



Australian Government

AVIY4051 Conduct external load-lift operations

Release: 1

AVIY4051 Conduct external load-lift 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 external load-lifting operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes preparing for load-lifting operations, performing load-lifting operations, concluding load-lifting operations, and responding to external load operational emergencies and abnormal situations.

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 Prepare for load-lifting operations

- 1.1 External load characteristics and dimensions are determined and calculated
- 1.2 Aerial delivery equipment is prepared and checked as required, in accordance with equipment manuals and publications
- 1.3 Helicopter cargo hook system is prepared and checked for correct operation
- 1.4 Aircraft safety hazards are identified using established procedures
- 1.5 Aircraft power availability is calculated
- 1.6 Wind speed and direction are determined
- 1.7 Approach and overshoot paths are determined
- 1.8 Load-lifting location and surrounds are checked for suitability
- 1.9 External load-lifting plan is developed and communicated to other crew members

2 Perform load-lifting operations

- 2.1 Helicopter is manoeuvred to external load-lifting point
- 2.2 Aircraft operational checks are conducted
- 2.3 External load is connected using appropriate operational method
- 2.4 Situational awareness of inflight load stability and aircraft flight performance is maintained
- 2.5 External load is released at nominated delivery point

3 Conclude load-lifting operations

- 3.1 Aerial delivery equipment is recovered as required
- 3.2 Aircraft external load hook equipment and control systems are secured and checked for serviceability

4 Respond to external

- 4.1 External load operational emergencies are identified,

**load operational
emergencies and
abnormal situations**

- 4.2 diagnosed and communicated
- External load operational emergency or remedial actions are undertaken to maintain safety of flight

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.

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| <p>External load characteristics consist of one or more of the following attributes:</p> | <ul style="list-style-type: none"> • dangerous goods • dimensions • fragility • non-dangerous • rigging requirements • size • weight |
| <p>Aerial delivery equipment must include one or more of the following:</p> | <ul style="list-style-type: none"> • cargo nets • chains • clevis assemblies • D rings • drogue chutes • firefighting buckets • hooks • lifting slings • palnets • pendant assemblies • rigging cordage • semi-rigid strops • shackles • single link assemblies • strops • swivel assemblies |
| <p>Aircraft safety hazards must include one or more of the following:</p> | <ul style="list-style-type: none"> • fauna • flora • man-made structures |

- meteorological conditions
- other aircraft
- ship structures and rigging
- ship movements
- smoke
- terrain

External load operational emergencies and abnormal situations must include one or more of the following:

- communications system failure
- helicopter electrical or mechanical system failure or malfunction
- inadvertent release of external load
- inflight external load instability

Unit Mapping Information

This unit replaces and is equivalent to AVIY4051A Conduct external load-lift 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 AVIY4051 Conduct external load-lift 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
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- completing aerial delivery equipment assembly
- completing relevant documentation
- determining wind speed and direction
- identifying and using required communications technology
- implementing contingency plans
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- operating aerial delivery equipment
- operating and adapting to differences in communications equipment in accordance with standard operating procedures
- performing weight calculations
- planning own work, predicting consequences and identifying improvements
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with 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:

- approach and overshoot considerations
- approved operational procedures and processes for different external load-lifting operations
- cargo hook system and aerial delivery equipment capabilities and limitations
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter external load operations
- correct aerial delivery equipment configuration
- external load safety and configuration
- external load-lifting emergency procedures
- external load-lifting risk assessment principles
- external load-lifting verbal/non-verbal communication procedures
- helicopter capabilities and limitations
- organisational policies and procedures for load-lifting operations
- practices concerning external load-lifting operations
- procedures and protocols for using communications systems during an emergency
- typical problems that may occur when conducting external load-lifting operations and appropriate action and solutions
- work health and safety (WHS)/occupational health and safety (OHS) issues applicable to 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 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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