



Australian Government

Department of Education, Employment and Workplace Relations

AVIY4011B Control helicopter on the ground

Revision Number: 1

AVIY4011B Control helicopter on the ground

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to control a helicopter on the ground, including starting and stopping a helicopter engine, engaging the rotor and controlling the main rotor disc and anti-torque system, fulfilling all required safety requirements, performing pre-taxi functions and manoeuvring the helicopter on the ground. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

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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 relating to controlling a helicopter on the ground.

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 at 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 Start and stop engine	<ul style="list-style-type: none">1.1 Start/stop checklists are followed in accordance with workplace procedures and regulatory requirements1.2 Helicopter is positioned with a view to safety and rotor clearance when starting engine1.3 Engine is started/stopped in accordance with manufacturers instruction, workplace procedures, regulatory requirements and Flight Manual/Pilot's Operating Handbook (POH)1.4 Pre-start and after-start checks are completed in accordance with Flight Manual/POH1.5 Emergencies are managed in accordance with Flight Manual/POH, emergency procedures and regulatory requirements1.6 Pre- and after-shutdown checks are completed in accordance with approved checklist and Flight Manual/POH1.7 Engine is operated within manufacturers limitations1.8 Compliance is maintained with local and published noise abatement requirements and curfews
2 Engage and stop rotor	<ul style="list-style-type: none">2.1 Wind conditions are assessed and appropriate allowance is made in accordance with manufacturers instructions and workplace procedures2.2 Engine RPM is set within limits before rotor engagement2.3 Rotor brake is released/applied in accordance with Flight Manual/POH procedures2.4 Rotor is engaged and stopped in accordance with manufacturers instructions, workplace procedures and Flight Manual/POH2.5 Engine RPM is maintained within limits during rotor engagement in accordance with manufacturers instructions2.6 Disc position is maintained within operating limits both as RPM increases and during rotor stopping operations2.7 Transmission, hydraulic system and engine indications are monitored and appropriate responses are made if necessary
3 Control main rotor disc and anti-torque system	<ul style="list-style-type: none">3.1 Collective and cyclic pitch controls are set to maintain main rotor disc parallel to the landing surface at flat pitch and at idle RPM3.2 Anti-torque pedals are set to compensate for main rotor torque3.3 Rotor disc and RPM are controlled while performing any other required tasks or actions

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
 - helicopter starter motor limitations
 - fuel system including cause and effect of fuel vaporisation
 - rotor engagement system
 - fitted fire-fighting equipment and its applications
 - effect of wind on engines and rotor blades
 - dynamic roll over
 - ground resonance
 - helicopter braking and steering systems
- On-ground helicopter control procedures including:
 - pre-start checks
 - clearing of rotor blades
 - rotor engagement
 - use of filtered air
 - hot and cold engine start
 - after-start checks
 - shutdown checks
 - actions in the event of brake or tyre failure
 - fire management
- Aerodrome landing area markings and light and marshalling signals
- Relevant sections of the Flight Manual/POH
- Local air traffic control procedures

Required skills:

- Select and use relevant controls/equipment including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- Apply the knowledge to the control of a helicopter on the ground
- Use instruments to monitor helicopter performance

REQUIRED KNOWLEDGE AND SKILLS

- Read and interpret instructions, procedures and information relevant to the control of a helicopter on the ground
- Solve problems associated with the control of a helicopter on the ground
- Communicate effectively with others when controlling a helicopter on the ground
- Read and interpret instructions, regulations, procedures and other information relevant to controlling a helicopter on the ground
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to controlling a helicopter on the ground
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when controlling a helicopter on the ground
- 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 on the ground in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when controlling a helicopter on the ground
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when controlling a helicopter on the ground
- 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 on the ground

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.

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| Tasks may be undertaken in: | <ul style="list-style-type: none"> • variable weather conditions in accordance with Day Visual Flight Rules |
| Performance may be demonstrated in: | <ul style="list-style-type: none"> • single engine helicopter • multi engine helicopter • single main rotor helicopter • multi main rotor helicopter • variable air traffic conditions • abnormal situations |
| Performance may be demonstrated on an helicopter with: | <ul style="list-style-type: none"> • fully functioning dual controls • an electronic intercom system • dual control brakes • wheeled and or skidded undercarriages |
| Crew may include: | <ul style="list-style-type: none"> • single pilot • multi crew |
| Limitations may be imposed by: | <ul style="list-style-type: none"> • local noise abatement requirements and curfews |
| Ground operations may be made at: | <ul style="list-style-type: none"> • a prepared or unprepared aerodrome • an approved helicopter landing site (HLS) |
| Operational hazards during ground operations may include: | <ul style="list-style-type: none"> • variable surface conditions • other aircraft • loose objects • personnel • animals • birds • propeller/tail rotor/rotor wash and jet blast |
| Guidance during ground operations may be provided by: | <ul style="list-style-type: none"> • air traffic control instructions • light signals • aerodrome markings |
| Checklists may include: | <ul style="list-style-type: none"> • pre-flight • pre-start • engine start • shutdown • post-flight |
| Dependent on the type of organisation concerned and the local terminology used, workplace | <ul style="list-style-type: none"> • company procedures • enterprise procedures |

RANGE STATEMENT

procedures may include:

- 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
- ground operations are completed without incident

Procedures maintaining compliance with airspace requirements are:

Information/documents may include:

- 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

Applicable regulations and legislation may include:

- 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
- relevant Australian Standards

Performance includes tolerances specified in either of:

- relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as:
- Day VFR Syllabus

RANGE STATEMENT

- 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