Title	**Apply knowledge of rotorcraft 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 rotorcraft: rotary wing aerodynamics, design and construction, rotor systems, flight control systems, hydraulic systems, power train systems, fuel systems, weight and balance control, environmental systems, equipment and furnishings, inspection, testing, and ground operations 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 6, Rotorcraft 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 AC66-2.6, Examination Syllabus for Subject 6, Rotorcraft 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 rotary wing aerodynamics to the certification of aeronautical maintenance.

Performance criteria

1.1 Knowledge of lift production by a rotary wing aerofoil is applied.

1.2 Knowledge of the forces acting on rotorcraft in flight is applied.

1.3 Knowledge of flight manoeuvres and the aerodynamic effects of rotorcraft flight controls is applied.

1.4 Knowledge of the effects of rotorcraft design features is applied.

Outcome 2

Apply knowledge of rotorcraft design and construction to the certification of aeronautical maintenance.

Performance criteria

2.1 Knowledge of rotorcraft design principles is applied.

2.2 Knowledge of rotorcraft construction principles is applied.

2.3 Knowledge of rotorcraft structure maintenance is applied.

2.4 Knowledge of rotorcraft structure inspection and certification is applied.

Outcome 3

Apply knowledge of rotor systems to the certification of aeronautical maintenance.

Performance criteria

3.1 Knowledge of rotor systems and components is applied.

3.2 Knowledge of rotor system and component maintenance is applied.

3.3 Knowledge of rotor system and component inspection and certification is applied.

Outcome 4

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

Performance criteria

4.1 Knowledge of rotorcraft flight control systems and components is applied.

4.2 Knowledge of rotorcraft flight control system and component maintenance is applied.

4.3 Knowledge of rotorcraft flight control system and component inspection and certification is applied.

Outcome 5

Apply knowledge of rotorcraft hydraulic systems to the certification of aeronautical maintenance.

Performance criteria

5.1 Knowledge of rotorcraft hydraulic systems and components is applied.

5.2 Knowledge of rotorcraft hydraulic system and component maintenance is applied.

5.3 Knowledge of rotorcraft hydraulic system and component inspection and certification is applied.

Outcome 6

Apply knowledge of rotorcraft power train systems to the certification of aeronautical maintenance.

Performance criteria

6.1 Knowledge of rotorcraft power train systems and components is applied.

6.2 Knowledge of rotorcraft power train system and component maintenance is applied.

6.3 Knowledge of rotorcraft power train system and component inspection and certification is applied.

Outcome 7

Apply knowledge of rotorcraft fuel systems to the certification of aeronautical maintenance.

Performance criteria

7.1 Knowledge of aviation fuels is applied.

7.2 Knowledge of rotorcraft fuel systems and components is applied.

7.3 Knowledge of rotorcraft fuel system and component maintenance is applied.

7.4 Knowledge of rotorcraft fuel system and component inspection and certification is applied.

Outcome 8

Apply knowledge of rotorcraft weight and balance control to the certification of aeronautical maintenance.

Performance criteria

8.1 Knowledge of the relationship between weight and centre of gravity on rotorcraft flight performance is applied.

8.2 Knowledge of the rotorcraft weighing process is applied.

8.3 Knowledge of rotorcraft weight and balance calculation is applied.

Outcome 9

Apply knowledge of rotorcraft environmental systems to the certification of aeronautical maintenance.

Performance criteria

9.1 Knowledge of rotorcraft environmental systems and components is applied.

9.2 Knowledge of rotorcraft environmental systems and component maintenance is applied.

9.3 Knowledge of rotorcraft environmental systems and component inspection and certification is applied.

Outcome 10

Apply knowledge of rotorcraft equipment and furnishings to the certification of aeronautical maintenance.

Performance criteria

10.1 Knowledge of rotorcraft equipment and furnishings is applied.

10.2 Knowledge of rotorcraft equipment and furnishings maintenance is applied.

10.3 Knowledge of rotorcraft equipment and furnishings inspection and certification is applied.

Outcome 11

Apply knowledge of rotorcraft inspection, testing, and ground operations to the certification of aeronautical maintenance.

Performance criteria

11.1 Knowledge of rotorcraft servicing is applied to rotorcraft inspection.

11.2 Knowledge of the requirements for ground and air testing of rotorcraft following maintenance is applied.

11.3 Knowledge of rotorcraft ground operations is applied.

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.