

<b>Title</b>	<b>Demonstrate knowledge of, and competencies for, mountain flying for a commercial pilot licence (helicopter)</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>8</b>

<b>Purpose</b>	People credited with this unit standard are able, for a commercial pilot licence (helicopter), to: demonstrate knowledge of aircraft handling in mountain flying; demonstrate aircraft handling during mountain flying; respond to weather patterns and wind awareness during mountain flying; demonstrate transit flying during mountain flying; demonstrate approach and landing to an unprepared site during mountain flying; demonstrate take-off from an unprepared site during mountain flying; demonstrate emergency procedures during mountain flying; and demonstrate application of human factors during mountain flying.
----------------	---

<b>Classification</b>	Aviation > Aircraft Operation
-----------------------	-------------------------------

<b>Available grade</b>	Achieved
------------------------	----------

### Guidance Information

- The 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. This unit standard is aligned with the syllabus in CAA Advisory Circular 61-5 Appendix V. Credit will be awarded on meeting the requirements of the CAA-approved assessment or examination.
- Definitions, abbreviations, and acronyms used in this unit standard are to be found in:
  - Civil Aviation Rules Part 1* on the CAA website at <https://www.caa.govt.nz>, and
  - 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>.
- All references to the CAA refer specifically to the Civil Aviation Authority of New Zealand.
- Industry standards and recommended practices are those set in place by the CAA.
- Industry texts may include but are not limited to – aircraft flight manuals, CAA Rules, CAA Advisory Circulars, CAA GAP publications, operator exposition.
- For the purpose of this unit standard, *knowledge* refers to the knowledge, understanding, and application of the subject matter.

- 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 commercial pilot licence.

---

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of aircraft handling in mountain flying for a commercial pilot licence (helicopter).

### Performance criteria

- 1.1 Horizon awareness is defined in accordance with industry texts and standards.
- Range includes but is not limited to – location of virtual horizon on a variable background, illusions associated with horizon definition.
- 1.2 Height and altitude considerations are explained in accordance with industry texts and standards.
- 1.3 Weather patterns and wind awareness are described in accordance with industry texts and standards.
- Range mountain weather, wind awareness.
- 1.4 Transit flying is described and explained in accordance with industry texts and standards.
- Range pre-flight planning includes but is not limited to – map selection, route and height selection;  
flying techniques include but are not limited to – valley flying, maintaining orientation, saddle/ridge crossing.
- 1.5 Approach and landing to an unprepared site are described and explained in accordance with industry texts and standards.
- Range includes but is not limited to – reconnaissance, power checks, wind and direction demarcation line, approach direction and angle, committal point and escape route, aiming point/hover or touchdown point, typical terrain features, main/tail rotor awareness.
- 1.6 Take-off from an unprepared site is described and explained in accordance with industry texts and standards.
- Range includes but is not limited to – power checks, take-off and climb-out.

- 1.7 Emergencies procedures are described and explained in accordance with industry texts and standards.

Range includes but is not limited to – controlled flight into terrain, forced/precautionary landings.

- 1.8 Human factors are described and explained in accordance with industry texts and standards.

Range includes but is not limited to – situational awareness, aircraft management, airmanship, aviation medicine, SAR aspects.

## **Outcome 2**

Demonstrate aircraft handling during mountain flying for a commercial pilot licence (helicopter).

### **Performance criteria**

- 2.1 Flight at constant height above contour is demonstrated in accordance with industry texts and standards.

- 2.2 Height is estimated in accordance with industry texts and standards.

Range visual means, barometric or radio altimeter.

## **Outcome 3**

Respond to weather patterns and wind awareness during mountain flying for a commercial pilot licence (helicopter).

### **Performance criteria**

- 3.1 Up drafts, down drafts and areas of likely turbulence are identified in accordance with industry texts and standards.

- 3.2 Wind strength is estimated using visual indicators in accordance with industry texts and standards.

- 3.3 Wind strength and direction are estimated using ground speed/airspeed correlation in accordance with industry texts and standards.

- 3.4 Flight in inclement weather is demonstrated in accordance with industry texts and standards.

## **Outcome 4**

Demonstrate transit flying during mountain flying for a commercial pilot licence (helicopter).

**Performance criteria**

- 4.1 Flight at height appropriate for the conditions is demonstrated in accordance with industry texts and standards.
- 4.2 A route/position appropriate for wind or weather conditions is selected and demonstrated in accordance with industry texts and standards.
- 4.3 Flight in a confined valley is demonstrated in accordance with industry texts and standards.
- 4.4 Ridge/saddle crossing is demonstrated in accordance with industry texts and standards.

**Outcome 5**

Demonstrate approach and landing to an unprepared site during mountain flying for a commercial pilot licence (helicopter).

**Performance criteria**

- 5.1 Reconnaissance is carried out in accordance with industry texts and standards.  
Range includes but is not limited to – power check.
- 5.2 Surface wind is determined in accordance with industry texts and standards.
- 5.3 Flight positioning in relation to the demarcation line is demonstrated in accordance with industry texts and standards.  
Range ahead of demarcation line, behind demarcation line.
- 5.4 Approach to an open flat area is demonstrated in accordance with industry texts and standards.  
Range includes but is not limited to – normal circuit.
- 5.5 Straight-in constant angle “gun barrel” approach is demonstrated in accordance with industry texts and standards.
- 5.6 Overshoot to the pre-planned escape route is demonstrated in accordance with industry texts and standards.

**Outcome 6**

Demonstrate take-off from an unprepared site during mountain flying for a commercial pilot licence (helicopter).

**Performance criteria**

- 6.1 Power required for take-off is calculated and power check is demonstrated in the hover in accordance with industry texts and standards.

- 6.2 Towering take-off directly into the wind is demonstrated in accordance with industry texts and standards.

### Outcome 7

Demonstrate emergency procedures during mountain flying for a commercial pilot licence (helicopter).

#### Performance criteria

- 7.1 Autorotation from a high altitude is entered, sustained and recovered from in accordance with industry texts and standards.
- 7.2 LTE and low RRPM are experienced and recovered from in accordance with industry texts and standards.

### Outcome 8

Demonstrate application of human factors during mountain flying for a commercial pilot licence (helicopter).

#### Performance criteria

- 8.1 Situational awareness is maintained in accordance with industry texts and standards.
- 8.2 Aircraft management is demonstrated in accordance with industry texts and standards.
- 8.3 Airmanship is demonstrated in accordance with industry texts and standards.
- 8.4 Safety equipment is carried in accordance with industry texts and standards.
- Range includes but is not limited to – first aid kit, survival kit.

**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>.