




**Australian Government**  
**Civil Aviation Safety Authority**

A black and white photograph showing two men in an aircraft hangar. One man is wearing a hard hat and a high-visibility vest, while the other is in a short-sleeved shirt and trousers. They appear to be in conversation. The image is partially obscured by yellow and blue geometric shapes.

# **DISCUSSION PAPER**

## **DP 2218MS**

A black and white photograph showing a close-up of a hand holding a stack of papers or documents. The image is partially obscured by yellow and blue geometric shapes.

# **Part 66 modular licensing framework for aircraft maintenance engineers**

|                       |               |
|-----------------------|---------------|
| <b>Date</b>           | December 2022 |
| <b>Project number</b> | MS 16/05      |
| <b>File ref</b>       | D22/476172    |

## Overview

CASA has prepared this discussion paper (DP) in response to industry submissions received since the introduction of Part 66 of the *Civil Aviation Safety Regulations 1988* (CASR) about the lack of flexibility in the AME licensing system, particularly in relation to pathways for initial licence issue.

Additionally, a high priority of CASAs general aviation (GA) workplan is to consider more progressive and less onerous maintenance licence pathways that are more suitable to the general aviation maintenance sector.

This DP will provide, for stakeholder consideration and comment, some suggested changes to the Part 66 licence structure that would address both industry submissions and the workplan objectives.

## Why are we consulting

CASA is aware that whilst the current Part 66 licence pathways provide licences with broad privileges, they also lack flexibility. This is particularly apparent when measured against the practices of many other national aviation authorities (NAAs) that have a more flexible approach to AME licensing, with licences often separated into airframes, powerplants and avionics.

NAAs whose licence structures we considered are:

- New Zealand CAA
- Transport Canada
- Papua New Guinea CASA
- United States FAA

We would like to explore a more flexible structure for Part 66 and discuss with stakeholders some options for implementing a system that will work for the Australian aviation industry.

This DP outlines the key features of a more flexible, modular approach to AME licensing within the Part 66 framework. It also presents some implementation considerations and other details to illustrate how the framework could look in practice. Subject to industry feedback, this framework will be developed into a more detailed policy and legislative proposal. Your feedback will make a valuable contribution to our policy decision-making process and help to inform any future regulatory change.

Responses should be submitted through the online response form by 12 February 2023. No action will be taken until all responses and submissions have been considered.

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# 1 Reference material

## 1.1 Acronyms

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

| Acronym | Description                                   |
|---------|---|
| AC      | advisory circular                             |
| AMO     | approved maintenance organisation             |
| CAR     | <i>Civil Aviation Regulations 1988</i>        |
| CASA    | Civil Aviation Safety Authority               |
| CASR    | <i>Civil Aviation Safety Regulations 1998</i> |
| EASA    | European Union Aviation Safety Authority      |
| ICAO    | International Civil Aviation Organization     |
| MTO     | maintenance training organisation             |
| VET     | vocational education and training             |

## 1.2 References

### Legislation

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

| Document        | Title               |
|-----------------|---------------------|
| Part 66 of CASR |                     |
| Part 66 MOS     | Manual of Standards |

### International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from <http://store1.icao.int/>

| Document | Title                         |
|----------|-------------------------------|
| ICAO     | Annex 1 - Personnel Licensing |

## 2 Introduction

### 2.1 Issue and purpose

The purpose of this DP is to consider options for AME licence pathways that would provide more flexible and more achievable licensing outcomes, particularly in relation to initial licensing outcomes.

### 2.2 Background

CASA has received submissions from industry stakeholders since the introduction of Part 66 of CASR indicating that the Part 66 licence pathways are too inflexible in comparison to the previous CAR 31 licensing system. Part 66 provides licences with broad scope, which is desirable as an endpoint, but this has come at the cost of making initial licensing outcomes unnecessarily difficult. The “all or nothing” approach has been cited as a stumbling block for individuals who either don’t have a strong interest in one of the aspects of a full Part 66 licence or who are unable to accumulate the necessary practical maintenance experience for all the required systems. The issue also affects people who hold foreign licences and are seeking to convert their foreign licence to an Australian licence.

The submissions generally suggest that a progressive, modular licensing structure should be developed to facilitate earlier and more achievable licensing outcomes with improved flexibility for licence applicants and businesses.

This DP will present to stakeholders for consideration and comment, some solutions that we feel may meet the needs of the aviation maintenance industry. This is a 'conversation starter' and CASA is open to any alternative solutions that stakeholders may wish to put forward.

### 2.3 What does “modular licensing” mean?

The term “modular licensing” refers to a structure in which licences can be granted with limited scope, with the ability to be progressively expanded in a building block style. It recognises that Part 66 already has the necessary elements to provide modular licensing pathways, most notably the 17 knowledge modules that underpin the licence training requirements.

### 2.4 What does “minimum practical licence outcome” mean?

The main objective of this work is to provide a useful and achievable range of options for minimum practical licence outcomes which will provide the shortest time and lowest costs for initial licensing outcomes. These initial licences can then be expanded over time as desired by the licence holder up to full licences with broad scope.

It is understood that the ideal endpoint for many licence holders and businesses is AME licences with broad scope. With this paper CASA is seeking input from industry on what would constitute the minimum practical licence outcomes that are practical and useful in the contemporary workplace.

### **For example**

Under the current arrangements, a B1.2 licence requires competency for airframe, engine, electrical and simple avionics, and provides broad maintenance certification scope across these areas accordingly.

Considering the initial minimum practical licence outcome for an engine licence, a piston engine only licence could be provided without propellers. This would minimise the time and cost to achieve an engine licence and potentially would have good practical value in the average workplace where the majority of piston engine maintenance does not require propeller work.

Alternatively, propellers could be included as a requirement for a piston engine licence, which would increase the time and cost to achieve an engine licence, but would also increase the licence scope.

In the context of considering minimum practical licence outcomes, we have shown examples in this paper for propellers as an add-on option.

We welcome industry input in the context of minimum practical licence outcomes across all licence categories.

## **2.5 Advantages of modular AME licensing pathways**

Modular licensing would provide:

- more flexible and more achievable licensing outcomes
- earlier licensing outcomes for applicants, with licence scope able to be expanded over time
- more flexibility for licence applicants/holders to obtain/expand privileges most suited to their workplace requirements, opportunities or career needs
- more flexibility for maintenance organisations to expand scope of certifying staff according to business needs
- greater flexibility for recognition of foreign licences by allowing issue of licences with partial privileges
- exclusions can be used to facilitate sensible variations; particularly where practical experience can't be gained (e.g., B1 pressurisation or B2 multi generator systems)
- exclusions could be used to provide for greater flexibility when assessing foreign licences for Australian acceptance.

### 3 Guiding principles

The aim of this DP is to outline a progressive, modular licence structure with the following guiding principles:

- is ICAO Annex 1 compliant
- would provide for:
  - earlier licensing outcomes
  - more flexible modular, building block licensing structure
  - clear and efficient pathways for progression to a full Part 66 licence.
- sets eligibility requirements proportionate to the scope and range of maintenance to be performed
- clearly describes certification privileges based on the associated training/experience
- maintains maintenance safety standards
- to provide a useful and achievable range of options for minimum practical licence outcomes which will provide the shortest time and lowest costs for initial licensing outcomes, which can then be expanded as desired to full licences with broad scope.

To achieve these objectives, it is proposed that the existing Part 66 knowledge modules be used as the basis of the modular licensing structure. This will ensure full compatibility with the existing Part 66 licence categories and subcategories.

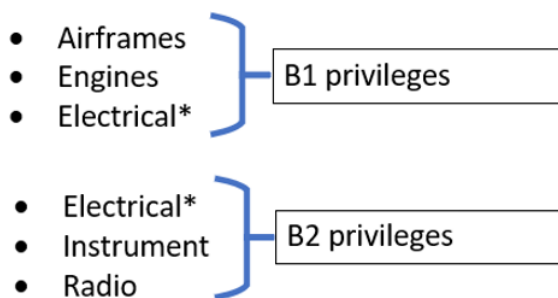
## 4 Proposed modular licensing structure

The proposal is for a licence structure made up of:

- subsets of B1, based on existing Part 66 knowledge modules and associated practical requirements
- subsets of B2, based on the former CAR 31 licence categories using existing Part 66 knowledge modules and associated practical requirements.

Knowledge and experience requirements would be relevant and proportional to the scope of each subset.

We propose to structure the subsets to mirror as close as practicable, the previous CAR 31 licence categories as follows:



\* Electrical is shared B1/B2

### 4.1 B1 subset structure

The proposed model would provide future licence applicants with a choice of 4 initial subsets of B1 licensing outcomes, plus 3 add-ons.

- Airframes – aeroplanes
- Airframes – helicopters
- Powerplant – piston engines
- Powerplant – turbine engines
- Add-ons (electrical, avionics LRU, propellers).

General conditions that would apply to the proposed subsets include:

- Privileges for each subset of a B1 licence are set out in Table 1.
- Exclusions that would apply to subsets of B1 are set out in Table 2 (see section 6 for information on implementation using exclusions).
- Knowledge requirements for each subset of a B1 licence are set out in Table 3.
- Practical experience requirements for each subset of a B1 licence are set out in Table 4.



## 4.2 B2 subset structure

The proposed B2 model is modelled on the previous 3 categories of CAR 31.

The proposed model would provide future licence applicants with a choice of 3 subsets of B2 licensing outcomes:

- electrical systems
- instrument systems
- radio systems.

Specific conditions for grant of a proposed subset of B2 include:

- The proposed privileges, exclusions and experience requirements for the EI&R subsets as set out in Table 5 (see section 6 for information on implementation using exclusions).
- Knowledge requirements for each subset of a B2 licence as set out in Table 6.

## 4.3 B2L option

An alternative to the EI&R approach would be to adopt the EASA B2L model; however, such an approach would not be an easy 'fit' in the existing Part 66 structure.

## 5 Self-study and Part 147 pathways

The self-study pathway is framed around the existing knowledge modules, and is naturally aligned with the proposed modular approach, noting that some minor administrative adjustments would be required to accommodate the modular approach (e.g., new B2 module 13 exams).

The Part 147 pathway uses the units of competency developed in the national vocational education and training (VET) system. These units of competency can be mapped to the Part 66 knowledge modules and subsets and accordingly the Part 147 maintenance training organisations (MTO) would report to CASA. It is understood that some work has been done in this area by some MTOs, but it would need to be formalised to provide the proposed modular licence outcomes. CASA envisages Part 147 MTOs developing mappings that would be supported by a formal CASA AMC/GM.

Relevant training as a “skilled worker” in a technical trade (associated trade) would continue to be an option that would provide earlier licensing outcomes with regards to the amount of practical experience required to qualify for a licence. This is consistent with the existing arrangements of the Part 66 MOS, section 66.A.30 – Basic practical experience requirements.

## 6 Implementation

It is proposed that the modular licensing pathways be implemented in 2 stages:

- Stage 1 would use existing exclusions as a short-term solution to expedite the outcome.
- Stage 2 would develop a positive descriptive licence that provides the same modular outcomes.

There are a range of other practical, legislative and administrative matters that would need to be resolved to deliver these modular licensing outcomes. As a consequence, the following will need to be clarified and developed:

- Mappings to the Part 66 MOS training requirements.
- Application processes, including the consideration of any fees.
- Licence templates, particularly for stage 2 positive descriptions.
- Type ratings.

## 7 Legislative considerations

Some legislative amendments would be required to achieve the intended outcomes:

- Stage 1 implementation using exclusions would require some minor amendments of the Part 66 MOS to enable licences to be issued subject to exclusions.
- Stage 2 implementation with positive descriptions of privileges will require more extensive legislative amendments that will be developed in due course as part of the ongoing Part 66 post implementation review including consideration of fees.

CASA will consider the most appropriate legislative approach to achieve the desired outcomes and will develop a consultation package to be published in 2023.

## 8 Consultation and timeframes

Submissions received from industry participants during the period since introduction of Part 66 have already established the need for a more streamlined licence approach that allows earlier and more achievable licensing outcomes.

CASA has carried out initial consultation of the proposed new modular licensing concept with the Part 66 Technical Working Group (TWG). This paper has been published to seek broader industry input on the proposal.

CASA will work with the TWG to consider the broader industry input and develop a legislative package that would achieve the desired outcomes. This package is expected to be developed and consulted in Q1 2023.

Subject to consultation, priorities in the broader regulatory program and implementation, the Stage 1 legislation could be made by Q2 2023, with modular licensing outcomes progressively available from Q3 2023.

## 9 Cost considerations

While there will be cost considerations, the cost impact will be minor.

There may be some additional administrative costs for licence applicants who have elected to use the modular option when they choose to expand the scope of their licence as this would require an application to CASA. However, this is considered minor in comparison to the benefits of earlier licensing outcomes and increased flexibility and earning potential.

There would be some additional costs associated with developing additional self-study exams to separate module 13 into B2 subsets. This would be reflected in the costs to licence applicants taking the exams which are set according to commonwealth cost recovery guidelines.

## 10 Tables

Table 1 describes the privileges and limitations that would apply to each licence subset.

**Table 1 – Proposed B1 subset privileges**

| Subset                            | Certification privileges   | Conditions  |
|-----------------------------------|--|---|
| B1 Airframe<br>Aeroplanes         | <p>All aeroplane mechanical and structural systems.</p> <p>For example, Includes maintenance of mechanical systems such as undercarriage, flap systems, flight control systems, structural systems, fuel systems and fire control systems aft of the firewall</p>  | <p>Excludes wood, fabric, powerplant, propeller, electrical and avionics systems.</p> <p>For example, The holder would not be permitted to work on batteries, electrical wiring, power plant maintenance, avionics LRU replacement, propellers and governors, engine accessories and fuel systems and fire control systems forward of the firewall etc.</p> |
| B1 Airframe<br>Helicopters        | <p>All helicopter mechanical and structural systems.</p> <p>For example, Includes maintenance of mechanical systems such as undercarriage, flight control systems, structural systems, rotor systems and rotor drive systems.</p>  | <p>Excludes powerplant, propeller, electrical and avionics systems</p> <p>For example, The holder would not be permitted to work on batteries, electrical wiring, power plant maintenance, engine mounted accessories, avionics LRU replacement.</p>  |
| B1 Powerplants<br>Piston engines  | <p>All piston powerplant components and systems.</p> <p>For example, includes servicing, oil changes, filter inspections, inspection of chip detectors, maintenance of engine mounts, cylinders, baffles, spark plugs, engine fuel metering, carburetion, engine controls etc</p>                        | <p>Excludes airframe, electrical and avionics systems, propellers.</p> <p>For example, would not permit magneto maintenance, airconditioning, pressurisation, structural repairs, generators, starting systems, landing gear, fire detection and control etc.</p>   |
| B1 Powerplants<br>Turbine engines | <p>All turbine powerplant components and systems.</p> <p>For example, engine servicing, oil changes, filter inspections, maintenance of engine mounts, compressor cleaning/inspection, turbine inspections, engine mounted fuel control system maintenance, bleed air valve adjustments and changes.</p> | <p>Excludes airframe, electrical and avionics systems, propellers</p> <p>For example, would not permit holder to certify maintenance of igniter systems, airconditioning, fire detection and control, pressurisation, structural repairs, generators, starting systems etc</p>  |
| Propeller add-on*                 | <p>Maintenance of propeller. Includes remove/replace propellers and governors, inspections, stone damage dressing, balancing, governor RPM adjustments</p>   | <p>Could be added to any of the above subsets</p>   |

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| Subset            | Certification privileges   | Conditions |
|-------------------|----------------------------|------------|
| Electrical add-on | Full electrical privileges |            |
| Avionics LRU      | Avionics LRU maintenance   |            |

**Note :** For Stage 1 using exclusions, it is expected that the existing provisions in the Part 66 MOS that restrict privileges according to the exclusions on a licence will adequately cover the modular licence privileges.

For Stage 2 with positive descriptions, more detailed legislative amendments will need to be considered to describe modular licence privileges.



Table 2 lists the Part 66 exclusions that would apply to each subset.

**Table 2 – Exclusions that would apply to B1 subsets**

| Subset                            | Exclusions  |
|-----------------------------------|---|
| B1 Airframe<br>Aeroplanes         | E1 - Excluding electrical systems<br>E3 - Excluding powerplants systems*<br>E4 - Excluding electrical subsystem of mechanical, powerplant or structural systems<br>E5 - Excluding instrument subsystems of mechanical, powerplant or structural systems<br>E6 - Excluding avionic LRUs<br>E9 - Excluding fabric surfaces<br>E10 - Excluding wooden structures |
| B1 Airframe<br>Helicopters        | E1 - Excluding electrical systems<br>E3 - Excluding powerplants systems<br>E4 - Excluding electrical subsystem of mechanical, powerplant or structural systems<br>E5 - Excluding instrument subsystems of mechanical, powerplant or structural systems<br>E6 - Excluding avionic LRUs   |
| B1 Powerplants<br>Piston engines  | E1 - Excluding electrical systems<br>E2 - Excluding mechanical or structural<br>E4 - Excluding electrical subsystem of mechanical, powerplant or structural systems<br>E5 - Excluding instrument subsystems of mechanical, powerplant or structural systems<br>E6 - Excluding avionic LRUs<br>E12 - Excluding propellers **                                   |
| B1 Powerplants<br>Turbine engines | E1 - Excluding electrical systems<br>E2 - Excluding mechanical or structural<br>E4 - Excluding electrical subsystem of mechanical, powerplant or structural systems<br>E5 - Excluding instrument subsystems of mechanical, powerplant or structural systems<br>E6 - Excluding avionic LRUs<br>E12 – Excluding propellers **                                   |

\* E3 - Excluding powerplants systems, includes E12 - Excluding propellers.

\*\* E12 propeller exclusion would not be required if propellers are not a separate subset/add-on.

Table 3 sets out the Part 66 knowledge modules that an applicant would be required to complete for each proposed subset of B1.

**Table 3 – Proposed B1 subset knowledge requirements**

| Subject Modules   | B1<br>Aeroplane | B1<br>Helicopter | B1<br>Piston<br>powerplant | B1<br>Turbine<br>powerplant | Propeller<br>add-on | Electrical<br>add-on | Avionics<br>add-on |
|---|-----------------|------------------|----------------------------|-----------------------------|---------------------|----------------------|--------------------|
| 1. Mathematics  | X               | X                | X                          | X                           |                     |                      |                    |
| 2. Physics  |                 | 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<br>(Note 1)   |                  |                            |                             |                     |                      |                    |

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| Subject Modules   | B1<br>Aeroplane | B1<br>Helicopter | B1<br>Piston<br>powerplant | B1<br>Turbine<br>powerplant | Propeller<br>add-on | Electrical<br>add-on | Avionics<br>add-on |
|---|-----------------|------------------|----------------------------|-----------------------------|---------------------|----------------------|--------------------|
| 11B. Piston aeroplane aerodynamics, structures, and systems | X<br>(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                   |                      |                    |
| Total Modules   | 8               | 8                | 7                          | 7                           | 1                   | 1                    | 2                  |

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.

Table 4 describes the B1 subset experience requirements.

It is proposed that an applicant achieve the cumulative experience time mentioned in the Table 4 for the relevant category/subcategory/subset, and the experience must include the required content/tasks of the applicable training syllabus.

These timeframes were developed considering the existing licensing experience requirements in relation to the scope of the proposed subsets and are presented for discussion. It is considered logical and desirable to proportionately reduce timeframes for modular licensing outcomes with reduced scope. An alternative option to avoid complexity would be to leave the existing timeframes unchanged.

It should be noted that in some cases the total cumulative experience for a full licence built through the modular pathway could be less than the current requirement for a full licence (see [MOS 66.A.30](#)). This is considered acceptable because:

- the required practical training content of the relevant syllabus must be achieved in all cases
- the times are at least equal to the current minimum experience for a licence outcome (which is currently the Part 147 MTO pathway)
- it is expected that modular licence applicants will naturally take longer to build a full licence as they will be working in industry as licence holders
- experience after the initial subset would be with the perspective of a licence holder, which would give a broader perspective of responsibilities
- one year experience would be the minimum for a licensing outcome for any initial subset.
- the experience times are consistent with the requirements of other countries.

**Table 4 - Proposed B1 subset experience requirements**

| Subset  | Pathway                          | Experience As initial subset | Experience As additional subset |
|---|----------------------------------|------------------------------|---------------------------------|
| B1.1 Airframe Turbine aeroplanes or B1.3 Airframe Turbine helicopters | Self-study                       | 3 years                      | +2 years                        |
|   | Self-study with associated trade | 2 years                      | +1.5 years                      |
|   | Part 147 MTO                     | 1.5 year                     | +1 year                         |
| B1.2 Airframe Piston Aeroplanes or B1.4 Airframe Piston Helicopters   | Self-study                       | 2 years                      | +1 year                         |
|   | Self-study with associated trade | 1.5 years                    | +1 year                         |
|   | Part 147 MTO                     | 1 year                       | +1 year                         |
| B1 Powerplants  | Self-study                       | 2 years                      | +1 year                         |

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| Subset                           | Pathway                          | Experience As initial subset       | Experience As additional subset                                 |
|----------------------------------|----------------------------------|------------------------------------|---|
| Turbine engines                  | Self-study with associated trade | 1.5 years                          | +1 year   |
|                                  | Part 147 MTO                     | 1 year                             | +1 year   |
| B1 Powerplants<br>Piston engines | Self-study                       | 1 year                             | +6 months   |
|                                  | Self-study with associated trade | 1 year                             | +6 months   |
|                                  | Part 147 MTO                     | 1 year                             | +6 months   |
| Propeller add-on                 | All                              | Not available as an initial subset | No additional time – practical training syllabus tasks required |
| Avionics LRU                     | All                              | Not available as an initial subset | No additional time – practical training syllabus tasks required |

Table 5 shows the privileges, exclusions and experience requirements that would apply to proposed B2 EI&R subsets.

**Table 5 – Proposed B2 subsets**

| System             | Privileges   | Exclusions   | Experience   |
|--------------------|--|--|--|
| Electrical systems | Electrical generation & distribution, & electrical subsystems of mechanical, powerplant and structural systems | E5 - Excluding instrument subsystems of mechanical, powerplant or structural systems<br><br>E7 - Excluding instrument aspects of avionic systems — ATA22, 27, 31, 34 and 42<br><br>E8 - Excluding radio aspects of avionic systems — ATA23, 34, 42 and 44  | Self-study basic practical experience logbook, or<br><br>MEAs (subject to MTO mapping) |
| Instrument systems | Instrument subsystems of mechanical, powerplant, structural & avionics systems                                 | E1- Excluding electrical systems<br><br>E4- Excluding electrical subsystems of mechanical, powerplant or structural systems<br><br>E8 - Excluding radio aspects of avionic systems — ATA23, 34, 42 and 44  |  |
| Radio systems      | Radio aspects of avionic systems   | E1 -Excluding electrical systems<br><br>E4 - Excluding electrical subsystems of mechanical, powerplant or structural systems<br><br>E5- Excluding instrument subsystems of mechanical, powerplant or structural systems<br><br>E7 - Excluding instrument aspects of avionic systems — ATA22, 27, 31, 34 and 42 |  |

Table 6 sets out the Part 66 knowledge modules that an applicant would be required to complete for each proposed subset of B2.

**Table 6 – Proposed B2 EIR knowledge modules**

| 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 13.1<br>Theory of flight                        | X                 | X                  | X             |
| Topic 13.2<br>Structures-general concepts             | X                 | X                  | X             |
| Topic 13.3<br>Autopilots                              |                   | X                  |               |
| Topic 13.4<br>Communication and navigation (ATA23/34) |                   | X                  | X             |
| Topic 13.5<br>Electric power (ATA24)                  | X                 |                    |               |
| Topic.6<br>Equipment and furnishings (ATA25)          | X                 |                    |               |
| Topic 13.7<br>Flight controls (ATA27)                 | X                 | X                  |               |
| Topic 13.8<br>Instruments (ATA31)                     |                   | X                  |               |
| Topic 13.9<br>Lights (ATA33)                          | X                 |                    |               |
| Topic 13.10   | X                 |                    |               |

| Subject Modules  | Electrical system | Instrument systems | Radio systems |
|--|-------------------|--------------------|---------------|
| On-board maintenance systems (ATA45)                             |                   |                    |               |
| Topic 13.11<br>Air-conditioning and cabin pressurisation (ATA21) | X                 |                    |               |
| Topic 13.16<br>Landing gear (ATA32)                              | X                 |                    |               |
| Topic 13.7<br>Flight controls (ATA27)                            |                   | X                  |               |
| Topic 13.8<br>Instruments (ATA31)                                | X                 |                    |               |
| Topic 13.9<br>Lights (ATA33)                                     | X                 |                    |               |
| Topic 13.20-13.22  |                   | X                  | X             |
| 14<br>Propulsion   |                   | X                  |               |



## 11 Submitting your view and what next?

We would like to hear your views on the proposals we have presented. Are we on the right track? Please review the proposal and provide your feedback regarding the options that have been presented and any additional options or concerns not covered in this discussion paper.

Your feedback will make a valuable contribution to CASA's policy decision-making process and help to fully inform CASA of the perceived impacts (positive and negative) on the aviation community regarding the proposal.

Responses should be submitted using the online response form by 12 February 2023. The online response form is available at the CASA Consultation Hub.