Draft information sheet

Note: The content provided in this information sheet is a guide only as to how the modular licensing proposal may work in practice once the Part 66 Manual of Standards is updated and commences. It is provided to help you understand the changes and provide feedback to the consultation.

Modular licensing for aircraft engineers

We are introducing flexible pathways for you to get your aircraft engineer licence (a Part 66 licence).

Our new pathway is a modular licensing structure, which allows you to:

- get a licence sooner (with limitations)
- add to the scope of your licence (remove the limitations) as you get more experience and, where applicable, pass further examinations.

Benefits to modular licensing

Modular licensing provides you with greater flexibility to:

- achieve an initial Part 66 licence in less time with fewer examinations
- gradually increase the scope of your licence as you get more experience and, where applicable, pass further examinations.

It is ideal if you:

- wish to specialise and remain within a certain licence scope
- do not have a strong interest in other aspects of the full category licence
- do not have access to work experience for all aspects of a full category licence

Maintenance organisations also have flexibility to expand the licence scope of their employees to meet the needs of the business.

Why we're introducing modular licensing

Current CASR Part 66 legislation is based on EASA (European Union Aviation Safety Agency) Part 66 legislation with an all-or-nothing approach.

You must complete all the requirements for the full scope of a Category B1 or Category B2 licence. This can be particularly difficult if you work in the general aviation sector. You may rarely, or in some cases never, have the opportunity to gain the necessary practical experience on some aircraft systems in your place of employment.

The modular licensing structure allows you to choose what you want to study from options such as airframes, powerplants, electrical, instrument or radio systems.

How modular licensing works

Once you have completed core examinations and experience, you can apply for a licence. We issue the licence with 'exclusions' listed on it that limit the scope of the privileges of your licence in line with your experience and completed examinations. If you wish, you can complete further examinations and gain further experience to have those 'exclusions' removed. (An exclusion precludes you from certifying for maintenance on aircraft systems that you have not been trained on.)

Category B licences

Currently the Part 66 category B1 licences have these sub-categories:

- B1.1 - turbine aeroplanes
- B1.2 - piston aeroplanes
- B1.3 - turbine helicopters
- B1.4 - piston helicopters.

Part 66 Category B2 licences do not have any subcategories (but do cover avionics systems).

In the modular licensing structure, you have the option of one or more of the following:

- Category B1 licence options:
  - B1.1 or B1.2 aeroplane airframes
  - B1.3 or B1.4 helicopter airframes
  - B1.2 or B1.4 powerplant piston engines
  - B1.1 or B1.3 powerplant turbine engines
  - electrical / instrument systems extension (privileges for B1 licence holders)
- Category B2 licence options:
  - electrical systems
  - instrument systems
  - radio systems.

B1 modular licences

Privileges and limitations

Your B1 modular licence privileges and limitations are shown in the table below.

Table 1: B1 privileges and limitations

Licence	Certification privileges	Limitations
B1.1 / B1.2 Aeroplanes - airframes only	Aeroplane mechanical and structural systems	Excludes powerplant, electrical and instrument systems
B1.3 / B1.4 Helicopters - airframes only	Helicopter mechanical and structural systems	
B1.2 / B1.4 Piston engines only	Piston powerplant components and systems	Excludes airframe, electrical and instrument systems.

B1.1 / B1.3 Turbine engines only	Turbine powerplant components and systems.	

Basic knowledge — core subject module requirements

You must successfully complete at least:

- 8 examinations to qualify for an airframe-only licence
- 8 examinations to qualify for a powerplant-only licence
- 7 examinations to qualify for a turbine powerplant-only licence (for aircraft that do not have a propeller, such as turbofan aeroplanes).

The following table shows which subject modules apply to each B1 modular licence.

Table 2: B1 modular licence examination requirements

Subject modules	**B1.1 / B1.2 aeroplane (airframe)**	**B1.3 / B1.4 helicopter (airframe)**	**B1.2 / B1.4 piston (powerplant)**	**B1.1 / B1.3 turbine (powerplant)**
1. Mathematics	Yes	Yes	Yes	Yes
2. Physics	Yes	Yes	Yes	Yes
3. Electrical fundamentals	—	—	—	—
4. Electronic fundamentals	—	—	—	—
5. Digital techniques electronic instrument systems	—	—	—	—
6. Materials and hardware	Yes	Yes	Yes	Yes
7. Maintenance practices	Yes	Yes	Yes	Yes
8. Basic aerodynamics	Yes	Yes	—	—
9. Human factors	Yes	Yes	Yes	Yes
10. Aviation legislation	Yes	Yes	Yes	Yes
11A. Turbine aeroplane aerodynamics, structures and systems	Yes (B1.1)	—	—	—
11B. Piston aeroplane aerodynamics, structures and systems	Yes (B1.2)	—	—	—
12. Helicopter aerodynamics, structures and systems	—	Yes	—	—
15. Gas turbine engines	—	—	—	Yes
16. Piston engines	—	—	Yes	—
17. Propeller	—	—	Yes (B1.2)	Yes (B1.1) *

* Optional for turbine powerplants in aircraft without propellers (such as turbofan aeroplanes)

Optional B1 extension examinations

Additional subjects may be undertaken to qualify for licence extensions. You may undertake these at the same time as the core examinations listed above or defer them until needed.

Table 3: B1 extension examinations

Subject modules	Electrical / instrument extension
3. Electrical fundamentals	Yes
4. Electronic fundamentals	Yes
5. Digital techniques electronic instrument systems	Yes

How exclusions work

Your modular licence may initially include many exclusions. As you gain further practical experience and pass more examinations, you can have these exclusions removed from your licence.

The following exclusions may be applied to a B1 modular licence:

- E1: Excluding electrical systems
- E2: Excluding mechanical or structural
- E3: Excluding powerplant systems
- E4: Excluding electrical subsystems of mechanical, powerplant or structural systems.
- E5: Excluding instrument subsystems of mechanical, powerplant or structural systems.
- E6: Excluding avionic LRUs
- E9: Excluding fabric surfaces
- E10: Excluding wooden structures
- E12: Excluding propellers
- E13: Excluding hydraulics— ATA29
- E14: Excluding vapor cycle air conditioning aspects of ATA21
- E15: Excluding air conditioning aspects of ATA21
- E16: Excluding pressurisation aspects of ATA21E32
- E32: Excluding electrical systems in aircraft equipped with multi-generator powered systems
- E33: Excluding supercharging systems
- E35: Excluding pressurised structures
- E36: Excluding carburettor systems
- E37: Excluding fuel injection systems
- E38: Excluding turbo supercharging systems
- E39: Excluding airframe ice protection systems
- E40: Excluding airframe fire protection systems
- E41: Excluding oxygen systems
- E42: Excluding landing gear retraction systems.
- E43: Excluding fabric other than flight controls
- E44: Excluding wiring repairs

B2 modular licences

Privileges and limitations

Your B2 modular licence privileges are shown in the table below.

Table 4: B2 privileges and limitations

Licence	Privileges	Limitations
B2 - Electrical Systems only	Electrical generation storage and distribution systems. Electrically powered aeronautical products such as starter motors, flap actuation systems etc.	Excludes instrument and radio systems
B2 - Instrument systems only	Instrumentation systems	Excludes electrical and radio systems
B2 - Radio systems only	Radio communication and navigation systems	Excludes electrical and instrument systems

B2 basic knowledge — core subject module requirements

You must successfully complete 10 examinations plus applicable (but not all) topics from module 13 (aircraft structures and systems).

The following table shows which subject modules apply to each B2 modular licence.

Table 5: B2 modular licence examination requirements

Subject modules	B2 electrical systems only	B2 instrument systems only	B2 radio systems only
1. Mathematics	Yes	Yes	Yes
2. Physics	Yes	Yes	Yes
3. Electrical fundamentals	Yes	Yes	Yes
4. Electronic fundamentals	Yes	Yes	Yes
5. Digital techniques electronic instrument systems	Yes	Yes	Yes
6. Materials and hardware	Yes	Yes	Yes
7. Maintenance practices	Yes	Yes	Yes
8. Basic aerodynamics	Yes	Yes	Yes
9. Human factors	Yes	Yes	Yes
10. Aviation legislation	Yes	Yes	Yes
11A. Turbine aeroplane aerodynamics, structures and systems	—	—	—
11B. Piston aeroplane aerodynamics, structures, and systems	—	—	—
12. Helicopter aerodynamics, structures, and systems	—	—	—
13. Aircraft structures and systems			
• Topic 13.1 Theory of flight	Yes	Yes	Yes
• Topic 13.2 Structures-general concepts	Yes	Yes	Yes
• Topic 13.3 Autopilots (ATA22)	—	Yes	—
• Topic 13.4 Communication and navigation (ATA23/34)	—	Yes	Yes

• Topic 13.5 Electrical power (ATA24)	Yes	—	—
• Topic.13.6 Equipment and furnishings (ATA25)	Yes	—	—
• Topic 13.7 Flight controls (ATA27)	Yes	Yes	—
• Topic 13.8 Instruments (ATA31)	—	Yes	—
• Topic 13.9 Lights (ATA33)	Yes	—	—
• Topic 13.10 On-board maintenance systems (ATA45)	Yes	—	—
• Topic 13.11 Air-conditioning and cabin pressurisation (ATA21)	Yes	—	—
• Topic 13.12 Fire protection (ATA26)	Yes	—	—
• Topic 13.13 Fuel systems (ATA 28)	Yes	—	—
• Topic 13.14 Hydraulic power (ATA (29)	Yes	—	—
• Topic 13.15 Ice and rain protection (ATA30)	Yes	—	—
• Topic 13.16 Landing gear (ATA32)	Yes	—	—
• Topic 13.17 Oxygen (ATA35)		Yes	—
• Topic 13.18 Pneumatic / vacuum (ATA36)	Yes	—	—
• Topic 13.19 Water/waste (ATA38)	Yes	—	—
• Topic 13.20 Integrated modular avionics (ATA 42)	—	Yes	Yes
• Topic 13.21 Cabin systems (ATA 44)	—	Yes	Yes
• Topic 13.22 Information systems (ATA 46)	—	Yes	Yes
14. Propulsion — avionic systems	—	Yes	—

How exclusions work

Your modular licence may initially include many exclusions. As you gain further practical experience and pass more examinations, you can have these exclusions removed from your licence.

The following exclusions may be applied to a B2 modular licence:

- E1: Excluding electrical systems
- E4: Excluding
- E5: Excluding instrument subsystems of mechanical, powerplant or structural systems.
- E6: Excluding avionic LRUs
- E7: Excluding instrument aspects of avionic systems - ATA 22, 27, 31, 34 and 42
- E8: Excluding radio aspects of avionic systems - ATA 23, 34, 42 and 44
- E11: Excluding audio CVR systems
- E18: Excluding ADF systems
- E19: Excluding VOR systems
- E20: Excluding ILS systems
- E21: Excluding weather radar systems
- E22: Excluding ATC transponder systems

- E23: Excluding radar altimeter systems
- E24: Excluding DME systems
- E25: Excluding doppler systems
- E26: Excluding satellite navigation systems
- E27: Excluding autopilots
- E28: Excluding multi-axis autopilots
- E29: Excluding remote indicating compass systems
- E30: Excluding Inertial navigation and reference systems
- E31: Excluding pressurisation systems
- E32: Excluding electrical systems in aircraft equipped with multi-generator powered systems
- E34: Excluding digital systems
- E44: Excluding wiring repairs

What does a modular licence look like?

A modular licence looks much the same as a full licence. Your licence identifies the category or subcategory of licence you hold, and the range of exclusions applied to your licence.

Figure 1: Example of a B1.2 airframe-only licence

XII Licence categories, subcategories, ratings and endorsements

Category B1.2 Licence: issue date – 08 June 2024: E1, E3, E4, E5, E6, E9, E10

Type Ratings:

(No further entries on this page)

Figure 2: Example of a B1.2 piston powerplant-only licence

XII Licence categories, subcategories, ratings and endorsements

Category B1.2 Licence: issue date – 08 June 2024: E1, E2, E4, E5, E6

Type Ratings:

(No further entries on this page)

Figure 3: Example of a B2 electrical-only licence

XII Licence categories, subcategories, ratings and endorsements

Category B2 Licence: issue date – 08 June 2024: E5, E7, E8

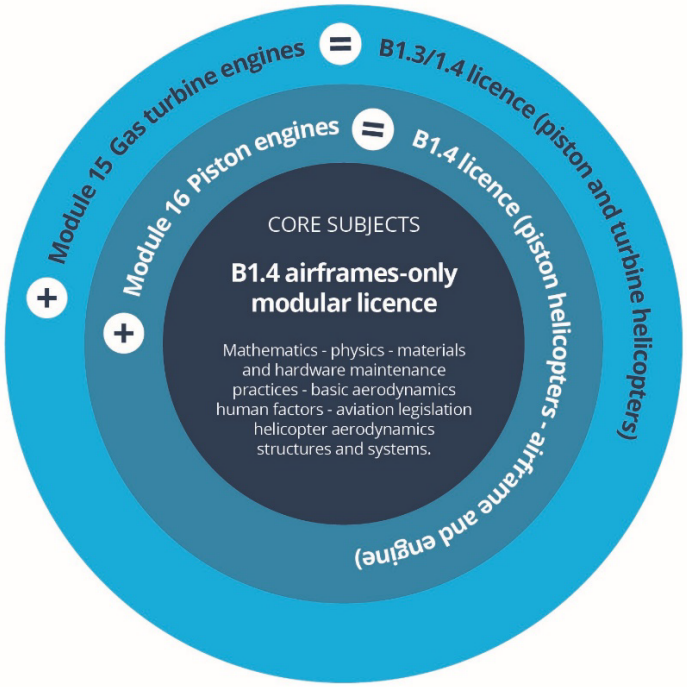
Type Ratings:

(No further entries on this page)

What does modular licensing look like in the real world?

The following figure shows how an individual can use this system to get their modular licence sooner and to build on this as their career and interests develop.

Figure 4: Modular licensing for Toni



Toni was fascinated by the small helicopters she saw flying near her home. When she left school, she started working at the nearby airport for a maintenance organisation that maintained R22 and R44 piston engine helicopters. Toni got as much experience as she could and studied for all the core exams. With the minimum required two years' experience on operating aircraft, and eight exam passes, Toni applied for a B1.4 helicopter airframe-only modular licence.

With her B1.4 helicopter airframe-only modular licence, Toni was able to work as a licensed aircraft maintenance engineer and certify for the maintenance work done on the airframes of the helicopters she worked on. But Toni was now interested in the piston engines in the aircraft. After studying for module 16 (piston engines), and getting further experience on the engines, Toni applied to CASA to have the piston engine exclusion removed from her licence. Now she had a B1.4 (airframe and engine) modular licence.

But Toni wanted more. She loved the helicopters and wanted to work on bigger ones. She got a job working with a maintenance organisation that maintained turbine-powered helicopters. She studied and passed module 15 (gas turbine engines) while getting experience on the engines and airframes of the larger helicopters (she also got a type rating on the specific engine she worked on). Now she could get B1.3 as well as B1.4 on her licence. She could now work on a range of piston and turbine engine helicopters. Toni's next goal is to pass modules 3, 4 and 5 (electrical and electronic fundamentals, and instrument systems) and gain relevant experience in this area. Then she'll be eligible for a full B1.4/B1.3 licence.

The following figure shows how you can take your career along different paths depending on your interests and work experience.

Figure 5: Modular licensing – different career paths