



Australian Government

AVIY4060 Pilot a helicopter during hoisting operations

Release: 1

AVIY4060 Pilot a helicopter during hoisting 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 pilot a helicopter during hoisting operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning hoisting operations, conducting pre-flight briefings for hoisting operations, and operating a helicopter during hoisting operations. It also includes managing abnormal and emergency situations during hoisting operations, and conducting post-flight briefings for hoisting operations.

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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Plan hoisting operations

- 1.1 Tasking requirements are identified
- 1.2 Crew and equipment required to ensure safe achievement of task are determined
- 1.3 Helicopter performance data is interpreted and calculated to ensure suitability of aircraft for operations
- 1.4 Transit, hoisting operation communications and recovery are planned in accordance with workplace procedures
- 1.5 Operations at hoist site, including consideration of obstructions, terrain and any factors that may adversely affect lift, are planned
- 1.6 Abnormal and emergency hoisting situation contingency procedures are planned

2 Conduct pre-flight briefings

- 2.1 Hoisting operational requirements are briefed and confirmed
- 2.2 Location, terrain features (sea state as required) and forecast weather conditions are obtained and confirmed
- 2.3 Timings, route/s, airspeeds and altitudes are confirmed
- 2.4 Relevant personnel are briefed about pilot, crew and hoisting personnel responsibilities and communication procedures
- 2.5 Abnormal and emergency hoisting situation contingency procedures are briefed

3 Operate a helicopter during hoisting operations

- 3.1 Adequacy of hover power margin and control limits to perform hoisting operations is checked and maintained
- 3.2 Site inspection, approach and hover heading are determined in accordance with operational requirements
- 3.3 Descent and approach are controlled to terminate over hoist site
- 3.4 Control is applied to helicopter to maintain position over hoist site

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| | 3.5 | Obstacle clearances to obstructions, constructions and terrain are maintained during deployment and retrieval operation |
| | 3.6 | Effective communications with crew and relevant personnel are maintained during operation |
| | 3.7 | Safety and security of passengers and/or cargo is managed |
| | 3.8 | Hoist cable is recovered and stowed, and site is vacated in accordance with workplace procedures. |
| 4 Manage abnormal and emergency situations | 4.1 | Helicopter control is maintained |
| | 4.2 | Abnormal and/or emergency situations are identified and managed |
| | 4.3 | Hoist cargo/personnel are safely jettisoned (as required) when flight safety or hover stability is compromised |
| 5 Conduct post-flight briefings | 5.1 | Operating procedures and flight outcomes are reviewed and analysed |
| | 5.2 | Effectiveness, efficiency and performance of equipment are analysed and reported |
| | 5.3 | Inspection, servicing and stowage of hoist equipment are organised/confirmed |

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 AVIY4060A Pilot a helicopter during hoisting 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 AVIY4060 Pilot a helicopter during hoisting 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 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 reporting procedures for identified problems that may occur when operating a helicopter during hoisting operations
- communicating effectively with others
- completing relevant documentation
- conducting pre-flight and post-flight hoisting operations briefings and debriefings including:
 - hoisting method considerations
 - unprepared helicopter landing sites
 - confined areas
 - unknown landing sites
 - pinnacles
 - embarked/sea platforms (as required)
 - marine environments (as required)
- following relevant legislation and workplace procedures
- identifying and assessing vertical, horizontal and relative spatial distances in relation to aircraft fuselage, rotor system, mission and/or operational stores and equipment with regard to potential obstacles to flight safety
- identifying and correctly using relevant equipment
- identifying and justifying a decision to operate a helicopter during hoisting operations
- identifying and managing abnormal and emergency situations in accordance with workplace procedures and the aircraft flight manual (AFM)/pilot's operating handbook (POH)
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting hover performance and power available/power required from graphs/charts
- maintaining situational awareness

- managing abnormal and emergency situations during hoisting operations:
 - aircraft system failure or malfunction
 - hoisting equipment malfunction or failure
 - injury to hoisting personnel
 - degraded environmental conditions
- 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
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with operating a helicopter during hoisting operations
- using instruments to monitor helicopter performance during hoisting operations
- 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 and performance criteria and include knowledge of:

- aircraft performance calculations (for all phases of flight)
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter hoisting operations
- communication procedure and terminology applicable to hoisting operations
- control effectiveness in all phases of flight
- engine performance checks for helicopter type to be flown
- flight rules and legislation applicable to hoisting operations
- functions and effects of all aircraft controls and instruments
- hazards that exist and problems that can occur when operating an aircraft during hoisting operations
- helicopter dimensions
- hoist limitations
- hoisting operation flight techniques:
 - low-level flight handling
 - deployment and recovery procedures

- abnormal and emergency handling techniques
- hoisting operational planning requirements:
 - hoisting method considerations
 - unprepared helicopter landing sites
 - confined areas
 - unknown landing sites
 - pinnacles
 - embarked/sea platforms
 - marine environments
- human factors applicable to hoisting operations:
 - crew coordination
 - dehydration and effects on pilot cognitive function
 - fatigue and situational awareness
 - stress and short-term, long-term impact
 - drugs including over-the-counter
 - spatial orientation and illusions
- in a Defence context, relevant Defence Orders and Instructions
- internal and external load limitations for helicopter type to be flown including weight and balance consideration
- meteorological requirements for hoisting operations
- operational inspections
- operational planning and risk management processes for hoisting operations
- pre- and post-flight inspection requirements
- principles of aerodynamics
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations.

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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