the safety of the aircraft or cause the aircraft to become a danger to persons or property.
- major modification means a modification, including any major modification mentioned in Part 1 of Schedule 5, that:
- is not listed in the type certificate or foreign type certificate for the aircraft, aircraft engine or aircraft propeller; and either:
  - might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting the airworthiness of the aircraft, or
  - is not done according to accepted industry practices or cannot be done by every-day maintenance practices.

Note: This definition is based on the definition of major alteration in FARs section 1.1. For a non-exhaustive list of major modifications — see MOS Schedule 5.

major repair means a repair or replacement, including any major repair or replacement mentioned in Part 2 of Schedule 5, that:

- if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting the airworthiness of the aircraft, or
- is not done according to accepted repair practices or cannot be done by elementary operations.

Note: This definition is based on the definition of major repair in FARs section 1.1.

Maintenance certification means a certification for completion of maintenance that is made by the person approving the aircraft or aeronautical product for return to service. The maintenance certification must contain:

- a description of the maintenance carried out
- the date of completion of the maintenance carried out
- particulars of each person who carried out the maintenance, including their ARN (if any)
- the signature, ARN and kind of licence or certificate held by the person certifying the maintenance carried out.

MOS (Manual of Standards) refers to the Part 43 MOS unless otherwise specified.

may indicates an option in the context of the requirement.

Mechanical Independent Authorisation means an inspection authorisation granted under section X of Part 43 of CASR.

Methods techniques and practices (MTP) means the instructions for carrying out maintenance provided by the manufacturer of an aircraft or aeronautical product. MTPs will state what is to be done, the sequence of doing something and any special maintenance processes, tests or tools required.

Minor modification means a modification other than a major modification.

Minor repair means a repair other than a major repair.

Modification is any change to the approved configuration, equipment fit or structure of an aircraft or one of its aeronautical product.

must indicates an obligation or necessity (i.e. a mandatory requirement).

operational check flight means a flight that:

› is conducted to determine if, after maintenance has been carried out on the aircraft, the flight characteristics of the aircraft are satisfactory, and

› is made by a person who has a pilot licence, other than a recreational pilot licence, and

› carries only required crew members.

Part unless otherwise specified refers to a Part of the CASR.

Part 43 aircraft means an aircraft that is subject to Part 43.

Part 66 MOS Part 66 Manual of Standards means the Manual of Standards issued by CASA under regulation 66.015. It applies to all personnel seeking an aircraft engineer licence or licence rating. It sets out requirements for the application for, the granting of, and the appropriate use of aircraft maintenance engineer licences and ratings.

pilot refers to a flight crew licence holder.

Pilot licence has the meaning given in regulation 61.010 of CASR.

Pilot maintenance is maintenance listed in Part 2 of Schedule 6 of the Part 43 MOS and may only be carried a pilot who is employed by a registered operator of an aircraft and has authorised the pilot in writing to carry out the maintenance.

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.

Progressive inspection schedule See Schedule 1.

Recreational pilot licence means a licence mentioned in regulation 61.010 of CASR.

Registered Operator (RO) has the meaning given by regulation 47.100.

Regulation/regulations in general, this refers to the Australian civil aviation legislation.

Specific reference is made to the Federal Aviation Authority (FAA) (United States of America), and European Aviation Safety Agency (EASA) (European Union) regulations where necessary.

Repair is a maintenance action to correct a defect or make good damage to an aircraft or one of its aeronautical product.

Scheduled inspection See Schedule 1.

Scheduled maintenance means preventative maintenance that is performed at regular intervals. This type of maintenance generally includes 100-hour inspections, annual inspections, and progressive inspections as well as pre-flight checks to ensure the aircraft is airworthy and ready to be flown.

Small aircraft or aeroplane means aircraft of 12,500 pounds (5700kG) or less maximum certificated take-off weight.

Supervision means 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.

Task familiarisation requirements means familiarity with a maintenance task that is not a basic privilege of a licence, and LAME must:

› have previously performed the task

› be trained in the performance of the task,

or satisfactorily perform the task under supervision of a person who is permitted to certify for completion of the task.

Transport category aircraft means an aircraft for which a type certificate is in force in the transport category (e.g. an aeroplane certified under Part 25 of CASR or a helicopter certified under Part 29 of CASR).

regardless of type certification basis, an aircraft for which a special certificate of airworthiness is in force, is not a transport category aircraft.

Type certificate data sheet (TCDS) includes general information about the design such as dimensions, wing loading, limiting airspeeds and required placards and markings, control surface travel, engine installations and, where applicable, approved engine/propeller combinations. In practice, the 'datasheet' is more likely to be a lengthy document or an electric file.

Total Time in Service (TTIS) the accumulated time the aircraft has flown from manufacture. For each flight, the time-in-service (TIS) is 'the time between when the aircraft takes off on a flight and lands at the end of the flight'.

Unairworthy means the aircraft does not meet the applicable type certificate data, airworthiness directives, AWLs or other approved data upon which its airworthiness depends and/or is not fit for the intended flight.

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