



Australian Government

AVIY4014 Take off helicopter and approach to hover

Release: 1

AVIY4014 Take off helicopter and approach to hover

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 take off a helicopter and approach to hover, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes carrying out pre-take-off checks, taking off a helicopter, approaching to hover prior to landing, and performing the go-around procedure.

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 Carry out pre take-off checks

- 1.1 Pre take-off checks and safety briefings are completed
- 1.2 Safe take-off path is selected
- 1.3 Helicopter is lined up in take-off direction and is positioned at the optimum position within the helicopter landing site (HLS)
- 1.4 Line-up checks are performed in accordance with approved checklist as required

2 Take off helicopter

- 2.1 Air traffic control (ATC) clearances are obtained and compliance is maintained with clearance conditions and requirements, when operating within controlled airspace
- 2.2 Helicopter is transitioned from a stationary position in a specified direction passing through translational lift, remaining clear of obstructions, and establishing and maintaining a recommended or nominated climb speed
- 2.3 Helicopter flight path is controlled using appropriate flight handling techniques including awareness of helicopter performance considerations, aircraft balance and flight control trim as required
- 2.4 Power and attitude are managed for flight path, departure profile and indicated airspeed (IAS) being flown
- 2.5 Local and published noise abatement requirements and curfews are observed
- 2.6 Situational awareness of circuit traffic is maintained and conflict is avoided

3 Approach to hover

- 3.1 Suitable termination point is selected
- 3.2 Pre-landing checks are completed in accordance with approved checklist
- 3.3 Appropriate approach angle and track is intercepted and approach manoeuvres are conducted in accordance with air traffic control instructions
- 3.4 Helicopter is descended to hover at selected termination point at a reducing closure rate and along a specified track on an approach angle appropriate to helicopter type and

	conditions
	3.5 Landing gear is aligned to planned approach direction
	3.6 Loss of translational lift is recognised and controlled
	3.7 RPM is managed within normal operational limits
	3.8 Approach is terminated at hover over termination point
4 Perform go-around procedure	4.1 Critical situations are recognised and timely decisions are made to go-around in circumstances that require discontinuing a circuit or approach
	4.2 Go-around is initiated
	4.3 Power and attitude is set to initiate safe climb at appropriate IAS from any position in the circuit
	4.4 Obstructions and traffic are appropriately avoided during climb following a decision to go-around
	4.5 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
	4.6 Situational awareness of circuit traffic is maintained throughout go-round procedure
	4.7 After take-off checks are completed in accordance with approved checklist
	4.8 Local and published noise abatement requirements and curfews are observed

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 AVIY4014B Take off helicopter and approach to hover.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY4014 Take off helicopter and approach to hover

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when taking off helicopter and approaching to hover
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting/using a helicopter manufacturer height-velocity diagram/graph
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using relevant controls/equipment
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with taking off a helicopter and controlling its approach to hover
- using instruments to monitor helicopter performance
- working collaboratively with others when taking off helicopter and approaching to hover
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodynamic factors affecting helicopter flight performance
- air traffic requirements
- aircraft flight manual (AFM) and pilot's operating handbook (POH)
- aircraft performance
- aircraft systems
- aircraft weight and balance
- all pre- and after- take-off and pre- and after- landing checks
- application of a height/velocity diagram/graph
- avoidance and recognition of recovery techniques appropriate to helicopter type
- basic principles of aerodynamics
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- contributing operational situations and environmental conditions
- day visual flight rules (VFR) criteria
- factors affecting take-off and climb performance
- flapback
- functions and effects of all helicopter controls
- ground effect
- hazards and risks when taking off a helicopter and controlling its approach to hover and precautions for controlling the risks
- inflow roll
- local air traffic control procedures and instructions
- loss of tail rotor effectiveness (LTE)
- low 'g' force and mast bumping
- overpitching or low rotor speed (RRPM) – rotor stall
- problems that may occur when taking off a helicopter and controlling its approach to hover and appropriate action that should be taken in each case
- procedures for using performance charts
- purpose and functions of helicopter systems
- recirculation
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- settling with power
- translational lift

- vortex ring state
- weight and balance.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

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