



Australian Government

AVIY4056 Conduct airborne rappelling operations

Release: 1

AVIY4056 Conduct airborne rappelling operations

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 conduct airborne rappelling operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes preparing helicopter and personnel for airborne rappelling operations, preparing for airborne rappelling operations, performing airborne rappelling operations, and responding to airborne rappelling emergencies and abnormal situations.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties 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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Prepare helicopter and personnel for airborne rappelling operations | <ul style="list-style-type: none">1.1 Helicopter and airborne rappelling attachment device are pre-flight checked to determine serviceability1.2 Airborne rappelling location and surrounds are assessed for suitability1.3 Rappelling personnel characteristics and operational variations are considered in scope of mission planning1.4 Crew is briefed during mission brief1.5 Airborne rappelling supervisor is briefed1.6 Static ground rehearsals are conducted with personnel and equipment1.7 Fitness of rappelling personnel to complete task is confirmed in accordance with established procedures |
| 2 Prepare for airborne rappelling operations | <ul style="list-style-type: none">2.1 Ropes are attached to airborne rappelling attachment device and are checked for security2.2 Rappellers are restrained in aircraft prior to take-off2.3 Fitting of rappeller personnel protective equipment is checked2.4 Deployment checks are conducted prior to rope deployment2.5 Helicopter safety hazards are communicated using workplace procedures2.6 Wind speed and direction are communicated2.7 Approach and overshoot paths are communicated |
| 3 Perform airborne rappelling operations | <ul style="list-style-type: none">3.1 Helicopter is manoeuvred to rappelling point3.2 Ropes and rappellers are deployed in accordance with workplace procedures3.3 Situational awareness of rappelling position and aircraft flight performance is maintained |

	3.4	Rappelling ropes are recovered or released as required
	3.5	Clearance for aircraft departure is provided by airborne rappelling dispatcher at completion of deployment
4 Respond to airborne rappelling emergencies and abnormal situations	4.1	Airborne rappelling emergencies and abnormal situations are identified, diagnosed and communicated
	4.2	Airborne rappelling emergency or remedial actions are undertaken to maintain safety of flight and personnel

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.

Airborne rappelling equipment must include one or more of the following items:	• attachment devices • eye goggles • fast ropes • head protection • hearing protection • rappelling attachment device • rappelling gloves • rappelling harness • rappelling ropes
Rappelling personnel characteristics to be considered include:	• experience of personnel (advanced, beginners) • size • variations in rappelling equipment to be worn • weight
Airborne rappelling operations include one or more of the following variations:	• single or multiple rappellers • basic airborne rappelling • advanced airborne rappelling • airborne fast roping
Airborne rappelling supervisor must include one of the following:	• airborne team leader • airborne safety officer • aircrewman

- Helicopter safety hazards must include:
- chalk commander
 - drop master
 - loadmaster
 - observer
 - rescue crewman
 - fauna
 - flora
 - foreign object damage (FOD)
 - loss of visual reference
 - man-made structures
 - meteorological conditions
 - other aircraft
 - ship movements
 - ship structures and rigging
 - smoke
 - terrain
- Airborne rappelling emergencies must include one or more of the following:
- aircraft emergencies
 - rappelling equipment/personnel snagged in trees/obstacles
 - rappelling equipment malfunction
 - rappelling personnel unable to detach from rope/s

Unit Mapping Information

This unit replaces and is equivalent to AVIY4056A Conduct airborne rappelling operations.

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 AVIY4056 Conduct airborne rappelling operations

Modification History

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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, performance criteria and range of conditions on at least one occasion and include:

- applying precautions and required action to minimise, control or eliminate identified hazards
- assessing suitability of airborne rappelling location and surrounds
- attaching and security checking ropes to airborne rappelling device
- briefing crew and airborne rappelling supervisor in accordance with workplace procedures
- communicating helicopter safety hazards, wind speed and direction, approach and overshoot paths
- communicating rappelling operation progress in accordance with workplace procedures
- completing airborne rappelling attachment device pre-flight serviceability checks
- completing relevant documentation
- conducting deployment checks prior to rope deployment
- conducting fitting checks of rappeller personnel protective equipment in accordance with established procedures
- conducting serviceability pre-flight checks of helicopter and airborne rappelling attachment device
- deploying ropes and rappellers, and recovery/release of ropes in accordance with workplace procedures
- determining wind speed and direction
- following relevant legislation and workplace procedures
- identifying, communicating and diagnosing rappelling emergencies in accordance with workplace procedures
- implementing contingency plans
- monitoring work activities in terms of planned schedule
- operating airborne rappelling attachment device
- operating and adapting to differences in communications equipment in accordance with established procedures
- performing weight calculations
- planning own work, predicting consequences and identifying improvements
- providing clearance for aircraft departure once all ropes are clear or secured
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs

- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with established procedures
- taking actions in a remedial and/or emergency situation in accordance with aircraft flight manuals, organisational policy and workplace procedures
- using communication skills for helicopter control
- working collaboratively with others
- 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, performance criteria and range of conditions and include knowledge of:

- airborne rappelling attachment device capabilities and limitations
- airborne rappelling emergency procedures
- airborne rappelling risk assessment principles
- airborne rappelling techniques
- airborne rappelling verbal/non-verbal communication procedures
- approved operational procedures and processes for different airborne rappelling operations
- correct airborne rappelling safety equipment configuration
- helicopter approach and overshoot considerations
- helicopter capabilities and limitations as defined in aircraft publications/documentation
- procedures and protocols for using communication systems during an emergency
- relevant regulations, legislation, organisational policy and procedures
- typical problems that may occur when conducting airborne rappelling operations, and appropriate actions and solutions
- work health and safety (WHS)/occupational health and safety (OHS) issues applicable to rappelling operations, aircraft and personnel safety.

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.

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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