# Proposed modular licensing framework for aircraft maintenance engineers - (CD 2309MS)

# Overview

We are seeking your input on proposed changes to the Part 66 Manual of Standards (MOS) that would allow us to introduce ‘modular’ licensing for aircraft engineers.

This is designed to help address the shortage of licensed aircraft maintenance engineers (LAMEs) by making it easier for people to obtain a licence or return to the profession after a long absence. It will also assist foreign licence holders seeking a qualification to work in Australia.

Feedback from the industry was that the Part 66 AME licence pathways were too inflexible compared to the previous CAR 31 five-category process and we should develop a progressive, modular licensing structure.

We propose to introduce the modular system in two phases as part of our [General Aviation Workplan](https://www.casa.gov.au/resources-and-education/publications-and-resources/corporate-publications/general-aviation-workplan).

This consultation is about the first stage.

## **Stage 1**

In stage 1, we propose to amend the Part 66 MOS by the end of 2023 to enable Category B1 (mechanical) and B2 (avionics) licences to be issued with exclusions.

This will allow us to issue licences in modules (similar to the old CAR 31 system) and exclude only certain aircraft systems, based on an applicant’s training.

For example, a person who has only completed basic training (knowledge modules and practical experience) for piston engines could be granted a modular licence to work on piston engines. But the exclusions applied to the licence would mean they couldn’t work on airframes or other aircraft systems without completing the relevant basic training modules and experience.

We will also be able to issue licences with specific exclusions so that a person who has completed all the training for a licence, except for certain aircraft systems, could be issued a licence with those specific exclusions, such as air conditioning or pressurisation systems.

Stage 1 will allow people to get a licence to do certain things sooner than they would be able to if they had to complete the full licence.

To learn more about the proposal and how it will work, read the Summary of proposed change and information sheet. The links are at the bottom of this page.

## **Stage 2**

The second stage will expand exclusion removal options and allow exclusions to be removed by CASA’s self-study training and examination pathway (noting that under the current regulations exclusions may only be removed via the Part 147 approved Maintenance Training Organisation pathway).

People with modular licences or licences with specific exclusions, will be able to expand the scope of their licence by completing the relevant basic training modules and experience, to remove the exclusions according to their career pathway or employer’s needs.

Expansion of exclusion removal pathways to include CASA self-study will mean people in regional areas, where it can be more challenging to access a maintenance training organisation, will have more options.

We will seek input on Stage 2 next year.

**Previous consultations**

In December 2022 we published a [Discussion paper on Part 66 modular licensing framework for aircraft maintenance engineers (DP 2218MS)](https://consultation.casa.gov.au/regulatory-program/dp-2218ms/). Feedback from this consultation has been used to shape this proposal.

We have also been working with the [Part 66 Technical Working Group (TWG)](https://www.casa.gov.au/about-us/who-we-work/aviation-safety-advisory-panel/technical-working-groups/part-66-technical-working-group) on the technical details of the proposed modular licensing structure.

# Why your views matter

Your feedback will help us to finalise the first stage of the modular licensing framework and implement it before the end of this year.

Please submit your comments using the survey link on this page.

If you are unable to provide feedback via the survey link, please email regulatoryconsultation@casa.gov.au for advice.

## **Documents for review**

The Related section at the bottom of this page contains all the documents for this consultation. They are:

* Summary of proposed change on CD 2309MS, which provides background on the proposed standards
* Consultation draft - Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)
* Compilation - Part 66 Manual of Standards (MOS) (as amended)
* Draft information sheet – How the proposed modular licence will work
* MS Word copy of online consultation for ease of distribution and feedback within your organisation.

**What happens next**

At the end of the response period, we will:

* review all comments received
* make responses publicly available on the consultation hub (unless you request your submission remain confidential)
* publish a Summary of Consultation which summarises the feedback received and outlines any intended changes and next steps.

Feedback that improves on the proposal will be incorporated.

**Post-implementation review**

We will monitor and review the new policies in practice on an ongoing basis.

## Give Us Your Views

# [Appears on the overview page at the bottom]

Online Survey

[This link is on the front page of the survey and takes you to the survey questions]

**Related**

[This section is at the bottom of the front page and contains all the links to other sites and documents related to this consultation]

**Related Documents**

List of documents attached to the consultation

* Summary of proposed change on CD 2309MS
* Consultation draft - Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)
* Compilation - Part 66 Manual of Standards (MOS) (as amended)
* Draft information sheet – How the proposed modular licence will work
* MS Word copy of consultation on Proposed modular licensing framework for aircraft maintenance engineers - (CD 2309MS)

## Audience and interest groups

**Audience**

* CASA staff
* Part 147 of CASR Maintenance training organisations (MTO)
* Part 145 of CASR approved maintenance organisations (AMO)
* Regulation 30 of CAR maintenance organisations (CAR 30)
* Licensed aircraft maintenance engineers (LAME)
* Aircraft maintenance engineers and trainees (AME)
* Training organisation representatives

**Interest**

* Continuing Airworthiness/maintenance
* Private operations
* Aircraft engineer licensing
* Maintenance training

# Page. Consultation Contents

This consultation seeks feedback on the proposed options for a Part 66 modular licensing framework for aircraft maintenance engineers (CD 2309 MS).

It has been designed to give you the option to provide feedback on the survey in its entirety or to provide feedback on the policy topics applicable to you.

When you have completed the sections on which you wish to provide feedback, select the **‘Finish’** button at the bottom right of this page.

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| 3 | Key changes |
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# Page 1. Personal information

## First name

(Required)

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## Last name

(Required)

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## Email address

If you enter your email address, you will automatically receive an acknowledgement email when you submit your response.

Email

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## Do your views officially represent those of an organisation?

## (Required)

Please select only one item

[ ]  Yes, I am authorised to submit feedback on behalf of an organisation

[ ]  No, these are my personal views.

If yes, please specify the name of your organisation.

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Which of the following best describes the group you represent?

## (Required)

Please select all that apply

[ ]  Aircraft owner/operator

[ ]  Aircraft maintenance engineer/trainee

[ ]  Licensed aircraft maintenance engineer

[ ]  CAR 30/Part 145 approval holder

[ ]  Maintenance training provider

[ ]  Other

Please specify ‘Other’ if selected.

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# Page 2. Consent to publish your submission

To provide transparency and promote debate, we intend to publish all responses to this consultation. This may include both detailed responses/submissions in full and aggregated data drawn from the responses received.

Where you consent to publication, we will include:

* **your last name** if the submission is made by you as an individual
* **the name of the organisation** on whose behalf the submission has been made
* **your responses** and comments

We **will not** include any other personal or demographic information in a published response

Do you give permission for your response to be published?

*(Required)*

*Please select only one item*

[ ]  Yes - I give permission for my response/submission to be published.

[ ]  No - I would like my response/submission to remain confidential but understand that de-identified aggregate data may be published.

[ ]  I am a CASA officer.

Information about how we consult and how to make a confidential submission is available on our [website](https://www.casa.gov.au/rules/changing-rules/consultation-industry-and-public)<https://www.casa.gov.au/rules/changing-rules/consultation-industry-and-public>.

# Page 3. Key changes

The key changes proposed are:

## **Introduction of licence modules**

The Part 66 Manual of Standards (MOS) will provide for grant of Category B1 and Category B2 licences in subsets of airframes, powerplants, electrical, instruments and radio.

## **Use of the exclusions framework to allow earlier licence eligibility**

To provide for initial licences to be attained sooner with less effort than currently required for a full category licence, CASA will use exclusions to allow issuing of a licence with partial privileges (limitations).

## **Basic knowledge requirements tailored to each modular outcome**

Part 66 examination topics will be specific to each modular outcome. This will result in a reduction of examination numbers for each basic knowledge module; however, examination standards will not be varied and at completion of all B1 or B2 knowledge examinations via the modular method, all relevant examinations will have been completed towards a B1 or B2 licence.

## **Basic experience requirements tailored to each modular outcome**

For applicants who have not undertaken any formal technical training the following provisions would apply.

The current minimum experience requirement of 5 years for grant of a B1.1 or B1.3 licence would be reduced to:

* 2 years for a Category B1.1 or B1.3 airframe only licence
* 3 years for a Category B1.1 or B1.3 airframe and powerplant licence.

Minimum experience requirement of 3 years for grant of a B1.2 or B1.4 licence would be reduced to:

* 2 years for a Category B1.2 or B1.4 airframe only licence
* 3 years for a Category B1.2 or B1.4 airframe and powerplant licence.

Minimum experience requirement of 5 years for grant of a B2 licence would be reduced to:

* 2 years for the first Category B2 modular licence
* one year for each additional Category B2 modular outcome.

**Fact bank:** Example of Minimum experience requirements for grant of a B2 licence

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| The first modular licence, for example, a B2 Electrical systems licence, requires 2 years relevant electrical practical maintenance experience. If the LAME then wishes to add B2 Instrument systems to the licence, it will require another year of practical maintenance experience on instrument systems. The total experience now being 3 years. |

## **Modular licences will be available via self-study or maintenance training organisation (MTO) provisions**

Modular licences will be based on the self-study pathway provisions and we have made provision for MTOs to train to either modular licence or full licence outcomes.

Please provide any comments you may have on the key changes proposed.

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# Page 4. Policy 1– Proposed modular structure

## **Policy - Part 66 of the Civil Aviation Safety Regulations 1998 (CASR) licences will be available in modular form**

Fact bank: Proposal for modular licences

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| The proposal is for a licence structure comprising:* subsets of B1, based on existing Part 66 basic knowledge modules and associated practical experience requirements (a B1 modular licence)
* subsets of B2, introducing electrical systems, instrument systems and radio systems subsets using existing Part 66 basic knowledge modules and associated practical experience requirements (a B2 modular licence).

Basic knowledge and practical experience requirements would be relevant and proportional to the scope of each subset. The modular structure would be supplemental to the existing licence pathways. |

Please provide any comments you may have on the proposed policy for the modular licences.

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## **Policy -** **Proposed structure of Part 66 of CASR subsets**

Fact bank: Introduction of subsets structure

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| The Part 66 Manual of Standards (MOS) will provide for grant of Category B1 and Category B2 licences in the following subsets (modular licences):Category B1 (Mechanical)* Airframes
	+ aeroplane
	+ rotorcraft
* Powerplants
	+ turbine
	+ piston
* Add-on extensions for propellers and electrical/instrument systems.

Category B2 (Avionics)* Electrical systems
* Instrument systems
* Radio systems.
 |

Please provide any comments you may have on the proposed structure for the subsets (modular licences).

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## **Policy - Use of exclusions framework to allow earlier licence eligibility**

CASA will use exclusions to allow licences to be issued with partial privileges (limitations). This will enable initial licences to be attained sooner, with less effort than currently required for a full category licence.

Please provide any comments you may have on the proposal to use the exclusions framework to allow accelerated implementation.

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## **Policy - Proposed examinations to be specific to each subset**

CASA will determine which knowledge modules will be required for each subset. This will apply to the basic knowledge examinations. As a result, the candidate will need to complete fewer modules than for the full licence.

Note: the modules are the same modules as the full licence and there is no variation to knowledge standards.

Please provide any comments you may have on the proposal for examinations to be specific to each subset (modular licence).

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## **Policy - Basic experience requirements to be tailored to the modular outcomes**

An ‘initial’ Category B1 ‘airframe only’ (modular) licence, or B1 ‘powerplant only’ (modular) licence, will be available when an applicant attains 2 years relevant maintenance experience.

An additional licence module could then be added to the scope of the initial licence with a further 1 year of relevant maintenance experience.

Please provide any comments you may have on the proposal for tailored experience requirements.

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## **Policy - Proposal for modular outcomes to be initially available via the self-study training and examination pathway**

Modular licences will be based on either self-study provisions or via maintenance training organisations (MTO). The amendment will provide for MTOs to train to either modular licence or full licence outcomes.

Please provide any comments you may have on the proposal for subsets (modular licences) to be available via the self-study pathway and MTOs.

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# Page 5. Policy 2 – Examination requirements tailored to each module

## **Proposed B1 basic knowledge requirements**

Table 1 sets out the proposed basic knowledge module requirements applicable to each B1 subset (modular licence).

**Fact bank:** Table 1 – Proposed B1 subset basic knowledge requirements

Table 1 – Proposed B1 subsets (modular licences) basic knowledge modules

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subject Modules | B1.1, B1.2Aeroplane(airframe) | B1.3, B1.4Helicopter(Airframe) | B1.2, B1.4 Powerplant(Piston) | B1.1, B1.3Powerplant(Turbine)  | Electrical/Instrument extension  |
| 1. Mathematics | **X** | **X** | **X** | **X** |  |
| 2. Physics | **X** | **X** | **X** | **X** |  |
| 3. Electrical fundamentals  |  |  |  |  | **X** |
| 4. Electronic fundamentals |  |  |  |  | **X** |
| 5. Digital techniques electronic instrument systems |  |  |  |  | **X** |
| 6. Materials and hardware | **X** | **X** | **X** | **X** |  |
| 7. Maintenance practices | **X** | **X** | **X** | **X** |  |
| 8. Basic aerodynamics | **X** | **X** |  |  |  |
| 9. Human factors | **X** | **X** | **X** | **X** |  |
| 10. Aviation legislation | **X** | **X** | **X** | **X** |  |
| 11A. Turbine aeroplane aerodynamics, structures and systems | **X**(Note 1) |  |  |  |  |
| 11B. Piston aeroplane aerodynamics, structures, and systems | **X**(Note 1) |  |  |  |  |
| 12. Helicopter aerodynamics, structures, and systems |  | **X** |  |  |  |
| 13. Aircraft structures and systems |  |  |  |  |  |
| 14. Propulsion — avionic systems |  |  |  |  |  |
| 15. Gas turbine engines |  |  |  | **X** |  |
| 16. Piston engines |  |  | **X** |  |  |
| 17A. Propeller |  |  | **X**(B1.2 only) | **X**(Turbopropeller only) |  |
| Total Modules | 8 | 8 | 7 | 7 | 3 |

Legend: X= required.

Note 1: Module 11A would be required for maintenance of turbine powered aeroplanes. Module 11B would be required for maintenance of piston powered aeroplanes.

Please provide any comments you may have on the proposed B1 subset (modular licence) knowledge requirements.

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## **Proposed B2 basic knowledge requirements**

Table 2 sets out the proposed basic knowledge module requirements applicable to each B2 subset (modular licence).

Fact bank: Table 2 – Proposed B2 subset basic knowledge requirements

Table 2 – Proposed B2 subsets (modular licences) basic knowledge modules

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| --- | --- | --- | --- |
| Subject Modules | Electrical system | Instrument systems  | Radio systems |
| 1. Mathematics | **X** | **X** | **X** |
| 2. Physics | **X** | **X** | **X** |
| 3. Electrical fundamentals  | **X** | **X** | **X** |
| 4. Electronic fundamentals | **X** | **X** | **X** |
| 5. Digital techniques electronic instrument systems | **X** | **X** | **X** |
| 6. Materials and hardware | **X** | **X** | **X** |
| 7. Maintenance practices | **X** | **X** | **X** |
| 8. Basic aerodynamics | **X** | **X** | **X** |
| 9. Human factors | **X** | **X** | **X** |
| 10. Aviation legislation | **X** | **X** | **X** |
| Topic 13.1Theory of flight | **X** | **X** | **X** |
| Topic 13.2Structures-general concepts | **X** | **X** | **X** |
| Topic 13.3Autopilots (ATA22) |  | **X** |  |
| Topic 13.4Communication and navigation (ATA23/34) |  | **X** | **X** |
| Topic 13.5Electric power (ATA24) | **X** |  |  |
| Topic 13.6Equipment and furnishings (ATA25) | **X** |  |  |
| Topic 13.7Flight controls (ATA27) | **X** | **X** |  |
| Topic 13.8Instruments (ATA31) |  | **X** |  |
| Topic 13.9Lights (ATA33) | **X** |  |  |
| Topic 13.10On-board maintenance systems (ATA45) | **X** |  |  |
| Topic 13.11Air-conditioning and cabin pressurisation (ATA21) | **X** |  |  |
| Topic 13.12 Fire protection (ATA26) | **X** |  |  |
| Topic 13.13Fuel systems(ATA28) | **X** |  |  |
| Topic 13.14Hydraulic power(ATA29) | **X** |  |  |
| Topic 13.15 Ice and rain protection (ATA30) | **X** |  |  |
| Topic 13.16 Landing gear (ATA37) | **X** |  |  |
| Topic 13.17 Oxygen (ATA35) |  | **X** |  |
| Topic 13.18 Pneumatic/vacuum (ATA36) | **X** |  |  |
| Topic 13.19 Water/waste (ATA 38) | **X** |  |  |
| Topic 13.20 Integrated modular avionics (ATA42) |  | **X** | **X** |
| Topic 13.21 Cabin systems (ATA44) |  | **X** | **X** |
| Topic 13.22 Information systems (ATA46) |  | **X** | **X** |
| 14. Propulsion ⎯ avionic systems |  | **X** |  |

Please provide any comments you may have on the proposed B2 subset (modular licence) knowledge requirements.

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# Page 6. Policy 3 – Requirements to expand on initial modular licence

## **Proposed additional experience to expand B1 modular licence**

The basic experience requirement for an initial modular licence is 2 years.

Table 3 sets out the requirements to expand on the initial modular licence.

**Fact bank:** Table 3 – Proposed additional experience to expand B1 modular licence

Table 3 – Proposed additional experience to expand B1 modular licence

| ToFrom | B1.1, B1.2 Aeroplane (Airframe)  | B1.3, B1.4 Helicopters(Airframe) | B1.1, B1.3 Powerplant (Turbine) | B1.2, B1.4 Powerplant(Piston) | B1 Propeller Extension | B1 Electrical and Instrument systems Extension |
| --- | --- | --- | --- | --- | --- | --- |
| B1.1, B1.2Aeroplane (Airframe) | — | Task List (see Note 1) | 1 year  | 1 year (see Note 3) | — | 1 year(see Note 3) |
| B1.3, B1.4Helicopter (Airframe)  | Task List (see Note 1) | — | 1 year  | 1 year(see Note 3) | — | 1 year(see Note 3) |
| B1.1, B1.3Powerplant(Turbine) | 1 year | 1 year | — | Task List (see Note 2) | Task List | 1 year |
| B1.2, B1.4Powerplant(Piston) | 1 year | 1 year | Task List (see Note 2) | — | — | 1 year |
| B2Electrical systems | 1 year | 1 year | 1 year | 1 year | — | — |
| B2Instrument systems | 1 year | 1 year | 1 year | 1 year | — | — |
| B2 Radiosystems | 1 year | 1 year | 1 year | 1 year | — | — |

**Task list** means completion of the relevant sections of the experience logbook or journal.

**Note 1:** If one airframe licence is held, the addition of the second airframe licence only requires completion of the relevant task list.

**Note 2:** If one engine licence is held, addition of the second engine licence only requires completion of the relevant task list.

**Note 3:** The one-year period of electrical and instrument systems experience and piston engine experience may be accumulated concurrently.

Please provide any comments you have on the proposed B1 expansion requirements.

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## **Proposed additional experience to expand B2 modular licence**

The basic experience requirement for an initial modular licence is 2 years.

Table 4 sets out the requirements to expand on the initial modular licence.

**Fact bank:** Table 4 – Proposed additional experience to expand B2 modular licence

**Table 4 – Proposed additional experience to expand B2 modular licence**

|  |  |  |  |
| --- | --- | --- | --- |
| To**From** | **B2 Electrical systems** | **B2 Instrument systems** | **B2 Radio systems** |
| **B2 Electrical systems** | — | 1 year | 1 year |
| **B2 Instrument systems** | 1 year | — | 1 year |
| **B2 Radio systems** | 1 year | 1 year | — |

Please provide any comments you have on the proposed B2 expansion requirements.

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# Page 7. Policy 4 – Available via self-study pathway and maintenance training organisation (MTO) provisions

## **Self-study training and examination pathway**

The self-study training and examination pathway is framed around the existing knowledge modules and is naturally aligned with the proposed modular approach. Some minor administrative adjustments would be required to accommodate the proposed modular approach.

The Part 147 of the *Civil Aviation Safety Regulations 1998 (CASR)* pathway uses the units of competency developed in the National Vocational Education and Training (NVET) system.

The NVET Aeroskills training standards will be mapped to provide modular licences via the units of competency structure. This means that the competency standards for each modular licence will be maintained.

Please provide any comments you may have on the proposed self-study pathway and mapping by MTOs for the NVET system.

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# Page 8. Policy 5 – Initial introduction via existing Part 66 exclusions

## **Exclusions to be used to allow speedy implementation and flexible licence outcomes**

Stage 1 implementation using exclusions would require amendments of the Part 66 Manual of Standards to enable licences to be issued subject to exclusions.

* Exclusions can be used to facilitate sensible variations; particularly where practical experience can’t be gained. For example, B1 pressurisation or B2 multi-generator systems.
* Exclusions could be used to provide for greater flexibility when assessing foreign licences for Australian acceptance.

Please provide any comments you may have on the use of exclusions.

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# Page 9. General comments

Do you have any additional comments about the proposed policy?

Please include any **impact** this change may have on you or your operation.

Comments

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