



Australian Government

Civil Aviation Safety Authority

I, PHILIPPA JILLIAN SPENCE, Director of Aviation Safety, on behalf of CASA, make this instrument under regulations 11.068, 66.015 and 147.015 of the *Civil Aviation Safety Regulations 1998*.

[DRAFT ONLY — NOT FOR SIGNATURE]

Pip Spence
Director of Aviation Safety

[Month] 2023

Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)

1 Name

This instrument is the *Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)*.

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of Part 66 and Part 147 Manuals of Standards

Each Manual of Standards mentioned in the title of a Schedule to this instrument is amended in accordance with the Schedule.

Schedule 1 Part 66 Manual of Standards

[1] Paragraph 66.5 (b), definition of *CASR 1998*

omit

1998 means

insert

1998, or *CASR*, means

[2] Paragraph 66.5 (b), after definition of *CAO*

insert

category B1 modular licence means a category B1 licence granted:

- (a) under regulation 66.026 of CASR subject to the exclusion of at least 1 aircraft system or subset of an aircraft system; and
- (b) after the commencement of the *Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)*.

category B2 modular licence means a category B2 licence granted:

- (a) under regulation 66.026 of CASR subject to the exclusion of at least 1 aircraft system or subset of an aircraft system; and
- (b) after the commencement of the *Part 66 Manual of Standards and Part 147 Manual of Standards Amendment Instrument 2023 (No. 1)*.

[3] Paragraph 66.5 (b), after definition of *lighting systems*

insert

Logbook means the *CASA Part 66 Basic Practical Experience Logbook*, as it exists from time to time.

[4] Paragraph 66.5 (b), definition of *MEA*, after the note

insert

modular licence means a category B1 modular licence or a category B2 modular licence.

[5] Sub-sub-subparagraph 66.A.20 (a) 4. (ii) (H)

omit

materials.

insert

materials; and

- (iii) subject to subparagraph 4A, the maintenance is not of an aircraft system or subset that is excluded from the licence.

[6] Sub-sub-subparagraph 66.A.20 (a) 6. (ii) (E)

omit

inspection.

insert

inspection; and

- (iii) subject to subparagraph 6A, the maintenance was not of an aircraft system or subset that is excluded from the licence.

[7] Subparagraph 66.A.25 (a) 2.

substitute

- 2. the addition of a category or subcategory to the person's licence other than a modular licence; or
- 3. if the licence is a modular licence, the removal of at least 1 exclusion from the licence in order to obtain a category or subcategory on the licence, or an extension of licence privileges.

[8] Paragraph 66.A.25 (b)

omit

A, B1 or B2 licence

insert

A licence, or Category B1 or Category B2 licence other than a modular licence

[9] After paragraph 66.A.25 (b)

insert

- (ba) If the application is in relation to a modular licence, or for the removal of at least 1 exclusion in order to obtain a category or subcategory on, or extension of privileges of, a modular licence, the applicant must demonstrate, by examination conducted by CASA or an MTO:
1. knowledge of each module or sub-module, applicable for the category or subcategory, and any extension, in accordance with Part 2A of Appendix I; and
 2. the level of knowledge for each sub-module, applicable for the category or subcategory, in accordance with Part 3 of Appendix I.

[10] Paragraph 66.A.25 (c)

omit

subparagraph (b) 2.

insert

subparagraphs (b) 2. and (ba) 2.

[11] Paragraph 66.A.25 (e)

omit

paragraph (b)

insert

paragraphs (b) and (ba)

[12] Paragraph 66.A.25 (eb)

omit

If

insert

Subject to paragraph (ec), if

[13] After paragraph 66.A.25 (eb)

insert

- (ec) If the application is for a modular licence and the applicant was trained by an MTO, the applicant must hold each unit of competency relevant to the modular licence, or stated to be its alternative, as approved by CASA in the MTO's Maintenance Training Organisation exposition, as existing from time to time.

[14] After subparagraph 66.A.30 (a) 3.

insert

4. for an initial modular licence:
 - (i) 2 years' practical maintenance experience on operating aircraft; and
 - (ii) completion of category training conducted by an MTO, or completion of the knowledge applicable for the category or subcategory of licence, in accordance with Part 2A of Appendix I, via self-study in which case evidence of the practical maintenance experience must be recorded in the Logbook.

Note 1 Subparagraphs 1. to 3. do not apply to applications for modular licences.

Note 2 The Logbook and the *Part 66 Basic Practical Experience Logbook User Guide (User Guide)* are available on the CASA website at www.casa.gov.au. As at commencement of this MOS:

- the Logbook was available at: casa.gov.au/sites/default/files/2021-09/part-66-basic-practical-experience-logbook.pdf; and
- the User Guide was available at: www.casa.gov.au/sites/default/files/2021-09/part-66-basic-practical-experience-logbook-user-guide.pdf.

[15] Paragraph 66.A.30 (b)

after

engineer licence

insert

(other than a modular licence)

[16] Section 66.A.30, after Table 3

insert

- (ba) For regulation 11.068 of CASR, it is a condition of an aircraft engineer licence that, if the licence is a modular licence and the licence holder applies to CASA for removal of at least 1 exclusion of an aircraft system or subset from the licence in order to obtain a category or subcategory on the licence, or an extension of licence privileges, the person must have gained the minimum period of practical maintenance experience, applicable for the category or subcategory, or extension, on operating aircraft in accordance with Table 3A.

Table 3A

Practical maintenance experience requirements to obtain a category or subcategory on a modular licence

To	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.1, B1.3 Power plant (Turbine)	B1.2, B1.4 Power plant (Piston)	B1 Propeller Extension	B1 Electrical and Instrument systems Extension	B2 Electrical systems	B2 Instrument systems	B2 Radio systems
From									
B1.1, B1.2 Aeroplane (Airframe)	—	Task List (see Note 1)	1 year	1 year (see Note 3)	—	1 year (see Note 3)	1 year	1 year	1 year
B1.3, B1.4 Helicopter (Airframe)	Task List (see Note 1)	—	1 year	1 year (see Note 3)	—	1 year (see Note 3)	1 year	1 year	1 year
B1.1, B1.3 Power plant (Turbine)	1 year	1 year	—	Task List (see Note 2)	Task List	1 year	1 year	1 year	1 year
B1.2, B1.4 Powerplant (Piston)	1 year	1 year	Task List (see Note 2)	—	—	1 year	1 year	1 year	1 year
B2 Electrical systems	1 year	1 year	1 year	1 year	—	—	—	1 year	1 year
B2 Instrument systems	1 year	1 year	1 year	1 year	—	—	1 year	—	1 year
B2 Radio systems	1 year	1 year	1 year	1 year	—	—	1 year	1 year	—

In Table 3A:

Task list means completion of the relevant sections of the Logbook.

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

Note 2 This is a rule. 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.

[17] Paragraph 66.A.30 (c)

omit

paragraph (b)

insert

paragraphs (b) and (ba)

[18] Paragraph 66.A.30 (ea), excluding the note

substitute

(ea) Subject to paragraph (d):

1. at least 3 months of the experience mentioned in paragraph (b) must be recent experience gained on aircraft relevant to the category, or subcategory, of licence sought to be added; and
2. at least 3 months of the experience mentioned in paragraph (ba) must be recent experience gained on aircraft relevant to the category or subcategory, or extension of privileges, of licence sought to be obtained.

[19] Paragraph 66.A.30 (ec)

substitute

(ec) The experience mentioned in:

1. subparagraphs (a) 1., 2. or 3., or paragraph (b) must have been gained by the applicant during the 10-year period before the date of the application for the licence or the addition of the category, or subcategory, to the licence; and
2. subparagraph (a) 4. or paragraph (ba) must have been gained during the 10-year period before the date of application for the initial modular licence or the removal of an exclusion to obtain the category or subcategory on the modular licence, or extension of privileges.

[20] After section 66.A.30

insert

66.A.35 Exclusions to which a category B1 or category B2 licence may be subject

For paragraph 66.026 (1) (d) of CASR:

1. an aircraft system or subset mentioned in column 1 of an item in the Table in Appendix VII, with the related exclusion identifier mentioned in column 2 and title mentioned in column 3 of the item, is specified as a system or subset that may be excluded from the scope of a category B1 licence if an 'X' is included in column 4 of the item; and
2. an aircraft system or subset mentioned in column 1 of an item in the Table in Appendix VII, with the related exclusion identifier mentioned in column 2 and title mentioned in column 3 of the item, is specified as a system or subset that may be excluded from the scope of a category B2 licence if an 'X' is included in column 5 of the item.

Note This section applies to a modular licence as a modular licence is a kind of category B1 or category B2 licence.

[21] Paragraph 66.A.70 (a)

omit

an aircraft maintenance

insert

a Part 66

[22] Paragraph 66.A.70 (d)

substitute

- (d) For subregulation 66.095 (2), and Subpart 202.CG, of CASR, the exclusion of an aircraft system or subset of an aircraft system mentioned in column 1 of an item in the Table in Appendix VII, with the related exclusion identifier mentioned in column 2 and title mentioned in column 3 of the item, is specified as an exclusion on a type rating for which an AMO may be authorised to provide training, assessment and authorisations.

[23] Appendix I, after Part 2

insert

Part 2A — Knowledge module requirements for modular licences

Qualification on basic subjects for each category B1 modular licence or category B2 modular licence, including with any extension of privileges, must be in accordance with the following table. Applicable subject modules for each modular licence and any extension are indicated by an X.

FOR CONSULTATION

Subject modules/sub-modules	Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)		Electrical and instrument systems	Electrical systems	Instrument systems
1. Mathematics	X	X	X	X		X	X	X
2. Physics	X	X	X	X		X	X	X
3. Electrical fundamentals					X	X	X	X
4. Electronic fundamentals					X	X	X	X
5. Digital techniques electronic instrument systems					X	X	X	X
6. Materials and hardware	X	X	X	X		X	X	X
7. Maintenance practices	X	X	X	X		X	X	X
8. Basic aerodynamics	X	X				X	X	X
9. Human factors	X	X	X	X		X	X	X
10. Aviation legislation	X	X	X	X		X	X	X
11A. Turbine aeroplane aerodynamics, structures and systems	X (B1.1) (see Note 1)							
11B. Piston aeroplane aerodynamics, structures, and systems	X (B1.2) (see Note 1)							

Subject modules/sub-modules		Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
		B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)		Electrical and instrument systems	Electrical systems	Instrument systems
12. Helicopter aerodynamics, structures, and systems			X						
13. Aircraft structures and systems	Topic 13.1 Theory of flight						X	X	X
	Topic 13.2 Structures — general concepts						X	X	X
	Topic 13.3 Autopilots (ATA22)							X	
	Topic 13.4 Communication and navigation (ATA23/34)							X	X
	Topic 13.5 Electrical power (ATA24)						X		
	Topic.13.6						X		

Subject modules/sub-modules	Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)	Electrical and instrument systems	Electrical systems	Instrument systems	Radio systems
Equipment and furnishings (ATA25)								
Topic 13.7 Flight controls (ATA27)						X	X	
Topic 13.8 Instruments (ATA31)							X	
Topic 13.9 Lights (ATA33)						X		
Topic 13.10 On-board maintenance systems (ATA45)						X		
Topic 13.11 Air-conditioning and cabin pressurisation (ATA21)						X		

Subject modules/sub-modules	Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)	Electrical and instrument systems	Electrical systems	Instrument systems	Radio systems
Topic 13.12 Fire protection (ATA26)						X		
Topic 13.13 Fuel systems (ATA28)						X		
Topic 13.14 Hydraulic power (ATA29)						X		
Topic 13.15 Ice and rain protection (ATA30)						X		
Topic 13.16 Landing gear (ATA32)						X		
Topic 13.17 Oxygen (ATA35)							X	
Topic 13.18						X		

Subject modules/sub-modules	Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)		Electrical and instrument systems	Electrical systems	Instrument systems
Pneumatic/ vacuum (ATA36)								
Topic 13.19 Water/waste (ATA38)						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	
15. Gas turbine engines				X				
16. Piston engines			X					

Subject modules/sub-modules	Category B1 modular licences				Extension of category B1 modular licence	Category B2 modular licences		
	B1.1, B1.2 Aeroplane (Airframe)	B1.3, B1.4 Helicopter (Airframe)	B1.2, B1.4 Powerplant (Piston)	B1.1, B1.3 Powerplant (Turbine)		Electrical and instrument systems	Electrical systems	Instrument systems
17. Propeller			X (B1.2 only)	X (turbopropeller only)				

Note 1 Module 11A is required for maintenance of turbine powered aeroplanes. Module 11B is required for maintenance of piston powered aeroplanes.

Note 2 See regulation 66.018 of CASR for the subcategories of category B1 licences and the kind of aircraft in relation to which category B1 licences and category B2 licences may be granted.

Note 3 Category B1 modular licence subcategories are identified in this table by kind of aircraft (aeroplane, helicopter), relevant category B1 licence subcategories and relevant aircraft system. The words 'Airframe', 'Piston' or 'Turbine' included in brackets in a heading regarding a subcategory of B1 licence means that the licence would be granted subject to exclusions so that it is limited to privileges relating to those aircraft systems. Category B2 modular licences are identified in the table by the aircraft system to which privileges are similarly limited. The table headings signify the nature of the modular licence to be issued. However, a modular licence is issued as a category B1 licence with exclusions or a category B2 licence with exclusions and will not have expressed on it the kind of aircraft and relevant aircraft system.

[24] At the end of Appendix II, Part 2, 2.13 Module 13, Aircraft aerodynamics, structures and systems

insert

Category B2 modular – for a category 2 modular licence mentioned in column 1 of an item in the following table, the number of multi-choice questions mentioned in column 2 of the item and the time allowed mentioned in column 3 of the item.

Table

Item	Column 1 Category B2 modular licence	Column 2 Number of multi-choice questions	Column 3 Time allowed (minutes)
1	ELECTRICAL SYSTEMS (sub-modules 13.1, 13.2, 13.5 to 13.7, 13.9 to 13.16, 13.18, and 13.19).	100	125
2	INSTRUMENT SYSTEMS (sub-modules 13.1 to 13.4, 13.7, 13.8, 13.17, 13.20 to 13.22).	120	150
3	RADIO SYSTEMS (sub-modules 13.1, 13.2, 13.4, 13.20 to 13.22).	60	75

[25] Appendix VII

substitute

Appendix VII

Aircraft systems or subsets that may be excluded from category B1 or category B2 licences and aircraft type ratings

(section 66.A.35, para 66.A.45 (h) and 66.A.70 (d))

Note 1 An AMO in accordance with section 145.A.37 of the Part 145 MOS, or a COA holder in accordance with Civil Aviation Order 104.0 (Certificates of approval — application, grant and conditions) (a **CAR 30 organisation**), may deliver excluded system training and assessment for the excluded systems set out in this Appendix — see paragraph 66.A.45 (h).

Note 2 See regulation 66.110 of CASR and subsection 66.A.70 (c) of this MOS for requirements for removal of these exclusions on type ratings.

Eligibility for removal of an exclusion from an aircraft type rating is only established by first having the affiliated exclusion removed from the category (e.g. a B1.1 with a propeller exclusion would first need to gain the appropriate category training from an MTO before an AMO could provide rating exclusion removal training for the propeller system).

Table

Exclusions

Item	Column 1 Aircraft system or subset	Column 2 Exclusion identifier	Column 3 Title of exclusion	Column 4 Applicable to category B1 licences	Column 5 Applicable to category B2 licences
1	Electrical systems	E1	Excluding electrical systems	X	X
2	Mechanical or structural systems	E2	Excluding mechanical or structural systems	X	
3	Powerplant systems	E3	Excluding powerplant systems	X	
4	Electrical subsystem of mechanical, powerplant or structural systems	E4	Excluding electrical subsystem of mechanical, powerplant or structural systems	X	X
5	Instrument subsystems of mechanical, powerplant or structural systems	E5	Excluding instrument subsystems of mechanical, powerplant or structural systems	X	X
6	Avionic line replaceable units	E6 (see Note 1)	Excluding avionics LRUs	X	X
7	Instrument aspects of avionic systems — Autopilot (ATA22), flight control systems (ATA27), indicating and recording systems (ATA31), navigation systems	E7	Excluding instrument aspects of avionics systems — ATA22, 27, 31, 34 and 42		X

Item	Column 1 Aircraft system or subset	Column 2 Exclusion identifier	Column 3 Title of exclusion	Column 4 Applicable to category B1 licences	Column 5 Applicable to category B2 licences
	(ATA34) and integrated modular avionics (ATA42)				
8	Radio aspects of avionics systems — communications (ATA23), navigation systems (ATA34), integrated modular avionics (ATA42), cabin systems (ATA44)	E8	Excluding radio aspects of avionics systems — ATA23, 34, 42 and 44		X
9	Fabric surfaces	E9	Excluding fabric surfaces	X	
10	Wooden structures	E10	Excluding wooden structures	X	
11	Audio CVR systems	E11	Excluding audio CVR systems		X
12	Propellers	E12 (see Note 2)	Excluding propellers	X	
13	Hydraulics — ATA29	E13	Excluding hydraulics — ATA29	X	
14	Vapor cycle air-conditioning aspects of ATA21	E14	Excluding vapor cycle air-conditioning aspects of ATA21	X	
15	Air-conditioning aspects of ATA21	E15	Excluding air-conditioning aspects of ATA21	X	

Item	Column 1 Aircraft system or subset	Column 2 Exclusion identifier	Column 3 Title of exclusion	Column 4 Applicable to category B1 licences	Column 5 Applicable to category B2 licences
16	Pressurisation aspects of ATA21	E16	Excluding pressurisation aspects of ATA21	X	
17		E17 (see Note 3)			
18	ADF systems	E18	Excluding ADF systems		X
19	VOR systems	E19	Excluding VOR systems		X
20	ILS systems	E20	Excluding ILS systems		X
21	Weather radar systems	E21	Excluding weather radar systems		X
22	ATC transponder systems	E22	Excluding ATC transponder systems		X
23	Radio altimeter systems	E23	Excluding radio altimeter systems		X
24	DME systems	E24	Excluding DME systems		X
25	Doppler systems	E25	Excluding doppler systems		X
26	Satellite navigation systems	E26	Excluding satellite navigation systems		X
27	Autopilots	E27	Excluding autopilots		X
28	Multi-axis autopilots	E28	Excluding multi-access autopilots		X
29	Remote indicating compass systems	E29	Excluding remote indicating		X

Item	Column 1 Aircraft system or subset	Column 2 Exclusion identifier	Column 3 Title of exclusion	Column 4 Applicable to category B1 licences	Column 5 Applicable to category B2 licences
			compass systems		
30	Inertial navigation and reference systems	E30	Excluding inertial navigation and reference systems		X
31	Pressurisation systems	E31	Excluding pressurisation systems		X
32	Electrical systems in aircraft equipped with multi-generator power systems	E32	Excluding electrical systems in aircraft equipped with multi-generator power systems	X	X
33	Supercharging systems	E33	Excluding supercharging systems	X	
34	Digital systems	E34	Excluding digital systems	X	X
35	Pressurised structures	E35	Excluding pressurised structures	X	
36	Carburettor systems	E36	Excluding carburettor systems	X	
37	Fuel injection systems	E37	Excluding fuel injection systems	X	
38	Turbo supercharging systems	E38	Excluding turbo supercharging systems	X	
39	Airframe ice protection systems	E39	Excluding airframe ice protection systems	X	

Item	Column 1 Aircraft system or subset	Column 2 Exclusion identifier	Column 3 Title of exclusion	Column 4 Applicable to category B1 licences	Column 5 Applicable to category B2 licences
40	Airframe fire protection systems	E40	Excluding airframe fire protection systems	X	
41	Oxygen systems	E41	Excluding oxygen systems	X	
42	Landing gear retraction systems	E42	Excluding landing gear retraction systems	X	
43	Fabric other than flight controls	E43	Excluding fabric other than flight controls	X	
44	Wiring repairs	E44	Excluding wiring repairs	X	X

Note 1 Exclusion E6 is removable from a licence if the licence is not also subject to exclusion E1, E4 or E5.

Note 2 Exclusion E12 is removable from a licence if the licence is not also subject to exclusion E3.

Note 3 Exclusion identifier E17 has not been allocated.

Schedule 2 Part 147 Manual of Standards

[1] Section 147.A.205

after

66.A.25 (b)

insert

or (ba)