



Australian Government

AVIY4057 Perform helicopter deck landing operations

Release: 1

AVIY4057 Perform helicopter deck landing 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 perform helicopter deck landing operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning deck landing operations, conducting pre-flight briefings for deck landing operations, and taking off and transiting to and from a vessel. It also includes approaching and landing on vessel helidecks, taking off and climbing out from vessel helidecks, and managing abnormal and emergency situations during deck landing 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.

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|---|---|
| 1 Plan deck landing operations | 1.1 Tasking requirements are identified |
| | 1.2 Crew, role equipment and safety equipment necessary to ensure safe achievement of task are determined |
| | 1.3 Helicopter is certified for task in accordance with regulations and workplace procedures |
| | 1.4 Outbound and return flight loading and flight routes are planned |
| | 1.5 Security and care of passengers and/or equipment for deck landing operations are planned |
| 2 Conduct pre-flight briefings for deck landing operations | 2.1 Flight/ground crews and other relevant stakeholders are briefed on allocated duties |
| | 2.2 Weather suitability is determined and confirmed against workplace procedures and limitations |
| | 2.3 Briefs/self-briefs for deck landing operations are performed |
| 3 Take off and transit to and from vessel | 3.1 Appropriate take-off and departure configurations are selected |
| | 3.2 Helicopter is navigated to the rendezvous |
| | 3.3 Information regarding identified vessel's ability to receive aircraft is obtained |
| | 3.4 Vessel is instructed to manoeuvre to achieve optimum deck conditions for landing |
| | 3.5 Relative wind, ship pitch and roll information, hover heading and helideck location are obtained and acceptability is confirmed |
| | 3.6 Pre-descent checks are completed |
| | 3.7 Descent profile and circuit pattern are determined |
| 4 Approach and land | 4.1 Control manipulation, instrument scan and visual cues are used to manoeuvre aircraft safely during approach and |

on vessel helideck		landing
	4.2	Night interception of glide slope is carried out as required
	4.3	Touch-down point and reference markers are identified and confirmed
	4.4	Constant angle approach and landing is performed
	4.5	Safe termination of approach and stable hover over helideck is performed
	4.6	Helideck landing is performed
5	Take off and climb out from vessel helideck	
	5.1	Safety and security during deck operations is managed
	5.2	Stable hover over deck is established
	5.3	Obstacles are identified and avoided
	5.4	Instrument take-off under no horizon conditions is performed
	5.5	Instrument climb-out procedure is performed
6	Manage abnormal and emergency situations during deck landing operations	
	6.1	Abnormal and/or emergency situations are identified and confirmed
	6.2	Helicopter is controlled to maintain safe flight
	6.3	Abnormal or emergency situations are managed in accordance with workplace procedures, and aircraft flight manual (AFM)/pilot's operating handbook (POH)
	6.4	Aborted approach from final approach is performed
	6.5	Ditching and underwater escape procedures are applied as required

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 AVIY4057A Perform helicopter deck landing 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 AVIY4057 Perform helicopter deck landing 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 relevant helicopter aeronautical knowledge
- applying reporting procedures for identified problems
- approaching and landing on vessel helideck
- briefing deck landing operational requirements to relevant stakeholders:
 - helideck location and configuration
 - helideck markings
 - vessel configuration
 - obstructions
 - hazards associated with deck landing operations (ship movement, engine salt ingestion, wind direction and velocity, pitch, roll limitations)
 - crash on deck procedures
 - landing and take-off procedures
 - lighting signals
 - marshalling signals
 - aircraft securing procedures
 - communications procedures
 - transit route to and from ship
 - approach and departure procedures
 - ditching procedures
 - emergency situations (e.g. fire, engine/transmission/aircraft system malfunctions)
 - location and operation of survival equipment
 - aircraft evacuation procedures (on ditching)
- communicating effectively with others
- completing relevant documentation
- 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 deck landing operations
- 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
- managing abnormal and emergency situations during deck landing operations:
 - crash on deck
 - ditching procedures (simulated)
 - emergency situations (e.g. fire, engine/transmission/aircraft system malfunctions)
 - fouled/obstructed landing deck
 - loss of communications
 - loss of visual aids or landing references
- 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
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems associated with operating a helicopter during deck landing operations
- using instruments to monitor helicopter performance during deck landing 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 evacuation procedures
- aircraft performance calculations (for all phases of flight)
- basic global navigation satellite system (GNSS) principles
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- communication procedure and terminology applicable to deck landing operations
- control effectiveness in all phases of flight
- dead-reckoning navigation
- deck landing operational requirements:
 - helideck location and configuration
 - helideck markings
 - vessel configuration
 - obstructions
 - hazards associated with deck landing operations (ship movement, engine salt ingestion, wind direction and velocity, pitch, roll limitations)
 - crash on deck procedures
 - landing and take-off procedures
 - lighting signals
 - marshalling signals
 - aircraft securing procedures
 - communication procedures
 - transit route to and from ship
 - approach and departure procedures
 - ditching procedures
 - emergency situations (e.g. fire, engine/transmission/aircraft system malfunctions)
 - location and operation of survival equipment
 - aircraft evacuation procedures (on ditching)
- diversion considerations and procedures
- effects of excessive vessel movement on aircraft serviceability
- en route GNSS navigation principles
- engine performance checks for helicopter type to be flown
- functions and effects of all aircraft controls and instruments
- hazards that exist when controlling an aircraft during deck landing operations
- helicopter dimensions
- helideck markings
- in a Defence context, relevant Defence Orders and Instructions
- lighting and marshalling signals
- maximum payload and minimum fuel operations
- navigation techniques for extended over-water flights
- operation of night vision devices
- planning and briefing requirements for helicopter deck landing operations

- post flight debriefing techniques
- principles of aerodynamics
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- survival equipment location and operation
- survival skills post ditching
- vessel movement limitations.

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.

Links

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