



# **Recognition of Prior Learning (RPL)**

## **Evidence Portfolio Part 3 (CPL, NVFR & MEIR)**

**Student Name:**

**Student No.:**

### **AVI50519 Diploma of Aviation (Instrument Rating)**



## Contents

AVIF0029	Implement Threat and Error Management Strategies	4
AVIF0030	Manage Safe Flight Operations	10
AVIW0032	Operate and Manage Aircraft Systems	16
AVIY0033	Operate Aircraft Using Aircraft Flight Instruments	23
AVIY0073	Operate Aircraft in the Traffic Pattern at Night	31
AVIH0013	Plan a Flight Under Instrument Flight Rules	37
AVIH0017	Navigate Aircraft Under Instrument Flight Rules	45
AVIY0044	Conduct a 2D Instrument Approach	52
AVIY0081	Conduct a 2D Global Navigation Satellite System Non-Precision Instrument Approach	57
AVIY0050	Perform Instrument Arrival and Standard Arrival Route Procedures	63
AVIY0074	Perform Non-Published Instrument Departure Procedures	68
AVIY0075	Perform Published Instrument Departure Procedures	73
AVIY0076	Perform Visual Circling Approach	78
AVIY0072	Operate a Multi-Engine Aeroplane	83



### **Summary of Evidence included in Portfolio "Summary Table"**

List here any evidence you have ticked, and/or other evidence you are providing for this unit of competency, so that your RTO assessor can refer to it in your portfolio, please ensure that your item numbers are consistent with that of your portfolio documentation.

Item No.	Unit of Competency / Performance Criteria	Source of the Evidence	Description of Evidence	Date	Verified / Assessor Initial
1					
2					
3					
4					
5					
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## **AVIF0029 Implement Threat and Error Management Strategies**

### **Units of Competency**

#### **Application**

This unit involves the skills and knowledge required to implement threat and error management (TEM) strategies in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes recognising and managing actual and potential threats, recognising, and managing actual and potential errors, and recognising and managing undesired aircraft states.

This unit addresses aviation non-technical skill requirements (mental, social, and personal-management abilities) 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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

F – Safety

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIF0029>

#### **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 AVIF0007 Implement threat and error management strategies.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 active listening techniques to others in the operational environment
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- delegating duties and tasks
- determining and implementing appropriate countermeasures
- giving and receiving instructions related to implementing threat and error management (TEM) strategies
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting relevant instructions, regulations, procedures and information
- maintaining situational awareness
- making timely operational decisions
- modifying activities depending on operational contingencies, risk levels and environments
- operating and adapting to differences in communications equipment in accordance with standard operating procedures (SOPs)
- planning own work, predicting consequences and identifying improvements
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- responding to feedback from other flight or ground crew
- reporting and rectifying identified problems, faults or malfunctions promptly, in accordance with workplace procedures
- supervising others when implementing TEM strategies
- 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:

- application of situational awareness to identifying real or potential environmental or operational threats to aviation safety
- aspects of multi-crew operations that can prevent an undesired aircraft state
- effective communication during normal, abnormal and emergency situations
- leadership and supervision strategies
- recognition techniques and management strategies for:
  - actual and potential threats
  - actual and potential errors
  - undesired aircraft states
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to TEM
- removing and mitigating errors
- removing and mitigating threats
- safety philosophies



- task management, including:
  - workload organisation and priority setting to ensure optimum safe outcome of a flight
  - event planning to occur in a logical and sequential manner
  - anticipating events to ensure enough opportunity is available for completion
  - using technology to reduce workload and improve cognitive and manipulative activities
  - task prioritisation and protection while filtering and managing real time information
- TEM model, including:
  - principles and components of TEM
  - definition of threats
  - definition of errors
  - undesired aircraft states
  - TEM countermeasures.

### Assessment Conditions

Unit of Competency – <https://training.gov.au/Training/Details/AVIF0029>

Assessment Requirements <https://training.gov.au/Training/Details/AVIF0029>

**AVIF0029 Implement Threat and Error Management Strategies**

Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Recognise and manage actual and potential threats	1.1 Potential environmental or operational threats likely to affect flight safety are identified				
	1.2 Actual environmental or operational threats that affect flight safety are identified				
	1.3 Competing operational priorities and task demands that may represent a threat to flight safety are identified				
	1.4 Countermeasures to manage threats are identified and implemented				
	1.5 Flight progress and effect of countermeasures are monitored and assessed to ensure a safe outcome				
	1.6 Alternative countermeasures are identified and implemented, and effectiveness of countermeasures is re-evaluated for effectiveness				



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Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Recognise and manage actual and potential errors	2.1 Checklists and standard operating procedures are implemented to prevent aircraft handling, procedural or communication errors				
	2.2 Committed errors are identified and responded to before aircraft enters an undesired state				
	2.3 Aircraft systems are monitored using a systematic scan technique to collect and analyse flight information for potential or actual error recognition purposes				
	2.4 Flight operating environment is monitored to collect and analyse flight information for potential or actual error recognition purposes				
	2.5 Individual or team performance is monitored to recognise potential or actual error occurrence				
	2.6 Countermeasure implementation and supervision are undertaken to prevent errors before aircraft enters an undesired state				
	2.7 Countermeasure implementation and supervision are undertaken to correct errors after aircraft enters an undesired state				





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Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Recognise and manage undesired aircraft states	3.1 Undesired aircraft states are recognised				
	3.2 Individual and team tasks are prioritised to ensure an undesired aircraft state is managed effectively				
	3.3 Corrective actions to recover from an undesired aircraft state are applied in a safe and timely manner				
	3.4 Undesired aircraft states are reported and recorded as required in accordance with applicable workplace procedures				



## **AVIF0030 Manage Safe Flight Operations**

### **Units of Competency**

#### **Application**

This unit involves the skills and knowledge required to implement threat and error management strategies, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards. It includes maintaining an effective lookout, maintaining situational awareness, and assessing situations and making decisions. It also includes setting priorities and task management and maintaining effective communications.

This unit addresses aviation non-technical skill requirements (mental, social, and personal-management abilities) for 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 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**

F – Safety

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIF0030>

#### **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 AVIF0008 Manage safe flight operations.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 on at least one occasion and include:

- accepting responsibility for flight outcomes
- accepting responsibility for own performance
- applying relevant aeronautical knowledge
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting relevant instructions, regulations, procedures and other information
- managing and mitigating risk
- managing contingency flight operations:
  - abnormal situations
  - emergency conditions
- monitoring flight path, aircraft configuration and systems to achieve desired performance using a systematic scan technique
- operating effectively as a crew member
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- responding appropriately to cultural differences in the workplace
- selecting and using appropriate instruments, displays, communications equipment and aids
- taking initiative and responding to changing conditions
- using appropriate normal, abnormal and emergency aviation terminology

### 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 include knowledge of:

- crew co-ordination:
  - basic principles of crew coordination
  - verbal and non-verbal communication factors
  - barriers to communication
  - listening skills
  - assertion skills
  - factors affecting decision-making processes
  - communication, including:
    - communication – attitude
    - personality
    - judgement
    - leadership style
    - leadership qualities
    - poor crew coordination factors
- effective decision-making processes, including:
  - identify problems and causal factors
  - assess component parts systematically and logically
  - employ analytical techniques to identify solutions and consider the value and implications of each
  - generate solution and/or alternative courses of action
  - assess alternative solutions and risks with other flight crew members
  - determine course of action
  - communicate decision and delegate tasks to flight crew
  - monitor progress against agreed plan
  - evaluate decisions in accordance with changing circumstances
  - ensure decision making is improvement-focused and directed towards achieving optimum outcomes



- fatigue risk management processes, including:
  - proactive
  - predictive
  - reactive
- flight rules, including:
  - documentation
  - aircraft nationality and registration
  - airworthiness of aircraft
  - personnel licencing
  - rules of the air
  - procedures for air navigation
  - air traffic services
  - aeronautical information service
  - aerodromes
  - facilitation
  - search and rescue
  - security
  - aircraft accidents and incidents – crew responsibilities
  - air service operations
- judgment and decision making, including:
  - pilot judgment concepts
  - types of judgment
  - motor skills and human factors
- aeronautical decision making:
  - decision-making concepts
  - pilot responsibilities
  - behavioural aspects
- identification of hazardous aircraft attitudes:
  - physical factors
  - psychological factors
  - social influences and interface between people
- pilot judgment awareness:
  - risk assessment
  - cockpit stress management
- applying decision-making concepts:
  - practical application
  - managing resources
  - safety awareness
- task management, including:
  - workload organisation and priority setting to ensure optimum safe flight outcome
  - event planning, in a logical and sequential manner
  - anticipating events to ensure enough opportunity is available for completion
  - using technology to reduce workload and improve cognitive and manipulative activities
  - task prioritisation and protection while filtering and managing real time information.



### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

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 and appropriate materials, tools, equipment and personal protective equipment currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIF0030>

Assessment Requirements <https://training.gov.au/Training/Details/AVIF0030>

**AVIF0030 Manage Safe Flight Operations**

Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Maintain effective lookout	1.1 Systematic visual scan techniques are applied at a rate determined by traffic density, visibility and terrain to maintain traffic separation				
	1.2 Radio listening watch is maintained, and transmissions are interpreted to determine traffic location and intention				
	1.3 Airspace-cleared procedures are performed before commencing any manoeuvre				
2. Maintain situational awareness	2.1 All aircraft systems are monitored using a systematic scan technique				
	2.2 Information is collected to facilitate ongoing system management				
	2.3 Flight environment is monitored for deviations from planned operations				
	2.4 Flight environment information is collected to update planned operations				



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Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Assess situations and make decisions	3.1 Problems affecting flight performance are identified and analysed				
	3.2 Potential solutions to flight performance problems are identified				
	3.3 Potential solutions and risks are assessed				
	3.4 Course of action is determined and communicated to flight crew, passengers and/or other personnel, as required				
	3.5 Tasks are allocated and actioned to implement optimal course of action outcomes				
	3.6 Tasks are monitored for progress against determined course of action				
	3.7 Plan is re-evaluated as required to achieve optimal outcomes				
4. Set priorities and manage tasks	4.1 Task workload and priorities are organised to ensure optimum outcome of the flight				
	4.2 Events and tasks are planned to occur sequentially				
	4.3 Events and tasks are anticipated to ensure sufficient opportunity for completion				
	4.4 Technology is used to reduce workload and improve cognitive and manipulative activities				
5. Maintain effective communication and interpersonal relationships	5.1 Effective and efficient communication and interpersonal relationships are established and maintained with all stakeholders to ensure optimum flight outcome				
	5.2 Objectives are defined and explained to stakeholders				
	5.3 Appropriate levels of assertiveness are applied that ensure the optimum completion of a flight				



## **AVIW0032 Operate and Manage Aircraft Systems**

### **Units of Competency**

#### **Application**

This unit involves the skills and knowledge required to operate and manage aircraft systems, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating and managing aircraft systems during normal flight and managing aircraft systems during abnormal and emergency procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight or ground operations personnel 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

W – Equipment and Systems Operations

#### **Unit Sector**

Not applicable.

#### **Pre-Requisite Unit**

Not applicable

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIW0032>

#### **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 AVIW5018 Operate and manage aircraft systems.





## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical and aircraft systems knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting aircraft system displays
- interpreting and following operational instructions and prioritising work
- 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
- operating manual and automated aircraft systems
- performing systematic scan technique for monitoring aircraft systems, sub-systems (equipment) and devices
- 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
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- undertaking fault finding in aircraft systems
- using automated systems to manage workload
- 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

- aircraft systems as applicable to aircraft rating/endorsement requirements, including:
- anti-icing and de-icing systems:
  - method of de-icing aerofoils, propeller and carburettor
  - heat or power source of de-icing/anti-icing equipment
  - anti-icing and de-icing system limitations
  - operation and control of anti-icing and de-icing systems
  - likely faults that may affect anti-icing and de-icing systems
  - emergency operating procedures for anti-icing and de-icing systems
- aircraft system checklists, including:
  - explanation of normal system operating procedures of aircraft systems, subsystems and devices used to operate specific aircraft type including use of published scans and checklists, immediate action items, warnings, limitations
- automated systems, including:
  - limitations of automated systems
  - operating procedures for systems such as flight management system, auto throttle/engine control, flight director system, automated aircraft navigation systems, automated engine condition and monitoring system
  - workload management procedures for utilising automated systems
  - warning systems/indicators to identify automated systems failure



- autopilot, including:
  - principles of operation of autopilot system
  - likely faults that may affect autopilot system
  - emergency operating procedures for autopilot system
  - identification of power sources, voltage or pressure
  - procedure to determine gyros are operating normally
  - procedure to engage autopilot
  - normal and emergency procedure to disengage autopilot
  - limits of gyro units
- electrical system, including:
  - use of a schematic diagram of the electrical system to explain type/s of electrical system (AC/DC)
  - likely faults that may affect electrical system
  - emergency operating procedures for electrical system
  - voltage and amperage of battery
  - number and output of generators
  - methods of circuit protection
  - location of fuses and circuit breakers
  - precautions to be taken when operating electrical service
  - instruments operated by electrics
- enhanced ground proximity warning system (EGPWS) / terrain awareness and warning system (TAWS), including:
  - identification and demonstration or explanation of function of all cockpit EGPWS/TAWS controls
  - information terrain awareness display shows
  - warnings given by fitted EGPWS/TAWS, including what each warning indicates is happening to aircraft in flight
- fuel system, including:
  - use of a schematic diagram of fuel system to explain layout and normal operating procedures
  - likely faults that may affect fuel system
  - emergency operating procedures for fuel system
  - operation of fuel selector panel
  - use of cross-feed
  - fuel-dumping procedures
  - full fuel capacity and fuel grade
  - normal, minimum and maximum fuel pressures
- heating, ventilation and pressurisation systems, including:
  - normal procedures to operate and control system
  - likely faults that may affect heating, ventilation and pressurisation system
  - emergency procedures for operation of system
  - precautions to be complied with
- hydraulic system, including:
  - use of a schematic diagram of hydraulic system to explain layout and normal operating procedures
  - likely faults that may affect hydraulic system
  - emergency operating procedures for hydraulic system
  - units or services operated by hydraulics
  - type of hydraulic fluid, operating pressure and capacity of reservoir
- oil system, including:
  - use of a schematic diagram of oil system to explain functions of oil system
  - likely faults that may affect oil system
  - emergency operating procedures for oil system
  - number of tanks, capacity and oil grade
  - oil sources of auxiliary systems such as constant speed unit (CSU), propeller feathering if fitted
  - normal, minimum and maximum oil pressure and temperature
  - operation of oil cooling system



- pitot/static system, including:
  - use of a schematic diagram to explain layout and operation of pitot/static system
  - heating source of pitot system
  - operating procedure for pitot/static system
  - methods of detecting pitot/static system problems
  - procedures to rectify static system problems
  - location of pitot and static pressure source
  - location of static drain points
- pressurisation systems, including:
  - pressurisation failure warning indications fitted to aircraft type flown
  - function of bleed air with respect to an aircraft pressurisation system
  - procedure for manual control of cabin pressurisation applicable to aircraft type flown
  - recall of maximum pressure differential for aircraft type flown
  - symptoms, indications and warnings that may indicate failure of pressurisation system
  - automatic depressurisation system operation procedures after landing
  - physiological symptoms of hypoxia
  - physical and psychological hazards that could occur during a rapid decompression
  - cabin altitude above which supplementary oxygen must be used by crew and passengers
- retractable undercarriage, including:
  - method of preventing retraction of undercarriage on the ground
  - cockpit indications for undercarriage down and locked
  - cockpit indications for undercarriage retracted
  - emergency procedures to extend and lock undercarriage down
- suction system, including:
  - use of a schematic diagram of suction system to explain function of suction system
  - source of suction pressure
  - normal operating pressure
  - instruments operated by suction pressure
  - warning system to indicate suction pump failure
- traffic and collision avoidance systems (TCAS), including:
  - surveillance and collision avoidance functions of TCAS II
  - system limitations, selectivity and inhibits
  - basic components of TCAS II
  - identification and demonstration or explanation of function of cockpit controls
  - TCAS II visual displays and symbology
  - functions of audio alerts and annunciations
  - appropriate crew response to multiple TCAS II events, and parallel runway approach conflicts
  - recall of radiotelephone procedures following a TCAS II alert
  - requirements for a written report of a TCAS II alert and to whom it must be submitted



### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

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 PPE currently used in industry.

Unit of Competency - <https://training.gov.au/Training/Details/AVIW0032>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIW0032>



### AVIW0032 Operate and Manage Aircraft Systems

Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Operate and manage aircraft systems during normal flight	1.1 Aircraft systems, sub-systems (equipment) and devices applicable to aircraft type and task are operated and managed				
	1.2 Aircraft systems, sub-systems (equipment) and devices are monitored using a systematic scan technique				
	1.3 Aircraft systems and flight environment information is analysed to identify actual and potential threats or errors				
	1.4 Automated aircraft systems are utilised to manage cockpit workload				
	1.5 Hazards are identified, risks are assessed, and hazard management is implemented				
	1.6 Checklist procedures are completed as appropriate to aircraft system				



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Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Manage aircraft systems during abnormal and emergency procedures	2.1 Non-normal or emergency situations are recognised				
	2.2 Control of aircraft flight path is maintained during abnormal and emergency response procedures				
	2.3 Affected aircraft system or sub-system is identified and confirmed				
	2.4 Checklist procedures are recalled and implemented during abnormal and emergency situations using appropriate techniques				
	2.5 Appropriate non-normal or emergency procedures are performed in accordance with relevant workplace and emergency procedures, and regulatory requirements				
	2.6 Course of action is decided, implemented, evaluated and revised to achieve safest outcomes				
	2.7 Location and operation of emergency systems applicable to aircraft type are explained				



## **AVIY0033 Operate Aircraft Using Aircraft Flight Instruments**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to operate and manage aircraft systems, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes establishing serviceability of flight instruments and instrument power sources, operating an aircraft using full instrument procedures and recovering from unusual attitudes using full instrument procedures. It also includes operating an aircraft using limited instrument procedures, recovering from unusual attitudes using limited instrument procedures, re-establishing visual flight, and performing steep turns.

This unit addresses aviation technical skill requirements (physical, mental, and task-management abilities) related to aircraft operational duties that complement flight crew non-technical skills 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operation and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0033>

#### **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 AVIY0001 Operate aircraft using flight instruments.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- compensating for secondary effects of controls
- completing relevant documentation
- controlling aircraft by reference to artificial horizon and gyro compass
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining orientation under simulated instrument flight conditions
- modifying activities dependent 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 manoeuvres and procedures solely by use of instrument panel:
  - full instrument panel procedures
  - limited instrument panel procedures
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting or rectifying identified problems promptly by referring to instrument panel
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instrument scan techniques applicable to flight condition
- 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 included knowledge of:

- anti-icing and de-icing controls and switches fitted to aircraft type
- attitude and power requirements to achieve specified flight profiles
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- flight instrument performance tolerances for instrument meteorological condition (IMC) flights
- functions and effects of all aircraft controls
- hazards that exist when controlling an aircraft by reference to instrument panel and related risk control processes
- human factors applicable to instrument panel operating procedures, including:
  - full instrument panel
  - limited instrument panel
- in a Defence context, relevant Defence Orders and Instructions
- instrument panel failure cautions, warning and indication systems, and appropriate response techniques
- instrument panel scan techniques
- meteorological conditions impacting instrument flight procedures
- operation of flight instruments and pitot/static system
- operation, function and limitations of flight instruments and instrument power sources
- performance instrument indications and power requirements to achieve specified flight profiles
- pitot, airframe and carburettor icing and prevention/removal procedures
- principles of aerodynamics
- problems that may occur when controlling an aircraft by reference to full instrument panel and action that should be taken in each case
- relevant sections of CASRs and Civil Aviation Orders
- relevant WHS and environmental procedures and regulations
- safety risks associated with application of large or rapid control inputs in more than one axis simultaneously
- scan techniques appropriate to fitted flight instruments and phase of flight, including:
  - with attitude and stabilised heading indicators
  - without attitude and stabilised heading indicators.



### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

Performance must be assessed in one or more of the following:

- single engine aircraft
- multi engine aircraft
- synthetic training device approved by appropriate authority
- fixed wing
- helicopter
- other commercial or military aircraft

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 PPE currently used in industry.

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0033>

Assessment Requirements – <https://training.gov.au/Training/Details/AVIY0033>



### AVIY0033 - Operate Aircraft Using Aircraft Flight Instruments

Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Establish serviceability of flight instruments and instrument power sources	1.1 Serviceability of flight instrument, pitot/static system and instrument power sources is determined before flight				
	1.2 Functional checks of flight and navigational instruments are performed before departure				
2. Operate aircraft using full instrument procedures	2.1 Flight instrument and instrument power sources are monitored, and pilot cautions, warnings and indications are reacted to in accordance with full instrument procedures				
	2.2 Power and attitude are set and maintained by reference to full instrument panel to achieve straight and level performance during normal cruise				
	2.3 Power and attitude are set and maintained by reference to full instrument panel to achieve nominated climb performance				
	2.4 Power and attitude are set and maintained by reference to full instrument panel to achieve nominated descent performance				
	2.5 Power, attitude and bank during climb, descent and straight and level flight are set and maintained by reference to full instrument panel to achieve rate one turns onto a nominated heading				
	2.6 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				
	2.7 Aircraft is levelled at nominated altitude, from climb or descent during straight or turning flight				



Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Recover from unusual attitudes using instrument procedures	3.1 Unusual attitudes and upset situations are recognised and identified				
	3.2 Controlled flight is resumed by reference to flight instruments using a full instrument panel				
	3.3 Straight and level attitude is achieved without excessive oscillations at the horizon				
	3.4 Aircraft is recovered to above lowest safe altitude (LSALT)				
4. Operate aircraft using limited instrument procedures	4.1 Flight instrument and instrument power sources are monitored, and pilot cautions, warnings and indications are reacted to in accordance with limited instrument procedures				
	4.2 Aircraft is transitioned from full instrument operating procedures to limited instrument operating procedures while maintaining safe flight profiles				
	4.3 Power and attitude are set and maintained by reference to limited instrument panel to achieve straight and level performance during normal cruise				
	4.4 Power and attitude are set and maintained by reference to limited instrument panel to achieve nominated climb performance				
	4.5 Power and attitude are set and maintained by reference to limited instrument panel to achieve nominated descent performance				



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Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
4. Operate aircraft using limited instrument procedures (continued)	4.6 Power, attitude and bank during climb, descent, straight and level flight are set and maintained by reference to limited instrument panel to achieve rate one turns onto a nominated heading				
	4.7 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				
	4.8 Aircraft is levelled at nominated altitude, from climb or descent during straight or turning flight				
5. Recover from unusual attitudes using limited instrument procedures	5.1 Unusual attitudes and upset situations are recognised and identified				
	5.2 Controlled flight is resumed by reference to flight instruments using limited instrument panel				
	5.3 Straight and level attitude is achieved without excessive oscillations at the horizon				
	5.4 Aircraft is recovered to above LSALT				
6. Re- establish visual flight	6.1 Aircraft is transitioned from visual flight conditions to instrument flight conditions while aircraft control is maintained				
	6.2 Aircraft is manoeuvred to re-establish visual flight				
	6.3 Plan is implemented to ensure flight continues within visual meteorological conditions (VMC)				



Element Elements describe the essential outcomes.	Performance Criteria Performance criteria describes the performance needed to demonstrate achievement of the element.	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
7. Perform steep turns	7.1 Power, attitude and bank are set to maintain level flight by reference to full instrument panel that achieves a steep turn				
	7.2 Nominated angle of bank is maintained				
	7.3 Aircraft turn is exited onto nominated heading				
	7.4 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				



## **AVIY0073 Operate Aircraft in the Traffic Pattern at Night**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to operate an aircraft in the traffic pattern at night, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes controlling aircraft on the ground, activating pilot activated lighting (PAL) and taking off at night. It also includes managing emergency situations at night, performing a go-around, and landing at night, with and without the use of aircraft landing lights.

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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operation and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0073>

#### **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 AVIY5024 Operate aircraft in the traffic pattern at night.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using equipment required while operating an aircraft in the traffic pattern at night
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritise work
- 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
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- utilising fault finding for system failures
- utilising secondary lighting and power sources
- 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 included knowledge of:

- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to night visual flight operations
- causes that may aggravate vestibular disorientation, including:
  - somatogravic illusions
  - somatogyral illusions and 'graveyard spiral'
  - coriolis effect
  - leans
- circumstances that aggravate vestibular disorientation and how to overcome them
- colours and patterns of aerodrome lighting, including:
  - permanent threshold light
  - runway threshold identifications lights
  - displaced threshold lighting
  - runway edge lighting
  - runway end lighting
  - runway centreline lighting
  - obstacle lighting





- communications equipment checks
- conditions and causes under which the following visual illusions may occur, including:
  - false horizons
  - visual-cue illusions
  - relative motion illusions
  - flicker effect
  - black hole illusion
  - autokinesis
- electrical system management as recommended in the applicable aircraft flight manual (AFM)/pilot's operating handbook (POH)
- fuel tank capacity and range
- human factors and physiological limitations for conducting operations at night
- identification of aerodromes with standby power
- light signals used in the circuit area at night
- method of activating an aerodrome frequency response unit (AFRU) with PAL options
- method of activating pilot activated lighting (PAL)
- night circuit procedures
- night visual flight rules (NVFR) legislation, including:
  - privileges and limitations of the rating
  - minimum NVFR aircraft equipment requirements
  - ALA/HLS dimension and lighting requirements
- NVFR operations, including:
  - principles of operations, limitations and errors for the radio navigation systems used
  - flight planning/notification requirements, including lower safe altitude (LSALT), weather, fuel and lighting
  - requirements for departure and descent for clearance from terrain
  - alternate aerodrome planning requirements
  - operation of PAL
  - air traffic control (ATC) procedures relevant to NVFR operations
- operation and use of a visual approach slope indicator (VASI) and pilot approach path indicator (PAPI) system
- PAL system warning indications that lights are about to be extinguished
- procedures for operating electronic communications equipment
- requirements for completing relevant documentation
- time that PAL remains illuminated
- vestibular systems, namely the semicircular canals and otoliths, in helping the pilot maintain orientation.



### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0073>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0073>



### AVIY0073 - Operate Aircraft in the Traffic Pattern at Night

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Control aircraft on the ground	1.1 Instrument and cockpit lighting are adjusted to an appropriate level for taxiing				
	1.2 Air traffic control (ATC) instructions and manoeuvres of an aircraft on the ground at night within the approved movement area as defined by aerodrome ground lighting, are complied with				
	1.3 Aircraft lighting to identify obstructions, other aircraft, and taxiway and runway limits is used as required				
	1.4 Aircraft is taxied at a speed that allows for an adequate lookout to be maintained to avoid obstructions				
2. Activate PAL	2.1 Appropriate radiotelephone frequency is utilised to activate PAL system when within radio range				
	2.2 PAL system is activated using appropriate transmit sequence				
	2.3 Wind indicator lighting is monitored to determine end of activation period				
3. Take off at night	3.1 Aircraft is lined up correctly in centre of runway in take-off direction				
	3.2 Line-up checks appropriate to night take-off are completed				
	3.3 Take-off by reference to flare path/runway lighting and aircraft instruments is executed				
	3.4 Aircraft is rotated at manufacturer recommended speed				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Take off at night (continued)	3.5 Aircraft control and climb attitude is completed solely by reference to instruments				
	3.6 Alignment with runway by visual reference and lookout is established and maintained				
	3.7 Post-departure checks are performed at a safe height after take-off				
4. Manage emergency situations at night	4.1 Control of aircraft flight path is maintained during implementation of emergency response procedures				
	4.2 Emergency situation is managed in accordance with the aircraft flight manual (AFM), pilot's operating handbook (POH) and aeronautical information publication (AIP)				
	4.3 Electrical lighting and power sources are monitored				
	4.4 Electrical lighting and power source emergency procedures are implemented as required				
5. Perform a go-around	5.1 Need to conduct a go-around is recognised				
	5.2 Go-around is performed from any point on base and final approach legs				
6. Land at night, with and without the use of aircraft landing lights	6.1 Circuit entry and pattern are performed with reference to runway environment				
	6.2 Safe altitude is maintained by reference to aircraft instruments and runway lighting				
	6.3 Aircraft is safely landed at night with and without landing lights				
	6.4 After landing checks are performed				



## **AVIH0013 Plan a Flight Under Instrument Flight Rules**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge to plan a flight under instrument flight rules (IFR) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes determining aircraft meets requirements for IFR flight, obtaining and using current operational documents, and preparing charts and flight plans for instrument meteorological conditions (IMC) flight. It also includes determining operational requirements, making flight notifications and programming navigation systems.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to route planning and navigation 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

H – Route Planning and Navigation

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIH0013>

#### **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 AVIYH0005 Plan a flight under instrument flight rules.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying altimetry procedures to all stages of an instrument flight
- applying published instrument flight rules (IFR) procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating fuel requirements
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting IFR charts
- interpreting instrument meteorological conditions (IMC) forecasts
- 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
- reporting and/or rectifying problems, faults or malfunctions promptly in accordance with workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- selecting suitable navigation aids/systems
- 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 included knowledge of:

- aerodrome and enroute holding procedures
- aircraft fuel planning, including holding, alternate, fixed reserve, and usage rates
- aircraft transponder operation
- airspace requirements and procedures under IFR conditions
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- continuous descent final approach (CDFA) techniques
- critical point (CP) and point of no return (PNR)
- how to determine currency of operational documents
- factors affecting en route performance, range and endurance



- general operational information relevant to commercial pilots, including:
  - privileges and limitations
  - documentation
  - procedures, radio telephony and charts
  - meteorology
  - operational planning requirements
- ground and space navigation systems and infrastructure, including:
  - principles of operation, indications and limitations of ground-based navigation aids
  - rated coverage of radio navigation aids considering aircraft location, altitude and time of day
  - pilot navigation tolerances
  - non-directional beacons (NDB) lateral azimuth guidance
  - very high frequency (VHF) omni-directional radio range (VOR)
  - distance measuring equipment (DME)
  - instrument landing system (ILS)/localiser (LOC)
- global navigation satellite system (GNSS), including:
  - operating procedure errors
  - mode selection
  - data entry
  - data validation and checking, including independent cross-checking procedures
  - automation induced complacency
  - non-standardisation of GNSS receiver units
  - human information processing
  - situational awareness
- human factors relevant to commercial pilots, including:
- physiological factors:
  - vestibular system
  - vestibular disorientation
  - somatogravic/somatogyral illusions
  - visual illusions
- icing conditions and hazards
- IFR cruising levels, selection and hazards
- IFR route planning requirements
- in an Australian Defence Force (ADF) context, relevant Defence Orders and Instructions
- instrument flight documentation requirements
- instrument flight procedures, including:
  - flight instrument operations, errors and limitations
  - radio communication phraseology
  - lost communications procedures
  - air traffic service requirements
  - instrument chart symbology and information
  - reporting requirements
  - 2D/3D instrument approach operations
  - pilot responsibilities
  - altimeter accuracy and variations due temperature
  - flight plan validity
  - search and rescue time (SARTIME) and pilot obligations
  - missed approach requirements
  - alternate aerodrome weather minima
  - aircraft separation standards



- lowest safe altitude (LSALT), including:
  - calculate route LSALT not specified in aeronautical information publications (AIP)
  - missed approach minimum obstacle clearance
  - minimum obstacle clearance provided by minimum circling altitude
  - track establishment after take-off
  - establish aircraft above LSALT requirements
  - descent below LSALT or minimum safety altitude requirements by day/night/night- visual flight rules (NVFR)
- limitations on use of radar on ground
- meteorological considerations for an IFR flight, including:
- weather phenomena:
  - frontal weather
  - tropical cyclones
  - dust devils
  - thunderstorms
  - jet streams
  - fog
- meteorological information requirements
- interpreting forecasts to determine operational requirements
- air temperature lapse rates
- predicting probability of meteorological conditions, including:
  - airframe icing
  - hail
  - microbursts and wind shear
  - turbulence, including clear air turbulence (CAT)
- weather information services
- pilot reporting obligations
- altimeter subscale setting to obtain elevation or altitude (QNH) sources required for IFR operations
- meteorological minimas
- navigation requirements, including:
  - position fixing requirements
  - aircraft performance categories and operational implications
  - waypoints, symbology and pilot requirements:
    - initial approach fix
    - final approach fix
- visual circling by day or night
- pressure error correction (PEC)
- aerodrome operating minima (AOM)
- decision altitude (DA)
- normal segment gradient
- tracking tolerances:
  - controlled area (CTA) avoidance
  - ground-based navigation aids
  - navigation aids not available
  - notification requirements
  - order of precision of navigation aids/systems
- speed limitations and restrictions:
  - operations below 10,000 feet above mean sea level (AMSL)
  - during holding procedures
  - during approach procedures





- issued by air traffic services (ATS) and when cancelled
- NVFR operational requirements
- operational planning requirements, including:
  - flight planning:
  - route limitations
  - aircraft performance
  - forecast freezing levels
  - cruising altitude/level performance tables
  - required navigation performance (RNP) requirements
- alternate aerodrome requirements:
  - weather
  - navigation aids
  - approach procedures
  - lighting
  - availability of weather reports
  - divert time
- holding fuel requirements
- performance based navigation (PBN), including:
  - basic PBN principles, including area navigation (RNAV) and required navigation performance (RNP) capabilities
  - core components
  - navigation system performance requirements
  - performance monitoring and alerting
  - RNP specifications and system requirements
  - RNP navigation system errors
  - RNP leg types
  - RNP leg transitions
  - RNP navigation authorisation requirements
  - GNSS receiver requirements for RNP APCH operations
  - GNSS receiver mode conditions and actions for RNP APCH
  - RNP instrument approach requirements
  - augmented and non-augmented approaches
  - interpret IAP charts for minima information and operational restrictions
  - validity and accuracy of QNH for RNP APCH types
  - RNP approach differentiation
  - space-based augmentation systems (SBAS)
  - Approved barometric Vertical Navigation (APV Baro-VNAV) instrument approach charts
  - vertical guidance information and operational considerations
  - Baro-VNAV vertical guidance principles
- pilot activated lighting (PAL)
  - pilot responsibilities, including:
  - standard instrument departure (SID)
  - standard terminal arrival route (STAR)
  - noise abatement
  - missed approach
  - holding pattern and entry
  - planned/alternate destination weather conditions below minima
  - privileges and limitations conferred by an instrument rating
  - receiver autonomous integrity monitoring (RAIM) prediction implications



- reduced vertical separation minima (RVSM) operations, including:
  - range of flight levels within Australian airspace
  - operational requirements
  - aircraft altimeter accuracy requirements
  - vertical height tolerances
  - procedures and standard communication phraseology
  - altimetry system failures
- relevant WHS and environmental procedures and regulations
- relevant sections of CASRs and Civil Aviation Orders for IFR and planning requirements
- requirements for an alternate aerodrome
- runway visual approach slope lighting system operation and limitations
- use of a navigational computer

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIH0013>

Assessment Requirements – <https://training.gov.au/Training/Details/AVIH0013>



### AVIH0013 Plan a Flight Under Instrument Flight Rules

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Determine aircraft meets requirements for IFR flight	1.1 Aircraft requirements for IFR flight are determined				
	1.2 Flight and navigation instruments, minimum electrical lighting, navigation equipment and any other requirements fitted to aircraft are checked to ensure they are suitable and acceptable for IFR flight				
2. Obtain and use current operational documents	2.1 Operational documents applicable to flight are obtained and checked for currency				
	2.2 Applicable information contained in documents for flight planning and management is interpreted and applied				
	2.3 Documents required for flight are stowed and their accessibility for pilot during flight is ensured				
3. Prepare charts and flight plan for IMC flight	3.1 Charts suitable for intended IFR flight are selected and prepared				
	3.2 Applicable information to prepare a flight plan that details tracks, distances, times, altitudes to be flown and fuel requirements to reach destination are obtained, analysed and applied				
	3.3 Meteorological, airways facilities, aerodrome and Notice to Airmen (NOTAM) information applicable to planning and conducting a flight is obtained, interpreted and applied				
	3.4 Routes to optimise options in an engine failure are planned				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
4. Determine operational requirements	4.1 Suitability of aerodrome for instrument flight operations is determined				
	4.2 Curfew requirements are complied with				
	4.3 Duration of flight is determined				
	4.4 Holding, alternate and reserve fuel requirements due to weather, navigation aid availability and aerodrome lighting are determined in accordance with operational requirements				
	4.5 Total fuel requirements are calculated				
5. Make flight notification	5.1 Flight notification is prepared for planned IFR flight				
	5.2 Completed flight notification is submitted				
	5.3 Flight notification acceptance is confirmed				
6. Program navigation system	6.1 Data for transfer to approved airborne navigation system is prepared				
	6.2 Navigation data is loaded and checked				



## **AVIH0017 Navigate Aircraft Under Instrument Flight Rules**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge to plan a flight under instrument flight rules (IFR) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes selecting, operating and monitoring navigation aids and systems, navigating aircraft in instrument meteorological conditions (IMC), and conducting a diversion to revised routes or alternate aerodromes. It also includes conducting holding patterns within IMC, complying with air traffic control (ATC) rules and procedures for IFR, managing hazardous weather operating conditions, and demonstrating turbulence penetration techniques.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to route planning and navigation 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

H – Route Planning and Navigation

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIH0017>

#### **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 AVIH5017 Navigate aircraft under instrument flight rules.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying air safety practices and regulations
- applying altimetry procedures to all stages of an instrument flight
- applying operational requirements that apply to planning a flight on the basis of conducting an area navigation (RNAV) global navigation satellite system (GNSS) procedure at the destination
- applying relevant aeronautical knowledge
- applying turbulence penetration techniques
- communicating effectively with others
- completing relevant documentation
- determining time made good (TMG), ground speed (GS), estimated time of arrival (ETA), time and distance to waypoint (WPT), and wind velocity (WV) in flight
- identifying and correctly using equipment required when navigating an aircraft under instrument flight rules (IFR)
- implementing aviation risk management processes to minimise, control or eliminate identified hazards
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting typical GNSS navigational displays, including latitude/longitude (lat/long), distance and bearing to waypoint, and course deviation indications (CDI)
- maintaining interception and maintenance of GNSS defined tracks
- modifying activities depending on workplace contingencies, situations and environments
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing non-directional beacon (NDB) approaches, including:
  - calculating heading to steer to intercept a new or original track to or from an NDB
  - calculating heading to steer to intercept desired inbound track before reaching an NDB
  - calculating relative bearing that will indicate desired track to or from an NDB has been intercepted given the intercept heading
  - calculating track to and from an NDB, given heading and relative bearings
- determining NDB station passage, abeam NDB station, NDB bearing the aircraft is on, tracking error and/or drift experienced from automatic direction finder relative bearing indications
- fixing position, given relative bearing indications utilising two NDB stations
- performing very high frequency (VHF) omni directional radio range (VOR) approaches, including:
  - calculating heading to steer to intercept a new or original track to or from a VOR
  - determining off-track distance experienced from VOR and DME cockpit indications
- determining scalloping, VOR station passage, abeam VOR station, VOR radial the aircraft is on, tracking error and/or drift experienced from VOR cockpit indications
- fixing position, given cockpit instrument indications utilising two VOR stations
- fixing position, given instrument indications utilising combinations of VOR, NDB and DME
- performing IFR navigational functions within the parameters of authorised regulations, orders and operations manual procedures
- predicting availability of approach receiver autonomous integrity monitoring (RAIM) at destination or alternate aerodrome and limitations that apply to the prediction
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising and taking appropriate action for GNSS warnings



- recognising significant variances from forecast meteorological conditions and taking appropriate actions, including issuing an air report (AIREP) and messages
- reporting and/or rectifying problems, faults or malfunctions promptly in accordance with workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- sourcing and interpreting aviation weather forecast products and services appropriate to flight planning and navigation procedures
- 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 included knowledge of:

- air traffic control (ATC) rules and procedures, including:
  - abnormal operations and/or emergency procedures in control area (CTA), control zone (CTR), Class G airspace and at non-controlled aerodromes
  - airways clearance requirements for entering, operating in and departing CTA and CTR, including what details to provide to ATC, and what details to expect from ATC
  - airways clearance requirements for operating in all classes of airspace, including lead time required for flight plan submission, contents, clearance void time, and read back requirement
  - ATC requirements for a change of level in CTA, including in an emergency
  - CTA protection
  - departure, climb, transition to cruise (levelling out), cruise, change of levels, descent and visual approach procedures, day and night, in CTA and CTR
  - departure, climb, transition to cruise (levelling out), cruise, change of levels, descent, and arrival procedures in Class G airspace and at non-controlled aerodromes
  - loss of radio communication procedures in CTA, CTR, Class G airspace and at non-controlled aerodromes
  - maximum permissible time interval between ATC transmissions during radar vectoring
  - radar emergency procedures, including loss of radio communication, radar failure, transponder emergency codes and aircraft emergencies
  - radar services that are provided by ATC
  - radar vectoring procedures, including radio procedures and phraseologies
  - radio procedures in CTA, CTR, Class G airspace and at non-controlled aerodromes
  - requirements and procedure for a diversion to an alternate aerodrome
  - separation provisions between IFR flights, and IFR and visual flight rule (VFR) flights in the various classes of CTA
  - separation provisions between IFR flights, and IFR and VFR flights in General Aviation Aerodrome Procedures (GAAP) CTR
  - visual approach procedures, day and night, in Class G airspace and at non-controlled aerodromes, including landing manoeuvres, cancellation of search and rescue watch (SARWATCH), and operation of VHF aerodrome pilot activated lighting (PAL)
- GNSS, including:
  - effect of availability or otherwise of baro-aiding on RAIM availability and prediction
  - effect of each type of RAIM prediction operational requirements
  - effect of satellite unserviceability on the reliability of each type of prediction
  - factors that may adversely affect the conduct of a global navigation satellite system non-precision approach GNSS/NPA and explain suitable pilot procedures to minimise such effects
  - GNSS operating procedures for typical navigational tasks using a specific type of aircraft equipment
  - GNSS operating procedures that provide safeguards against navigational errors and loss of situational awareness
  - GNSS operational and serviceability checks
  - human factor limitations associated with using GNSS equipment
  - indications of waypoint passage



- methods of position fixing using a GNSS system
- mode of operation required during each segment of a GNSS/NPA, conditions required to transition to and operate in that mode, and associated CDI sensitivity and RAIM protection provided
- operating procedures for GNSS equipment that reduce or eliminate errors due to any of these factors
- operational requirements that apply to planning a flight on the basis of conducting an area navigation global navigation satellite system RNAV (GNSS) procedure at the destination
- parameters applicable to RAIM warnings in the en route, terminal and approach modes
- parameters applicable to tracking tolerances, automatic waypoint sequencing, CDI sensitivity and RAIM availability
- principles of operation, performance limitations and errors of a GNSS system
- requirements applicable to pilots and equipment for GNSS operations
- NDB, including:
  - effects of coastal refraction, night error, thunderstorms, mountainous areas, types of terrain and altitude of aircraft on NDB indications or range
  - methods of selecting and using most appropriate NDB for tracking during navigation
  - NDB tracking techniques, procedures and limitations
  - procedures for sector entry and holding using NDB
- VOR, including:
  - procedures for sector entry and holding using VOR
  - VOR instrument settings required to provide command indications when flying on given tracks both to and from VOR
  - VOR tracking techniques, procedures and limitations

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIH0017>

Assessment Requirements – <https://training.gov.au/Training/Details/AVIH0017>





### AVIH0017 Navigate Aircraft Under Instrument Flight Rules

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Select, operate and monitor navigation aids / systems	1.1 Navigation aids and systems appropriate for planned IFR flight are selected and operated				
	1.2 Ground-based and satellite-based navigational systems confidence and integrity checks are conducted, continuously monitored and maintained				
2. Navigate aircraft in IMC	2.1 Aircraft position fix is determined with reference to navigation aid and systems using ground-based and/or satellite-based navigational systems				
	2.2 Tracks are intercepted to and from stations and waypoints with reference to navigation aids and systems, using ground-based and satellite-based navigational systems				
	2.3 Track is maintained within tolerances specified in authorised publications				
	2.4 Timings are recorded, assessed and revised as required				
	2.5 Station passage is recognised				
	2.6 Global navigation satellite system (GNSS)/distance measuring equipment (DME) arc procedure is performed within tolerances specified in authorised publications				
	2.7 Planned route above lowest safe altitude (LSALT) is maintained in accordance with IFR				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Navigate aircraft in IMC  (continued)	2.8 IMC to visual flight transition is performed before descending below the lesser of LSALT or minimum safety altitude (MSA)				
	2.9 Route and destination weather conditions are monitored, and appropriate actions executed				
	2.10 Descent point calculations are completed				
3. Conduct a diversion to revised route or alternate aerodrome	3.1 Requirement for an unplanned diversion is recognised and confirmed				
	3.2 Route to alternate aerodrome, navigation aid and/or revised track is determined				
	3.3 Planned route height is maintained above LSALT				
	3.4 Flight planned route is diverted to track to alternate aerodrome or navigation aid				
	3.5 Operational information for alternate aerodrome/s is reviewed and applied in accordance with regulations and published procedures				
	3.6 Fuel plan is reviewed and amended in accordance with regulations and published procedures				
4. Conducting holding pattern in IMC	4.1 Holding pattern is entered at or above LSALT/MSA appropriate to inbound heading using authorised sector entry procedures				
	4.2 Published holding pattern is flown not below the specified minimum altitude, allowing for wind effect and turning inbound on prescribed track				
	4.3 Holding pattern is departed in accordance with ATC instructions				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
5. Comply with ATC rules and procedures for IFR flights	5.1 Separation from other air traffic in actual or simulated IMC is maintained				
	5.2 Airspace requirements are complied with utilising IFR procedures				
	5.3 Two-way communication is maintained with air traffic services (ATS) and other aircraft in accordance with IFR procedures				
	5.4 ATC clearances and/or radar vectoring instructions are complied with				
6. Manage hazardous weather conditions	6.1 Hazardous weather conditions are identified, and risk management processes applied to maintain flight safety				
	6.2 Hazardous weather penetration procedures are implemented				
	6.3 Aircraft systems are employed to mitigate effects of hazardous weather				
7. Apply turbulence penetration techniques	7.1 Aircraft is configured to comply with turbulence penetration procedures				
	7.2 Passenger and crew are restrained during periods of predicted and actual turbulent conditions				
	7.3 Procedures for penetrating turbulence are applied to maintain flight safety				



## **AVIY0044 Conduct a 2D Instrument Approach**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to conduct a 2D instrument approach in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes preparing for an approach, conducting the initial approach and conducting a holding pattern. It also includes conducting an approach and conducting a missed approach.

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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0044>

#### **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 AVIY0013 conduct a 2D instrument approach.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- required navigation performance (RNP)-lateral navigation (LNAV), area navigation (RNAV)/GNSS and RNP-LP (wide area augmentation system [WAAS]) as required determining 2D approach procedure applicable minima for aircraft
- determining conditions permitting descent below minima
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting 2D instrument approach procedure chart
- interpreting and following operational instructions and prioritising workload
- modifying activities depending on workplace contingencies, situations and environments
- monitoring aid signal integrity
- 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 systematic scan techniques
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- selecting approach and determining applicable minima
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- working collaboratively with others.

### 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 included knowledge of:

- conducting 2D instrument approach, including:
  - non-directional beacon (NDB)
  - very high frequency (VHF) omni-directional range (VOR) and localiser (LOC)
  - distance measuring equipment (DME)/global navigation satellite system (GNSS) global positioning satellite system arrival (DGA)
- abnormal operations and emergency procedures for an approach, including navigation aid failure
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- cause and magnitude of typical GNSS errors
- conditions required to transition to and operate in that mode of operation for the GNSS/non-precision approach (NPA) and the associated course deviation indicator (CDI) sensitivity and receiver autonomous integrity monitoring (RAIM) protection provided



- effect of each type of RAIM prediction on operational requirements
- effects of availability or otherwise of barometric altimeter-aiding on RAIM availability and prediction
- effects of satellite unserviceability on reliability of each type of prediction
- factors that adversely affect the conduct of a GNSS/NPA, and suitable pilot procedures to minimise such effects
- GNSS operating procedures for navigation tasks
- GNSS operational and serviceability checks
- GNSS system fundamentals and principles of operations
- GNSS warnings and messages
- human factors limitations associated with using GNSS equipment
- instrument approach procedures and limitations
- loss of radio communication during an approach procedure
- minimum obstacle clearance criteria during approach procedure and missed approach procedure
- missed approach procedure for an approach
- mode of operation required during each segment of a GNSS/NPA
- operating procedures for GNSS equipment that reduce or eliminate errors
- operating procedures that provide safeguards against GNSS navigational errors
- operational requirements that apply to planning a flight on the basis of conducting a RNAV/GNSS procedure at the destination
- parameters applicable to RAIM warnings in en route, terminal and approach modes
- prediction limitations that apply to availability of approach RAIM at the destination or alternate aerodrome
- procedure for joining the circuit from an approach procedure
- radio procedures during an approach
- requirements applicable to pilots and equipment for GNSS operations
- sector entry joining procedures for entering a holding pattern
- tracking tolerance and altitude limitations for flying the published approach procedure
- tracking tolerances, automatic way-point sequencing, CDI sensitivity and RAIM availability parameters for entry, RAIM availability and approach segments.

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry.

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0044>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0044>



#### AVIY0044 Conduct a 2D Instrument Approach

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Prepare for approach	1.1 Latest available information for destination is reviewed				
	1.2 Navigation system validity check is conducted as required				
	1.3 Receiver autonomous integrity monitoring (RAIM) check is conducted as required				
	1.4 Flight plan is selected, loaded, checked and activated as required				
	1.5 Current approach chart for the approach to be flown is selected and briefed to flight crew				
	1.6 Navigation aid required for approach is checked and confirmed as serviceable				
2. Conduct initial approach	2.1 Altimeter QNH is set correctly				
	2.2 Aircraft is manoeuvred to holding fix				
3. Conduct a holding pattern	3.1 Holding pattern is entered and performed from holding fix				
	3.2 Aircraft is flown in accordance with relevant approach procedure requirements				
4. Conduct an approach	4.1 Altimeter QNH is updated and set				
	4.2 Automation is used appropriately				
	4.3 Approach is performed correctly and within published tolerances				
	4.4 Navigation aid signal integrity is monitored during approach				
	4.5 Aircraft is flown to a stabilised descent profile from final approach fix to minima				
	4.6 Visual reference is established and a visual circling or runway approach conducted for a landing on the selected runway				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
5. Conduct a missed approach	5.1 Missed approach conditions 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 instrument approach and landing (IAL) chart				
	5.4 Obstacle clearance in instrument meteorological conditions (IMC) or simulated IMC is maintained				





## **AVIY0081 Conduct a 2D Global Navigation Satellite System Non-Precision Instrument Approach**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to conduct a 2D instrument approach using global navigation satellite system (GNSS) or non-precision approach (NPA) procedures in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes selecting approach and determining minima; selecting, retrieving and activating the approach from a database; and monitoring GNSS signal integrity. It also includes conducting initial approach, conducting holding patterns, conducting approach procedure and conducting missed approach 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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0081>

#### **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 AVIY5038A Perform global positioning system (GPS)/non-precision approach (NPA).



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying global navigation satellite system (GNSS) operating procedures to typical navigation tasks
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- determining conditions permitting descent below minima
- determining GNSS/non-precision approach (NPA) procedure applicable minima for aircraft
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting GNSS/NPA instrument approach procedure chart
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring GNSS signal integrity
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing systematic scan techniques
- predicting availability of approach RAIM at the destination or alternate aerodrome
- predicting RAIM availability at destination and estimated time of arrival (ETA) using aircraft GNSS receiver and, as required, an external RAIM prediction service
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- selecting, retrieving and activating approach from database
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- 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 included knowledge of:

- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- cause and magnitude of typical GNSS errors
- conditions required to transition to and operate in the mode of operation for a GNSS/NPA, and the associated course deviation indicator (CDI) sensitivity and RAIM protection provided
- effect of each type of RAIM prediction on operational requirements
- effects of availability or otherwise of baro-aiding on RAIM availability and prediction
- effects of satellite unserviceability on reliability of each type of prediction
- emergency procedures



- factors that adversely affect the conduct of a GNSS/NPA and suitable pilot procedures to minimise such effects
- GNSS operating procedures for navigation tasks
- GNSS operational and serviceability checks
- GNSS system fundamentals and principles of operations
- GNSS warnings and messages
- GNSS/NPA instrument approach procedure chart
- human factors limitations associated with using GNSS equipment
- mode of operation required during each segment of a GNSS/NPA
- operating electronic communications equipment
- operating procedures for GNSS equipment that reduce or eliminate errors
- operating procedures that provide safeguards against GNSS navigational errors
- operational requirements that apply to planning a flight on the basis of conducting a required area navigation (RNAV) (GNSS) procedure at the destination
- parameters applicable to RAIM warnings in en route, terminal and approach modes
- prediction limitations that apply to availability of approach RAIM at the destination or alternate aerodrome
- procedures for adjusting controls to optimise equipment operation
- procedures for managing and controlling hazardous situations
- relevant sections of national and state/territory regulatory requirements and codes of practice
- relevant WHS and environmental procedures and regulations
- requirements applicable to pilots and equipment for GNSS operations
- requirements for completing relevant documentation
- sources of information on differences in equipment and related standard operating and servicing procedures
- steps involved in planning work activities
- tracking tolerances, automatic way-point sequencing, CDI sensitivity and RAIM availability parameters for entry, RAIM availability and approach segments.

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0081>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0081>


**AVIY0081 Conduct a 2D Global Navigation Satellite System Non-Precision Instrument Approach**

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Select approach and determine applicable minima	1.1 Current instrument approach and landing (IAL) chart for GNSS/NPA approach to be flown is selected				
	1.2 Entry to and conduct of instrument approach and missed approach procedure are reviewed and briefed to flight crew				
	1.3 Currency of GNSS receiver database is confirmed				
	1.4 Applicable meteorological minima of approach for aircraft performance category is determined				
	1.5 Fuel availability and holding or diversion action if visual reference is not established, is reviewed and briefed to flight crew				
2. Select, retrieve and activate approach from database	2.1 GNSS approach for appropriate runway from GNSS receiver navigation database, is selected				
	2.2 Initial approach fix to be used to transition approach procedure is selected				
	2.3 Aerodrome altimeter subscale setting to obtain elevation or altitude (QNH) in GNSS receiver is entered and approach activated				
	2.4 Confidence check of tracks and distances between approach way-point (WPT) as calculated by the GNSS receiver is performed				
	2.5 Course deviation indicators (CDI) are checked and selected to GNSS as required				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Monitor GNSS signal integrity	3.1 Receiver autonomous integrity monitoring (RAIM) is checked for availability on the approach				
	3.2 RAIM indications are monitored throughout the approach				
4. Conduct initial approach	4.1 Altimeter is set to appropriate QNH				
	4.2 Track to initial approach WPT is maintained at or above route minimum safe altitude (MSA) or lowest safe altitude (LSALT)				
5. Conduct holding pattern	5.1 Automatic sequencing of GNSS is suspended				
	5.2 Published holding pattern is conducted at appropriate initial approach WPT using prescribed sector entry procedure				
	5.3 Automatic sequencing is resumed to continue approach				
6. Conduct approach procedure	6.1 GNSS/NPA instrument approach is conducted while descending on specified track to each approach WPT				
	6.2 Approach altitude restrictions are complied with				
	6.3 GNSS receiver transitions to approach mode is confirmed no later than the final approach point (FAP), WPT or discontinue approach				
	6.4 Secondary navigation aid is utilised to maintain situational awareness				
	6.5 Descent to not below the minimum descent altitude (MDA) while tracking to the missed approach point, is conducted within tolerances				
	6.6 Landing runway is identified				
	6.7 Runway or circling approach for landing is conducted after visual reference is established				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
7. Conduct missed approach procedure	7.1 Conditions requiring a missed approach are recognised and missed approach is initiated				
	7.2 Published missed approach procedure is executed if visual reference is not established before reaching the MAPt or RAIM				
	7.3 Missed approach is conducted on any other event specified in aeronautical information publication (AIP) or GNSS operations manual				
	7.4 Aircraft is manoeuvred to MAPt				
	7.5 Missed approach mode is selected				
	7.6 Missed approach procedure is conducted in accordance with IAL chart				
	7.7 GNSS receiver is configured to conduct another approach or to hold or divert as required				
	7.8 Obstacle clearance in instrument meteorological conditions (IMC) is maintained				



## **AVIY0050 Perform Instrument Arrival and Standard Arrival Route Procedures**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to perform instrument arrival and standard arrival route (STAR) procedures in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards. It includes preparing for instrument meteorological conditions (IMC) arrival, conducting IMC arrival to instrument approach point, and conducting IMC arrival using a STAR.

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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0050>

#### **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 AVIY0022 Perform instrument arrival and standard arrival route procedures.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- adjusting for deviation in aircraft vertical profile
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting standard arrival route (STAR) charts
- manipulating flight management system (FMS)/navigation (NAV) system data
- 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
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- 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 included knowledge of:

- applicable instrument approach procedure or visual approach at end of STAR
- applicable instrument approach procedure or visual approach at end of an instrument arrival
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- how to read and interpret a STAR chart
- instrument arrival procedures and limitations
- instrument arrival radio procedures
- loss of radio communication during an instrument arrival
- loss of radio communication during STAR
- methodologies for input, monitoring and amending FMS/NAV system data
- pilot responsibilities during instrument arrival
- pilot responsibilities when STAR clearance is given or cancelled
- procedures for abnormal operations and/or emergencies during an instrument arrival, including navigation aid failure
- procedures for abnormal operations and/or emergencies during STAR, including navigation aid failure





- STAR procedures and limitations
- STAR radio procedures

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0050>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0050>



### AVIY0050 Perform Instrument Arrival and Standard Arrival Route Procedures

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Prepare for IMC arrival	1.1 Applicable aerodrome weather, airfield conditions and traffic information are obtained and applied				
	1.2 Descent/approach checks, and briefs are completed				
	1.3 Approach and landing configurations are established appropriate for the runway and meteorological condition				
2. Conduct IMC arrival to instrument approach point	2.1 Ground track is maintained to ensure subsequent instrument approach or traffic pattern can be flown, taking into account any obstructions and air traffic control (ATC) instructions				
	2.2 Obstacle clearance minima are maintained in accordance with aeronautical information publication (AIP) and/or ATC instructions				
	2.3 Existing wind conditions are verified making corrections for drift to maintain a precise ground track				
	2.4 Stabilised approach is maintained within specified airspeed and rate of descent tolerances				
	2.5 Approach point is intercepted in accordance with AIP requirements for commencing selected instrument approach				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Conduct IMC arrival using a STAR	3.1 Current chart for STAR to be flown is selected and navigation systems are configured				
	3.2 Approach applicable to runway being used for landing is correctly executed				
	3.3 Aircraft is correctly manoeuvred from an inbound route to a fix at or near the destination aerodrome, using navigation aids and transition to an approach as instructed by ATC				
	3.4 Obstacle clearance minima are maintained in accordance with AIP and/or ATC instructions				
	3.5 Aircraft is manoeuvred within tolerance specified in AIP				
	3.6 ATC instructions amending STAR procedure are correctly implemented				



## **AVIY0074 Perform Non-Published Instrument Departure Procedures**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to perform non-published instrument departure procedures in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards. It includes determining applicable standards for an instrument departure and taking off and climbing to cruising altitude/level under the instrument flight rules (IFR) (non-standard instrument departure [SID]/standard radar departure [SRD]). 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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0074>

#### **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 AVIY5027 Perform nonpublished instrument departure procedures



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating standard take-off minima
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using equipment required to perform a non-published instrument departure
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritise workload
- 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
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- 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 included knowledge of:

- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- conditions required to effect at take-off with no meteorological forecast
- content and timing of airborne and departure reports
- non-published instrument departure procedures
- obstacle and terrain clearance requirements after take-off and during the climb to lowest safe altitude (LSALT)
- pilot responsibility in an instrument flight rules (IFR) visual departure
- procedures for abnormal operations and/or emergencies
- procedures for loss of radio communication
- requirement for establishing aircraft on departure track
- take-off minima for single or multi-engine aircraft at aerodromes without suitable instrument departure procedures
- transponder code requirements for the flight.



### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0074>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0074>



#### AVIY0074 Perform Non-Published Instrument Departure Procedures

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Determine applicable standards for an instrument departure (non-SID/ SRD)	1.1 Standard take-off minima are determined in accordance with the aerodrome using aeronautical information publication (AIP)				
	1.2 Departure is planned to ensure aircraft can maintain obstacle and terrain clearance after take-off and during climb to lowest safe altitude (LSALT)				
	1.3 Ceiling minima is increased and/or track is planned to ensure terrain clearance is maintained, as required				
2. Take off and climb to cruising altitude / level under the IFR (non-SID/SRD)	2.1 Appropriate checklist items are completed and confirmed to ensure aircraft systems applicable to instrument take-off are operating correctly				
	2.2 Radios, navigation aids and flight instruments are set to desired setting prior to initiating take-off				
	2.3 Track, altitude requirements and emergency procedures are reviewed and briefed for an instrument departure				
	2.4 Climb to cruising altitude/level after take-off is achieved				
	2.5 Obstacle and terrain clearance is maintained below LSALT while intercept track is maintained within five nautical miles (nm) of departure aerodrome				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Take off and climb to cruising altitude / level under the IFR (non-SID/SRD)  (continued)	2.6 Transitions from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions are performed without loss of aircraft control				
	2.7 Radio transmissions are performed in accordance with AIP requirements				
	2.8 Separation from other traffic is maintained				





## **AVIY0075 Perform Published Instrument Departure Procedures**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to perform non-published instrument departure procedures in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes determining applicable standards for an instrument departure using published procedures and taking off and climbing to cruising level using published procedures (standard instrument departure [SID]/standard radar departure [SRD]).

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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0075>

#### **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 AVIY5028 Perform published instrument departure procedures



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating ceiling and visibility minima for circling approach
- communicating effectively with others
- completing relevant documentation
- determining circling area applicable to aircraft performance category being flown
- determining obstacle clearance requirements in circling area
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting instrument approach charts
- 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 systematic scan techniques
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- 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 included knowledge of:

- briefing requirements for a circling approach
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- conditions under which a circling approach must be discontinued, and a missed approach initiated
- emergency procedures
- how to calculate ceiling and visibility minima for a circling approach
- how to determine circling area applicable to aircraft performance category being flown
- how to determine minima applicable for visual circling for specified instrument approaches
- how to determine obstacle clearance requirements in circling area
- procedure to conduct a missed approach from any nominated point within circling area on a specified approach
- procedures for adjusting controls to optimise equipment operation
- recall when an aircraft may descend below the minimum descent altitude (MDA) by day and night
- relevant sections of national and state/territory regulatory requirements and codes of practice



- relevant WHS and environmental procedures and regulations
- requirements for completing relevant documentation.

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0075>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0075>



### AVIY0075 Perform Published Instrument Departure Procedures

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Determine applicable standards for an instrument departure using published procedure	1.1 Standard take-off minima are determined in accordance with aeronautical information publication (AIP)				
	1.2 Plan is developed to ensure obstacle clearance requirements for take-off area				
	1.3 Aircraft performance is calculated to ensure minimum design climb gradient of SID or SRD and any additional specified gradients can be achieved				
2. Take off and climb to cruising level using published procedures	2.1 Appropriate checklist items are completed and confirmed to ensure aircraft systems applicable to instrument take-off are operating correctly				
	2.2 Radios, navigation aids/systems and flight instruments are set to desired setting prior to initiating take-off				
	2.3 Track, altitude requirements and emergency procedures for SID or SRD are reviewed and self-briefed or briefed to flight crew				
	2.4 Climb to cruising altitude/level after take-off is achieved from standard take-off ceiling				
	2.5 Obstacle and terrain clearance is maintained while below lowest safe altitude (LSALT)/minimum safe altitude (MSA) to intercept track in accordance with SID or SRD requirements				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Take off and climb to cruising level using published procedures  (continued)	2.6 Transitions from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions are performed without loss of aircraft control				
	2.7 Radio transmissions are performed in accordance with AIP requirements				



## **AVIY0076 Perform Visual Circling Approach**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to perform a visual circling approach in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes determining minima applicable for visual circling for specified instrument approaches, conducting visual circling procedure following instrument approach using appropriate visual cues, and conducting a missed approach from visual circling.

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 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

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0076>

#### **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 AVIY5033 Perform visual circling approach.



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating ceiling and visibility minima for circling approach
- communicating effectively with others
- completing relevant documentation
- determining circling area applicable to aircraft performance category being flown
- determining obstacle clearance requirements in circling area
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting instrument approach charts
- 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 systematic scan techniques
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- 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 included knowledge of:

- briefing requirements for a circling approach
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- conditions under which a circling approach must be discontinued, and a missed approach initiated
- emergency procedures
- how to calculate ceiling and visibility minima for a circling approach
- how to determine circling area applicable to aircraft performance category being flown
- how to determine minima applicable for visual circling for specified instrument approaches
- how to determine obstacle clearance requirements in circling area
- procedure to conduct a missed approach from any nominated point within circling area on a specified approach
- procedures for adjusting controls to optimise equipment operation
- recall when an aircraft may descend below the minimum descent altitude (MDA) by day and night
- relevant sections of national and state/territory regulatory requirements and codes of practice



- relevant WHS and environmental procedures and regulations
- requirements for completing relevant documentation

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0076>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0076>



**AVIY0076 Perform Visual Circling Approach**

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Determine minima applicable for visual circling for specified instrument approach	1.1 Requirement to conduct a circling approach in accordance with aeronautical information publication (AIP) is determined				
	1.2 Ceiling and visibility minima are determined for circling approach appropriate for instrument approach procedure and category of aircraft being used in accordance with applicable instrument approach charts				
2. Conduct visual circling procedure following instrument approach, using appropriate visual cues	2.1 Circling procedures are planned and briefed in relation to runway position relative to aircraft as it will appear to pilot when approaching minima				
	2.2 Circling approach is conducted in accordance with AIP				
	2.3 Aircraft is controlled and maintained within altitude limitations by reference to instruments				
	2.4 Aircraft position is controlled and maintained using visual cues				
	2.5 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Conduct missed approach from visual circling	3.1 Conditions requiring a missed approach are recognised and missed approach procedure is initiated				
	3.2 Aircraft is manoeuvred to missed approach point (MAPt) and a missed approach procedure is conducted in accordance with applicable instrument approach chart				
	3.3 Obstacle clearance in instrument meteorological conditions (IMC) is maintained				



## **AVIY0072 Operate a Multi-Engine Aeroplane**

### **Unit of Competency**

#### **Application**

This unit involves the skills and knowledge required to operate a multi-engine aeroplane in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating a multi-engine aeroplane in all phases of flight, managing an engine failure/malfunction in flight and managing an engine failure/malfunction after take-off. It also includes performing a rejected take-off, managing an engine failure/malfunction during approach/landing, and conducting a go-around or missed approach with an engine failure.

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 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.

#### **Pre-Requisite Unit**

Not applicable

#### **Competency Field**

Y – Aircraft Operations and Traffic Management

#### **Unit Sector**

Not applicable.

#### **Elements and Performance Criteria**

See below

#### **Resource**

<https://training.gov.au/Training/Details/AVIY0072>

#### **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 AVIY5023 Operate a multi -engine aero plane



## Assessment Requirements

### Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

### 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 (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant air safety practices and regulations
- applying relevant legislation and workplace procedures
- calculating accelerate/stop distance
- calculating fuel flow and true airspeed with one engine inoperative
- calculating initial rate of climb and climb gradient for one engine inoperative after take-off
- calculating point no return (PNR) and equi time point (ETP)/critical point (CP) for one engine inoperative with maximum fuel
- calculating the speed beyond which take-off can no longer be safely aborted (V1) for any specified take-off conditions
- communicating effectively with others
- completing relevant documentation
- controlling and managing aeroplane during flight with failed engine/s in accordance with the aircraft flight manual (AFM)/pilot's operating handbook (POH)
- determining if range of aeroplane increases or decreases following an engine failure
- extracting, calculating and applying all performance information applicable to aeroplane
- identifying and correctly using equipment required to operate a multi-engine fixed wing aeroplane
- identifying critical/malfunctioning engine correctly
- identifying, and managing emergency and abnormal situations while maintaining control of the aeroplane
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with relevant regulatory requirements
- 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
- reporting and/or rectifying identified problems promptly in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- setting priorities and managing workload to ensure safe task completion in the time available
- 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 included knowledge of:

- airspeed limitations, including:
  - velocity normal operations – Vno
  - velocity acceleration – Va
  - velocity best angle of climb – Vx
  - velocity best rate of climb – Vy
  - velocity never exceed – Vne
  - maximum flap extended speed – Vfe
  - velocity landing gear operations – Vlo
  - velocity landing gear extended – Vle
  - velocity landing gear down – Vlo2
  - maximum crosswind
  - turbulence penetration speed
  - maximum load factor
- conditions that would increase take-off decision speed
- emergency airspeeds, including:
  - velocity minimum control speed – Vmca
  - velocity safe single engine – Vsse
  - engine/s inoperative climb
  - approach and final speed
  - emergency descent
  - best glide range speeds
- emergency procedures, including:
  - engine failure after take-off
  - engine fire on the ground and airborne
  - engine failure in the cruise
  - waste gate failure
  - propeller/turbine over-speed
- in a Defence context, relevant Defence Orders and Instructions
- markings on airspeed indicator that apply to failed engine operations
- methods of regaining control of an aeroplane with a failed engine that is flying at a speed less than Vmca
- normal and crosswind take-off and landing procedures, including:
  - climb
  - cruise
  - descent procedures, including, airspeeds, configurations and method of drift allowance
  - setting of flight instruments
  - abnormal/emergency procedures
- other abnormal or emergency items as contained in the AFM/POH
- performance the aeroplane can achieve after reaching best rate of climb (Vy) or take off safety speed V2 during asymmetric flight
- power, flight and configuration requirements that apply to Vmca
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders
- relevant WHS procedures and regulations
- safety implications of asymmetric flight below Vmca
- technique and procedure for carrying out a rejected take-off after engine/system/s failure/warnings, including related safety factors



- techniques and procedures used during engine failure on take-off, appropriate reference airspeeds, and specific pilot actions required
- techniques and procedures used to conduct an asymmetric go-around or missed approach during engine failure on take-off, appropriate reference airspeeds and specific pilot actions required.

### Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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.

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 and appropriate materials, tools, equipment and PPE currently used in industry

Unit of Competency – <https://training.gov.au/Training/Details/AVIY0072>

Assessment Requirements - <https://training.gov.au/Training/Details/AVIY0072>

**AVIY0072 Operate a Multi-Engine Aeroplane**

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1. Operate a multi-engine aeroplane in all phases of flight	1.1 Normal operations of multi-engine aeroplane type on the ground and in flight are conducted in accordance with the aircraft flight manual (AFM), pilot's operating handbook (POH) and company operating procedures				
	1.2 Asymmetric operations for all phases of flight are anticipated and contingencies are planned				
	1.3 Plan of action is self-briefed or briefed to crew members to ensure safest outcome in asymmetric operations				
2. Manage engine failure /malfunction in flight	2.1 Control of aeroplane is maintained and/or regained during implementation of emergency response procedures				
	2.2 Failed/malfunctioning engine is identified and confirmed				
	2.3 Power set on serviceable engine/s and aeroplane configuration is adjusted to achieve desired aeroplane performance				
	2.4 Failed/malfunctioning engine is managed				
	2.5 Indicated airspeed is maintained above minimum controllable airspeed (Vmca)				
	2.6 Air traffic control (ATC) or another agency capable of assistance is advised of situation and intentions				
	2.7 Recovery or diversion to appropriate aerodrome is evaluated and conducted				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Manage engine failure/ malfunction after take-off	3.1 Engine failure/malfunction is managed after take-off while control of aircraft flight path is maintained				
	3.2 Initial climb not less than best engine out angle of climb speed (VX) or best engine out rate of climb speed (VY) until clear of obstacles, then VY is maintained				
	3.3 Recovery or diversion to appropriate aerodrome is evaluated and conducted				
4. Perform rejected take-off	4.1 Take-off is aborted prior to speed beyond which take-off can no longer be safely aborted (V1) or at a decision point during take-off where abort procedure can be initiated and aeroplane stopped on remaining runway/stopway				
	4.2 Power is reduced smoothly and promptly				
	4.3 Spoilers, prop fine/reverse, thrust reverse, wheel brakes and other drag and braking devices are activated				
	4.4 Positive control is maintained to bring aeroplane to a safe stop				
	4.5 Engine failure procedures and/or checklists are initiated and completed				



Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
5. Manage engine failure/ malfunction during approach /landing	5.1 Control of aeroplane flight path is maintained during implementation of emergency response procedures				
	5.2 Engine inoperative approach is performed				
	5.3 Decision is made to continue or abort approach/landing				
	5.4 Decision height for landing is nominated				
	5.5 ATC or other agency capable of providing assistance is advised of situation and intentions				
	5.6 Smooth, positively-controlled flight profile is flown, from which a controlled landing could be achieved				
	5.7 Positive directional control is maintained and cross-wind corrections are applied during after-landing roll while maintaining centreline within tolerances				
	5.8 Spoilers, prop reverse, thrust reversers, wheel brakes, and other drag or braking devices are applied to bring airplane to a safe stop after landing				
6. Conduct go-around or missed approach with engine failure	6.1 Engine failure in a multi-engine aeroplane during a go-around or missed approach is identified and confirmed				
	6.2 Control of aeroplane flight path is maintained during implementation of emergency response procedures				
	6.3 Engine inoperative go-around is performed from decision height				