

Title	Apply knowledge of advanced avionics to the certification of aeronautical maintenance		
Level	6	Credits	30

Purpose	<p>This knowledge-based unit standard is one of a series intended for people certifying the release to service of aircraft or aeronautical components following maintenance or repair.</p> <p>People credited with this unit standard are able to certify the maintenance of aircraft avionics systems by applying knowledge of: flight control systems, alternating current (AC) power systems, digital data transmission, printed circuit boards, electronic and optical data transmission, warning systems, electrical diagrams, soldering and cable connections to the certification of aeronautical maintenance.</p>
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Classification	Aeronautical Engineering > Aeronautical Maintenance Certification
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Available grade	Achieved
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Guidance Information

- 1 The Civil Aviation Authority of New Zealand (CAA) Aircraft Maintenance Engineer Licence – Subject 12, Avionics 2 is the national standard, and is linked to international standards.
- 2 This unit standard is aligned with the Civil Aviation Authority of New Zealand Advisory Circular AC66-2.12, Examination Syllabus for Subject 12, Avionics 2 and will be evidenced by meeting these requirements. This is available on the CAA website at <http://www.caa.govt.nz>.
- 3 *Applied knowledge* – will be in the context of aeronautical maintenance as defined by Civil Aviation Rules Part 1 as follows: ‘in relation to an aircraft or aircraft component, means all work and inspections performed to ensure the continued airworthiness of the aircraft or component, and all modifications’; will include making judgements regarding the scope, processes, and quality of maintenance for release to service certification; and will be in accordance with industry texts as defined by the candidate’s workplace or enterprise.

- 4 *Industry texts* include but are not limited to –
published aeronautical training manuals or text books;
enterprise exposition;
manufacturer publications;
government and local body legislation;
airworthiness or regulatory authority requirements.

Outcomes and performance criteria

Outcome 1

Apply knowledge of aircraft flight control systems to the certification of aeronautical maintenance.

Performance criteria

- 1.1 Knowledge of high speed flight is applied.
- 1.2 Knowledge of aircraft flight control systems and components is applied.
- 1.3 Knowledge of aircraft flight control system and component maintenance is applied.
- 1.4 Knowledge of aircraft flight control system and component inspection and certification is applied.

Outcome 2

Apply knowledge of aircraft AC power systems to the certification of aeronautical maintenance.

Performance criteria

- 2.1 Knowledge of aircraft AC theory is applied.
- 2.2 Knowledge of aircraft AC transformers is applied.
- 2.3 Knowledge of aircraft AC power systems is applied.

Outcome 3

Apply knowledge of aircraft digital data transmission to the certification of aeronautical maintenance.

Performance criteria

- 3.1 Knowledge of aircraft semiconductors is applied.
- 3.2 Knowledge of aircraft amplifiers is applied.
- 3.3 Knowledge of aircraft digital techniques is applied.

Outcome 4

Apply knowledge of aircraft printed circuit boards to the certification of aeronautical maintenance.

Performance criteria

- 4.1 Knowledge of aircraft printed circuit board construction and application is applied.
- 4.2 Knowledge of aircraft printed circuit board maintenance and testing is applied.

Outcome 5

Apply knowledge of aircraft electronic and optical data transmission to the certification of aeronautical maintenance.

Performance criteria

- 5.1 Knowledge of aircraft electronic data transmission is applied.
- 5.2 Knowledge of aircraft optical data transmission is applied.
- 5.3 Knowledge of aircraft software design control is applied.

Outcome 6

Apply knowledge of aircraft warning systems to the certification of aeronautical maintenance.

Performance criteria

- 6.1 Knowledge of aircraft master and central warning systems is applied.

Outcome 7

Apply knowledge of aircraft electrical diagrams to the certification of aeronautical maintenance.

Performance criteria

- 7.1 Knowledge of aircraft electrical diagrams is applied.

Range may include but is not limited to – symbols, terminology, coding systems.

Outcome 8

Apply knowledge of aircraft electrical soldering to the certification of aeronautical maintenance.

Performance criteria

8.1 Knowledge of aircraft soldering equipment and materials is applied.

8.2 Knowledge of aircraft electrical soldering techniques is applied.

Outcome 9

Apply knowledge of aircraft cable connections to the certification of aeronautical maintenance.

Performance criteria

9.1 Knowledge of aircraft cable connection types is applied.

9.2 Knowledge of aircraft cable connection installation and testing is applied.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	9 December 2010	31 December 2020
Review	2	28 September 2017	31 December 2024
Review	3	27 October 2022	N/A

Consent and Moderation Requirements (CMR) reference	0028
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Ringa Hora Services Workforce Development Council qualifications@ringahora.nz if you wish to suggest changes to the content of this unit standard.