Title	**Apply knowledge of aircraft engineering to the certification of aeronautical maintenance**		
Level	**6**	**Credits**	**20**

Purpose	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. People credited with this unit standard are able to apply knowledge of: aircraft drawings, workshop equipment and hand tools, workshop practice, aircraft standard hardware, aircraft painting and finishing, and aircraft ground handling, cleaning and general aeronautical practices to the certification of aeronautical maintenance.

Classification	Aeronautical Engineering > Aeronautical Maintenance Certification

Available grade	Achieved

Guidance Information

1 The Civil Aviation Authority of New Zealand (CAA) Aircraft Maintenance Engineer Licence – Examination Subject 2, Aircraft Engineering Knowledge 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 AC66-2.2, Examination Syllabus for Subject 2, Aircraft Engineering Knowledge 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 drawings to the certification of aeronautical maintenance.

Performance criteria

1.1 Knowledge of drawing types and projections is applied.

1.2 Knowledge of drawing conventions is applied.

1.3 Knowledge of drawing techniques is applied.

1.4 Knowledge of standards and specifications is applied to drawings.

1.5 Knowledge of drawing and drawing equipment care is applied.

Outcome 2

Apply knowledge of workshop equipment and hand tools to the certification of aeronautical maintenance.

Performance criteria

2.1 Knowledge of workshop tools and equipment is applied.

2.2 Knowledge of cutting tools is applied.

2.3 Knowledge of power tools is applied.

2.4 Knowledge of sheet metal tools is applied.

2.5 Knowledge of precision measuring equipment and gauges is applied.

Outcome 3

Apply knowledge of workshop practice to the certification of aeronautical maintenance.

Performance criteria

3.1 Knowledge of sheet metal repair is applied.

Range repair principles, maintain original strength, maintain original contour, minimise weight.

3.2 Knowledge of damage inspection and classification is applied

Range stresses in structural members, damage types, damage symptoms.

3.3 Knowledge of metal forming operations is applied.

3.4 Knowledge of riveting is applied.

Range solid rivets, rivet layout, riveting equipment, installation and removal techniques, self-plugging rivets.

3.5 Knowledge of metal repair types is applied.

3.6 Knowledge of structure sealing is applied.

Outcome 4

Apply knowledge of aircraft standard hardware to the certification of aeronautical maintenance.

Performance criteria

4.1 Knowledge of aircraft standard hardware identification is applied.

4.2 Knowledge of rivets is applied.

4.3 Knowledge of threaded hardware is applied.

Range bolts, studs, dowels, nuts, screws, washers, thread classification, internal thread repair.

4.4 Knowledge of pins, keys, circlips, panel fasteners and springs is applied.

4.5 Knowledge of control cables, rods and fasteners is applied.

4.6 Knowledge of bearings and transmissions is applied.

4.7 Knowledge of gaskets, seals and sealing compounds is applied.

4.8 Knowledge of fluid lines and fluid line hardware is applied.

Outcome 5

Apply knowledge of aircraft painting and finishing to the certification of aeronautical maintenance.

Performance criteria

5.1 Knowledge of aircraft paint finishes is applied.

5.2 Knowledge of aircraft painting is applied.

5.3 Knowledge of the maintenance of painted surfaces is applied.

5.4 Knowledge of decals, placards, and markings is applied.

Outcome 6

Apply knowledge of aircraft ground handling, cleaning, and general aeronautical practices to the certification of aeronautical maintenance.

Performance criteria

6.1 Knowledge of aircraft ground handling is applied.

6.2 Knowledge of general aeronautical practices is applied.

6.3 Knowledge of aircraft cleaning is applied.

Range exterior, interior, component.

Planned review date	31 December 2027

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 August 2004	31 December 2020
Review	2	9 December 2010	31 December 2020
Review	3	28 September 2017	31 December 2024
Review	4	27 October 2022	N/A

Consent and Moderation Requirements (CMR) reference	0028

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.