



Australian Government

Department of Education, Employment and Workplace Relations

AVIY5036A Perform instrument landing system (ILS) instrument approach

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 conduct an instrument approach using the ILS approach procedure. This includes beginning with a descent from a route Minimum Safe Altitude (MSA) or Lowest Safe Altitude (LSALT) in accordance with any altitude restrictions; intercepting track on the Localizer (LLZ) using locating/marker beacons or Distance Measuring Equipment (DME/GPS); fixing a position on the LLZ track; descending by reference to the Glideslope (GS) to the Decision Altitude (DA); landing or conducting a published missed approach. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA); relevant airspace control requirements and Instrument Flight Rules (IFR); and aircraft control principles, regulations, safety codes, protocols and procedures required to perform instrument landing system (ILS) instrument approach as part of commercial aircraft activities.

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

Operations are conducted across a variety of operational contexts within the Australian aviation industry.

Work is performed under limited supervision.

This unit of competency is packaged at AQF V.

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 Select and prepare for the approach	1.1 The current Instrument Approach and Landing (IAL) chart for the Instrument Landing System (ILS) approach to be flown is selected 1.2 The instrument approach and missed approach procedure is planned 1.3 Direct entry to the approach is reviewed, briefed and evaluated 1.4 Entry via holding pattern is reviewed, briefed and evaluated 1.5 Minimum altitude, LSALT or MSA prior to approach entry is reviewed and briefed in relation to tracks, distances, timing and descent limitations 1.6 The applicable approach minima for the aircraft performance category and runway to be used is selected 1.7 Pressure error correction to DA is selected 1.8 The holding or diversion action if visual reference is not established is reviewed and briefed 1.9 Fuel availability and latest divert time is selected if required 1.10 Aircraft systems are configured for approach 1.11 Altimeter is set to appropriate QNH
2 Monitor aid signal integrity	2.1 The ILS to be used for the selected approach is tuned and identified 2.2 The warning flags and Course Deviation Indicators (CDI) for both LLZ and glide slope throughout the approach is monitored to ensure signal integrity 2.3 Locator beacons for the approach are tuned and identified 2.4 Marker beacon/s are tested and monitored for visual and aural indications during approach 2.5 DME is tuned and identified or GPS configured for ILS approach if applicable 2.6 DME/GPS is monitored for distance indications during applicable approach
3 Conduct holding pattern	3.1 Holding pattern at or above LSALT or MSA is entered in accordance with the specified sector entry 3.2 Holding pattern is performed in accordance with instructions in AIP, using the LLZ and any other navigation aids 3.3 Holding fix is identified
4 Conduct approach procedure	4.1 Aircraft is tracked to the initial approach fix using appropriate tracking aids or radar vectors at or above route MSA or LSALT to intercept the LLZ track 4.2 ILS approach is conducted from the initial approach fix with

ELEMENT**PERFORMANCE CRITERIA**

tracking by reference to the LLZ and descent by reference to the glidepath

4.3 Marker beacons, DME/GPS or approved alternative fix are used to provide distance indications

4.4 At least one specified altitude check on glide slope is performed

4.5 Continued descent on glide slope to the DA is performed in accordance AIP

4.6 Landing runway is identified

4.7 Runway or circling approach for a landing is conducted in accordance with AIP after visual reference is established

5 Conduct missed approach procedure

5.1 Conditions requiring a missed approach are recognised and missed approach is initiated

5.2 Aircraft is manoeuvred to Missed Approach Point (MAPt)

5.3 Missed approach procedure is conducted in accordance with the IAL chart

5.4 Obstacle clearance in IMC/simulated IMC is maintained

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- ILS instrument approach procedures and limitations, including the minimum system components required to conduct an approach
- Sector entry join procedures for entering the holding pattern of the ILS approach
- Tracking tolerance and altitude limitations for flying the published DME arc of the ILS approach procedure
- Procedure for joining the circuit from an ILS approach
- Missed approach procedures for an ILS approach
- Radio procedures during a ILS approach
- Loss of radio communication during a ILS approach procedure
- Abnormal operations and/or emergencies procedures during a ILS approach, including navigation aid failure
- Principles of operation of a GPS
- Limitations, errors, warnings and messages of a GPS
- Requirements applicable to pilots and equipment for GPS operations
- Steps involved in planning the work activities
- Procedures for adjusting controls to optimise the operation of the equipment
- Procedures to be followed in the event of an emergency
- Relevant sections of national and state or territory regulatory requirements and codes of practice
- Relevant OH&S and environmental procedures and regulations
- Procedures for managing and controlling hazardous situations when carrying out work activities
- Sources of information on differences in equipment and related standard operating and servicing procedures

Required skills:

- Interpret ILS instrument approach procedure chart
- Determine ILS approach procedure applicable minima for aircraft
- Determine conditions permitting descent below minima
- Perform systematic scan techniques
- Communicate effectively with others when performing ILS instrument approach
- Read and interpret instructions, regulations, procedures and other information relevant to an ILS instrument approach

REQUIRED KNOWLEDGE AND SKILLS

- Interpret and follow operational instructions and prioritise work
- Complete documentation related to performing ILS instrument approach
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when performing ILS instrument approach
- 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 performing ILS instrument approaches in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when performing ILS instrument approach
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during an ILS instrument approach
- 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 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 clothing and equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required to perform an ILS instrument approach

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:
- IMC
 - VMC with simulated IMC conditions
- Performance may be demonstrated in:
- single engine aircraft
 - multi engine aircraft
 - synthetic training device approved by the relevant authority
 - variable air traffic conditions
 - variable weather conditions
 - variable flight situations
 - abnormal situations
 - classes of airspace as designated by the Civil Aviation Safety Authority
- Aircraft may include:
- fixed wing
 - helicopter
 - other commercial or military aircraft
- Crew may include:
- single pilot
 - multi crew
- Instruments may be:
- fitted flight instruments suitable for instrument flight
 - head up display suitable for instrument flight
- Limitations may be imposed by:
- local noise abatement requirements and curfews
 - airspace endorsements
- Classes of airspace may be:
- as designated by the regulator
 - restricted and danger areas
 - military control zones
 - Air Defence Identification Zones
- ILS approaches may include:
- ILS / DME
 - ILS / LZZ
 - ILS / LZZ/DME
 - ILS/GPS
- Navigation aids may include:
- ADF (Automatic Direction Finder)
 - VOR (VHF Omni-directional Radio Range)
 - ILS (Instrument Landing System)
 - DME (Distance Measuring Equipment)
 - RADAR
 - LLZ (Localiser)
 - GPS (Global Positioning System)

RANGE STATEMENT

- FMS (Flight Management Systems)
 - Moving Map Displays
 - TACAN
 - INS
- Conditions may include:
- a method of simulating IMC
 - simulated icing conditions
 - moderate turbulence
 - simulated hazardous weather
 - Autopilot/Flight Director
 - FMS/ other NAV system
 - simulation of emergency and abnormal procedures
- Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
 - standard operating procedures
- Information/documents may include:
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
 - in Defence context, relevant Defence Orders and Instructions
 - Flight Manual/Pilot's Operating Handbook (POH)
 - Manual of Standards - Pilot Licensing (MOS-PL)
 - Aeronautical Information Publication (AIP)
 - En Route Supplement Australia (ERSA)
 - 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
- relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as:

RANGE STATEMENT

specified in either of:

- 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