Australian Government

AVIY0063 Execute advanced helicopter manoeuvres and procedures

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to execute advanced helicopter manoeuvres and procedures in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes turning a helicopter steeply, performing autorotative flight, and landing on and lifting off sloping ground. It also includes landing, taking off and manoeuvring in a confined area; executing limited power take-offs, approaches and landings; and taking off and landing at a pinnacle or ridge line.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Turn helicopter steeply	**1.1** Level turn of nominated bank angle is achieved without altitude change to nominated heading
	1.2 Descending turn of nominated bank angle is achieved to nominated heading
	1.3 Awareness of higher stall speed in turns is applied
	1.4 Helicopter operating limits are not exceeded
2 Perform autorotative flight	**2.1** Appropriate action plan, including task priorities, is formulated that ensures the safe completion of autorotative manoeuvres
	2.2 Autorotative flight is entered and maintained at a nominated speed and heading in balanced flight
	2.3 Autorotative flight is performed at the optimum range and minimum descent rate speeds
	2.4 Heading is altered with helicopter in balanced flight at a nominated speed
	2.5 Helicopter is recovered and transitioned to normal flight from autorotative flight using power to a climb at nominated heading and speed
	2.6 Helicopter autorotative landing to the ground is performed into the wind, using appropriate mix of control inputs within tolerances of termination point without lateral or rearward movement, and zero or minimum run-on speed
	2.7 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	2.8 Situation awareness is maintained at all times during autorotative flight
3 Land on and lift off sloping ground	**3.1** Surface conditions are confirmed to be suitable for the helicopter type

	3.2	Stakeholders are briefed to ensure safe operations in the vicinity of helicopter
	3.3	Helicopter is landed from the hover onto sloping ground using appropriate slope landing techniques relevant to helicopter type
	3.4	Helicopter is lifted off from sloping ground to a hover using appropriate slope landing techniques relevant to helicopter type
	3.5	Control inputs and adjustments during landing on and lifting off are made in response to wind, surface and applicable aircraft limitations, using appropriate slope landing techniques and helicopter handling procedures
	3.6	Any abnormal situations are recognised and appropriate controlled corrective action implemented
	3.7	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
	3.8	Situation awareness is maintained at all times during lift-offs and landings on sloping ground
4 Land, manoeuvre and take off in a confined area	**4.1**	Confined area is assessed, an action plan is formulated and a decision made to operate in the area
	4.2	Own pilot capabilities and helicopter performance are assessed, and decisions to take off or land are adjusted accordingly
	4.3	Appropriate approach and departure path is identified prior to intercepting and approach path to nominated termination point is maintained
	4.4	Helicopter is safely landed in a confined area using appropriate landing on techniques
	4.5	Helicopter is manoeuvred in a confined area while remaining clear of obstructions, and within helicopter operating limitations
	4.6	Helicopter departure plan and contingency procedures are briefed prior to departure
	4.7	Helicopter is safely taken off from a confined area using

		appropriate lifting off techniques
	4.8	Situational awareness is maintained at all times during manoeuvres in a confined area
5 Execute limited power take-off, approach and landing	**5.1**	Need for limited power manoeuvres is established
	5.2	Decision to conduct limited power manoeuvres is implemented and appropriate action plan is formulated to conduct limited power operations
	5.3	Helicopter performance is calculated and power requirements confirmed prior to commencing limited power operations
	5.4	Appropriate area for a safe take-off and landing suitable for limited power available is selected
	5.5	Awareness of own capabilities is applied, and limitations and decisions to take-off, approach or land are adjusted accordingly
	5.6	Limited power take-off is performed, applying maximum or nominated power while maintaining optimum rotor revolutions per minute (RRPM) speed
	5.7	Limited power approach and landing is performed while managing helicopter airspeed and optimum RRPM appropriate to power available and landing environment
	5.8	Situational awareness is maintained at all times during limited power manoeuvres
	5.9	Appropriate allowance is made for wind effects during limited power manoeuvres
6 Take off and land at a pinnacle or ridge line	**6.1**	Suitable pinnacle or ridge line is selected and assessed, helicopter performance is assessed and/or confirmed, approach and landing plan is formulated, and decision is made to operate onto the area
	6.2	Awareness of own capabilities is applied, and limitations and decisions to take-off or land are adjusted accordingly
	6.3	Helicopter is safely landed on a pinnacle or ridge line using appropriate landing on techniques

6.4 Helicopter is safely lifted and taken off from a pinnacle or ridge line using appropriate lifting off techniques

6.5 Situational awareness is maintained at all times during take-offs, approaches and landings at a pinnacle or ridge line

6.6 Appropriate allowance is made for wind effects, landing surface conditions and approach/departure path obstacles during take-off, approach and landing at a pinnacle or ridge line

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to AVIY4017 Execute advanced helicopter manoeuvres and procedures.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816