



Australian Government

Department of Education, Employment and Workplace Relations

AVIY4012B Control helicopter in hovering flight

Revision Number: 1

AVIY4012B Control helicopter in hovering flight

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to control a helicopter in hovering flight, including lifting off, hovering a helicopter, performing hovering checks; hovering a helicopter in cross and tail winds; performing spot/pedal turns; conducting turns around nose and tail; and performing sideways and backwards flight. It also includes landing from the hover, managing a mislanding, and aborting a lift off. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) and/or ADF; airspace control requirements and Day Visual Flight Rules (Day VFR); and aircraft control principles, regulations, safety codes, protocols and procedures required when controlling a helicopter in hovering flight.

Use for ADF Aviation is to be in accordance with relevant Defence Orders and Instructions and applicable CASA compliance.

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

Work is performed under limited supervision.

This unit is nominally packaged a Certificate IV.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Lift off, hover helicopter and perform hover checks	1.1 Pre-take-off checks are performed in accordance with workplace procedures, approved checklist and regulatory requirements 1.2 Helicopter is established in hovering flight over a hover point 1.3 Hover checks are performed in accordance with workplace procedures, approved checklist and regulatory requirements 1.4 Helicopter is maintained in flight and kept over a nominated hover point at a nominated height and heading 1.5 Helicopter remains clear of the 'avoid' area of the manufacturers height-velocity diagram where possible 1.6 Coordinated corrective action is used to counter the effects of wind gusts 1.7 Implications of unfavourable weather are assessed and appropriate compensation is made 1.8 Helicopter is maintained clear of obstructions 1.9 Adverse effect of rotor wash is avoided 1.10 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 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 control the effects of wind gusts
3 Perform spot/pedal turns	3.1 Helicopter is turned around the mast while maintaining a constant height and specified rate of turn over the hover point 3.2 Controlled corrective action is used to control the effects of wind gusts 3.3 Helicopter is maintained clear of obstructions/ground 3.4 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
4 Perform turns around nose and tail	4.1 Helicopter is turned around a nominated point on or forward of the nose or on or aft of the tail of the helicopter while maintaining a constant height and specified rate of movement around the point 4.2 Controlled corrective action is taken to counter the effects of wind gusts 4.3 Helicopter is maintained clear of obstructions/ground during turning manoeuvres 4.4 Lookout is maintained using a systematic scan technique at a

ELEMENT	PERFORMANCE CRITERIA
	rate determined by traffic density, visibility, obstructions and terrain
5 Perform sideways and backwards flight	<p>5.1 Helicopter is transitioned from static hover to sideways and rearward flight in accordance with workplace procedures, approved checklist and regulatory requirements</p> <p>5.2 Transition from static hover to sideways and rearward flight is terminated over a nominated hover point</p> <p>5.3 Lookout is maintained in direction of flight using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain</p> <p>5.4 Helicopter is maintained clear of obstructions/ground during sideways and backwards flight manoeuvres</p> <p>5.5 Rearward movement is only conducted after visually checking behind helicopter, and height is adjusted as required</p>
6 Land from the hover	<p>6.1 Helicopter is lowered on to a nominated point from hovering flight without longitudinal, lateral, yawing or rolling movements and without harshness</p> <p>6.2 Confirmation is made that the helicopter is securely on the ground prior to lowering collective fully</p> <p>6.3 After-landing checks are performed in accordance with workplace procedures, approved checklist and regulatory requirements</p>
7 Manage a mishandled landing	<p>7.1 Appropriate action is taken to identify when an adverse landing situation has developed</p> <p>7.2 A decision to achieve a stabilised position is implemented</p> <p>7.3 Situation is re-evaluated and the landing is continued if appropriate</p> <p>7.4 In situations where it is considered inappropriate to continue the landing, the helicopter is lifted off and re-positioned for landing</p>
8 Abort a lift off	<p>8.1 Should circumstances require, a timely decision is made to discontinue a vertical lift off</p> <p>8.2 Helicopter is appropriately controlled to ensure that the undercarriage is safely lowered onto the ground</p>

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- Relevant OH&S and environmental procedures and regulations
- Relevant helicopter/equipment characteristics including:
 - aircraft operational limitations
 - aerodrome and helicopter landing site markings
 - light and marshalling signals
 - helicopter braking and steering systems
 - application of the height/velocity graph
 - effects of rotor wash
- hazards and risks when controlling a helicopter in hovering flight and precautions for controlling the risks
- relevant sections of the Flight Manual/POH
- local air traffic control procedures
- Helicopter hovering procedures including:
 - pre-take-off checks
 - hover checks
 - maintaining hovering flight in a range of operational conditions
 - turning a helicopter around the mast
 - making a transition from static hover to sideways and rearward flight
 - landing the helicopter
 - managing a mislanding

Required skills:

- Select and use relevant controls/equipment including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- Read and interpret instructions, procedures and information relevant to the control of a helicopter in hovering flight
- Apply the knowledge to the control of a helicopter in hovering flight
- Use instruments to monitor helicopter performance
- Solve any problems when controlling a helicopter in hovering flight
- Communicate effectively with others when controlling helicopter in hovering flight
- Read and interpret instructions, regulations, procedures and other information relevant to

REQUIRED KNOWLEDGE AND SKILLS

controlling helicopter in hovering flight

- Interpret and follow operational instructions and prioritise work
- Complete documentation related to controlling a helicopter in hovering flight
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when controlling a helicopter in hovering flight
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when controlling a helicopter in hovering flight in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when controlling a helicopter in hovering flight
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when controlling a helicopter in hovering flight
- Monitor and anticipate operational problems and hazards and take appropriate action
- Monitor work activities in terms of planned schedule
- Modify activities dependent on differing workplace contingencies, situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment and operating environment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required when controlling a helicopter in hovering flight

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
 - In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Tasks may be undertaken in:
- variable weather conditions in accordance with Day Visual Flight Rules
- Performance may be demonstrated in:
- single engine helicopter
 - multi engine helicopter
 - single main rotor helicopter
 - multi main rotor helicopter
 - variable air traffic conditions
 - variable flight situations
 - abnormal situations
- Performance may be demonstrated on an helicopter with:
- fully functioning dual controls
 - an electronic intercom system
 - dual control brakes
 - wheel and skidded undercarriages
- Crew may include:
- single pilot
 - multi crew
- Limitations may be imposed by:
- local noise abatement requirements and curfews
- Classes of airspace are:
- those designated by the Civil Aviation Safety Authority
- Checklists may include:
- pre-flight
 - pre-start
 - engine start
 - pre-taxi
 - take-off
 - after take-off
 - approach and landing
 - shutdown
 - post-flight
- Hovering procedures may be performed at:
- a prepared or unprepared aerodrome
 - an approved helicopter landing site (HLS)
- Operational hazards during hovering manoeuvres may include:
- variable surface conditions
 - other aircraft
 - loose objects
 - personnel
 - animals
 - birds

RANGE STATEMENT

Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:

Procedures maintaining compliance with airspace requirements are:

Information/documents may include:

Applicable regulations and legislation may include:

- propeller/tail rotor/rotor wash and jet blast
- company procedures
- enterprise procedures
- organisational procedures
- established procedures
- standard operating procedures
- geographical limits of the flight area is demonstrated on a chart
- prominent geographical features are identified using a chart
- the limits of the flight area are identified on the ground
- the position of controlled airspace is determined using a chart and geographical features
- restricted areas are identified using a chart and geographical features
- departure from the circuit area and transition to the flight area is completed without incident
- departure from the flight area and transition to the circuit area is completed without incident
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders including Day Visual Flight Rules (Day VFR)
- in Defence context, relevant Defence Orders and Instructions
- Flight Manual/Pilot's Operating Handbook (POH)
- Manual of Standards - Pilot Licensing (MOS-PL)
- Aeronautical Information Publication (AIP)
- En Route Supplement Australia (ERSA)
- charts
- operations manuals
- approved checklists
- workplace procedures and instructions and job specification
- induction and training materials
- conditions of service, legislation and industrial agreements including workplace agreements and awards
- relevant Civil Aviation Safety Regulations and Civil Aviation Orders
- in Defence context, relevant Defence Orders and Instructions
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

RANGE STATEMENT

Performance includes tolerances specified in either of:

- relevant Australian Standards
- relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as:
 - Day VFR Syllabus
 - Manual of Standards
- relevant Defence documentation such as:
 - Defence Orders and Instructions
 - approved curricula and training documentation

Unit Sector(s)

Not applicable.

Competency field**Competency Field**

Y - Aircraft Operation and Traffic Management