

Title	Demonstrate type rating competency for multi-engine helicopters		
Level	5	Credits	5

Purpose	People credited with this unit standard are able, for a flight rating for a multi-engine helicopter, to demonstrate: technical knowledge; preparation for flight; take-off procedures; flying skills; approach and landing; and emergency procedures.
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Classification	Aviation > Aircraft Operation
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Available grade	Achieved
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Guidance Information

- 1 The type competency demonstration flight covered by this unit standard must be demonstrated in accordance with the Civil Aviation Rules Part 61 and 91, and other relevant rules, published by the Civil Aviation Authority of New Zealand (CAA), PO Box 3555, Wellington 6140, and their subsequent amendments. Candidates for this type rating must complete a CAA-approved course of technical training and a CAA-approved written examination. The unit standard will be granted only in respect of a rating for a type other than that used for the initial flight test.
- 2 This unit standard is aligned with the relevant parts of the prescribed syllabi of the CAA. Credit will be awarded on meeting the requirements of the CAA-approved assessment or examination.
- 3 Definitions, abbreviations, and acronyms used in this unit standard are to be found in:
 - a *Civil Aviation Rules Part 1* on the CAA website at <https://www.caa.govt.nz>, and
 - b *Aeronautical Information Publication (AIP)* published by Aeronautical Information Management (AIM), PO Box 294, Wellington 6140 or on the AIM website at <http://www.aip.net.nz>.
- 4 All references to the CAA refer specifically to the Civil Aviation Authority of New Zealand.
- 5 Industry standards and recommended practices are those set in place by the CAA.
- 6 Industry texts may include but are not limited to – helicopter flight manuals, CAA Rules, CAA Advisory Circulars, CAA Flight Test Standards Guides, operator exposition.
- 7 Industry requirements are that the candidate must meet the eligibility requirements of the Civil Aviation Act 1990 and the Civil Aviation Rules Part 61 for a type rating.

Outcomes and performance criteria

Outcome 1

Demonstrate technical knowledge of a multi-engine helicopter for a type rating.

Performance criteria

- 1.1 Technical knowledge for operating a multi-engine helicopter is explained in accordance with industry texts and standards.

Range includes but is not limited to – primary flight controls and trim, carburettor heat and/or alternate air, mixture, fuel, oil, hydraulic systems, pneumatic systems, electrical system and associated instruments, landing gear/skids, rotor wheel brakes, avionics, auto-pilot, pitot-static system, vacuum/pressure system, heating and environmental system, de-icing and anti-icing systems, fire extinguisher systems, engines, rotor systems, airframe.

Outcome 2

Demonstrate preparation of a multi-engine helicopter for flight for a type rating.

Performance criteria

- 2.1 Essential performance and limitations data are derived and calculated in accordance with industry texts and standards.
- 2.2 The calculations for weight and balance for a practical load are completed in accordance with industry texts and standards.
- 2.3 The helicopter is loaded in accordance with industry texts and standards.
- 2.4 Helicopter documents validity is verified in accordance with the helicopter flight manual and industry standards.
- 2.5 Pre-flight inspection is carried out in accordance with industry texts and standards.
- Range includes but is not limited to – airworthiness of helicopter, fuel checks, weight and balance, oral briefing of passengers.
- 2.6 Engine start, warm-up, run-up procedures, and systems checks are demonstrated in accordance with the aircraft flight manual and industry standards.
- Range includes but is not limited to – use of external power source, various atmospheric conditions, effects of incorrect procedures.

Outcome 3

Demonstrate multi-engine helicopter take-off procedures for a type rating.

Performance criteria

- 3.1 Taxiing and hover manoeuvring are demonstrated in accordance with the helicopter flight manual and industry standards.
- 3.2 Helicopter take-off is demonstrated in accordance with the aircraft flight manual and industry standards.

Outcome 4

Demonstrate flying skills for a multi-engine helicopter type rating.

Performance criteria

- 4.1 Engine shutdown and restart in the air (air-start) are demonstrated in accordance with industry texts and standards.
- 4.2 Engine failure (cruise flight) is demonstrated in accordance with industry texts and standards.
- 4.3 Engine failure during take-off is demonstrated in accordance with industry texts and standards.
- 4.4 Engine failure after take-off is demonstrated in accordance with industry texts and standards.
- 4.5 Cruising flight is demonstrated in accordance with industry texts and standards.
- 4.6 Steep turn is demonstrated in accordance with industry texts and standards.
- 4.7 Settling with power (vortex ring state) is demonstrated in accordance with industry texts and standards.
- 4.8 Circuit procedures are demonstrated in accordance with industry texts and standards.

Outcome 5

Demonstrate approach and landing for a type rating for a multi-engine helicopter.

Performance criteria

- 5.1 Approach and landing are demonstrated in accordance with industry texts and standards.
 - Range includes but is not limited to – normal, steep, running (skids) or roll on (wheeled), confined area, sloping ground; noise abatement techniques.

Outcome 6

Demonstrate emergency procedures for a type rating for a multi-engine helicopter.

Performance criteria

- 6.1 Emergency procedures and abnormal conditions are demonstrated in accordance with industry texts and standards.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	18 June 2010	31 December 2018
Revision	2	9 December 2010	31 December 2018
Review	3	20 October 2016	31 December 2027
Review	4	28 September 2023	31 December 2027

Consent and Moderation Requirements (CMR) reference

0169

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.