



Australian Government

Department of Education, Employment and Workplace Relations

AVIY4056A Conduct airborne rappelling operations

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required by airborne rappelling dispatchers to conduct airborne rappelling operations in a helicopter. 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 regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

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

Operations are conducted across a variety of operational contexts within the Australian aviation industry.

Work is performed under limited supervision.

This unit of competency 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 Prepare helicopter and personnel for airborne rappelling operations	1.1 Helicopter and airborne rappelling attachment device are pre-flight checked to determine serviceability 1.2 Crew is briefed during mission brief 1.3 Airborne rappelling team leader is briefed in accordance with workplace procedures 1.4 Static ground rehearsals are conducted with personnel and equipment 1.5 Fitness of rappelling personnel to complete task is confirmed in accordance with established procedures
2 Prepare for airborne rappelling operations	2.1 Ropes are attached to airborne rappelling attachment device and checked for security 2.2 Rappellers are restrained in aircraft prior to take-off 2.3 Fitting of rappellers' personnel protective equipment is checked in accordance with established procedures 2.4 Deployment checks are conducted prior to rope deployment 2.5 Helicopter safety hazards are communicated using workplace procedures 2.6 Airborne rappelling location and surrounds are assessed for suitability 2.7 Wind speed and direction are communicated 2.8 Approach and overshoot paths are communicated
3 Perform airborne rappelling operations	3.1 Helicopter is directed to rappelling point 3.2 Ropes and rappellers are deployed in accordance with workplace procedures 3.3 Progress of the rappelling operation is communicated in accordance with workplace procedures 3.4 Rappelling ropes are recovered or released as required 3.5 Clearance for aircraft departure is provided by airborne rappelling dispatcher once all ropes are clear or secured
4 Respond to airborne rappelling emergencies and abnormal situations	4.1 Airborne rappelling emergencies are identified, communicated and diagnosed in accordance with workplace procedures 4.2 Emergency and/or remedial actions are undertaken in accordance with aircraft flight manuals, organisational policy and workplace procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Regulations, legislation, organisational policy and procedures in relation to conducting airborne rappelling operations
- Occupational health and safety issues applicable to operations, aircraft and personnel safety
- Approved operational procedures and processes for different airborne rappelling operations
- Procedures and protocols for the use of communication systems during an emergency
- Airborne rappelling verbal/non-verbal communication procedures
- Helicopter capabilities and limitations as defined in aircraft publications/documentation
- Airborne rappelling attachment device capabilities and limitations
- Correct airborne rappelling safety equipment configuration
- Airborne rappelling techniques
- Airborne rappelling emergency procedures
- Helicopter approach and overshoot considerations
- Airborne rappelling risk assessment principles
- Typical problems that may occur when conducting airborne rappelling operations and appropriate actions and solutions

Required skills:

- Perform airborne rappelling operations
- Complete airborne rappelling attachment device pre-flight serviceability checks
- Use communication skills for helicopter control
- Determine wind speed and direction
- Operate airborne rappelling attachment device
- Perform weight calculations
- Apply airborne rappelling risk assessment principles
- Interpret and follow flight and operational manuals and safety policies
- Read, interpret and apply regulations, legislation, policies and procedures relevant to airborne rappelling operations
- Complete documentation related to work activities when conducting airborne rappelling operations
- Work collaboratively with others when conducting airborne rappelling operations
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others

REQUIRED KNOWLEDGE AND SKILLS

- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when conducting airborne rappelling operations in accordance with established procedures
- Implement contingency plans for unanticipated situations that may arise when conducting airborne rappelling operations
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when conducting airborne rappelling operations
- Plan own work including predicting consequences and identifying improvements
- Monitor work activities in terms of planned schedule
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in communication equipment in accordance with established procedures

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
 - following relevant legislation and workplace procedures
 - conducting serviceability pre-flight checks of helicopter and airborne rappelling attachment device
 - briefing crew and airborne rappelling team leader in accordance with workplace procedures
 - attaching and security checking ropes to airborne rappelling device
 - conducting fitting checks of rappellers' personnel protective equipment in accordance with established procedures
 - conducting deployment checks prior to rope deployment
 - assessing suitability of airborne rappelling location and surrounds
 - communicating helicopter safety hazards, wind speed and direction, approach and overshoot paths
 - deploying ropes and rappellers and recovery/release of ropes in accordance with workplace procedures
 - communicating rappelling operation progress in accordance with workplace procedures
 - providing clearance for aircraft departure once all ropes are clear or secured
 - identifying, communicating and diagnosing rappelling emergencies in accordance with workplace procedures
 - taking actions in a remedial and/or emergency situation in accordance with aircraft flight manuals, organisational policy and workplace procedures

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

EVIDENCE GUIDE

- 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.

Helicopter may include:	• single or multiple engine • single or multiple rotors • other airborne vehicles
Airborne rappelling supervisor may include:	• aircrewman • rescue crewman • airborne safety officer • loadmaster • observer • airborne team leader • chalk commander
Work environment may include:	• by day or by night • over land or over sea • prepared or unprepared helicopter landing sites
Airborne rappelling emergencies may include:	• aircraft emergencies • hung-up rappeller • unconscious rappeller • ropes/rappellers/s snagged in trees/obstacles rappeller falling from door after adopting exit position • airborne rappelling attachment device malfunction
Airborne rappelling variations may include:	• single or multiple rappellers • basic airborne rappelling • advanced airborne rappelling • airborne fast roping
Rappeller characteristics may include:	• beginners • advanced • size • weight • rappeller equipment variations
Airborne rappelling equipment may include:	• eye goggles • hearing protection • head protection • rappelling harness • rappelling gloves • rappelling ropes • fast ropes • airborne rappelling attachment device

RANGE STATEMENT

Helicopter safety hazards may include:

- man-made structures
- smoke
- meteorological conditions
- terrain
- other aircraft
- flora
- fauna
- ship structures and rigging
- ship movements
- loss of visual reference
- foreign object damage (FOD)

Locations and surrounds may include:

- helicopter landing site
- unprepared helicopter landing site

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

- company procedures
- enterprise procedures
- organisational procedures
- standard operating procedures

Documentation may include:

- relevant sections of Civil Aviation Safety Regulations
- in Defence context, relevant Defence Orders and Instructions
- Flight Manual/Pilot's Operating Handbook (POH)
- Aeronautical Information Publication (AIP)
- charts
- operations manuals
- approved checklists
- organisational policy and procedures manuals
- aviation maintenance documentation
- 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

Unit Sector(s)

Not applicable.

Competency field

Competency Field	Y - Aircraft Operation and Traffic Management
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