



Australian Government

AVIY4002 Take off aeroplane

Release: 1

AVIY4002 Take off aeroplane

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 take off in an aeroplane, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes carrying out pre-take-off procedures, conducting an aeroplane take-off, and performing a rejected take-off procedure.

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

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Carry out pre-take-off procedures

- 1.1 Critical take-off airspeeds, aircraft configuration, and emergency and abnormal procedures for normal and cross-wind take-offs are correctly identified
- 1.2 Pre-take-off briefing is completed
- 1.3 Approved pre-take off and line up checklists are completed in accordance with flight manual/pilot's operating handbook (POH) or company operations manual
- 1.4 Correction for existing wind component to the take-off performance is verified and correctly applied
- 1.5 Runway approach path is visually cleared of conflicting traffic and other hazards prior to lining up for take-off
- 1.6 Aeroplane is aligned with runway centre line in take-off direction
- 1.7 Air traffic control (ATC) clearances are obtained as required

2 Conduct aeroplane take off

- 2.1 Take-off power is applied, aeroplane is maintained aligned with centre of runway with wings maintained level and rotated at manufacturer recommended speed to achieve planned climb performance
- 2.2 Aeroplane is configured for nominated climb profile, and tracking on centreline of runway is maintained during take off
- 2.3 Power controls, settings, and instruments during take-off are monitored to ensure all predetermined parameters are achieved and maintained
- 2.4 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
- 2.5 Separation with all circuit traffic is maintained
- 2.6 Radiotelephone listening watch is maintained
- 2.7 Local and published noise abatement requirements and curfews are observed
- 2.8 After take-off checks are performed in accordance with approved checklist

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|------------------------------------|---|
| 3 Perform rejected take-off | 3.1 Requirement to abort/reject take-off is identified |
| | 3.2 Power is reduced smoothly and promptly |
| | 3.3 Braking devices are activated |
| | 3.4 Control is maintained to bring aeroplane to a safe stop |
| | 3.5 Associated procedures and/or checklists are initiated and completed |

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 AVIY4002B Take off aeroplane.

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 AVIY4002 Take off aeroplane

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 aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- applying take-off procedures in accordance with regulatory requirements
- calculating normal and crosswind take-off and landing performance
- communicating effectively with others
- compensating for the secondary effects of controls
- completing relevant documentation
- complying with air traffic instructions and regulatory requirements
- conducting aeroplane take-offs:
 - normal
 - cross wind
- identifying and correctly using equipment required
- identifying surface conditions, obstructions, other crossing traffic on runways and taxiways, or other hazards that might hinder a safe take-off
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting windsock indications
- maintaining awareness of the circuit traffic situation
- managing take-off emergencies
- 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
- performing minimum length take-off procedure
- performing rejected take-off procedure

- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively
- 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:

- aeroplane take-off and landing performance calculations and charts
- air traffic requirements
- all pre-take-off and after take-off checks
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- factors affecting directional control of the aeroplane
- factors affecting take-off distance and initial climb performance
- functions and effects of all aeroplane controls
- how to interpret aerodrome charts
- how to interpret windsock indications and how to determine wind direction and speed
- how to obtain or calculate crosswind and down or up wind components
- in a Defence context, relevant Defence Orders and Instructions
- local topographical charts to identify safe areas for engine-failure purposes and noise-abatement considerations
- manufacturer specifications relating to operating the aeroplane
- obstacle clearance requirements
- principles of aerodynamics
- problems that may occur when taking off an aeroplane and appropriate action that should be taken in each case
- procedures for using take-off performance charts
- purpose and functions of aeroplane systems
- 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.

Links

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