



Australian Government

Department of Education, Employment and Workplace Relations

AVIY4004B Land aeroplane

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

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This unit involves the skills and knowledge required to land an aeroplane, including controlling the rate of descent, aligning the plane with runway centreline, maintaining directional control, minimising ballooning and bouncing, and stopping the aeroplane within the available runway length. It also includes completion of after-landing checks and the performance of a mishandled landing/go-around when required. 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 licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) and/or ADF; airspace control requirements and Day Visual Flight Rules (Day VFR); and aircraft control principles, regulations, safety codes, protocols and procedures relevant to landing an aeroplane.

Operations are conducted as part of commercial or military aircraft activities across a variety of operational contexts within the Australian aviation industry.

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

Work is performed under limited supervision.

This unit 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 Land aeroplane

- 1.1 Aeroplane is landed at a controlled rate of descent with alignment above the runway centreline, within a specified area, without drift, and with directional control maintained
- 1.2 Aeroplane is stopped within the available runway length
- 1.3 Ballooning and bouncing are minimised and controlled in accordance with established aviation practice
- 1.4 After-landing checks are performed in accordance with approved checklist
- 1.5 Separation with conflicting air and ground traffic is maintained
- 1.6 Runway is vacated when practicable
- 1.7 Landing clearance is obtained at applicable airfields
- 1.8 Wake turbulence is avoided
- 1.9 Weather conditions are monitored

2 Manage mishandled landing

- 2.1 Decision to perform go-around is made when safe landing cannot be achieved
- 2.2 Power and configuration are selected to safely control aeroplane
- 2.3 Aeroplane is manoeuvred clear of the ground and after take-off procedures are conducted
- 2.4 Allowance for wind velocity is made during go-around
- 2.5 Wake turbulence is avoided

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- In Defence context, relevant Defence Orders and Instructions
- Relevant OH&S and environmental procedures and regulations
- Principles of aerodynamics
- Circuit and landing procedures
- All required checklist items
- The causes of loss of directional control during landing
- The aerodynamic forces involved during the flare
- The effect of wind on landing performance
- The cross wind limits for the aeroplane type flown
- The techniques used to land an aeroplane in a cross wind
- How to calculate a cross wind component
- The causes of aquaplaning and procedures to avoid aquaplaning
- Aeroplane performance calculation
- Air traffic procedures
- Windsock and other indicators that are used to determine wind velocity
- Wake turbulence considerations
- Steps for landing an aeroplane in normal headwind and crosswind
- Touch&Go procedures

Required skills:

- Exercise sound judgement sufficient to perform landing procedures
- Compensate for the secondary effect of controls
- Recognise and respond to conditions leading to a go-around
- Carry out correct procedures in the event of a go-around
- Calculate landing performance
- Select and use relevant equipment, including trim controls, flaps, carburettor heat and braking devices
- Use of instruments to monitor aeroplane performance
- Maintain compliance with regulatory requirements
- Communicate effectively with others when landing an aeroplane including use of radio

REQUIRED KNOWLEDGE AND SKILLS

- Read and interpret instructions, regulations, procedures and other information relevant to landing an aeroplane
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to landing an aeroplane
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when landing an aeroplane
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when landing an aeroplane in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when landing an aeroplane
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when landing an aeroplane
- Monitor and anticipate operational problems and hazards and take appropriate action
- Monitor work activities in terms of planned schedule
- Modify activities dependent on differing workplace contingencies, situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment and operating environment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required when landing an aeroplane

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
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

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
 - 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.

- Tasks may be undertaken in:
- variable weather conditions in accordance with Day Visual Flight Rules
- Performance may be demonstrated in:
- single engine aeroplane
 - multi engine aeroplane
 - variable air traffic conditions
 - variable flight situations
 - abnormal situations
 - classes of airspace as designated by the Civil Aviation Safety Authority
- Performance may be demonstrated on an aeroplane with:
- fully functioning dual controls
 - an electronic intercom system
 - dual control brakes
 - (if propeller-driven) a constant speed propeller
 - a cruise speed of at least 120 kts TAS at cruise power
 - a suitable means of simulating instrument flight conditions
- Aeroplane may include:
- fixed wing
 - other commercial or military aircraft
- Crew may include:
- single pilot
 - multi crew
- Instruments may be:
- fitted flight instruments
 - head up displays
- Limitations may be imposed by:
- local noise abatement requirements and curfews
- Classes of airspace may be:
- as designated by the regulator
 - restricted and danger areas
 - military control zones
 - Air Defence Identification Zones
- Runways may include:
- sealed
 - gravel
 - grass
- Landings include:
- normal
 - crosswind
 - flap
 - flapless/non standard flap
 - Touch & Go
- Dependent on the type of
- company procedures

RANGE STATEMENT

organisation concerned and the local terminology used, workplace procedures may include:

- enterprise procedures
- organisational procedures
- established procedures
- standard operating procedures

Information/documents may include:

- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders pertaining to the landing of an aeroplane
- in Defence context, relevant Defence Orders and Instructions
- Fight Manual/Pilot's Operating Handbook (POH)
- Manual of Standards - Pilot Licensing (MOS-PL)
- Aeronautical Information Publication (AIP)
- Landing Performance Charts
- operations manuals
- approved checklists
- 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

Performance includes tolerances specified in either of:

- relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as:
 - Day VFR Syllabus
 - Manual of Standards
- relevant Defence documentation such as:
 - Defence Orders and Instructions
 - approved curricula and training documentation

Unit Sector(s)

Not applicable.

Competency field

Competency Field

Y - Aircraft Operation and Traffic Management