Australian Government

AVIY4012 Control helicopter in hovering flight

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 control a helicopter in hovering flight, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes lifting off to hover and performing hovering checks, hovering a helicopter in cross and tail winds, performing turns around the mast, conducting turns around nose and tail, and performing sidewards and backwards flight. It also includes landing from the hover, managing a mishandled landing, and managing a mishandled lift off.

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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

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 Lift off to hover and perform hover checks	1.1 Aircraft performance is calculated for flight
	1.2 Pre-take-off checks are performed
	1.3 Flight controls are set to prepare for lift-off to hover
	1.4 Flight and power controls are used to lift helicopter off the surface to a stable hover at appropriate height for helicopter while controlling heading
	1.5 Wind effect is anticipated and accounted for with appropriate control inputs to maintain position over nominated hover point
	1.6 Awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is applied
	1.7 Flight control functions, centre of gravity and hover power checks are performed
	1.8 Hover taxi manoeuvre is commenced, maintained and stopped at a constant and safe hover height, while maintaining engine power and rotor speed (RRPM) within limits
	1.9 Coordinated corrective action is used to counter wind effects
	1.10 Implications of environmental conditions are assessed and appropriate compensation is made
	1.11 Helicopter is maintained clear of obstructions
	1.12 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
2 Hover helicopter in cross and tail winds	2.1 Helicopter is maintained in hovering flight remaining over a nominated hover point at a nominated height and heading in cross and tail winds
	2.2 Coordinated corrective action is used to maintain a constant rate of turn and to counter wind effects

3	**Perform turns around mast**	3.1 Helicopter is turned around the mast while maintaining a constant height and specified rate of turn over nominated hover point
		3.2 Turn is completed on nominated heading
		3.3 Controlled corrective action is used to control effects of wind gusts
		3.4 Helicopter is maintained clear of obstructions
		3.5 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		3.6 RPM is managed within limits during turn
4	**Perform turns around nose and tail**	4.1 Helicopter is turned around nominated point on or forward of helicopter nose while maintaining a constant height and specified rate of movement around point
		4.2 Helicopter is turned around nominated point on or aft of helicopter tail while maintaining a constant height and specified rate of movement around point
		4.3 Controlled corrective action is taken to counter effects of wind gusts
		4.4 Helicopter is maintained clear of obstructions during turning manoeuvres
		4.5 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		4.6 Turns in a specified direction are commenced and stopped at a specified heading
		4.7 RPM is managed within limits during turn
		4.8 Ground track is maintained at a constant distance from nominated point
		4.9 Anti-torque pedals are used to ensure helicopter nose or tail is pointed at nominated turning point
5	**Perform sidewards and backwards flight**	5.1 Helicopter is transitioned from static hover to sideways and rearward flight

		5.2	Lookout is maintained in direction of flight using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		5.3	Rearward movement is only conducted after visually checking behind helicopter, and height is adjusted as required
		5.4	Helicopter directional control is maintained and manoeuvred clear of obstructions during sidewards and backwards flight manoeuvres
		5.5	RPM is managed within limits during turn
		5.6	Rate of movement of helicopter is maintained at a safe speed
		5.7	Sideways and rearward flight is terminated over nominated hover point
6	**Land from the hover**	6.1	Pre-landing checks are completed as required
		6.2	Helicopter is lowered onto nominated point from hovering flight without adverse longitudinal, lateral, yawing or rolling movements
		6.3	Helicopter stability on landing gear is ensured prior to fully lowering collective
		6.4	After-landing checks are performed
7	**Manage a mishandled landing**	7.1	Appropriate action is taken to identify when an adverse landing situation is developing
		7.2	Appropriate action is taken to either land aircraft or discontinue landing and return to hover safely
8	**Manage a mishandled lift off**	8.1	Appropriate action is taken to identify when an adverse lift off situation is developing
		8.2	Appropriate action is taken to discontinue lift off and return to ground safely

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 AVIY4012B Control helicopter in hovering flight.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816