Australian Government

AVI Aviation Training Package

Release: 2.0

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

AVI50115 Diploma of Aviation (Air Traffic Control)

Modification History

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

Qualification Description

This is a specialist qualification for Air Traffic Controllers in the Australian aviation industry.

Graduates at this level will have technical and theoretical knowledge in aviation and air traffic control (ATC).

Graduates at this level will also have a broad range of cognitive, technical and communication skills to select and apply methods and technologies to:

analyse information to complete a range of activities

provide and transmit solutions to sometimes complex problems

transmit information and skills to others

support others to develop aviation and ATC skills.

Graduates at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters.

Work in civilian air traffic environments must be carried out in compliance with the relevant air traffic services Civil Aviation Safety Authority (CASA) regulatory requirements and national operating standards.

This qualification is aligned to the Civil Aviation Safety Regulations CASR Part 65 Manual of Standards (MOS) ATC licencing requirements. Personnel seeking certification as an Air Traffic Controller are to apply to CASA in accordance with existing licencing procedures.

Use for Defence Aviation is to be in accordance with relevant Defence Orders and Instructions, and accreditation where required.

Occupations include:

Aerodrome Controllers

Enroute Controllers

Approach Controllers.

Entry Requirements

Entrants to this qualification must possess the minimum entry requirements determined by CASA for ATC licencing purposes or Defence Air Traffic Controller entry standards.

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Packaging Rules

A total of **7 units of competency** comprising:

6 core units listed below **plus**

1 general elective unit from the general elective units listed below.

Core units

AVIE5002 Apply air traffic control communication procedures and services

AVIF5003 Manage human performance and team resources during air traffic control operations

AVIF5013 Provide search and rescue (SAR) alerting and emergency response

AVIW5013 Operate air traffic control equipment and workstations

AVIY5022 Manage traffic flow

AVIZ5049 Manage situational awareness in the air traffic control environment

General elective units

AVIY5048 Provide approach control services

AVIY5049 Provide area control services

AVIY5050 Provide aerodrome control services

Qualification Mapping Information

This qualification replaces and is equivalent to AVI50308 Diploma of Aviation (Air Traffic Control).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVI50215 Diploma of Aviation (Commercial Pilot Licence – Aeroplane)

Modification History

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

Qualification Description

This qualification reflects the roles of flight crew personnel performing normal and emergency commercial pilot duties in support of commercial or Defence aviation flight operations.

Flight crew duties include applying technical and non-technical aviation skills and knowledge to a wide range of air transport operations, including passenger, charter and cargo operations.

Individuals working at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters.

This qualification forms some of the requirements for certification as a commercial pilot by the Civil Aviation Safety Authority (CASA) as directed by Civil Aviation Safety Regulation (CASR) Part 61 Flight crew licensing.

People seeking certification should check these requirements with CASA.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Occupations include:

Commercial aeroplane pilot

Military aeroplane pilot.

Entry Requirements

Commercial or military pilot entrants to this qualification should check requirements with CASA or Defence Aviation for specific pilot entry standards.

Packaging Rules

A total of **29 units of competency** comprising:

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28 core units listed below **plus**

1 general elective unit from the general elective units listed below. The general elective unit must contribute to the vocational outcomes of the qualification.

Core units

AVIE4001	Maintain aircraft radio communications
AVIF0004	Implement aviation risk management processes
AVIF0005	Implement aviation fatigue risk management processes
AVIF0007	Implement threat and error management strategies
AVIF0008	Manage safe flight operations
AVIF0011	Manage aircraft passengers and cargo
AVIF0014	Manage human factors in aviation operations
AVIH0002	Plan a flight under visual flight rules
AVIH4001	Navigate aircraft under visual flight rules
AVILIC0001	Licence to operate a commercial aeroplane
AVIO0002	Manage disruptive behaviour and unlawful interference with aviation
AVIW4001	Manage pre- and post-flight actions
AVIW5018	Operate and manage aircraft systems
AVIY0001	Operate aircraft using aircraft flight instruments
AVIY0002	Operate in controlled airspace
AVIY0003	Operate in Class G airspace
AVIY0004	Operate at non-towered aerodromes
AVIY0005	Operate at a controlled aerodrome
AVIY0008	Apply aeronautical knowledge to aviation operations
AVIY0009	Apply the principles of civil air law to aviation operations
AVIY0018	Execute advanced aeroplane manoeuvres and procedures
AVIY0019	Manage abnormal aeroplane flight situations

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AVIY4001 Control aeroplane on the ground

AVIY4002 Take off aeroplane

AVIY4003 Control aeroplane in normal flight

AVIY4004 Land aeroplane

AVIY4007 Manage aircraft fuel

AVIZ4001 Manage situational awareness in aircraft flight

General elective units

AVIF0001 Apply aircraft safety procedures

AVIH4012 Plan a flight under night visual flight rules

AVIH4013 Navigate aircraft under night visual flight rules

AVIN0001 Command an aircraft in a multi-crew environment

AVIN0002 Supervise and manage safe flight operations as pilot in command

AVIW3026 Conduct night vision imaging system operations

AVIY0006 Operate aeroplane at low level

AVIY0007 Conduct aerial application operations

AVIY5024 Operate aircraft in the traffic pattern at night

AVIZ0001 Maintain and manage situational awareness as pilot in command

Qualification Mapping Information

This qualification replaces but is **not** equivalent to AVI40108 Certificate IV in Aviation (Commercial Pilot Aeroplane Licence).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVI50315 Diploma of Aviation (Commercial Pilot Licence – Helicopter)

Modification History

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

Qualification Description

This qualification reflects the roles of flight crew personnel performing normal and emergency commercial pilot duties in support of commercial or Defence aviation flight operations.

Flight crew duties include applying technical and non-technical aviation skills and knowledge to a wide range of air transport operations, including passenger, charter and cargo operations.

Individuals working at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility in known or changing contexts and within broad but established parameters.

This qualification forms some of the requirements for certification as a commercial pilot by the Civil Aviation Safety Authority (CASA) as directed by Civil Aviation Safety Regulation (CASR) Part 61 Flight crew licensing.

People seeking certification should check these requirements with CASA.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Occupations include:

Commercial helicopter pilot

Military helicopter pilot.

Entry Requirements

Commercial or military pilot entrants to this qualification should check requirements with CASA or Defence Aviation for specific pilot entry standards.

Packaging Rules

A total of **30 units of competency** comprising:

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29 core units listed below **plus**

1 general elective unit from the general elective units listed below. The general elective unit must contribute to the vocational outcomes of the qualification.

Core units

AVIE4001	Maintain aircraft radio communications
AVIF0004	Implement aviation risk management processes
AVIF0005	Implement aviation fatigue risk management processes
AVIF0007	Implement threat and error management strategies
AVIF0008	Manage safe flight operations
AVIF0011	Manage aircraft passengers and cargo
AVIF0014	Manage human factors in aviation operations
AVIH0002	Plan a flight under visual flight rules
AVIH4001	Navigate aircraft under visual flight rules
AVILIC0002	Licence to operate a commercial helicopter
AVIO0002	Manage disruptive behaviour and unlawful interference with aviation
AVIW4001	Manage pre- and post-flight actions
AVIW5018	Operate and manage aircraft systems
AVIY0001	Operate aircraft using aircraft flight instruments
AVIY0002	Operate in controlled airspace
AVIY0003	Operate in Class G airspace
AVIY0004	Operate at non-towered aerodromes
AVIY0005	Operate at a controlled aerodrome
AVIY0008	Apply aeronautical knowledge to aviation operations
AVIY0009	Apply the principles of civil air law to aviation operations
AVIY0020	Taxi helicopter
AVIY4007	Manage aircraft fuel

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AVIY4011	Control helicopter on the ground
AVIY4012	Control helicopter in hovering flight
AVIY4014	Take off helicopter and approach to hover
AVIY4015	Control helicopter in normal flight
AVIY4017	Execute advanced helicopter manoeuvres and procedures
AVIY4018	Manage abnormal and emergency helicopter flight situations
AVIZ4001	Manage situational awareness in aircraft flight

General elective units

AVIF0001	Apply aircraft safety procedures
AVIF2014	Undertake aircraft underwater escape and survival
AVIH4012	Plan a flight under night visual flight rules
AVIH4013	Navigate aircraft under night visual flight rules
AVIN0001	Command an aircraft in a multi-crew environment
AVIN0002	Supervise and manage safe flight operations as pilot in command
AVIW3026	Conduct night vision imaging system operations
AVIY0007	Conduct aerial application operations
AVIY0021	Operate helicopter at low level
AVIY4058	Pilot a helicopter during external load operations
AVIY4059	Pilot a helicopter during rappelling operations
AVIY4060	Pilot a helicopter during hoisting operations
AVIY5024	Operate aircraft in the traffic pattern at night
AVIZ0001	Maintain and manage situational awareness as pilot in command
HLTAID002	Provide basic emergency life support

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Qualification Mapping Information

This qualification replaces but is **not** equivalent to AVI40208 Certificate IV in Aviation (Commercial Pilot Helicopter Licence).

Links

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AVI50415 Diploma of Aviation (Instrument Rating)

Modification History

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

Qualification Description

This qualification reflects the roles of flight crew personnel operating in support of commercial or Defence aviation flight operations.

Flight crew duties include applying technical and non-technical aviation skills and knowledge to a wide range of air transport operations, including passenger, charter and cargo operations while operating aeroplanes or helicopters under the instrument flight rules (IFR).

Individuals working at this level will apply knowledge and skills to demonstrate autonomy, judgement and defined responsibility in known or changing contexts within broad but established parameters.

This qualification forms some of the requirements for an Instrument Rating certification by the Civil Aviation Safety Authority (CASA) as directed by Civil Aviation Safety Regulation (CASR) Part 61 Flight crew licensing.

People seeking certification should check these requirements with CASA.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Occupations may include:

Commercial aeroplane pilot

Commercial helicopter pilot

Military aeroplane pilot

Military helicopter pilot.

Entry Requirements

Commercial or military pilot entrants to this qualification should check requirements with CASA or Defence Aviation for certification and/or flight hour requirements.

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Packaging Rules

A total of **13 units of competency** comprising:

12 core units listed below **plus**

1 specialist elective unit from the specialist elective units listed below. The specialist elective unit must contribute to the vocational outcomes of the qualification.

Core units

AVIF0007	Implement threat and error management strategies
AVIF0008	Manage safe flight operations
AVIH0005	Plan a flight under instrument flight rules
AVIH5017	Navigate aircraft under instrument flight rules
AVIW5018	Operate and manage aircraft systems
AVIY0001	Operate aircraft using aircraft flight instruments
AVIY0013	Conduct a 2D instrument approach
AVIY0022	Perform instrument arrival and standard arrival route procedures
AVIY5024	Operate aircraft in the traffic pattern at night
AVIY5027	Perform non published instrument departure procedures
AVIY5028	Perform published instrument departure procedures
AVIY5033	Perform visual circling approach

Specialist elective units

AVIY0014	Conduct a 3D instrument approach
AVIY5023	Operate a multi-engine aeroplane
AVIY5034	Conduct a 2D non-directional beacon instrument approach
AVIY5035	Conduct a 2D very high frequency omni-directional radio range instrument approach
AVIY5036	Conduct a 3D instrument landing system instrument approach
AVIY5037	Conduct a 2D distance measuring equipment global navigation satellite system instrument approach
AVIY5038	Conduct a 2D global navigation satellite system non-precision instrument

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	approach
AVIY5065	Operate a multi-engine helicopter

Qualification Mapping Information

This qualification replaces and is equivalent to AVI50408 Diploma of Aviation (Instrument Flight Operations).

Links

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AVIE4001 Maintain aircraft radio communications

Modification History

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

Application

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

It includes operating radio equipment, managing radio equipment malfunctions and operating transponders.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft radio operator duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

E – Communication and Calculation

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Operate radio equipment	1.1 Serviceability of radio equipment is confirmed
	1.2 Transmission and receipt of radio communications is conducted using appropriate procedures and phraseology
	1.3 A listening watch is maintained and applicable transmissions responded to appropriately
	1.4 Appropriate emergency and urgency transmissions are conducted
2 Manage radio equipment malfunctions	2.1 Radio failure procedures are performed as required
	2.2 Fault-finding procedures and corrective actions not involving special tools or instruments are employed
3 Operate transponder	3.1 Aircraft transponder is operated and monitored in accordance with the aeronautical information publication (AIP) during normal operations
	3.2 Aircraft transponder is operated and monitored in accordance with the AIP during abnormal and emergency operations

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

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Unit Mapping Information

This unit replaces and is equivalent to AVIE4001B Maintain aircraft radio communications.

Links

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Assessment Requirements for AVIE4001 Maintain aircraft radio communications

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:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying basic fault-finding techniques related to defective radiotelephone equipment
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- complying with regulatory requirements pertaining to aircraft radiotelephone communications
- identifying and correctly using relevant radiotelephone equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting and reacting appropriately to light signals from air traffic control
- interpreting relevant instructions, regulations, procedures and information
- manipulating any switch or device requiring the release of flight controls without changes to height, heading, speed, attitude, exceeding engine speed (RPM) or power limits
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- using Aviation English Language to a proficiency standard that enables requests and instructions to be understood by air traffic service and other stations, and ensures compliance with received instructions
- using oral and written English language communication skills sufficient to support situational

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awareness within flight radio operations
- 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 include knowledge of:

- characteristics of radio waves, wave propagation, transmission and reception:
  - radio frequency band ranges
    - medium frequency (MF)
    - high frequency (HF)
    - very high frequency (VHF)
    - ultra high frequency (UHF)
  - properties of radio waves
  - propagation of paths of radio waves
    - ground waves
    - sky waves
  - factors affecting the propagation of radio waves
    - terrain
    - ionosphere
    - sun spot activity
    - interference from electrical equipment
    - thunderstorms
    - power attenuation
  - radio antennas
    - characteristics of antennas
    - use of antennas
- components of aeronautical radio systems:
  - power source or battery switch, radio master, microphone
  - transmitter
  - receiver
  - antenna

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  - location of aerial antennas relevant to radio configuration
  - headphones and speaker
  - procedures for using an aeronautical radio system
  - setting up an aeronautical radio relevant to radio configuration
  - use of radio transmit and receive selector switches (VHF, HF, intercom(I/C), public address (PA))
  - turning a radio on and off
  - selecting correct frequencies
  - use of squelch control
  - correct use of a microphone
- documented radio procedures relevant to the visual flight rules (VFR)
- emergency transponder codes for distress, radio failure and unlawful interference
- fault-finding procedures and corrective actions for radiotelephone equipment not involving special tools or instruments
- faults that may occur in radiotelephone equipment and appropriate fault detection and remedial action that can be taken
- international radio telephony distress frequencies
- light signals, including interpretation and actions required
- operating procedures for aircraft radiotelephone equipment
- phonetic alphabet
- principles of effective radio telephony communications
- problems that may occur during radio communications and action that can be taken to overcome them
- relevant sections of Civil Aviation Orders and regulations pertaining to aircraft radio communications
- relevant WHS/OHS and environmental procedures and regulations
- responsibilities of an aeronautical radio operator:
  - secrecy of communications
  - unauthorised transmissions
- standard radiotelephony phraseology as outlined in an aeronautical information publication (AIP).

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIE5002 Apply air traffic control communication procedures and services

Modification History

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

Application

This unit involves the skills and knowledge required to apply air traffic control communication procedures and services, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes communicating accurate operational messages, and providing timely and accurate operational information and coordination. It also includes issuing and coordinating traffic information and responding to pilot requests.

This unit addresses aviation technical skill requirements (physical, mental and task-\-management abilities) related to air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

E – Communication and Calculation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Communicate accurate operational messages	1.1 Communication is delivered clearly, timely and accurately
	1.2 Standard phrases are used as required
	1.3 Unambiguous and concise non-standard phrases are used
	1.4 Active listening watch is maintained for all communications channels
	1.5 Readbacks are provided and obtained
	1.6 Delivery of voice messages is adjusted to suit receiver
	1.7 Messaging protocols are followed
	1.8 Most effective communications method is used
	1.9 Handover or takeover is performed to achieve continuity of teamwork and service
2 Provide timely and accurate operational information and coordination	2.1 Position and navigation information is provided
	2.2 Meteorological information is provided
	2.3 Changes in operational status of aids to navigation, air routes and airspaces affecting flight operations are provided
	2.4 Changes in operational status of communications facilities affecting flight operations are provided
	2.5 Flight hazard alerts are issued
	2.6 Flight safety alerts are issued

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	2.7 Operational information is coordinated and recorded
3 Issue and coordinate traffic information	3.1 Traffic information is issued
	3.2 Traffic avoidance advice is issued
	3.3 Traffic information is coordinated
4 Respond to pilot requests	4.1 Sufficient information is obtained from relevant sources to determine nature and implications of pilot request
	4.2 Appropriate response is made to pilot requests

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Relevant legislative and regulatory requirements must include:	• Airservices Act 1995 • Civil Aviation Act 1988 and the Civil Aviation Amendment Act 1995 • Civil Aviation Safety Regulations (CASR) and Manual of Standards (MOS) • Defence Orders and Instructions • International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARP) • national and state/territory work health and safety (WHS)/occupational health and safety (OHS) legislation and regulations

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Unit Mapping Information

This unit replaces and is equivalent to AVIE5002B Apply air traffic control communication procedures and services.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIE5002 Apply air traffic control communication procedures and services

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:

- allocating attention according to priorities
- communicating clearly and concisely with others
- communicating in a team by exchanging information through assigning responsibility, and acknowledging, inquiring and challenging communications errors
- formulating and issuing communications messages and questions
- interpreting and following operational instructions
- interpreting and recording messages
- listening actively
- modifying communications dependent on workplace contingencies, situations and environments
- perceiving and comprehending incoming information
- prioritising responses in accordance with operational procedures
- reporting and/or rectifying identified problems promptly
- reading and interpreting relevant instructions, regulations, procedures and other information
- relaying communications with required attention to detail
- using standard and non-standard radiotelephony and coordination phrases
- using communications facilities to maintain contact with airspace users
- using most appropriate form of communication for the operational context.

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:

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- barriers to communication
- communication codes, abbreviations and conventions
- communication errors
- communication techniques
- communication types
- communications associated with emergency and/or abnormal operations
- communication procedures
- coordination procedures
- effects of fatigue on effective communication
- frequencies coverage
- handover and takeover procedures
- how to read and interpret instructions, regulations, procedures and other information
- messaging formats and protocols
- principles of effective communication
- procedures to be followed in equipment/facility failure
- prompts and techniques used to assist and cue coordination and communications
- qualitative aspects of verbal communication including tone, emphasis, stress and frustration
- read back requirements
- relevant legislation and workplace procedures
- relevant sections of regulatory and operational documentation
- standard and non-standard radiotelephony and coordination phrases.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

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- acceptable means of simulation assessment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0001 Apply aircraft safety procedures

Modification History

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

Application

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

It includes preparing for airside operations, operating around aircraft and implementing aviation safety emergency procedures.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to safety management duties of aviation personnel 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 as a single operator or within a team environment.

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 Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for airside operations**	1.1	Suitable personal protective equipment (PPE) and clothing is fitted and worn correctly
		1.2	Airside hazards are identified and appropriate risk management controls are implemented
		1.3	Airside operating conditions and restrictions, and interim instructions are confirmed and applied to individual tasks
		1.4	Airside safety and operational briefings are received and acknowledged prior to operating around aircraft
2	**Operate around aircraft**	2.1	Airside operating conditions and requirements are implemented
		2.2	Airside access and aviation security procedures are applied
		2.3	Aircraft manoeuvring practices are confirmed
		2.4	Aircraft safety hazards and zones are confirmed
		2.5	Effective individual safety controls are implemented during operations within close proximity to aircraft
		2.6	Normal and emergency aircraft access and egress procedures are confirmed and applied during airside operations
		2.7	Appropriate verbal and non-verbal communication techniques are applied with flight crew and other ground personnel during routine and abnormal operations
3	**Implement aviation safety emergency**	3.1	Airside incident or accident is identified and communicated to relevant personnel

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procedures	3.2	Individual emergency response actions are taken to preserve own safety
	3.3	Appropriate individual response actions are taken to assist other airside personnel during incidents or accidents
	3.4	Post-incident or accident procedures are clarified and applied, and their implementation is reported to relevant personnel

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0001 Apply aircraft safety procedures

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:

- adhering to airside operating conditions and requirements
- applying aircraft access and egress procedures:
  - normal
  - emergency
- applying individual airside access procedures
- applying individual aviation security procedures
- fitting and wearing aviation personal protective equipment (PPE):
  - eye protection
  - fire and flame resistant clothing
  - footwear
  - hearing protection
  - high visibility clothing
- identifying airside hazards and risk controls:
  - ground safety:
    - noise
    - zones
    - aircraft jet blast and downwash
    - personnel, vehicle, building and aircraft proximity and safety distances
    - fuel and oil spillage
    - human factors:
      - fatigue
      - individual health
      - day and night operations
  - aircraft operations:
    - loading and unloading
    - taxiing or air transit of aircraft

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  - environmental:
    - natural
    - man-made
    - weather
- implementing individual aviation safety emergency procedures:
  - incident response
  - accident response
  - post-incident and accident actions
  - reporting
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting relevant instructions, regulations, procedures and other information
- performing airside operational tasks around aircraft
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- receiving airside briefings:
  - airside safety
  - airside operational tasks.

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:

- aircraft access and egress procedures:
  - normal
  - emergency
- airside communication techniques:
  - verbal
  - non-verbal
- airside hazards:
  - ground safety
  - aircraft operations
  - environmental
- airside operational tasks applicable to own role:
  - aviation maintenance
  - ground support tasks
  - airside safety

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    - flight crew
- airside operational environment:
    - aerodrome types
    - aircraft manoeuvring practices
    - airfield lightings, signals, markers and beacons
    - control towers
    - movement areas
    - runways
    - tarmacs
    - vehicle movement
- correct fitment and wearing of aviation PPE:
    - eye protection
    - fire and flame resistant clothing
    - footwear
    - hearing protection
    - high visibility clothing
- individual airside access procedures
- individual aviation security procedures
- individual aviation safety emergency procedures:
    - incident response
    - accident response
    - post-incident and accident actions
- individual risk management controls for airside operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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:

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- 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.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0004 Implement aviation risk management processes

Modification History

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

Application

This unit involves the skills and knowledge required to implement aviation risk management processes, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes identifying, controlling, monitoring and reviewing the effectiveness of risk management processes as part of a safety management system (SMS).

Work involves managing the effects of uncertainty on objectives using an SMS within a variety of operational contexts within the Australian aviation industry.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to safety management duties that complement the technical skills of aviation personnel and contributes to safe and effective performance in complex aviation operational environments.

Work is performed independently or under limited supervision as a single operator or within a team environment.

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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Identify aviation hazards and assess risk	1.1 Hazards are identified through organisational methods in accordance with workplace standards
	1.2 Stakeholders are identified and involved in the risk assessment process
	1.3 Likelihood and consequence of hazards are assessed and ranked against established organisational risk assessment criteria
2 Identify risk controls	2.1 Controls that reduce risk to as low as reasonably practicable (ALARP) are identified in accordance with workplace policies and procedures
	2.2 Risk management action plan is developed and communicated to all stakeholders
	2.3 Risk management documentation is completed and checked for accuracy
3 Control aviation risk	3.1 Risk control selections are determined with consideration of effect on stakeholders
	3.2 Risk control methods are communicated to stakeholders
	3.3 Selected risk control method/s is implemented, monitored and evaluated
4 Monitor and review effectiveness of risk control	4.1 Implemented risk controls are regularly monitored against measures of success/effectiveness
	4.2 Assistance is provided to review risk in own area of operation
	4.3 Management of risk is continuously monitored and reviewed in own area of operation
	4.4 Review results are used to improve risk control

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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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Organisational methods to identify hazards must include one or more of the following:	• brainstorming • hazard reporting • historical occurrence data • internal/external safety reviews • monitoring operational activities • reviewing standards, procedures and systems • surveys and questionnaires
Workplace standards must include:	• current Australian Standard (AS)/New Zealand Standard (NZS) International Standard Organization (ISO) risk management standard
Likelihood criteria must include:	• rare • unlikely • possible • likely • almost certain
Consequence criteria must include:	• negligible • minor • major • moderate • severe

Aviation risk must include one or more of the following:	• regulatory
	  • customs, practices and conventions
	  • documents, manuals and handbooks
	  • legislation, regulations and policies
	  • operating and user guides
	  • standard operating procedures
	• hardware

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	• aircraft • buildings, facilities and infrastructure • communications and control equipment • ground support equipment • operator tools • plant equipment • vehicles, trailers and equipment • environmental • commercial • corporate • economic • organisational • physical • political • regulatory • social • personnel • human factors • human performance, capabilities and limitations • physiological • psychological
Risk control methods must include one or more of the following:	• hierarchy of risk control • elimination • substitution • engineered controls • administrative controls • personal protective equipment

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0004 Implement aviation risk management processes

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 precautions and required actions to minimise and control the effects of risk when carrying out own work functions
- communicating effectively with others
- determining appropriate risk levels and control methods through effective decision making
- developing a well-researched, clear and comprehensive risk management plan
- identifying risk controls
- implementing risk management processes to safely achieve operational objectives
- reading and comprehending a variety of safety/technical texts
- researching and collecting data to monitor and evaluate risks
- solving problems to appropriately address identified risks
- using at least one of the following organisational methods to identify aviation hazards
  - brainstorming
  - hazard reporting
  - historical occurrence data
  - internal/external safety reviews
  - monitoring operational activities
  - reviewing standards, procedures and systems
  - surveys and questionnaires
- working collaboratively with others
- writing, editing and proofreading documents to ensure clarity of meaning, accuracy and consistency of information.

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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:

- Australian and international risk management standards
- aviation hazard identification methods
- aviation risks
  - regulatory
  - hardware
  - environmental
  - personnel
- hierarchy of risk control
  - elimination
  - substitution
  - engineered controls
  - administrative controls
  - personal protective equipment
- key provisions of relevant national and state/territory legislation, regulations and codes of practice that may affect aspects of business operations such as
  - anti-discrimination legislation
  - ethical principles
  - privacy
  - environmental issues
  - work health and safety (WHS)/occupational health and safety (OHS)
  - organisational policies and procedures relating to risk management processes and strategies such as Defence Orders, Instructions and publications
  - auditing requirements relating to risk management
  - safety management systems (SMSs) including Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders (CAOs)
- risk assessment and analysis techniques and tools
- risk management processes within an aviation SMS.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0005 Implement aviation fatigue risk management processes

Modification History

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

Application

This unit involves the skills and knowledge required to implement aviation fatigue risk management processes, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes identifying, controlling, monitoring and reviewing the effectiveness of fatigue risk management processes as part of a safety management system (SMS).

Work involves managing the effects of fatigue on operational objectives using an SMS within a variety of operational contexts within the Australian aviation industry.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to safety management duties that complement the technical skills of aviation personnel and contributes to safe and effective performance in complex aviation operational environments.

Work is performed independently or under limited supervision as a single operator or within a team environment.

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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Identify fatigue hazards and assess risk	1.1 Fatigue hazards are identified through organisational methods in accordance with workplace standards
	1.2 Stakeholders are identified and involved in the risk assessment process
	1.3 Likelihood and consequence of fatigue hazards are assessed and ranked against established organisational risk assessment criteria
2 Identify fatigue risk controls	2.1 Controls that reduce fatigue risk to as low as reasonably practicable (ALARP) are identified in accordance with workplace policies and procedures
	2.2 Fatigue risk management documentation is completed and checked for accuracy
	2.3 Fatigue risk management action plan is developed and communicated to all stakeholders
3 Control fatigue risk	3.1 Control selection is determined with consideration of effect on stakeholders
	3.2 Fatigue risk control methods are communicated to stakeholders
	3.3 Selected control method is implemented, monitored and evaluated
4 Monitor and review effectiveness of fatigue risk control	4.1 Implemented risk controls are regularly monitored against measures of success/effectiveness
	4.2 Assistance is provided to review fatigue risk in own area of operation
	4.3 Management of fatigue risk is continuously monitored and reviewed in own area of operation

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4.4 Review results are used to improve fatigue risk control

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Workplace standards must include:	• current Australian Standard (AS)/New Zealand Standard (NZS) International Standard Organization (ISO) risk management standard
Organisational methods to identify fatigue risk hazards must include:	• predictive • proactive • reactive
Fatigue risk likelihood criteria must include:	• rare • unlikely • possible • likely • almost certain
Fatigue risk consequence criteria must include:	• negligible • minor • major • moderate • severe

Fatigue risk control methods must include:	• hierarchy of risk controls
	  • elimination
	  • substitution
	  • engineered controls
	  • administrative controls
	  • personal protective equipment

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Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0005 Implement aviation fatigue risk management processes

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 precautions and required actions to minimise and control the effects of fatigue when carrying out own work functions
- applying legislative restrictions on work duties to assist in managing fatigue
- communicating effectively with others
- determining appropriate fatigue risk levels and control methods through effective decision making
- determining and appropriately managing factors external to the workplace that may affect individual fatigue
- identifying and accurately predicting the effects of duty periods and off-duty periods on individual and team/crew fatigue
- identifying controls for treating fatigue risks
- implementing fatigue risk management processes to safely achieve operational objectives
- monitoring and reviewing effectiveness of fatigue risk controls
- reading and comprehending a variety of safety/technical texts
- researching and collecting data to monitor and evaluate risks
- solving problems to appropriately address identified fatigue risks
- writing, editing and proofreading documents to ensure clarity of meaning, accuracy and consistency of information.

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:

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- Australian and international aviation fatigue risk management standards
- change management procedures
- communication techniques and strategies to assist team/crew members identify and manage fatigue
- definitions of key terms utilised within fatigue risk management processes
- effects of fatigue on workplace performance
- fatigue hazard causes
  - restricted/split sleep patterns
  - multiple high workload periods across duty cycle
  - multiple sectors
  - high density airspace
  - long/extended duty cycles
  - extended wakefulness
  - circadian disruptions
  - circadian drift
  - individual workload
    - physiological human factors
    - psychological human factors
- fatigue hazard identification procedures
  - predictive
  - proactive
  - reactive
- fatigue risk assessment and analysis techniques and tools
- fatigue risk management processes within a safety management system (SMS)
- key provisions of relevant national and state/territory legislation, regulations, codes of practice, and workplace procedures related to fatigue risk management such as
  - Civil Aviation Orders
  - Defence Orders, Instructions and publications
- work health and safety (WHS)/occupational health and safety (OHS)safety assurance procedures
- safety promotion procedures
- security and safety implications of fatigue in the aviation workplace
- signs of fatigue in others in the aviation workplace
- sources of information on fatigue and fatigue management.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0006 Manage aviation risk

Modification History

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

Application

This unit involves the skills and knowledge required to manage aviation risk, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes establishing the risk management context, planning for risk management, managing risk and evaluating the risk management plan.

Work involves managing the effects of uncertainty on objectives using a SMS within a variety of operational contexts within the Australian aviation industry.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to safety management duties that complement the technical skills of aviation personnel and contributes to safe and effective performance in complex aviation operational environments.

Work is performed independently or under limited supervision as a single operator or within a team environment.

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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Establish risk management context	1.1 Nature and extent of aviation operational activity, its objectives and outcomes are established within the organisational context
	1.2 Strategic and risk management context are identified in accordance with organisational requirements
	1.3 Stakeholders are identified and consulted to ensure their views, concerns and needs are taken into account in the risk management process
	1.4 Criteria for assessing aviation risk are determined in accordance with workplace standards
	1.5 Risk management criteria is determined to provide guidance on balancing risk, costs, benefits and opportunities
	1.6 Risk management criteria are monitored, reviewed and adjusted to ensure opportunities, and current and emerging trends are reflected
2 Plan for risk management	2.1 Sources of risks are identified and consulted to ensure full coverage
	2.2 Risks are assessed and documented in consultation with stakeholders, and risk level thresholds are established
	2.3 Risk controls are considered/modified and selected for acceptability
	2.4 Risk management plan and evaluation methodology is developed and communicated to stakeholders
3 Monitor and evaluate aviation risk	3.1 Aviation risk management plan is implemented and monitored in accordance with workplace standards
	3.2 Internal and external risks to outcomes are monitored and remedial actions are identified as required and initiated

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3.3 Risk management plans are reviewed routinely, on occurrence of events of significant importance to the organisation and when required by regulatory practice

3.4 Stakeholder feedback is obtained and considered in evaluation activity

3.5 Recommendations for enhancing risk management plan are formulated and implemented

3.6 Outcomes of evaluation are effectively communicated to stakeholders

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Organisational context must include:	• key organisational operational elements and services • official resources vital to the operation of the organisation including physical areas and assets • organisation, how it is organised and its capabilities

Strategic and risk management context must include one or more of the following:	• organisational functions:
	  • political
	  • operational
	  • financial
	  • social
	  • legal
	  • commercial
	  • various stakeholders and clients
	• relationship between the organisation and the environment in which it operates

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Stakeholders include must one or more of the following:	• air traffic control • clients • contractors • employees • financial agencies • government agencies • managers • non-government organisations • public • regulatory agencies • safety management organisations • suppliers • service providers • unions
Workplace standards must include:	• AS/NZ ISO 31000:2009 or as amended/updated
Determining criteria for evaluating risk must:	• comply with established legal requirements • consider cost-benefit analysis outcomes • establish risk rankings to determine levels of acceptability

Aviation risk assessment must include:	• likelihood criteria
	  • rare
	  • unlikely
	  • possible
	  • likely
	  • almost certain
	• consequence criteria
	  • negligible
	  • minor
	  • major
	  • moderate
	  • severe

Aviation risk control must include:	• hierarchy of control
	  • administrative controls
	  • elimination
	  • engineered controls
	  • personal protective equipment
	  • substitution

Evaluation methodology must include one or more of the following:	• interviews with stakeholders • observations • occurrence reports

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Risk management plan must include:	• physical inspections • questionnaires • regular reviews of risk treatment procedures • analysis of risks – likelihood, consequences and risk levels • control options selected • person/s responsible for implementing control options • performance measures • periodic review timetable • prioritised list of unacceptable risks • resources required • sources of risk and risk events • timeframe for implementation

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0006 Manage aviation risk

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 effective verbal/non-verbal communication techniques when engaging with internal/external stakeholders
- applying procedures relating to work health and safety (WHS)/ occupational health and safety (OHS) and environment in the context of aviation risk management
- applying relevant legislation, regulations and policies such as:
  - relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders (CAOs) relating to safety management systems (SMSs)
  - Defence Orders and Instructions
  - national, state/territory WHS legislation
- delegating task responsibilities related to risk management processes
- engaging in discussion by exchanging complex oral information
- listening effectively when engaging with internal/external stakeholders
- researching and analysing the wider context affecting the aviation industry and/or organisation
- solving problems through analysis and reasoning
- using a variety of words and language structures to explain complex, formal documents and assisting others to apply these documents in the workplace
- using appropriate formal language and style for written plans.

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:

- Australian and international risk management standards
- aviation risk management processes, which are
  - logical and systematic

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    - applied to any strategy plan, process, program or procedure that will enable the organisation to minimise losses and to maximise opportunities
    - applied within existing aviation safety management systems (SMSs)
    - implemented to address operational and safety factors related to
        - regulatory
        - hardware
        - environmental
        - personnel
- diversity of risks in the aviation industry
- importance of consultation and communication at every stage of the risk management cycle
- legal requirements, legislation, regulations, policies, procedures and guidelines relating to aviation risk management
- range of evaluation methodologies
- relationship of risk to context i.e. how the context may define the risks
- sources of risk
    - perceived
    - potential
    - actual.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.

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AVIF0007 Implement threat and error management strategies

Modification History

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

Application

This unit involves the skills and knowledge required to 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 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 activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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

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	2.7	Countermeasure implementation and supervision are undertaken to correct errors after aircraft enters an undesired state
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

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.

Operational threats include one or more of the following:	• events or errors that:
	  • occur outside the influence of the flight crew
	  • increase the operational complexity of the flight
	  • require crew attention and management if safety margins are to be maintained

Errors must include one or more of the following:	• individual or group actions or inactions that:
	  • lead to a deviation from individual, group or organisational intentions or expectations
	  • reduce safety margins
	  • increase the probability of adverse operational events on the ground and/or during flight

Undesired aircraft states must include one or more of the following:	• incorrect aircraft systems configuration associated with a reduced margin of safety • inappropriate flight mode awareness and selection • misapplication of flight controls • pilot induced aircraft position

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- pilot induced speed deviation

Unit Mapping Information

No equivalent unit.

Links

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Assessment Requirements for AVIF0007 Implement threat and error management strategies

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 strategies
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) 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
- 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 threat and error management strategies
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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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 threat and error management (TEM)
- removing and mitigating errors
- removing and mitigating threats
- safety philosophies
- task management:
  - 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 sufficient 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:
  - principles and components of TEM
  - definition of threats
  - definition of errors
  - undesired aircraft states
  - TEM countermeasures.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of

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assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0008 Manage safe flight operations

Modification History

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

Application

This unit involves the skills and knowledge required to manage safe flight operations, 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 activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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

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		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

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

No equivalent unit.

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Links

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Assessment Requirements for AVIF0008 Manage safe flight operations

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:

- accepting responsibility for flight outcomes
- accepting responsibility for own performance
- applying relevant aeronautical knowledge
- implementing work health and safety (WHS)/occupational health and safety (OHS) 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 and performance criteria and include knowledge of:

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- crew coordination:
  - basic principles of crew coordination
  - verbal and non-verbal communication factors
  - barriers to communication
  - listening skills
  - assertion skills
  - factors affecting decision-making processes
  - communication
    - communication – attitude
    - personality
    - judgement
    - leadership style
  - leadership qualities
  - poor crew coordination factors
- effective decision-making processes:
  - 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:
  - proactive
  - predictive
  - reactive
- flight rules:
  - documentation
  - aircraft nationality and registration
  - airworthiness of aircraft
  - personnel licencing
  - rules of the air
  - procedures for air navigation
  - air traffic services
  - aeronautical information service

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    - aerodromes
    - facilitation
    - search and rescue
    - security
    - aircraft accidents and incidents – crew responsibilities
    - air service operations
- judgment and decision making:
    - pilot judgment concepts
        - types of judgment
        - motor skills and human factors
    - aeronautical decision making
        - decision-making concepts
        - pilot responsibilities
        - behavioural aspects
    - identification of hazardous 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:
    - workload organisation and priority setting to ensure optimum safe flight outcome
    - event planning, in a logical and sequential manner
    - anticipating events to ensure sufficient 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include

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requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF0011 Manage aircraft passengers and cargo

Modification History

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

Application

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

It includes managing passengers during normal operations, managing passengers during an abnormal or emergency situation, and managing cargo.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to the safety management duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage passengers during normal operations	1.1 Passengers are briefed on safety, normal and emergency procedures before flight in accordance with regulatory requirements, orders and operations manual
	1.2 Passenger safety, comfort and wellbeing is provided for in accordance with regulatory requirements and workplace procedures
	1.3 Passengers are managed on the ground and in the air in accordance with regulatory requirements, orders and operations manual
2 Manage passengers during an abnormal or emergency situation	2.1 Passengers are warned of potential hazardous conditions and emergencies during flight, and are briefed about related safety and emergency procedures in accordance with regulatory requirements, orders and operations manual
	2.2 Passengers are advised of nature of emergency and the procedures and precautions to be followed
	2.3 Clear communication is established and maintained with passengers
	2.4 Passengers are managed during an emergency in accordance with regulatory requirements and workplace procedures
3 Manage cargo	3.1 Cargo is managed in accordance with regulatory requirements and workplace procedures
	3.2 Cargo calculations are completed in accordance with workplace procedures and regulatory requirements
	3.3 Dangerous goods are identified and procedures are applied to ensure safety and security of people and cargo

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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.

Passenger briefing topics must include one or more of the following:	• aiding and assisting passengers • controlling cabin temperature • demonstrating how to secure and release seat belts and/or safety harnesses • demonstrating how to securely stow hand luggage • demonstrating how to use flotation devices as required • demonstrating how to use fresh air vents • demonstrating how to use oxygen equipment as required • demonstrating how to use safety equipment • emergency procedures on the ground and in the air • exercising control of passengers on the ground and in the aircraft • explaining operation of doors and escape hatches • explaining precautions to avoid interference with flight controls • explaining smoking requirements • flight details • indicating the location of airsickness bags • location of emergency exits • managing passengers in an emergency

Unit Mapping Information

This unit replaces and is equivalent to AVII4012B Manage aircraft passengers and cargo.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0011 Manage aircraft passengers and cargo

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:

- accepting, managing, and safely handling, loading and unloading aircraft cargo as required
- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- aiding and assisting passengers appropriately during an emergency
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- briefing passengers on:
  - emergency procedures on the ground and in the air
  - flight details
  - location of emergency exits
- calculating and managing aircraft cargo as required
- communicating effectively with others when managing aircraft passengers and cargo
- completing relevant documentation
- conducting cargo calculations including weight, balance and deck loading
- controlling cabin temperature
- indicating the location of airsickness bags
- demonstrating how to:
  - secure and release seat belts and/or safety harnesses
  - secure stowage hand luggage
- demonstrating how to use:
  - flotation devices
  - fresh air vents
  - oxygen equipment as required
  - safety equipment
- determining and applying safety and security requirements
- ensuring passengers are aware of hazardous conditions and emergencies during flight, and related safety and emergency procedures

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- exercising control of passengers on the ground and in the aircraft
- explaining:
  - operation of doors and escape hatches
  - precautions to avoid interference with flight controls
  - smoking requirements
- identifying and correctly using relevant equipment
- identifying and labelling cargo
- identifying dangerous goods and applying dangerous goods procedures
- implementing contingency plans
- implementing decisions for carriage or non-carriage and management of load
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with 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
- operating emergency equipment applicable to flight
- organising first aid as required during an in-flight emergency
- reading interpreting and following relevant instructions, regulations, procedures and signs
- reporting and/or rectifying any problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- responding appropriately to cultural differences in the workplace
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- understanding and anticipating the needs of passengers
- using loading and cargo securing devices
- 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:

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- applicable emergency procedures
- cargo management procedures
- dangerous goods awareness
- hazards that may arise during a flight and related action that should be taken to alert passengers and advise them of precautionary measures
- local procedures for passenger movement
- managing passengers during abnormal or emergency situations
- policies and procedures for passenger safety before, during and after flight
- principles of good customer service
- problems that may occur when managing aircraft passengers and cargo, and appropriate action that should be taken in each case
- procedures for accepting, managing and calculating aircraft cargo including dangerous goods
- regulatory requirements and workplace procedures for briefing passengers
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders pertaining to briefing passengers, and managing passengers and cargo including dangerous goods
- responsibilities and authority of a pilot in command
- security requirements.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

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AVIF0014 Manage human factors in aviation operations

Modification History

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

Application

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

It includes managing personal performance and communicating effectively within an aviation environment.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to safety management duties of aviation personnel, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision as a single operator or within a team environment.

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 Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage personal performance	1.1 Pre- and post-operational personal condition is managed to ensure safe and effective performance
	1.2 Individual performance when conducting aviation operations is monitored against workplace standards, procedures and requirements
	1.3 Degradation of physiological condition is recognised and appropriate strategies are implemented to ensure safe outcome of aviation operations
	1.4 Degradation of psychological condition is recognised and appropriate strategies are implemented to ensure safe outcome of aviation operations
	1.5 Sources of stress are identified and managed to maintain a safe aviation operating environment
	1.6 Limitations to personal performance are communicated to crew/team to maintain a safe aviation operating environment
2 Communicate effectively within an aviation environment	2.1 Effective listening skills are applied
	2.2 Questions are used to gain additional information
	2.3 Information received is clarified/confirmed, interpreted, and accurately communicated or reported with due observation of ethics and protocols required of the operational environment
	2.4 Communication is undertaken in varying situations with culturally diverse, familiar and unfamiliar individuals, teams and crews
	2.5 Appropriate protocols and procedures are followed when using communications systems during routine and contingency aviation operations

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2.6 Responses are sought and provided to others in a timely manner

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.

Aviation operations must include one or more of the following:	• flight operations • flight support operations • ground operations • multi-crew • single pilot

Unit Mapping Information

This unit replaces but is not equivalent to AVIF4001B Manage human factors in aircraft flight.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF0014 Manage human factors in aviation operations

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:

- applying effective listening techniques
- applying effective questioning techniques to obtain information and clarify information while communicating with others
- applying effective verbal and non-verbal communication techniques
- identifying symptoms of deterioration in own physiological condition that might endanger the safety of aviation operations and taking appropriate corrective action
- identifying symptoms of deterioration in own psychological condition that might endanger safety of aviation operations and taking appropriate corrective action
- implementing contingency plans
- maintaining compliance with relevant regulatory requirements including avoiding alcohol and drugs before and when conducting aviation operations
- managing and controlling individual symptoms of stress before and when conducting aviation operations
- managing aspects of lifestyle that may impact upon personal performance
- managing and monitoring own physical performance
- managing and monitoring own psychological performance
- modifying activities depending on workplace contingencies, situations and environments
- reading, interpreting and following relevant instructions, regulations, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- responding appropriately to cultural differences in the workplace
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aspects of lifestyle that may adversely influence personal physiological condition
- aspects of lifestyle that may adversely influence personal psychological condition
- crew coordination:
  - basic principles of crew coordination
  - verbal and non-verbal communication factors
  - barriers to communication
  - listening skills
  - assertion skills
  - factors affecting decision-making processes
  - communication:
    - communication – attitude
    - personality
    - judgement
    - leadership style
  - leadership qualities
  - poor crew coordination factors
- effects of stress on personal performance and ways of managing and controlling the various stressors that may impact on aviation operations:
  - concepts of fatigue
  - environmental stress symptoms, causes and effects
  - ergonomics of control systems and instruments
  - principles of stress management
  - short and long-term stressor effects on performance
  - stress and arousal interaction
- fitness for aviation operations relevant to own role:
  - basic health
  - health and fitness
  - alcohol
  - drugs
  - blood donations
  - hyperventilation
  - atmospheric pressure changes
  - anatomy of the ear
  - vision, spatial disorientation and illusions
  - motion sickness

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  - acceleration ‘g’ effects
  - toxic hazards
  - the atmosphere and associated problems
  - hypoxia
  - human factors considerations
- human factors that may influence personal performance during aviation operations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to human factors and human performance
- relevant work health and safety (WHS)/occupational health and safety (OHS) procedures and regulations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF2014 Undertake aircraft underwater escape and survival

Modification History

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

Application

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

It includes preparing for aircraft ditching, undertaking evacuation from an aircraft, conducting rescue recovery process, and controlling survival hazards.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) for flight crews and passengers, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for aircraft ditching**	1.1	Nature and extent of aircraft situation is communicated and acknowledgment is confirmed
		1.2	Personal items within the cabin are secured prior to ditching
		1.3	Restraint devices and survival equipment are checked, fastened and secured prior to ditching
		1.4	Primary and secondary egress routes, exits and equipment are located
		1.5	Brace position is adopted
2	**Undertake evacuation from an aircraft**	2.1	Spatial orientation is conducted
		2.2	Egress points are located
		2.3	Exits are jettisoned and cleared
		2.4	Restraint devices are released
		2.5	Aircraft is egressed
		2.6	Surface is cleared
3	**Conduct rescue recovery process**	3.1	Safety equipment is deployed in accordance with workplace procedures
		3.2	Position indicating and signalling devices are deployed
		3.3	Rescue recovery techniques are applied
4	**Control survival hazards**	4.1	Potential hazards are identified and controlled
		4.2	Swimming techniques with a life jacket are applied
		4.3	Hypothermia management techniques are employed
		4.4	Raft boarding and righting techniques are employed
		4.5	Emergency supplies and equipment are managed

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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.

Restraint devices must include one or more of the following:	• flight crew harnesses and restraint devices • operational contingency loading equipment • passenger seatbelts
Survival equipment must include one or more of the following:	• emergency breathing system • life jackets
Surface clearing must include:	• splashing the surface to clear oil/fuel
Safety equipment must include:	• flares • life jackets • life rafts • position locating beacons • strobe lights
Position indicating and signalling devices must include:	• flares • position locating beacons • strobe lights
Rescue recovery techniques must include one or more of the following:	• hoisting • rescue vessel
Potential hazards must include on or more of the following:	• cold shock • environment • sea state • weather
Swimming techniques with a life jacket must include:	• group • single
Hypothermia management	• group help

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techniques must include:	• help position for single person heat retention
Emergency supplies and equipment must include:	• positioning equipment • survival equipment

Unit Mapping Information

This unit replaces and is equivalent to AVIF2014A Undertake aircraft underwater escape and survival.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF2014 Undertake aircraft underwater escape and survival

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
- applying hypothermia prevention, reduction and management techniques
- applying knowledge of aircraft escape hazards:
  - cold shock
  - environment
  - sea state
  - weather
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying rescue recovery techniques
- communicating effectively with others
- completing relevant documentation
- employing life jacket swimming, raft boarding and raft righting techniques
- employing position indicating and signalling devices:
  - flares
  - position locating beacons
  - strobe lights
- identifying and correctly using relevant equipment:
  - emergency breathing systems
  - flares
  - life jackets
  - life rafts
  - position locating beacons
  - restraint devices and harnesses
  - strobe lights
- implementing operational contingency loading emergency procedures as required in a

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Defence context

- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and take appropriate action
- monitoring work activities in terms of planned schedule
- operating emergency equipment
- operating safety equipment
- performing aircraft egress and exit operation
- performing inverted and submerged aircraft escape techniques
- performing life jacket swimming techniques
- performing safe swimming techniques:
  - surface clearing techniques
  - individual safety
  - group safety
- reading, interpreting and following relevant instructions, regulations, procedures, information and signs
- releasing restraint devices and egressing aircraft
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- securing all personal items, restraint devices and survival equipment prior to ditching
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self, 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:

- aircraft egress and exit systems
- aircraft escape techniques:
  - primary exit
  - secondary exit
  - blocked exit
- emergency equipment deployment and operation

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- hazards when exiting aircraft during emergency situations
- how to identify and operate equipment required to undertake aircraft underwater escape and survival:
  - emergency breathing systems
  - flares
  - life jackets
  - life rafts
  - position locating beacons
  - restraint devices and harnesses
  - strobe lights
- inverted and submerged aircraft escape techniques
- manufacturer instructions for equipment used for aircraft underwater escape and survival
- operational contingency loading emergency procedures as required in a Defence context
- regulations, legislation, organisational policy and procedures in relation to aircraft underwater escape and survival
- relevant WHS/OHS and environmental procedures and regulations
- rescue and recovery techniques
- risks that exist when undertaking aircraft underwater escape and survival, and related risk control procedures and precautions
- safe swimming techniques:
  - surface clearing techniques
  - individual safety
  - group safety
- workplace procedures for undertaking aircraft underwater escape and survival.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

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AVIF5003 Manage human performance and team resources during air traffic control operations

Modification History

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

Application

This unit involves the skills and knowledge required to Manage human performance and team resources during air traffic control operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes maximising personal performance, managing errors and participating as a team member within an air traffic services environment.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to air traffic control duties that complement the technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry in various time, weather and traffic conditions associated with psychological and/or physiological limitations to performance.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Maximise personal performance	1.1 Factors affecting individual human performance are monitored and managed
	1.2 Appropriate assertiveness is applied
	1.3 Personal workload is regulated by prioritising work tasks
	1.4 Human machine interface (HMI) is optimised to enhance human performance
	1.5 Decisions taken to manage overall performance are employed
2 Manage error	2.1 Error prevention techniques are applied
	2.2 Errors are recognised and rectified
	2.3 Undesired states, resulting from errors, are recovered
	2.4 Personal responsibility for own errors is acknowledged
3 Participate as a team member	3.1 Roles and responsibilities of others are considered and responded to appropriately
	3.2 Duty of care towards others is applied
	3.3 Situational leadership and followership skills are applied to increase team output

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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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIF5003B Manage human performance and team resources during air traffic control operations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF5003 Manage human performance and team resources during air traffic control operations

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:

- acknowledging, inquiring and observing when managing human performance
- adhering to standard operating procedures
- allocating attention according to priorities
- applying reasoning and decision making
- communicating effectively with others
- listening actively
- managing operating environment in accordance with standard operating procedures
- reporting and rectifying identified problems promptly
- requesting assistance from others as required
- responding to stressful situations with a considered and measured approach
- taking actions to mitigate effects of external threats to personal performance
- working systematically with required attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- decision making techniques
- duty of care principles and application
- fatigue management systems and the effects of shift work
- human machine interface (HMI) setup to enhance performance
- incident and accident causation models
- just culture policy and principles, including individual and organisational accountabilities surrounding the reporting and investigation of air traffic service attributable safety

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occurrences
- medical requirements for an air traffic controller licence, including responsibilities for fitness for duty
- physiological factors affecting human performance
- principles and practices for leadership and followership within work teams
- psychological factors affecting human performance
- recency and currency requirements
- regulatory requirements covering length of shift and break requirements
- relevant legislation and workplace procedures
- relevant work health and safety (WHS)/occupational health and safety (OHS) procedures and regulations
- threat and error management.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIF5013 Provide search and rescue alerting and emergency response

Modification History

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

Application

This unit involves the skills and knowledge required to provide search and rescue (SAR) alerting services, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes providing emergency response and providing search and rescue alerting.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

F – Safety Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Provide emergency response	1.1 Critical initial actions are carried out in accordance with emergency plans and checklists
	1.2 Response to abnormal or emergency situations is provided using standard operating procedure
	1.3 Separation is applied during abnormal or emergency situations
	1.4 Priority service is provided to emergency situations
	1.5 Standard emergency phraseologies are used
	1.6 Critical information is relayed and updated
	1.7 Abnormal or emergency situations are coordinated and transferred to other responsible units as required
	1.8 Appropriate emergency phase is declared in accordance with standard operating procedure
	1.9 Emergency situations are recorded and events are reported in accordance with standard operating procedure
2 Provide search and rescue alerting	2.1 Critical event times for search and rescue alerting are monitored and actioned
	2.2 Appropriate emergency phase is amended when required
	2.3 Search and rescue information is coordinated and/or relayed
	2.4 Actions are completed and reviewed in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIF5013A Provide SAR alerting and emergency service.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIF5013 Provide search and rescue alerting and emergency response

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:

- communicating clearly and concisely to relevant stakeholders using standard and non-standard phrases
- communicating effectively when providing search and rescue (SAR) alerting and emergency response
- comprehending incoming information and responding effectively
- declaring emergency phases
- initiating in-flight emergency response (IFER) and implementing Aerodrome Emergency Plan (AEP)
- maintaining air traffic services to other traffic during emergencies and abnormal operations
- monitoring and responding to alarms
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring critical SAR event times
- operating equipment in accordance with standard operating procedures
- regulating own workload in abnormal or emergency situations
- responding and updating checklists
- responding to SAR alerting
- responding to stressful situations with a considered and measured approach
- using emergency messages, phrases and signals
- working systematically with required attention to detail.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- documentation for providing SAR alerting and emergency response including recording emergency and/or abnormal flight related information
- emergency and abnormal human machine interface (HMI) indications including alerts and alarms
- emergency checklists and documentation
- emergency separation standards
- emergency communications
- IFER documentation
- IFER management process
- jurisdictions related to SAR for different aircraft operations
- relevant and environmental procedures and regulations
- SAR time (SARTIME) criteria and emergency phase declaration
- SAR watch (SARWATCH) criteria and emergency phase declaration
- SAR organisations and authorities
- types of in-flight emergencies
- use of checklists and other documentation.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

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- acceptable means of simulation assessment.
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Links

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AVIH0002 Plan a flight under visual flight rules

Modification History

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

Application

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

It includes determining aircraft VFR flight requirements, obtaining and using operational documents, preparing VFR flight plans, 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine aircraft meets requirements for VFR flight**	1.1	Aircraft requirements for VFR flight are determined
		1.2	Hazards are identified, risks are assessed and hazard management is implemented
		1.3	Flight and navigation instruments, minimum electrical lighting, navigation equipment and any other requirements fitted to aircraft are checked to ensure they are suitable and serviceable for VFR flight
2	**Obtain and use operational documents**	2.1	Operational documents applicable to the 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 the flight are stowed and their accessibility for the pilot during flight is ensured
3	**Prepare flight plan for VFR flight**	3.1	Charts suitable for intended VFR 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
4	**Determine operational requirements**	4.1	Suitability of aerodrome lighting for night operations is determined
		4.2	Curfew requirements are complied with

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		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 VFR 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

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH0002 Plan a flight under visual flight rules

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
- 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
- determining alternate aerodrome requirements and suitability for a visual flight to a specified destination given relevant information including NOTAM
- determining currency of operational documents
- determining fuel quantity required for a visual flight
- determining holding requirements due to weather, traffic or traffic advisory
- determining meteorological forecasts required for a visual flight
- determining operational requirements
- determining whether a flight should proceed based on available meteorological forecasts
- extracting and applying relevant information from operational documents
- identifying and correctly using equipment required when planning a flight under VFR
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting meteorological forecasts
- interpreting navigation charts
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs

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- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS 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, performance criteria and include knowledge of:

- aerodrome and en route holding procedures
- aircraft fuel planning including holding, alternate, fixed reserve and usage rates
- aircraft loading calculations and planning factors including:
  - arm, moment, datum, station and index unit
  - centre of gravity and limitations
  - empty weight, zero fuel weight (ZFW), ramp weight
  - mean aerodynamic chord (MAC)
  - maximum take-off and landing weights
- airspace requirements and procedures under VFR conditions
- basic and general meteorological considerations and requirements for VFR flight
- basic meteorology:
  - local weather
  - forecasts and reports
  - observations
- calculating maximum structural take-off and landing weights from performance charts
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to visual flight rules
- charts and publications:
  - aeronautical information publication (AIP) visual chart types
  - how to decode chart symbols
  - how to interpret topographic detail
  - how to estimate, measure and plot positions and distances on visual charts
  - how to describe map projections used in aviation
  - how to describe methods of representing scale

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- computations and conversions of navigation data:
  - airspeed
  - ground speed
  - time
  - distance
  - air temperatures and pressure heights
  - bearings and tracks
- concepts of time:
  - coordinated universal (UTC), local mean, local standard, local summer
  - determine civil twilight
  - time conversions
  - daylight timing factors
  - effects of earth rotation and revolution around the sun
  - effects of changes in longitude on local mean time
- critical point and point of no return (PNR)
- density height calculations
- documents required to be carried on a visual flight
- equi-time point (ETP) and PNR diversion requirements
- factors affecting en route performance, range and endurance
- flight planning preparation:
  - visual chart selection
  - mandatory briefing requirements
  - weather services available
  - requirements and instructions for VFR flight notification
- general meteorology:
  - atmospheric composition
  - atmospheric stability
  - heat
  - temperature pressure
  - humidity
  - clouds and precipitation
  - visibility
  - wind
  - air masses and fronts
  - synoptic meteorology
  - climatology
  - weather services and information
  - flight considerations
- how to determine climb, cruise and descent performance:
  - time, speed, distance, fuel flow/quantity

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  - appropriate engine settings
  - rates of climb/descent
  - maximum aircraft range and endurance
- icing conditions and hazards
- limit of VFR operations in single-engine or multi-engine aircraft
- limitations and errors of navigational aids and systems
- flight plan preparation
- VFR cruising levels, selection and hazards
- VFR route planning requirements
- pilot medical fitness and qualifications necessary for visual flight
- pilot navigation principles:
  - map reading
  - chart orientation
  - map to ground and ground to map
  - position lines to establish ground speed, track error and position fix
  - ground feature selection to establish position
  - chart preparation and selection
  - determine visual flight navigation information
- privileges of the VFR rating
- principles of navigation:
  forms of the earth
- procedures for flight plan amendments and revised estimates for a visual flight
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders
- requirements for an alternate aerodrome
- requirements for in-flight progress reports
- requirements for submission of flight notification and search and rescue watch (SARWATCH) times
- specification of aircraft electrical lighting, radio communication and navigation equipment required for visual flight
- specification of aircraft flight instruments required for visual flight
- speed restrictions for visual flight
- usage of 2D radio navigation aids for visual flight navigation
- use of a navigational computer
- validity of a given meteorological forecast for a visual flight
- visual and instrument flight rules and procedures
- weight and balance calculations.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

Where this unit is used in the context of a commercial pilot licence [CPL(A)] the following operational knowledge must be assessed:

- aerodromes and aeroplane landing areas (ALAs)
- climb, cruise and descent performance
- fuel units.

Where this unit is used in the context of a commercial pilot licence helicopter [CPL(H)] the following operational knowledge must be assessed:

- limitations
- helicopter landing sites (HLS)
- take-off and landing weight
- hover performance
- forward climb performance
- cruise performance
- weight and balance.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIH0005 Plan a flight under instrument flight rules

Modification History

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

Application

This unit involves the skills and knowledge required to plan a flight under instrument flight rules (IFR), in compliance with the 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, 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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

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		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

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 but is not equivalent to AVIH5016A Plan a flight under Instrument Flight Rules (IFR).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH0005 Plan a flight under instrument flight rules

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
- 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)/occupational health and safety (OHS) 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 clothing and equipment conforming to industry and WHS/OHS standards
- selecting suitable navigation aids/systems
- working collaboratively with others

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- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodrome and en route holding procedures
- aircraft fuel planning including holding, alternate, fixed reserve and usage rates
- aircraft transponder operation
- airspace requirements and procedures under IFR conditions
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- continuous descent final approach (CDFA) techniques
- critical point and point of no return
- how to determine currency of operational documents
- factors affecting en route performance, range and endurance
- general operational information relevant to commercial pilots:
  - privileges and limitations
  - documentation
  - procedures, radio telephony and charts
  - meteorology
  - operational planning requirements
- ground and space navigation systems and infrastructure:
  - 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
  - VHF omni directional radio range (VOR)
  - distance measuring equipment (DME)
  - instrument landing system (ILS)/localiser (LOC)
  - global navigation satellite system (GNSS):
    - operating procedure errors
    - mode selection

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    - 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:
  - 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:
  - 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):
  - 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)

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- limitations on use of radar on ground
- meteorological considerations for an IFR flight:
  - 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:
    - airframe icing
    - hail
    - micro bursts and wind shear
    - turbulence, including clear air turbulence (CAT)
  - weather information services
  - pilot reporting obligations
  - altimeter QNH sources required for IFR operations
  - meteorological minimas
- navigation requirements:
  - 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)

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        - during holding procedures
        - during approach procedures
    - issued by air traffic services (ATS) and when cancelled
- NVFR operational requirements
- operational planning requirements:
    - 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):
    - 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)
    - APV Baro-VNAV instrument approach charts
    - vertical guidance information and operational considerations

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    - Baro-VNAV vertical guidance principles
- pilot activated lighting (PAL)
- pilot responsibilities:
    - 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:
    - 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/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

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Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIH4001 Navigate aircraft under visual flight rules

Modification History

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

Application

This unit involves the skills and knowledge required to navigate an aircraft under visual flight rules (VFR), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes preparing navigation documents and flight plan, complying with airspace procedures, and conducting departure procedures. It also includes navigating aircraft en route, navigating at low level and in reduced visibility, and performing lost procedures. It also includes performing diversion procedures, using instrument navigation systems and executing arrival procedures.

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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare navigation documents and flight plan	1.1 Suitable navigation charts for intended flight are selected and prepared
	1.2 Applicable information is obtained, analysed and applied to produce a flight plan that details tracks, distances, times and fuel requirements to reach a destination
	1.3 Pre-flight planning is used to minimise in-flight navigational work load
	1.4 Applicable VFR are applied to current and forecast operating conditions to determine whether planned flight can proceed
	1.5 Hazards to navigation are marked on charts as required
2 Comply with airspace procedures	2.1 Applicable flight airspace restrictions and dimensions are identified
	2.2 Air traffic clearances are obtained and compliance with them is maintained
	2.3 Traffic, terrain and airspace separation criteria is maintained in accordance with VFR
3 Conduct departure procedures	3.1 Pre-flight planning and cockpit organisation is conducted to ensure charts, documentation and navigational equipment are accessible from the control seat
	3.2 Departure administration and communication is conducted
	3.3 Track is intercepted within five nautical miles of airfield and departure time is recorded or alternative procedures are applied as required
	3.4 Orientation is always maintained
	3.5 Priority is given to controlling aircraft before conducting

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		navigation administration or communication
	3.6	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	3.7	Local and published noise abatement requirements and curfews are observed
4 Navigate aircraft en route	4.1	Planned route is maintained in accordance with VFR
	4.2	In-flight documentation and communication is completed
	4.3	Waypoint and/or destination estimated time of arrival (ETA) are checked and revised as required
	4.4	Search and rescue times (SARTIME) awareness is maintained and revised based on destination ETA calculations
	4.5	Fuel consumption is monitored and reserves are revised
	4.6	Pre-descent or navigation turning point checks are executed
	4.7	Appropriate techniques to obtain a positive navigation fix at suitable intervals are used
	4.8	Route, en route terrain, en route and destination weather awareness is maintained, and appropriate courses of action are implemented in accordance with changing weather conditions
	4.9	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	4.10	Aircraft is configured as required for turbulent, holding and maximum aircraft range, based on environmental and operational conditions
	4.11	Aircraft systems, fuel and engine warnings, cautions and indicators are monitored to ensure aircraft is operated to achieve flight plan objectives
5 Navigate at low level and in reduced visibility	5.1	Compliance with VFR is maintained during navigation at low level or in reduced visibility
	5.2	Pre-descent and/or navigation turning point checks are executed in accordance with regulatory requirements
	5.3	Planned route is maintained in accordance with regulatory requirements and procedures

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	5.4	In-flight documentation is completed
	5.5	Waypoint and/or destination ETA are checked and revised as required
	5.6	Aircraft is operated and configured to maintain minimum height above ground level (AGL) and terrain separation and remaining within visual meteorological conditions (VMC)
	5.7	Route, en route terrain, en route and destination weather awareness is maintained, and appropriate courses of action are implemented in accordance with changing weather conditions
	5.8	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	5.9	Hazards and threats to low flying navigation are identified and risk controls are implemented
	5.10	Effects of wind velocity, false horizons, rising ground, adverse environmental conditions, and mountainous terrain are managed, and contingency actions are planned as required
	5.11	Aircraft is configured as required for reduced visibility and low cloud base environmental and operational conditions
	5.12	Situational awareness is maintained at all times
6 Perform lost procedure	6.1	Positional uncertainty is identified and recognised
	6.2	Position is fixed and new track to destination attainable within limits of fuel and daylight is determined using recognised methods
	6.3	Track to destination is re-established or replanned with consideration of fuel usage and reserves
	6.4	Waypoint and/or destination ETA are checked and revised as required
	6.5	Radio, navigation aids, transponder and air traffic control (ATC) services are used for assistance
	6.6	A timely precautionary search and landing is planned for possible circumstances of being lost or having no fuel or no light

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7	**Perform diversion procedure**	7.1 Requirement to perform diversion procedure is identified and a timely decision is made
		7.2 Alternate acceptable aerodrome/destination is identified
		7.3 New route is determined and established
		7.4 Waypoint and/or destination ETA are checked and revised as required
		7.5 Flight plan is revised considering operational information, weather, terrain, airspace and fuel available
		7.6 Air traffic service is advised of action where possible and compliance with airspace procedures is maintained
		7.7 SARTIME awareness is maintained and revised based on diversion destination ETA calculations and is cancelled on arrival
8	**Use instrument navigation systems**	8.1 Navigation systems are initialised and system validity checks are conducted as required
		8.2 Receiver autonomous integrity monitoring (RAIM) checks are conducted as required
		8.3 Navigation aids and systems are utilised to confirm position, track and navigation information
		8.4 Flight plan is selected, loaded, checked and activated in aircraft navigation system
		8.5 Navigation systems are operated in accordance with operating instructions and procedures
		8.6 ATC radar is used for position information and tracking assistance as required
		8.7 Waypoints and position fixes are confirmed using instrument navigation systems
		8.8 Integrity of navigation aid/systems information is monitored and maintained
9	**Execute arrival procedures**	9.1 Arrival aerodrome, meteorological conditions and local traffic information is obtained and applied to arrival procedure plan
		9.2 Radio communications are established and maintained

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9.3 Aerodrome landing direction and arrival procedure suitability are determined

9.4 Descent point is calculated

9.5 Arrival and circuit procedures are conducted at destination aerodrome

9.6 Lookout is maintained during arrival procedure using a systematic scan technique at a rate determined by traffic density, visibility and terrain

9.7 Aerodrome markings, lights, signals and indicators are interpreted, applied and adhered to

9.8 Local and published noise abatement requirements and curfews are observed

9.9 SARTIME awareness is maintained and revised based on diversion destination ETA calculations and cancelled upon arrival

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 AVIH4001B Navigate aircraft – VFR.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH4001 Navigate aircraft under visual flight rules

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:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- adjusting aircraft performance to achieve desired timings
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating distance and rate of closure rates to/from ground features
- calculating fuel endurance
- carrying out dead reckoning (DR) navigation techniques
- communicating effectively with others
- completing relevant documentation
- determining dead reckoned position
- fixing aircraft position
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining compliance with regulatory requirements
- maintaining construction, communication and execution of a traffic deconfliction plan
- maintaining navigation logs
- 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 diversion procedure
- planning applicable altitudes/flight levels and tracking tolerances to avoid controlled airspace
- prioritising work load and flight navigation tasks

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- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising significant variances from forecast meteorological conditions and taking appropriate actions, including issuing an air report (AIREP)
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance workplace procedures
- selecting and using appropriate navigational instrument systems and aids
- selecting and using required personal protective equipment conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- sourcing and interpreting aviation weather forecast products and services appropriate to flight planning and navigation procedures
- working systematically with required attention to detail without injuring 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 include knowledge of:

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- air navigation techniques
- aircraft fuel usage rates
- allowances for changed visual aspects of ground features at low level
- arrival procedures within visual meteorological conditions (VMC)
- basic global navigation satellite system (GNSS) principles:
  - characteristics of different chart types
  - aeronautical information publication (AIP) visual charts
  - chart symbology
  - topographic details
  - scale representation
  - tracks, distances and rhumb lines
  - plotting positions:
    - latitude and longitude
    - bearing and distance
  - map projections
- chart reading techniques
- circuit and circuit joining procedures
- computations and conversions:
  - ground speed, distance, fuel usage
  - airspeed, air temperature and height
  - determine wind speed and velocity
  - rates/gradients of climb and descent
  - top of climb (TOPC) and top of descent (TOPD) calculations
- controlled airspace requirements
- critical point and point of no return
- DR navigation techniques
- departure procedures within VMC
- diversion considerations and procedures
- en route GNSS navigation principles
- en route navigation techniques
- factors affecting en route performance, range and endurance
- featureless terrain and extended over-water flight navigation techniques
- flight planning requirements
- identification by shape, dimensions, contrast and colour, and uniqueness of ground features
- identification of control area (CTA), control zone (CTR), prohibited, restricted and danger areas
- in an Australian Defence Force (ADF) context, relevant Defence Orders and Instructions
- limitations of navigation aids/systems
- low level and reduced visibility navigation techniques
- maximum payload and minimum fuel operations
- pilot navigation principles:

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  - map to ground
  - ground to map
  - position lines
  - ground feature selection
  - chart selection and preparation
  - track made good (TMG)
  - track drift
  - estimated time of arrival (ETA) calculation methods
- potential impacts of specific weather phenomena on aviation operations
- principles of operation of navigation aids and systems
- procedures for requesting clearances from and into controlled airspace
- radio navigation aids:
  - identification by frequency information
  - extracting aid information from publications
  - aggregating errors and scalloping
  - establishing position lines
  - station homing and station passage
  - establishing position fixes
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to visual flight rule navigation
- time definitions and application to air navigation:
  - local mean time
  - coordinated universal time (UTC)
  - local (standard) time
  - local summer time
  - zone conversion
  - daylight time calculations
- traffic rules and procedures
- use of a navigational computer.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in *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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIH4012 Plan a flight under night visual flight rules

Modification History

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

Application

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

It includes determining aircraft NVFR flight requirements, obtaining and using operational documents, preparing NVFR flight plans, 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Determine aircraft meets requirements for NVFR flight**	1.1	Aircraft requirements for NVFR 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 serviceable for NVFR 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 flight plan for NVFR flight**	3.1	Charts suitable for intended NVFR 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	Hazards are identified, risks are assessed and hazard management is implemented
		3.4	Meteorological, airways facilities, aerodrome and Notice to Airmen (NOTAM) information applicable to planning and conducting a flight is obtained, interpreted and applied
		3.5	Routes to optimise options in engine failure are planned
4	**Determine operational requirements**	4.1	Suitability of aerodrome lighting for night operations is determined
		4.2	Curfew requirements are complied with

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		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 NVFR flight
		5.2	Completed flight notification is submitted
		5.3	Flight notification acceptance is confirmed
6	**Program navigation system**	6.1	Data is prepared for transfer to approved airborne navigation system
		6.2	Navigation data is loaded and checked

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 AVIH4012A Plan a flight under Night Visual Flight Rules (NVFR).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH4012 Plan a flight under night visual flight rules

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
- 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
- determining alternate aerodrome requirements and suitability for a night visual flight to a specified destination given relevant information including Notice to Airmen (NOTAM)
- determining fuel quantity required for a night visual flight
- determining holding requirements due to weather, traffic or traffic advisory
- determining currency of operational documents
- determining meteorological forecasts required for a night visual flight
- determining whether a flight should proceed based on available meteorological forecasts
- extracting and applying relevant information from operational documents
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting meteorological forecasts
- interpreting navigation 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
- reading, interpreting and following relevant regulations, instructions, procedures, information

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and signs
- reporting and/or rectifying problems, faults and malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS 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 include knowledge of:

- aerodrome and en route holding procedures
- aerodrome lighting and curfew requirements for night operations
- aircraft fuel planning including holding, alternate, fixed reserve and usage rates
- airspace requirements and procedures under night visual flight rules (NVFR) conditions
- critical point and point of no return
- documents required to be carried on a night visual flight
- factors affecting en route performance, range and endurance
- icing conditions and hazards
- in an Australian Defence Force (ADF) aviation context, relevant Defence Orders and Instructions
- limit of NVFR operations in a single-engine aircraft
- limitations and errors of navigations aids/systems
- meteorological considerations for a NVFR flight
- NVFR and procedures
- NVFR cruising levels, selection and hazards
- NVFR route planning requirements
- pilot medical fitness and qualifications necessary for night visual flight
- privileges of NVFR rating
- procedures for flight plan amendments and revised estimates for a night visual flight
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders pertaining to NVFR and flight planning requirements
- relevant WHS/OHS and environmental procedures and regulations
- requirements for an alternate aerodrome
- requirements for in-flight progress reports
- requirements for submission of flight notification and SARWATCH

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- specification of aircraft electrical lighting, radio communication and navigation equipment required for night visual flight
- specification of aircraft flight instruments required for night visual flight
- speed restrictions for night visual flight
- use of a navigational computer
- validity of a given meteorological forecast for a night visual flight.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIH4013 Navigate aircraft under night visual flight rules

Modification History

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

Application

This unit involves the skills and knowledge required to navigate an aircraft under night visual flight rules (NVFR), in compliance with the 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 at night, conducting diversions to revised routes or alternate aerodromes at night, and making visual approaches and departures at night. It also includes complying with air traffic control (ATC) rules and procedures for NVFR flights, and managing hazardous weather conditions.

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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Select, operate and monitor navigation aids/systems	1.1 Navigation aids and systems appropriate for planned NVFR 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 at night	2.1 External aircraft, cockpit and instrument lighting are configured and adjusted to allow reference to documentation, instruments and lookout
	2.2 Aircraft position fix is determined visually or with reference to navigation aid and systems using ground-based and/or satellite-based navigational systems
	2.3 Tracks are intercepted to and from stations and waypoints visually or with reference to navigation aids and systems using ground-based and satellite-based navigational systems
	2.4 Track is maintained within tolerances specified in published procedures
	2.5 Timings and fuel usage rates are assessed, revised and recorded in navigation log
	2.6 Situational awareness is maintained using a recognised navigation work cycle
	2.7 Station passage is recognised
	2.8 Global navigation satellite system (GNSS)/distance measuring equipment (DME) arc procedure is performed within tolerances specified in published procedures
	2.9 Planned route above lowest safe altitude (LSALT) is maintained

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		2.10	Route and destination weather conditions are monitored and appropriate actions are executed
		2.11	Descent point calculations are completed
3	**Conduct a diversion to revised route or alternate aerodrome at night**	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 above LSALT is maintained
		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	**Make visual departure at night**	4.1	Obstacle clearance is maintained visually at all times during departure until reaching LSALT
		4.2	Departure track is intercepted within 5 nautical miles (nm) of aerodrome
		4.3	Take-off and departures are conducted from aerodromes remote from ground lighting using instruments as the primary reference and ensuring after take-off checks are performed at a safe height
5	**Make visual approach at night**	5.1	Descent below LSALT is conducted in accordance with published procedures
		5.2	Track is maintained to destination aerodrome
6	**Comply with ATC rules and procedures for NVFR flights**	6.1	Separation from other air traffic under NVFR is maintained
		6.2	Airspace requirements are complied with
		6.3	Two-way communication is maintained with air traffic services and other aircraft
		6.4	ATC clearances and/or radar vectoring instructions are complied with
7	**Manage hazardous**	7.1	Hazardous weather conditions are identified and risk

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weather conditions		management processes are applied to maintain safety of flight
	7.2	Hazardous weather avoidance procedures are applied
	7.3	Aircraft systems are employed to mitigate the effects of hazardous weather

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 AVIH4013A Navigate aircraft - NVFR.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH4013 Navigate aircraft under night visual flight rules

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
- applying air safety practices and regulations
- applying altimetry procedures to all stages of a night visual 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 relevant legislation and workplace procedures
- calculating heading to steer to intercept a new or original track to or from a non-directional beacon (NDB)
- calculating heading to steer to intercept desired inbound track before reaching an NDB
- calculating LSALT for a night visual flight for a route published on a chart
- calculating LSALT when uncertain of position
- calculating relative bearing that will indicate a desired track to or from an NDB has been intercepted, given the intercept heading
- calculating the heading to steer to intercept a new or original track to or from a Very High Frequency (VHF) Omni Directional Radio Range (VOR)
- calculating track to and from an NDB, given heading and relative bearings
- communicating effectively with others
- completing relevant documentation
- determining NDB station passage, abeam NDB station, NDB bearing the aircraft is on, track error and/or drift experienced, from an automatic direction finder (ADF) relative bearing indications
- determining off-track distance experienced from VOR and distance measuring equipment (DME) cockpit indications
- determining route for night visual flight with respect to:
  - forecast weather

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  - controlled airspace including prohibited, restricted and danger (PRD) areas
  - specified route limitations
  - airways operational requirements
  - availability of published routes
  - en route alternate aerodromes
  - navigation aids
  - rated coverage
  - radio communication
- determining scalloping, VOR station passage, abeam VOR station, VOR radial the aircraft is on, track error and/or drift experienced, from VOR cockpit indications
- determining flight calculations:
  - time made good (TMG)
  - ground speed (GS)
  - estimated time of arrival (ETA)
  - time and distance to waypoint (WPT)
  - wind velocity (WV) in flight
- determining whether a flight may proceed based on route, aircraft equipment and NVFR navigation requirements
- identifying and correctly using equipment required when navigating an aircraft under NVFR
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting DME or GPS arrival information
- interpreting typical GPS navigational displays latitude/longitude, distance and bearing to waypoint, course deviation indications (CDI)
- implementing aviation risk management processes to minimise, control or eliminate hazards that may exist while navigating an aircraft under NVFR
- maintaining compliance with regulatory requirements
- maintaining interception and maintenance of GNSS defined tracks
- managing abnormal operations and emergency procedures in control area (CTA), control zone (CTR), or Class G airspace and at non-controlled aerodromes
- 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 DME procedures:
  - fixing position, given cockpit instrument indications utilising two VHF omni directional radio range (VOR) stations
  - fixing position, given instrument indications utilising combinations of VOR, non-directional beacon (NDB) and DME
  - fixing position, given relative bearing indications utilising two NDB stations
- performing NDB approaches:

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  - 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 ADF relative bearing indications
  - fixing position, given relative bearing indications utilising two NDB stations
- performing GNSS procedures:
  - interpreting DME or GNSS arrival information
  - interpreting typical GNSS navigational displays including latitude/longitude, distance and bearing to waypoint, CDI
- performing VHF omni directional radio range (VOR) approaches:
  - calculating the 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 NVFR 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 and messages
- recognising significant variances from forecast meteorological conditions and taking appropriate actions, including issuing an air report (AIREP)
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS standards
- sourcing and interpreting aviation weather forecast products and services appropriate to flight planning and navigation procedures
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- abnormal operations and emergency procedures in CTA, CTR, Class G airspace and at non-controlled aerodromes
- aerodrome landing area (ALA) or helicopter landing site (HLS) dimension and lighting requirements for fixed or rotary wing NVFR operations
- aerodrome operations where surrounding light is limited
- airways clearance requirements for entering, operating in and departing CTA and CTR, including what details to provide to air traffic control (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
- alternate aerodrome planning requirements
- altimetry procedures to all stages of a night visual flight
- ATC procedures relevant to NVFR operations
- ATC requirements for a change of level in CTA, including in an emergency
- compulsory reporting points for route selected
- controlled area protection
- departure, climb, transition to cruise (levelling out), cruise, change of levels, descent and visual approach procedures at night, in CTA, CTR, Class G airspace and at non-controlled aerodromes
- dimensions of the significant safety sector when calculating lowest safe altitude (LSALT) for a route not published on a chart
- distance measuring equipment (DME):
  - DME or GNSS arrival information
  - DME or GNSS arrival procedures and limitations in all classes of airspace
  - pilot responsibilities when DME or GNSS arrival is conducted outside controlled airspace
  - conditions permitting descent below LSALT
  - procedure for joining circuit using a DME or GNSS arrival
  - principles of operation of DME or GNSS radio equipment
  - procedures for handling loss of radio communication during a DME or GNSS arrival
- explanation of conditions for descent below LSALT
- GNSS:
  - principles of operation, performance limitations and errors of a GNSS system
  - methods of position fixing using a GNSS system
  - 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

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  - indications of waypoint passage
  - GNSS operational and serviceability checks
  - human factor limitations associated with using GNSS equipment
  - requirements applicable to pilots and equipment for GNSS operations
  - parameters applicable to tracking tolerances, automatic waypoint sequencing, CDI sensitivity and RAIM availability
  - 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
  - parameters applicable to RAIM warnings in en route, terminal and approach modes
  - effect of availability or otherwise of baro-aiding on RAIM availability and prediction
  - effect of satellite unserviceability on reliability of each type of prediction
  - effect of each type of RAIM prediction operational requirements
  - operational requirements that apply to planning a flight on the basis of conducting a RNAV (GNSS) procedure at the destination
  - factors that may adversely affect the conduct of a GNSS/NPA and explain suitable pilot procedures to minimise such effects
  - operating procedures for GNSS equipment that reduce or eliminate errors due to any of these factors
- human factors and physiological limitations for conducting NVFR operations
- loss of radio communication procedures in CTA, CTR, Class G airspace and at non-controlled aerodromes
- maximum permissible time interval in between ATC transmissions during radar vectoring
- methods of establishing and calculating LSALT:
  - from published charts
  - for route not published
  - position uncertainty
- minimum NVFR aircraft equipment requirements
- navigation requirements for a night visual flight using radio, self-contained or long-range navigation systems
- navigation requirements for a night visual flight using visual reference to ground and water
- navigation requirements for night visual flight with respect to time interval between fixes, accuracy of time reference, and accuracy and procedures in track-keeping
- navigation route requirements for NVFR:
  - forecast weather
  - controlled airspace (CTA)
  - prohibited, restricted and danger areas (PRD)
  - engine out performance for multi-engine aircraft
  - specified route limitations
  - airways operational requirements
  - availability of published routes

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  - en route
  - alternate aerodromes
  - navigation aids
  - rated coverage
  - radio communication
- navigation tolerance for a night visual flight avoiding CTA
- NDB:
  - 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 the most appropriate NDB for tracking during navigation
  - NDB position fixing, tracking techniques, procedures and limitations
- operation of VHF aerodrome lighting pilot activated lighting (PAL)
- pre-flight altimeter accuracy check for a night visual flight
- principles of operations, limitations and errors for NVFR radio navigation systems
- privileges and limitations of NVFR rating
- procedures of night visual flight in all classes of airspace when diverting from track due to navigation or weather
- 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
- requirements for departure and descent for clearance from terrain
- requirements for positive radio fixing and the most precise track guidance
- separation provisions between NVFR flights, and IFR and VFR flights in the various classes of CTA
- separation provisions between NVFR flights, and IFR and VFR flights in GAAP CTR
- VHF omni directional radio range (VOR):
  - VOR instrument settings required to provide command indications when flying on given tracks both to and from the VOR
  - VOR tracking techniques, procedures and limitations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of

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

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIH5017 Navigate aircraft under instrument flight rules

Modification History

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

Application

This unit involves the skills and knowledge required to navigate an aircraft under instrument flight rules (IFR), in compliance with the 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

H – Route Planning and Navigation

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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 instrument meteorological conditions	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
	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 are executed
	2.10 Descent point calculations are completed

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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	**Conduct 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, turning inbound on prescribed track
		4.3	Holding pattern is departed in accordance with ATC instructions
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

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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

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 AVIH5017A Navigate aircraft – IFR.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIH5017 Navigate aircraft under instrument flight rules

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
- 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), wind velocity (WV) in flight
- identifying and correctly using equipment required when navigating an aircraft under IFR
- implementing aviation risk management processes to minimise, control or eliminate identified hazards
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting typical GNSS navigational displays including latitude/longitude (Lat/Long), distance and bearing to waypoint, 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:
  - 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

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  - 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 (ADF) relative bearing indications
  - fixing position, given relative bearing indications utilising two NDB stations
- performing VHF omni directional radio range (VOR) approaches:
  - 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 clothing and equipment conforming to industry and WHS/OHS 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 include knowledge of:

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- air traffic control (ATC) rules and procedures:
  - 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
  - controlled area 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 is 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 VFR flights in the various classes of CTA
  - separation provisions between IFR flights, and IFR and VFR flights in 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 alerting (SARWATCH), and operation of VHF aerodrome lighting (PAL)
- GNSS:
  - 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 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

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  - 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 a 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:
  - 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:
  - 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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:

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- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVILIC0001 Licence to operate a commercial aeroplane

Modification History

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

Application

This unit involves the skills and knowledge required to obtain a commercial pilot licence (aeroplane), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It addresses the following competency standards in the Civil Aviation Safety Regulations (CASRs) Part 61 Manual of Standards Instrument:

Common standards

- communicating in the aviation environment
- perform pre- and post-flight actions and procedures
- operate aeronautical radio
- manage fuel
- manage passengers and cargo
- non-technical skills 1 (manage a safe flight)
- non-technical skills 2 (recognise, direct and manage threats and errors)

Navigation and instrument flying standards

- navigate aircraft
- radio navigation – en route
- full instrument panel manoeuvres
- limited instrument panel manoeuvres
- operate at a controlled aerodrome
- operate at non-towered aerodromes
- operate in controlled airspace
- operate in Class G airspace

Aircraft rating standards: aeroplane category

- control aeroplane on the ground
- take-off aeroplane
- control aeroplane in normal flight
- land aeroplane
- aeroplane advanced manoeuvres
- manage abnormal situations – single engine aeroplanes.

This unit addresses aviation non-technical skills and knowledge requirements (mental, social and

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personal-management abilities) for commercial pilots, and contributes to safe and effective performance in complex aviation operational environments.

This unit also addresses aviation technical skills and knowledge requirements (physical, mental and task-management abilities) related to commercial pilot duties, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Communicate in an aviation environment	1.1 Effective face-to face communication techniques are applied in accordance with general English language principles
	1.2 Aeronautical radio is operated using appropriate operational communication aviation phraseology and terminology is

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2	**Perform pre- and post-flight actions and procedures**	2.1	Pre-flight actions and procedures are completed
		2.2	Pre-flight inspection is performed
		2.3	Post-flight actions and procedures are completed
3	**Operate aeronautical radio**	3.1	Radio equipment is operated
		3.2	Radio telephone equipment malfunctions are managed
		3.3	Aircraft transponder is operated during normal, abnormal and emergency situations
4	**Manage fuel**	4.1	Fuel plan requirements are determined
		4.2	Fuel system is managed
		4.3	Aircraft refuelling procedures are correctly completed
5	**Manage passengers and cargo**	5.1	Passengers are managed
		5.2	Passengers are aided and assisted as required
		5.3	Cargo is managed
6	**Manage a safe flight**	6.1	Effective lookout is maintained
		6.2	Situational awareness is maintained
		6.3	Situations are assessed and effective decisions are made
		6.4	Task priorities are set and tasks are managed
		6.5	Effective communications and interpersonal relationships are maintained
7	**Recognise, direct and manage threats and errors**	7.1	Threats are recognised and managed
		7.2	Errors are recognised and managed
		7.3	Undesired aircraft states are recognised and managed
8	**Navigate aircraft**	8.1	Documents and flight plans are prepared
		8.2	Airspace procedures are complied with while navigating
		8.3	Departure procedures are conducted
		8.4	Aircraft is navigated en route to waypoint or destination

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	8.5	Aircraft is navigated at low level and in reduced visibility
	8.6	Lost procedure is performed as required
	8.7	Diversion procedure is performed as required
	8.8	Instrument navigation systems are used to navigate under visual or instrument flight rules
	8.9	Arrival procedures are executed
9 Control aeroplane on the ground	9.1	Aircraft engine is started and stopped
	9.2	Aeroplane is taxied
10 Take-off aeroplane	10.1	Pre-take-off procedures are carried out
	10.2	Aeroplane take-off is conducted
	10.3	Cross-wind aeroplane take-off is conducted
	10.4	After take-off procedures are carried out
	10.5	Short field aeroplane take-off is performed using appropriate procedures
11 Control aeroplane in normal flight	11.1	Aeroplane is climbed
	11.2	Straight and level flight is maintained
	11.3	Aeroplane is descended
	11.4	Aeroplane is turned
	11.5	Aeroplane is controlled at slow speeds
	11.6	Aeroplane circuits and approaches are performed
	11.7	Local area airspace procedures are confirmed as required and applied
12 Land aeroplane	12.1	Aeroplane is landed
	12.2	Cross-wind aeroplane landing is conducted
	12.3	Missed approach is conducted
	12.4	Recovery from missed landing is performed
	12.5	Short field aeroplane landing is performed using appropriate

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		procedures
13	**Perform advanced manoeuvres**	13.1 Stall conditions are entered and recovered, including incipient spin, stall without power applied, stall from straight and level, stall in approach configuration, stall while turning, and stall with full power applied, or stall while climbing, or stall while descending
		13.2 Incipient spin recovery is conducted
		13.3 Aeroplane is turned steeply
		13.4 Aeroplane is side-slipped, when permitted
14	**Operate using full instrument panel**	14.1 Serviceability of flight instruments and instrument power sources is determined and monitored
		14.2 Full instrument panel manoeuvres are performed
		14.3 Upset situations and unusual aircraft attitude recovery is performed using full instrument panel
15	**Operate using limited instrument panel**	15.1 Attitude indicator and stabilised heading indicator failures are recognised
		15.2 Limited instrument panel manoeuvres are performed
		15.3 Upset situations and unusual aircraft attitude recovery is performed using limited instrument panel
		15.4 Visual flight is re-established
16	**Navigate using radio navigation aids and systems**	16.1 Radio navigation systems are operated and monitored
		16.2 Aircraft is navigated using navigation aids and systems
17	**Operate at non-towered aerodromes**	17.1 Preparations for non-towered aerodrome operations are conducted
		17.2 Aircraft is taxied at non-towered aerodrome or landing area
		17.3 Non-towered aerodrome or landing area departure is performed
		17.4 Non-towered aerodrome or landing area arrival is performed
18	**Operate in Class G airspace**	18.1 Aircraft is operated in Class G airspace
		18.2 Appropriate tolerances are applied and maintained

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	18.3 Aircraft radio procedures are implemented as required
	18.4 Operations are conducted in accordance with suitable charts
	18.5 Appropriate actions are performed in abnormal operations and emergencies
19 Operate at a controlled aerodrome	19.1 Preparations for controlled aerodrome operations are conducted
	19.2 Aircraft is taxied at controlled aerodrome
	19.3 Controlled aerodrome departure is performed
	19.4 Controlled aerodrome arrival and landing are performed
20 Operate in controlled airspace	20.1 Aircraft is operated in controlled airspace
	20.2 Airways clearance requirements are complied with
	20.3 Tracking and altitude tolerances are maintained when operating on an airways clearance
	20.4 Separation standards are applied between instrument and visual flights within controlled airspace
	20.5 Appropriate abnormal and emergency response actions are implemented as required
	20.6 Air traffic control directions, instructions and requirements are adhered to within controlled airspace

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

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Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVILIC0001 Licence to operate a commercial aeroplane

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 and on at least one occasion and include:

- applying competence as a commercial pilot within flight tolerance standards specified by the appropriate licence authority
- applying competence in an aeroplane capable of the following characteristics:
  - cruise true airspeed of not less than 120 knots
  - fitted with one of the following powerplants:
    - turbine engine with propeller
    - piston engine with variable pitch propeller
- conducting airspace operations in:
  - class G airspace
  - controlled aerodrome
  - controlled airspace
  - non-towered aerodrome.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aircraft loading systems
- aircraft performance and landing calculations
- aircraft speed limitations
- aircraft systems
- applicability of drug and alcohol regulations
- classification of operations
- commercial pilot licence (CPL) maintenance authorisations

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- day visual flight rules (VFR) commercial aircraft instrument requirements
- emergency equipment requirements
- flight and duty time limits
- fuel planning and oil requirements for the flight
- global navigation satellite system (GNSS) and its use in VFR navigation
- loading and unloading fuel
- managing cargo and passengers
- normal and non-normal operation of the propeller system fitted to flight test aeroplane
- privileges and limitations of a CPL with aeroplane category rating
- requirements for an Air Operator's Certificate (AOC)
- requirements for landing areas and aerodromes
- type of information contained in an operations manual.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in *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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVILIC0002 Licence to operate a commercial helicopter

Modification History

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

Application

This unit involves the skills and knowledge required to obtain a commercial pilot licence (helicopter), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It addresses the following competency standards in the Civil Aviation Safety Regulations (CASRs) Part 61 Manual of Standards Instrument:

Common standards

- communicating in the aviation environment
- perform pre- and post-flight actions and procedures
- operate aeronautical radio
- manage fuel
- manage passengers and cargo
- non-technical skills 1 (manage a safe flight)
- non-technical skills 2 (recognise, direct and manage threats and errors)

Navigation and instrument flying standards

- radio navigation – en route
- full instrument panel manoeuvres
- limited instrument panel manoeuvres
- operate at a controlled aerodrome
- operate at non-towered aerodrome
- operate in controlled airspace
- operate in Class G airspace

Aircraft rating standards: helicopter category

- control helicopter on the ground
- control helicopter in lift-off, hover and landing
- taxi helicopter
- take-off helicopter and approach to hover
- control helicopter in normal flight
- control helicopter during advanced manoeuvres
- manage abnormal situations and emergencies – helicopter.

This unit addresses aviation non-technical skills and knowledge requirements (mental, social and

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personal-management abilities) related to commercial pilot duties, and contributes to safe and effective performance in complex aviation operational environments.

This unit addresses aviation technical skills and knowledge requirements (physical, mental and task-management abilities) related to commercial pilot duties, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

LIC – Licensing

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Communicate in an aviation environment	1.1 Effective face-to face communication techniques are applied in accordance with general English language principles
	1.2 Aeronautical radio is operated using appropriate operational communication aviation phraseology and terminology

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2	**Perform pre- and post-flight actions and procedures**	2.1	Pre-flight actions and procedures are completed
		2.2	Pre-flight inspection is performed
		2.3	Post-flight actions and procedures are completed
3	**Operate aeronautical radio**	3.1	Radio equipment is operated
		3.2	Radio telephone equipment malfunctions are managed
		3.3	Aircraft transponder is operated during normal, abnormal and emergency situations
4	**Manage fuel**	4.1	Fuel plan requirements are determined
		4.2	Fuel system is managed
		4.3	Aircraft refuelling procedures are correctly completed
5	**Manage passengers and cargo**	5.1	Passengers are managed
		5.2	Passengers are aided and assisted as required
		5.3	Cargo is managed
6	**Manage a safe flight**	6.1	Effective lookout is maintained
		6.2	Situational awareness is maintained
		6.3	Situations are assessed and effective decisions are made

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		6.4	Task priorities are set and tasks are managed
		6.5	Effective communications and interpersonal relationships are maintained
7	**Recognise, direct and manage threats and errors**	7.1	Threats are recognised and managed
		7.2	Errors are recognised and managed
		7.3	Undesired aircraft states are recognised and managed
8	**Navigate aircraft**	8.1	Documents and flight plans are prepared
		8.2	Airspace procedures are complied with while navigating
		8.3	Departure procedures are conducted
		8.4	Aircraft is navigated en route to waypoint or destination
		8.5	Aircraft is navigated at low level and in reduced visibility
		8.6	Lost procedure is performed as required
		8.7	Diversion procedure is performed as required
		8.8	Instrument navigation systems are used to navigate under visual or instrument flight rules
		8.9	Arrival procedures are executed
9	**Control helicopter on the ground**	9.1	Engine is started and stopped

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	9.2	Rotor is engaged and stopped
	9.3	Main rotor disc and anti-torque system are controlled
10 Control helicopter in lift-off, hover and landing	10.1	Aircraft is lifted off to hover and hover checks are performed
	10.2	Helicopter is hovered in cross and tail wind conditions
	10.3	Turns around the mast are performed
	10.4	Turns around the nose and tail are performed
	10.5	Sidewards and backwards flight manoeuvres are performed
	10.6	Aircraft is landed from the hover
	10.7	Mishandled landings are managed
	10.8	Mishandled lift offs are managed
11 Taxi helicopter	11.1	Air taxiing manoeuvres are performed
	11.2	Air transiting manoeuvres are performed
12 Take-off helicopter and approach to hover	12.1	Pre-take-off checks are carried out
	12.2	Aircraft take-off is performed
	12.3	Approach to hover is performed

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	12.4	Go-around procedure is performed
13 Control helicopter in normal flight	13.1	Helicopter is climbed while maintaining indicated airspeed (IAS) for cruise climb and best angle of climb (Vx) or best rate of climb (Vy)
	13.2	Straight and level flight is maintained
	13.3	Helicopter in descent is conducted under varying combinations of direction, speed and aircraft configuration
	13.4	Helicopter is turned from a known heading to a nominated heading, track or geographical feature
	13.5	Helicopter is controlled at any speed within approved flight envelope
	13.6	Helicopter circuits and approaches are performed
	13.7	Airspace requirements are complied with
14 Control helicopter during advanced manoeuvres	14.1	Helicopter is turned steeply through level flight and descending flight profiles
	14.2	Autorotative flight is performed
	14.3	Helicopter is landed on and lifted off sloping ground
	14.4	Helicopter is landed, manoeuvred and taken off within confined areas
	14.5	Limited power take-off, approach and landings are executed
15 Manage abnormal situations and	15.1	Forced landing from level flight, after take-off or on approach is managed

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	emergencies	15.2	Engine failure at the hover or during taxi is managed
		15.3	Tail rotor malfunction is managed
		15.4	Jammed flight control system is managed
		15.5	Flight in adverse aerodynamic conditions is managed
		15.6	Helicopter operating system malfunction is managed
14	**Operate using full instrument panel**	14.1	Serviceability of flight instruments and instrument power sources is determined and monitored
		14.2	Full instrument panel manoeuvres are performed
		14.3	Upset situations and unusual aircraft attitude recovery is performed using full instrument panel
15	**Operate using limited instrument panel**	15.1	Attitude indicator and stabilised heading indicator failures are recognised
		15.2	Limited instrument panel manoeuvres are performed
		15.3	Upset situations and unusual aircraft attitude recovery is performed using limited instrument panel
		15.4	Visual flight is re-established
16	**Navigate using radio navigation aids and systems**	16.1	Radio navigation systems are operated and monitored
		16.2	Aircraft is navigated using navigation aids and systems
17	**Operate at non-towered**	17.1	Preparations for non-towered aerodrome operations are conducted

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	aerodromes	17.2	Aircraft is taxied at non-towered aerodrome or landing area
		17.3	Non-towered aerodrome or landing area departure is performed
		17.4	Non-towered aerodrome or landing area arrival is performed
18	**Operate in Class G airspace**	18.1	Aircraft is operated in Class G airspace
		18.2	Appropriate tolerances are applied and maintained
		18.3	Aircraft radio procedures are implemented as required
		18.4	Operations are conducted in accordance with suitable charts
		18.5	Appropriate actions are performed in abnormal operations and emergencies
19	**Operate at a controlled aerodrome**	19.1	Preparations for controlled aerodrome operations are conducted
		19.2	Aircraft is taxied at controlled aerodrome
		19.3	Controlled aerodrome departure is performed
		19.4	Controlled aerodrome arrival and landing are performed
20	**Operate in controlled airspace**	20.1	Aircraft is operated in controlled airspace
		20.2	Airways clearance requirements are complied with
		20.3	Tracking and altitude tolerances are maintained when operating on an airways clearance

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20.4 Separation standards are applied between instrument and visual flights within controlled airspace

20.5 Appropriate abnormal and emergency response actions are implemented as required

20.6 Air traffic control directions, instructions and requirements are adhered to within controlled airspace

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVILIC0002 Licence to operate a commercial helicopter

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:

- applying competence as a commercial pilot within flight tolerance standards specified by the appropriate licence authority
- conducting airspace operations in:
  - class G airspace
  - controlled aerodrome
  - controlled airspace
  - non-towered aerodrome.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aircraft loading systems
- aircraft performance and landing calculations
- aircraft speed limitations
- aircraft systems
- applicability of drug and alcohol regulations
- classification of operations
- commercial pilot licence (CPL) maintenance authorisations
- day visual flight rules (VFR) commercial aircraft instrument requirements
- emergency equipment requirements
- flight and duty time limits
- fuel planning and oil requirements for the flight
- global navigation satellite system (GNSS) and its use in VFR navigation
- loading and unloading fuel
- managing cargo and passengers

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- privileges and limitations of a CPL with helicopter category rating
- requirements for an Air Operator's Certificate (AOC)
- requirements for landing areas and aerodromes
- type of information contained in an operations manual.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIN0001 Command an aircraft in a multi-crew environment

Modification History

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

Application

This unit involves the skills and knowledge required to command an aircraft in a multi-crew environment, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes establishing aircraft command, managing tasks and workload, and communicating organisational objectives and required standards. It also includes making effective decisions, and leading flight crews and individuals.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to leadership and supervision duties of a pilot in command (PIC), 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 and without supervision within a 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

N – Leadership and Supervision

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Establish aircraft command**	1.1	Command responsibilities are exercised in accordance with organisational authority and guidelines
		1.2	Command structure is established appropriate to aircraft
		1.3	Command structure is communicated to flight crew and external authorities
		1.4	Communication mechanisms and procedures are implemented between levels of command in accordance with organisational procedures
		1.5	Liaison is established and maintained between PIC, flight crew and other relevant stakeholders to meet control and command requirements
2	**Manage tasks and workload**	2.1	Workload of flight crew members is planned taking into account time and resource constraints
		2.2	Flight crew is assigned workload priorities and performance expectations are communicated clearly
		2.3	Workload of flight crew is coordinated in accordance with agreed operational objectives and task timelines
		2.4	Performance of flight crew and individuals is systematically monitored against defined measurable performance criteria to ensure satisfactory completion of assigned tasks and workloads
		2.5	Potential and current issues and problems arising in relation to task and workload management are identified and acted on in accordance with regulatory and organisational requirements
3	**Communicate organisational**	3.1	Flight crew members are provided with up-to-date information concerning organisational objectives and

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	objectives and required standards		standards
		3.2	Flight crew member understanding of objectives and standards is confirmed
		3.3	Organisational standards and values are modelled and promoted to flight crew members
4	**Make effective decisions**	4.1	Relevant, current and sufficient information is gathered to assess and analyse situation for decision-making
		4.2	Problem-solving strategies and techniques are used to identify and generate options
		4.3	Decisions are made, communicated to flight crew and implemented in a timely manner in accordance with regulatory requirements and workplace procedures
		4.4	Decisions and actions are evaluated for their effectiveness and outcomes
		4.5	Decisions, their rationale and associated actions are documented and reported in accordance with regulatory requirements and workplace procedures
5	**Lead flight crews and individuals**	5.1	Link between function of flight crew and organisational goals is clarified as required and is communicated to flight crew
		5.2	Participative decision-making is used to develop, implement and review work of flight crew and to allocate responsibilities
		5.3	Opportunities are given to flight crew members and individuals to provide feedback about efficient work practices and processes
		5.4	Flight crew members and individuals are encouraged to provide feedback about efficient work practices
		5.5	Appropriate delegation is made to flight crew and individuals in accordance with relevant flight crew objectives and goals, and organisational policy and procedures

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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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIN0001 Command an aircraft in a multi-crew environment

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:

- allocating sufficient resources and time to complete workload
- applying relevant aeronautical knowledge
- breaking down tasks and establishing courses of action to accomplish specified goals
- collecting information and identifying key issues and relationships relative to achieving determined roles
- conducting briefings to share common plan and to set priorities
- correcting flight crew member deviations from standards
- encouraging monitoring of performance by other flight crew members
- ensuring flight crew members are aware of their role and responsibilities throughout a flight
- ensuring responsibility for flight path management is always assigned
- establishing an atmosphere to encourage open communications
- identifying and managing threats and errors
- identifying and managing undesired aircraft states
- identifying when flight crew members become ineffective or incapacitated
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining flight crew member motivation and commitment to task
- maintaining patience and focus when processing large amounts of data or multiple tasks
- managing flight deck gradient relative to task
- managing time and resources to ensure work is completed safely and effectively
- monitoring outcomes and evaluating own performance
- monitoring effectiveness of flight crew performance
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- setting realistic performance standards
- taking action to resolve flight crew member confusion.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aircraft instrument requirements
- aircraft loading system
- aircraft performance and landing calculations
- aircraft speed limitations
- aircraft systems
- applicability of drug and alcohol regulations
- classification of operations
- cockpit management:
  - flight crew coordination:
    - distribution of responsibilities
    - working with a flight crew concept
  - flight crew cooperation:
    - small group dynamics (norms, atmosphere, pressure, communication, structure)
    - conflict management
  - leadership, style of management:
    - concern for performance
    - concern for people
    - democratic versus autocratic style
    - encouraging inputs and feedback
    - optimising flight crew performance in flight
    - correcting flight crew coordination deficiencies
  - communication:
    - verbal and non-verbal communication
    - one and two-way communication
    - effects of different communication styles
    - miscommunication (including cultural misunderstandings)
- effective decision-making processes:
  - identify problems and causal factors
  - assess component parts systematically and logically
  - employ analytical techniques to identify solutions and to consider the value and implications of each
  - generate solutions and/or alternative courses of action
  - assess alternative solutions and risks with other flight crew members

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    - determine course of action
    - communicate decision and delegate tasks to flight crew
    - monitor progress against agreed plan
    - evaluate decisions in line with changing circumstances
    - ensure decision-making is improvement-focused and directed towards achieving optimum outcomes
- emergency equipment requirements
- flight and duty time limits
- flight rules (specific to aircraft type)
    - 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 – pilot in command (PIC) responsibilities
    - air service operations
- fuel planning and oil requirements for the flight
- judgement and decision-making:
    - pilot judgement concepts
        - types of judgement
        - motor skills and human factors
    - aeronautical decision-making:
        - decision-making concepts
        - pilot responsibilities
        - behavioural aspects
    - identification of hazardous attitudes:
        - physical factors
        - psychological factors
        - social influences and interface between people
    - pilot judgement awareness:
        - risk assessment
        - cockpit stress management
    - applying decision-making concepts:

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    - practical application
    - managing resources
    - safety awareness
- maintenance authorisations
- managing cargo and passengers
- privileges and limitations of the multi-crew or air transport pilot licence with aeroplane/helicopter category rating
- requirements for an Air Operator Certificate (AOC)
- requirements for aerodromes
- type of information contained in an operations manual.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

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AVIN0002 Supervise and manage safe flight operations as pilot in command

Modification History

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

Application

This unit involves the skills and knowledge required to supervise and manage safe flight operations as pilot in command (PIC), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes supervising flight crew and flight operations, managing routine flight operations, and managing contingency flight operations

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to leadership and supervision duties of a PIC, 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 without supervision within a 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

N – Leadership and Supervision

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Supervise flight crew and flight operations	1.1 Cargo loading requirements are implemented in accordance with regulatory requirements and workplace procedures
	1.2 Flight operations and flight crew are continuously monitored throughout the flight in accordance with regulatory requirements and workplace procedures
	1.3 Flight crew are assisted with prioritisation of workload
	1.4 Flight crew members are provided mentorship and leadership during routine flight operations
2 Manage routine flight operations	2.1 Environmental factors are constantly assessed for effects on flight performance
	2.2 Flight operations support services are advised of changes to flight operational requirements in accordance with regulatory requirements and workplace procedures
	2.3 Current, relevant and sufficient information to support effective decision-making is gathered and provided to flight crew during routine flight operations
	2.4 Passenger safety and comfort is monitored and managed in accordance with regulatory requirements and workplace procedures
	2.5 Aircraft in-flight performance is continuously monitored and assessed in accordance with regulatory requirements and workplace procedures
	2.6 Control of aircraft flight path is maintained at all times during routine flight operations
3 Manage contingency flight operations	3.1 Environmental factors are constantly assessed for effects on contingency flight operations
	3.2 Safe flight profile is established during contingency flight operations and within scope of aircraft performance limitations

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3.3 Flight crew members are allocated tasks and performance is supervised during contingency flight operations

3.4 Information to support decision-making is gathered and provided to flight crew during contingency flight operations

3.5 Aircraft inflight performance is continuously monitored, assessed and acted on in accordance with regulatory requirements, workplace procedures and/or equipment procedures during contingency flight operations

3.6 Control of aircraft flight path is maintained at all times during contingency flight operations, including abnormal and emergency situations

3.7 Aircraft is configured for safe flight to effect approach and landing as far as practicable

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIN0002 Supervise and manage safe flight operations as pilot in command

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:

- accepting responsibility for flight outcomes
- accepting responsibility for own performance
- advising pilot flying of deviations from planned operations
- applying relevant aeronautical knowledge
- assessing situations and making decisions
- controlling aircraft flight path during:
  - routine flight operations
  - contingency flight operations
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining an effective lookout
- maintaining and managing situational awareness
- maintaining effective communications and interpersonal relationships
- maintaining effective leadership and authority
- making effective decisions
- managing and monitoring flight crew conditions
- managing, controlling or mitigating risk
- monitoring flight path, aircraft configuration and systems to achieve desired performance using a systematic scan technique
- operating effectively as a flight crew member
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- selecting and using appropriate instruments, displays, communications equipment and aids
- setting flight crew priorities and managing flight crew tasks
- taking initiatives and responding to changing conditions
- using appropriate normal, abnormal and emergency aviation terminology.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- basic concepts of aviation medicine
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to human factors within air transport and multi-crew operations
- cockpit management:
  - flight crew coordination
  - distribution of responsibilities
  - working with a flight crew concept
  - flight crew cooperation:
    - small group dynamics (norms, atmosphere, pressure, communication, structure)
    - conflict management
  - leadership, style of management
  - concern for performance
  - concern for people
  - democratic versus autocratic style
  - encouraging inputs and feedback
  - optimising flight crew performance in flight
  - correcting flight crew coordination deficiencies
  - communication
  - verbal and non-verbal communication
  - one and two-way communication
  - effects of different communication styles
  - miscommunication (including cultural misunderstandings)
- effective decision-making processes
  - 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 solutions 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 line with changing circumstances
  - ensure decision-making is improvement-focused and directed towards achieving optimum

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outcomes
- fatigue risk management processes:
  - proactive
  - predictive
  - reactive
- hazard identification, risk analysis and control
- flight operations and health:
  - body rhythm disturbances
  - high-altitude environments
  - incapacitation
  - intoxication
  - physiological fitness and degradation
  - psychological fitness and degradation
- general health aspects that may adversely influence individual or collective physiological/psychological condition
- how to manage causes and effects of stress and anxiety on individual or collective performance
- how to manage human factors that may influence individual or collective performance during flight operations
- human behaviour:
  - general concepts
  - cockpit management
  - judgement and decision-making
- human information processing:
  - general system
  - senses
  - integration of sensory inputs: spatial disorientation and illusions
  - memory
- judgement and decision-making:
  - pilot judgement concepts
  - types of judgement
  - motor skills and human factors
  - aeronautical decision-making
  - decision-making concepts
  - pilot responsibilities
  - behavioural aspects
  - identification of hazardous attitudes
  - physical factors
  - psychological factors
  - social influences and interface between people

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  - pilot judgement awareness
  - risk assessment
  - cockpit stress management
  - applying decision-making concepts
  - practical application
  - managing resources
  - safety awareness
- pressure cabin
- relevant WHS/OHS procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders
- respiratory system and circulation of the blood
- rapid decompression, effects and counter measures
- threat and error management (TEM) principles in multi-crew operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

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AVIO0002 Manage disruptive behaviour and unlawful interference with aviation

Modification History

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

Application

This unit involves the skills and knowledge required to manage disruptive behaviour and unlawful interference with aviation, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes monitoring passenger behaviour, identifying and resolving disruptive or unlawful interference, taking action to manage unlawful interference, and reporting and documenting unlawful interference with aviation.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to aviation security duties of aviation 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 as a single operator or within a team environment.

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

O – Security

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Monitor passenger behaviour**	1.1	Facilities and transportation units under individual surveillance are regularly monitored to identify and/or record inappropriate behaviour
		1.2	Potential problem situations are quickly identified and steps are taken to resolve the situation in accordance with regulatory requirements
		1.3	Incidents that breach aviation transport security requirements are identified and appropriate action is taken
		1.4	Surveillance equipment is operated within legal and workplace parameters
		1.5	Hazards are identified, risks are assessed and hazard management is implemented
2	**Identify and resolve disruptive or unlawful interference**	2.1	Nature of disruptive behaviour or unlawful interference is accurately assessed and incident is resolved using appropriate resolution strategies or referred to appropriate personnel for resolution
		2.2	Procedures are followed to isolate offender/s and to minimise disruption to other passengers
		2.3	Assistance is sought from other staff and external support services as required
		2.4	Follow-up action is implemented in accordance with workplace rules, regulations and guidelines
3	**Take action to manage unlawful**	3.1	Assistance is sought from other staff and external support services as required

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	interference	3.2	Nature of offence and consequences of behaviour are clearly communicated to offender in accordance with workplace policies and procedures
		3.3	Offenders are apprehended in accordance with legal and workplace parameters
4	**Report and document unlawful interference**	4.1	Unlawful interference incidents are reported using the appropriate document format in accordance with workplace policies and procedures
		4.2	Documentation is completed and processed in accordance with regulatory and organisational requirements

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.

Unlawful interference with aviation must include one or more of the following:	• causing damage to an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk • committing an act at an airport, or causing any interference or damage, that puts the safe operation of the airport, or the safety of any person at the airport, at risk • destroying an aircraft that is in service • doing anything on board an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk • placing, or causing to be placed, on board an aircraft that is in service anything that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk • putting the safety of an aircraft at risk by communicating false or misleading information • putting the safety of aircraft at risk by interfering with, damaging or destroying air navigation facilities • taking control of an aircraft by force, or threat of force, or any

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other form of intimidation or by any trick or false pretence

Unit Mapping Information

This unit replaces and is not equivalent to AVIO2014A Manage disruptive and or unlawful behaviour.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIO0002 Manage disruptive behaviour and unlawful interference with aviation

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 in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- 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)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- 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
- responding appropriately to cultural differences in the workplace
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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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:

- by-laws and service rules as they apply to disruptive behaviour and unlawful interference with aviation
- common law as it applies to disruptive behaviour and unlawful interference with aviation
- legal and workplace parameters with regard to unlawful interference with aviation
- methods to identify and resolve disruptive behaviours:
  - arguments
  - hostilities
  - fare evasion
  - verbal abuse
  - physical abuse
  - graffiti
  - not complying with no smoking signs
  - not complying with aviation transport security regulations
  - drunken behaviour
- methods to identify and resolve unlawful interference with aviation:
  - causing damage to an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
  - committing an act at an airport, or causing any interference or damage, that puts the safe operation of the airport, or the safety of any person at the airport, at risk
  - destroying an aircraft that is in service
  - doing anything on board an aircraft that is in service that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
  - placing, or causing to be placed, on board an aircraft that is in service anything that puts the safety of the aircraft, or any person on board or outside the aircraft, at risk
  - putting the safety of an aircraft at risk by communicating false or misleading information
  - putting the safety of aircraft at risk by interfering with, damaging or destroying air navigation facilities
  - taking control of an aircraft by force, or threat of force, or any other form of intimidation or by any trick or false pretence
- procedures for managing disruptive behaviour and unlawful interference with aviation
- relevant WHS/OHS and environmental protection procedures and guidelines
- relevant state/territory regulations and requirements for managing disruptive and unlawful behaviour on transport systems
- risks and hazards when managing disruptive behaviour and unlawful interference with aviation and related actions to control the risk.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIW3026 Conduct night vision imaging system operations

Modification History

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

Application

This unit involves the skills and knowledge required to conduct night vision imaging system (NVIS) operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes preparing for, conducting and concluding night vision imaging system operations as an individual flight crew member.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight crew/s, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare for night vision imaging system operations	1.1 Pre-flight information is obtained and prepared to identify safe flight routes, weather and operating terrain
	1.2 Aviation risk management processes are implemented to minimise risk to safety of flight, personnel and equipment
	1.3 NVIS lighting limitations/considerations are reviewed
	1.4 Crew briefing is delivered or received about NVIS operational objectives
	1.5 NVIS equipment is obtained and pre-operational checks are completed in accordance with organisational policies and procedures
	1.6 Aircraft NVIS sensors, aids and equipment serviceability preparatory and adjustments are completed, and defects are identified and reported in accordance with organisational policies and procedures
2 Conduct night vision imaging system operations	2.1 NVIS equipment and personal flight equipment are used to safely operate aircraft systems
	2.2 Instrumentation and/or NVIS checks are completed at appropriate times to identify visual clues
	2.3 Night vision human factors are monitored and corrective action is taken as required in accordance with organisational policies
	2.4 Reconnaissance of operational area is completed to ensure aircraft safety in accordance with organisational policies
	2.5 NVIS emergency and abnormal conditions are identified and reacted to in accordance with organisational procedures and practices
	2.6 Situational awareness is maintained to ensure safety of flight, crew, personnel and equipment

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	2.7	Individual flight crew coordination and management principles are implemented to ensure operational intent, in accordance with organisational policies
3 Conclude night vision imaging system operations	3.1	Post-flight analysis and debriefing is conducted in accordance with organisational policies
	3.2	Post-flight documentation is completed and processed
	3.3	After-use servicing is completed and identified equipment defects are reported in accordance with organisational policies

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.

Aircraft must include one or more of the following:	• fixed or rotary wing aircraft compatible with and authorised to conduct NVIS operations • single or multiple engine
Pre-flight information must include:	• authorised aviation maps, charts and flight supplements • meteorological information • NVIS risk assessments and/or management plans • terrain data
NVIS sensors, aids and equipment must include one or more of the following:	• active infrared (IR) • enhanced vision systems • forward looking infra red radars • head up displays • laser range gating • night vision devices • night vision goggles • thermal imaging systems
NVIS sensors, aids and equipment serviceability checks must include one	• aircraft internal/external night aided lighting checks • aural and visual warning system checks • eyepiece or objective lens cannot be focused

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or more of the following:	• eye-span and eye relief cannot be achieved • image obscurations • inability to focus • intermittent operation • low battery or power indications • night aided sensors, aids and devices NVIS sensors fail to initialise/self-test • NVIS equipment mounting systems unserviceable • non operation • poor or degraded image quality
NVIS personal flight equipment must include one or more of the following:	• eye protection • flares, strobes, beacons and IR markers • handheld torches • IR compatible lighting systems • lip and finger lights • personal life-support equipment
Emergency and abnormal conditions must include one or more of the following:	• aircraft abnormal or emergency situations • breakdown in crew coordination and communications • degraded or loss of situational awareness • inadvertent instrument meteorological conditions (IMC) • night aided aircraft and personal equipment failures

Unit Mapping Information

This unit replaces and is equivalent to AVIW3026A Conduct night aided vision aviation operations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIW3026 Conduct night vision imaging system operations

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 principles of crew coordination and management relevant to night vision imaging system (NVIS) operations during flight
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- applying visual scanning techniques and procedures during NVIS operations
- communicating effectively with others
- conducting or participating in pre-flight, flight and post-flight briefings and debriefings relevant to NVIS operations
- implementing aviation risk management processes, procedures and required actions to minimise, control or eliminate identified hazards
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and calculating luminance/illumination levels for NVIS operations
- interpreting and following operational instructions and prioritising work during NVIS operations
- maintaining or regaining degraded, situational awareness while conducting NVIS operations
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- operating and adapting to differences in communications equipment in accordance with organisational procedures
- participating in or delivering stakeholder briefing requirements including:
  - planning for recovery from inadvertent instrument meteorological conditions (IMC) entry and loss of visual cues
  - transit flight, let-down and approach procedures
  - landing and take-off procedures
  - role functions and procedures

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    - contingency management
    - post-flight debriefings
    - analysing objectives and outcomes of flight and reviews of operating procedures
    - analysing effectiveness and efficiency in the use and performance of role equipment
    - identifying achievements and faults or errors that occurred during NVIS flight and providing guidance and feedback to other flight crew members
    - ensuring inspection, servicing and stowage arrangements for NVIS equipment
- performing blind cockpit or cabin checks during relevant flight operational checks and procedures
- performing or contributing to relevant flight planning procedures
- performing NVIS sensor, equipment or device pre- and post-flight inspections and adjustments to ensure optimisation for use and future operation
- planning navigation and/or operational requirements
- planning own work, predicting consequences and identifying improvements
- reporting and rectifying identified problems, faults or malfunctions promptly, in accordance with workplace procedures
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to aircraft, crew, personnel and 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:

- aeromedical factors under NVIS operations:
    - visual performance limitations:
        - field of view (FOV)
        - eye relief distance
        - dynamic visual scan
        - unaided peripheral cueing
        - visual acuity
        - visibility determinants
        - contrast
        - depth perception and related functions
        - dynamic and static visual flight cues
    - NVIS and helmet assembly
    - eye protection
- aviation risk management processes and procedures applicable to NVIS operations

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- CASR Part 61 Manual of Standards aeronautical knowledge relevant to NVIS operations
- common NVIS equipment faults and defects
- concepts and procedures relating to blind cockpit and cabin checks
- crew coordination within an NVIS operating environment:
  - scanning arcs of responsibility
  - NVIS operations terminology
  - degraded situational awareness due limited visibility
- cues and techniques that optimise navigation processes under NVIS conditions
- effect of meteorological conditions on illumination levels and NVIS equipment, sensor and/or device performance
- effects of atmospheric conditions on electromagnetic energy and the resolution of NVIS sensors, equipment and devices
- emergency and abnormal situation procedures applicable to NVIS specific operations
- flight planning considerations, terrain and route selection factors applicable to NVIS operations
- flight rules and NVIS legislation:
  - privileges and limitations of an NVIS rating and endorsement
  - requirements for conducting a flight using NVIS
  - requirements for conducting a flight using NVIS below 500 feet above ground level (AGL)
  - minimum aircraft equipment requirements
  - determining if NVIS equipment meets minimum standards to be authorised for use
- focal and ambient vision
- human factors under NVIS conditions:
  - fatigue:
    - acute
    - cumulative
    - circadian
    - visual fatigue
    - psychological fatigue
    - physical fatigue
  - sleep quality and sleep debt
  - circadian rhythm:
    - biological rhythm
    - light/dark adaption
    - dark adaptation:
      - foveal cone stimulation
      - time to adapt
    - performance/alertness
    - pre-adapt to reverse cycle operations
    - crew duty limits and flight crew rostering

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    - mission/task planning
    - pharmaceutical support
  - flight crew management strategies:
    - sleep environment
    - napping strategies
    - physical fitness
    - coffee and alcohol effects
    - self-imposed restrictions
  - post-flight visual problems:
    - transient colour distortion
    - eye fatigue
  - NVIS operations – hypoxia considerations
- human physiological functions and the electromagnetic spectrum under NVIS conditions
- internal and external organisational regulatory requirements for NVIS operations
- key visual cues for identifying and interpreting terrain features and obstacles under NVIS conditions, including shadow and surface
- meteorological requirements for NVIS operations
- minimum crewing requirements for the conduct of NVIS operations
- NVIS equipment components and their functions
- NVIS field of view, field of regard and how they relate to visual scanning techniques
- NVIS hazards:
  - non-trained personnel
  - non-compatible lighting
- NVIS operations crew coordination procedures during pre-flight, flight operations and post-flight activities
- NVIS operations qualification, currency and recency requirements
- NVIS techniques for adapting visually to night conditions
- organisational policies that apply to storage, handling, usage and control of NVIS equipment, sensors, aids and devices
- organisational requirements for NVIS equipment aircraft compatibility
- potential NVIS illusions and misperceptions and their effects on spatial orientation
- procedures and techniques to enhance in-flight navigation during NVIS operations
- relationship between illuminance and luminance
- risk management processes and procedures applicable to NVIS operations
- self-imposed and physiological fatigue issues that impact on NVIS operations
- sources, types and effects of illumination levels in NVIS operations
- terrain interpretation and navigation techniques
- types of aviation NVIS operations
- WHS/OHS issues applicable to conducting night aided aviation operations.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIW4001 Manage pre- and post-flight actions

Modification History

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

Application

This unit involves the skills and knowledge required to manage pre- and post-flight actions, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes completing pre- and post-flight administration, performing pre- and post-flight actions/inspections, and performing and certifying daily inspections.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Complete pre- and post-flight administration**	1.1	Pre- and post-flight planning and documentation is completed in accordance with regulatory requirements and/or operations manual
		1.2	Aircraft take-off and landing performance is calculated in accordance with performance charts
		1.3	Aircraft weight and balance is confirmed
		1.4	Pre- and post-flight maintenance release (flight technical log) and flight administration is completed in accordance with regulatory requirements and/or operations manual
		1.5	Aircraft serviceability is determined by daily inspection, and certification of daily inspection in maintenance release (flight and technical log) is completed in accordance with regulations
2	**Perform pre- and post-flight actions/ inspection**	2.1	Equipment and documentation as required by regulation, is identified and secured in aircraft pre-flight
		2.2	Hazards are identified, risks are assessed and hazard management is implemented
		2.3	Internal checks are completed in accordance with approved checklist
		2.4	External checks are completed in accordance with approved checklist
		2.5	Flight equipment and documentation are removed from aircraft post-flight
		2.6	Aircraft is secured in accordance with manufacturer specifications and organisational procedures
3	**Perform and certify daily inspection**	3.1	Daily inspection of aircraft is performed in accordance with authorised aviation maintenance systems
		3.2	Appropriate actions are undertaken to rectify discrepancies

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3.3 Daily inspection is certified in accordance with regulatory requirements

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 AVIW4001B Manage pre- and post-flight actions.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIW4001 Manage pre- and post-flight actions

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:

- accessing and applying relevant regulations, orders and information to the performance of the required planning, pre- and post-flight administrative functions
- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- calculating aircraft performance for all phases of flight
- calculating fuel requirements
- calculating rotorcraft hover performance
- calculating take-off and landing performance
- certifying aircraft flight technical log
- communicating effectively with others
- completing internal and external aircraft checks
- completing relevant documentation
- complying with flight authorisations
- conducting maintenance and flight briefings
- determining optimum cruise altitude for operations safety and efficiency requirements
- ensuring all aircraft locking and securing devices, covers and bungs are removed and stowed securely
- entering defects or endorsements to permissible unserviceabilities in aircraft flight technical log
- identifying all relevant radio and navigation aid facilities to be used during flight
- identifying and correctly using relevant equipment
- identifying and securing equipment and documentation required for flight
- identifying minimum equipment applicable to aircraft type
- identifying special aerodrome procedures
- implementing contingency plans

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- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- liaising with qualified maintenance personnel to determine action required in relation to identified defects or damage
- meeting flight crew obligations and restrictions in regard to daily inspections and certification
- 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
- obtaining, interpreting and applying relevant information contained in required pre-flight operational documentation:
  - minimum equipment list (MEL)
  - maintenance release
  - weather forecasts
  - local observations
  - Notice to Airmen (NOTAM)
  - global navigation satellite system (GNSS) receiver autonomous integrity monitoring (RAIM) information
  - En Route Supplement Australia (ERSA)
  - aeronautical information package (AIP)
- operating electronic communications equipment to required protocol
- performing input and downloading of data from flight planning systems if applicable
- performing tie-down, covering and securing of aircraft
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions, in accordance with workplace procedures
- selecting and using relevant equipment required when managing pre- and post-flight actions
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- 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:

- aircraft entry and exit procedures

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- aircraft maintenance release requirements and procedures for intended flight
- airworthiness requirements applicable to aircraft category and class or type
- checklist use and procedures
- daily inspection procedures including rectification actions
- flight specific reports including incident reporting
- fuel requirements for day visual flight rules (VFR) flight operation
- interpretation of meteorological and Notice to Airmen (NOTAM) information
- local aerodrome requirements
- local weather patterns
- minimum equipment list for applicable aircraft type
- purpose and procedures for accessing and using pre-flight briefing and information systems
- pre- and post-flight planning administration procedures including flight authorisations
- relevant national aeronautical information processing system (NAIPS) and aeronautical information publications
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- safe equipment stowage
- standard operating procedures for category and class or type of aircraft and operator
- take-off and landing performance charts.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 personal protective equipment currently used in industry.

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Links

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AVIW5013 Operate air traffic control equipment and workstations

Modification History

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

Application

This unit involves the skills and knowledge required to operate air traffic control equipment and workstations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes operating communications, surveillance and ancillary equipment; and using flight progress strips (FPSs) and flight data records (FDRs).

This unit assesses an air controller's ability to interact with a workstation human machine interface (HMI) and to operate the functions of the workstation that are critical to providing safe and efficient air traffic services.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Operate communications equipment	1.1 Air-ground communications channels are operated
	1.2 Selective call and priority channels are operated
	1.3 Communications equipment is appropriately configured
	1.4 Communications malfunctions are recognised, reported and/or rectified
	1.5 Communications alarms and warning messages are actioned
2 Operate surveillance equipment	2.1 Surveillance system data is interpreted for pertinent operational information
	2.2 Surveillance malfunctions are recognised, reported and/or rectified
	2.3 Surveillance alarms and warning messages are actioned
3 Use flight progress strips or flight data records	3.1 FPSs or FDRs are manipulated to reflect current and future air traffic situation
	3.2 FPSs or FDRs are archived in accordance with workplace procedure
	3.3 FPSs or FDRs are included in scan pattern and cross-referenced for accuracy
4 Operate ancillary equipment	4.1 Ancillary equipment is configured and operated to tasks
	4.2 Ancillary equipment data is interpreted for pertinent operational information, and processed as required

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4.3 Ancillary equipment malfunctions are recognised and reported

4.4 Ancillary equipment alarms and warning messages are actioned

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIW5013B Operate air traffic control equipment and workstations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIW5013 Operate air traffic control equipment and workstations

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:

- allocating attention according to priorities
- applying reasoning and decision making when using air traffic control equipment and facilities
- assessing and manipulating message queues
- communicating effectively with others
- completing relevant documentation for using air traffic control equipment and workstations
- configuring ancillary equipment
- configuring operational equipment
- formatting, sending and receiving messages
- identifying and applying precautions and required action to minimise, control or eliminate identified hazards
- implementing contingency plans
- interpreting and responding to displayed flight information
- monitoring equipment serviceability
- operating the following air traffic control equipment
- air traffic communications
- air traffic surveillance
- ancillary equipment
- air traffic workstations
- perceiving and comprehending incoming information
- recognising and reporting identified problems in a timely manner
- using conflict recognition tools
- working systematically with required attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

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the requirements of the elements and performance criteria and include knowledge of:

- aeronautical databases
- air situation display
- air traffic control equipment and workstations
- alerts, alarms and warning messages
- allocation of secondary surveillance radar (SSR) codes
- ancillary equipment functions, configurations, data sources and limitations
- communications equipment functions, configurations, data sources and limitations
- communications range and footprints through, and adjacent to, the area of jurisdiction and adjoining frequencies
- configuration, uses and limitations of flight progress strips (FPSs) and flight data records (FDRs)
- degraded modes
- graphic aids
- information recorded using prescribed format
- mandated memory prompts
- maps and charts
- procedures and protocols for operating equipment and workstations
- procedures for facility failures
- relevant sections of regulatory and operational documentation
- requirements for checking and testing equipment including frequencies
- responsibilities for system, equipment and facilities operation
- surveillance equipment and its limitations
- surveillance range and footprints through, and adjacent to, the area of jurisdiction
- systems architecture
- workplace safety requirements for workplace equipment set up and use
- workstation layout and ergonomics.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

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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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
-

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIW5018 Operate and manage aircraft systems

Modification History

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

Application

This unit involves the skills and knowledge required to 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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

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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 AVIW5018A Operate and manage aircraft systems.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIW5018 Operate and manage aircraft systems

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
- 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)/occupational health and safety (OHS) 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 conforming to industry and WHS/OHS standards
- undertaking fault finding in aircraft systems
- using automated systems to manage workload

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- 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 include knowledge of:

- aircraft systems as applicable to aircraft rating/endorsement requirements:
  - 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:
  - 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:
  - 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 :
  - 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:
  - use of a schematic diagram of the electrical system to explain type/s of electrical system

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(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/terrain awareness and warning system (EGPWS/TAWS):
  - 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:
  - 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:
  - 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 :
  - 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:
  - use of a schematic diagram of oil system to explain functions of oil system

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  - 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:
  - 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:
  - 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:
  - 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:
  - 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):
  - surveillance and collision avoidance functions of TCAS II
  - system limitations, selectivity and inhibits
  - basic components of TCAS II

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- 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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,

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assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0001 Operate aircraft using aircraft flight instruments

Modification History

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

Application

This unit involves the skills and knowledge required to operate aircraft using aircraft flight instruments, 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 commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
3 Recover from unusual attitudes using full 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

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	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
	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 a 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	6.1	Aircraft is transitioned from visual flight conditions to instrument flight conditions while aircraft control is

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	flight		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)
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

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.

Aircraft must include one or more of the following:	• fixed wing • helicopter • other commercial or military aircraft
Unusual attitudes and upset situations must include:	• high and low-nose attitudes • unbalanced flight • various power settings • various aircraft configurations • varying angles of bank

Unit Mapping Information

This unit replaces but is not equivalent to:

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- AVIY5020A Conduct full instrument panel manoeuvres
- AVIY5021A Conduct limited instrument panel manoeuvres.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0001 Operate aircraft using aircraft flight instruments

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
- 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)/occupational health and safety (OHS) 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 conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of

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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 include knowledge of:

- anti-icing and de-icing controls and switches fitted to aircraft type
- attitude and power requirements to achieve specified flight profiles
- CASR Part 61 Manual of Standards 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:
  - 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 Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- safety risks associated with application of large or rapid control inputs in more than one axis simultaneously

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- scan techniques appropriate to fitted flight instruments and phase of flight:
  - with attitude and stabilised heading indicators
  - without attitude and stabilised heading indicators.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

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

- single engine aircraft
- multi engine aircraft
- synthetic training device approved by appropriate authority.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0002 Operate in controlled airspace

Modification History

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

Application

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

It includes applying controlled airspace procedures, and applying abnormal and emergency situation response procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Apply controlled airspace procedures	1.1 Control area (CTA) and control zone (CTR) instructions for departure, climb, transition to cruise (levelling out), cruise, change of levels, descent and visual approach procedures are adhered to
	1.2 Airways clearance requirements for entering, operating in and departing from CTA and CTR are adhered to
	1.3 Adverse weather conditions affecting airways clearance maintenance are advised to appropriate air traffic services as required
	1.4 Air traffic service requirements for a change in level within CTA during routine flight are adhered to
	1.5 Class C, D and G navigational chart information is identified and interpreted for use within controlled airspace
	1.6 Separation standards between instrument flight rule (IFR) flights, and IFR and visual flight rule (VFR) flights in various classes of CTA are confirmed and applied
	1.7 Restricted and danger area separation requirements are identified and maintained
	1.8 Class C, D and G radio and navigation aid frequencies are identified and used within controlled airspace
	1.9 Aircraft IFR/VFR separation requirements are maintained
	1.10 Aircraft altitude and tracking tolerances when operating on an airways clearance are maintained
	1.11 CTA protection tolerances are maintained
	1.12 Radar vectoring procedures, including radio procedures and phraseologies, are implemented as required through air traffic services instruction
	1.13 Airways clearance requirements for operating in all classes of airspace, including lead time required for flight plan

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		submission, contents, clearance void time, and 'read back' requirements are complied with
2	**Apply abnormal and emergency situation response procedures**	2.1 Aircraft is configured to maintain safe operating conditions within controlled airspace requirements during abnormal and emergency situations
		2.2 Aircraft position and intention broadcasts are made to local and area traffic, including air traffic services
		2.3 Appropriate radio communication failure or emergency transponder codes during abnormal or emergency situations are selected within CTA and CTR airspace
		2.4 Air traffic service requirements for a change in level within CTA during abnormal or emergency situations are adhered to

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0002 Operate in controlled airspace

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:

- adhering to air traffic services requirements for a change in level within control area (CTA), including emergency situations
- applying airways clearance requirements for entering, operating in and departing from CTA and control zone (CTR)
- applying relevant aeronautical knowledge
- complying with departure, climb, transition to cruise (levelling out), cruise, change of levels, descent and visual approach procedures in CTA and CTR instructions
- identifying controlled airspace separation requirements
- identifying danger area operating requirements
- obtaining and interpreting traffic information
- operating under radar vectoring procedures, including radio procedures and phraseologies
- performing appropriate actions in abnormal operations and emergencies
- performing appropriate actions radio communication in CTA and CTR is lost
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recalling transponder emergency and communication failure codes
- reconfirming air traffic services instructions where doubt exists
- selecting appropriate aircraft lighting configuration
- setting appropriate radio communication failure or emergency transponder codes during abnormal or emergency situations
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- transmitting appropriate aircraft position and intention broadcasts.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of

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the requirements of the elements and performance criteria and include knowledge of:

- aerodrome ground markings and lighting
- air traffic services information requirements
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations within controlled airspace
- Class C, D and G airspace operating requirements
- controlled airspace
- danger areas
- Notice to Airmen (NOTAM) information requirements
- radio failure procedures
- restricted airspace
- standard radio telecommunication phraseology
- transponder codes for Class C, D and G airspace
- visual flight rules (VFR)
- visual navigation charts (VNC).

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0003 Operate in Class G airspace

Modification History

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

Application

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

It includes operating and navigating in uncontrolled airspace.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Operate in uncontrolled airspace	1.1 Aircraft tracking tolerances are maintained to remain within Class G airspace
	1.2 Aircraft altitude tolerances are maintained to remain within Class G airspace
	1.3 Traffic separation tolerances between instrument flight rule (IFR) and visual flight rule (VFR) operations are maintained
	1.4 Abnormal and emergency situation response actions are implemented as required
2 Navigate in uncontrolled airspace	2.1 Flight operations are conducted with appropriate separation from active aerodrome and landing areas
	2.2 Controlled and restricted airspace areas are identified and separation tolerances are maintained during all phases of flight
	2.3 Appropriate flight operating procedures are applied in vicinity of danger areas
	2.4 Radio communication failure and aircraft emergency transponder codes are utilised as required

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

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Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0003 Operate in Class G airspace

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:

- acquiring en route weather information and/or local observations
- applying relevant aeronautical knowledge
- displaying effective uncontrolled airspace situational awareness
- identifying and interpreting Class G navigational chart information
- identifying controlled airspace separation requirements
- identifying danger area operating requirements
- identifying relevant Class G radio and navigation aid frequencies
- identifying restricted area separation requirements
- maintaining aircraft altitude tolerances
- maintaining aircraft instrument flight rule (IFR)/visual flight rule VFR) separation requirements
- maintaining aircraft tracking tolerances
- obtaining and interpreting traffic information
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- selecting appropriate aircraft lighting configuration
- setting appropriate radio communication failure or emergency transponder codes during abnormal or emergency situations
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- transmitting appropriate aircraft position and intention broadcasts.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

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- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations in Class G airspace
- class G airspace operating requirements
- controlled airspace
- danger areas
- IFRs
- radio failure procedures
- restricted airspace
- standard radio telecommunication phraseology
- transponder codes for Class G airspace
- VFRs
- visual navigation charts (VNC).

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0004 Operate at non-towered aerodromes

Modification History

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

Application

This unit involves the skills and knowledge required to operate at non-towered aerodromes, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes conducting pre-flight preparations, taxiing aircraft, and applying aircraft departure, arrival and landing procedures.

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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Conduct pre-flight preparations	1.1 Relevant non-towered aerodrome operational information is extracted from authorised sources
	1.2 Information is interpreted to determine appropriate departure, arrival and landing requirements
	1.3 Special aerodrome procedures are identified as required
	1.4 Weather forecasts and local observations are checked for operating validity for flight planned duration
	1.5 Relevant radio and navigation aid frequencies are identified for use during all flight modes
2 Taxi aircraft at a non-towered aerodrome or landing area	2.1 Non-towered aerodrome or landing area charts are used
	2.2 Local or area barometric pressure adjusted for sea level (QNH) is set
	2.3 Operating intentions are broadcast via radio telecommunications on appropriate frequency
	2.4 Local and area traffic information is obtained and interpreted
	2.5 Aircraft separation and lookout is maintained for other aircraft and for other aerodrome obstructions or hazards
	2.6 Appropriate aircraft lighting is selected during aircraft taxi
	2.7 Aerodrome ground markings are identified and appropriate action is taken during aircraft taxi
	2.8 Aircraft is taxied or air transited to runway holding point
3 Perform aircraft departure	3.1 Runway approaches are checked and cleared in all directions prior to entering runway
	3.2 Aircraft transponder code and appropriate mode are selected
	3.3 Aircraft position and operating intentions are broadcast on appropriate frequencies

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	3.4	Aircraft separation is maintained during aircraft departure sequence
	3.5	Air service provider is advised of departure details as required
4 Perform arrival and landing	4.1	Relevant non-towered aerodrome operational information is extracted from authorised sources prior to entering circuit area
	4.2	Local or area barometric pressure adjusted for sea level (QNH) is set
	4.3	Aircraft position and operating intentions are broadcast on appropriate frequencies
	4.4	Aircraft separation and tracking tolerances are maintained
	4.5	Wind velocity and direction is assessed to determine appropriate circuit and landing direction
	4.6	Non-towered aerodrome runway or landing areas are confirmed as serviceable for landing sequence
	4.7	Runway areas and landing areas are checked and confirmed to be clear of landing obstacles and hazards
	4.8	Aircraft arrival sequence is conducted in accordance with manufacturer and organisational operating procedures
	4.9	Aircraft is landed and cleared from runway and landing areas
	4.10	Air service provider is advised of landing details as required

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0004 Operate at non-towered aerodromes

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:

- applying aircraft taxi or air transit procedures
- applying day visual flight rules (VFR) departure procedures
- applying day VFR arrival and landing procedures
- applying effective aerodrome traffic situational awareness
- applying relevant aeronautical knowledge
- confirming runway and landing area serviceability
- displaying sound airmanship skills during non-towered aerodrome operations:
  - during taxi
  - aircraft departure
  - aircraft arrival
  - aircraft landing and dispersal
- identifying relevant operational information from En-route Supplement Australia (ERSA) and Notice to Airmen (NOTAM)
- interpreting weather forecasts and local observations
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising and interpreting aerodrome ground markings
- setting appropriate transponder codes for local or area flight operations
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- transmitting local and area broadcasts.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

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- aerodrome ground markings and lighting
- aerodrome wind velocity, wind direction and appropriate circuit procedure
- airmanship considerations during non-towered aerodrome operations:
  - during taxi
  - aircraft departure
  - aircraft arrival
  - aircraft landing and dispersal
- appropriate aircraft lighting configuration
- appropriate transponder codes for local or area flight operations
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations at non-towered aerodromes
- day VFR arrival and landing procedures
- day VFR departure procedures
- how to identify relevant radio and navigation aid frequencies
- how to identify special aerodrome procedures
- how to interpret weather forecasts and local observations
- local and area broadcast procedures
- non-towered aerodrome operational information from ERSA and NOTAM
- NOTAM information
- radio failure procedures
- standard radio telecommunication phraseology
- transponder codes for Class G airspace.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0005 Operate at a controlled aerodrome

Modification History

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

Application

This unit involves the skills and knowledge required to operate at a controlled aerodrome, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes conducting pre-flight preparations, taxiing aircraft, and applying aircraft departure, arrival and landing procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Conduct pre-flight preparations	1.1 Relevant controlled aerodrome operational information is extracted from authorised sources
	1.2 Information is interpreted to determine appropriate departure, arrival and landing requirements
	1.3 Special aerodrome procedures are identified as required
	1.4 Weather forecasts and local observations are checked for operating validity for flight planned duration
	1.5 Relevant radio and navigation aid frequencies are identified for use during all flight modes
2 Taxi aircraft at a controlled aerodrome	2.1 Air traffic clearances are obtained and complied with
	2.2 Aircraft is manoeuvred to holding point as instructed and appropriate action is taken to avoid other aircraft and obstructions
	2.3 Aerodrome ground markings are identified and appropriate action is taken during aircraft taxi
	2.4 Aerodrome lighting signals are identified and appropriate action is taken to comply with ground/hover taxi requirements
	2.5 Airport runway incursion hotspots are identified
	2.6 Aircraft separation and lookout are maintained for other aircraft and other aerodrome obstructions including jet blast hazards
	2.7 Appropriate aircraft lighting is selected during aircraft taxi
	2.8 Aircraft is taxied or air transited to runway holding point
3 Perform aircraft departure	3.1 Airways clearance is obtained and confirmed with air traffic services
	3.2 Runway approaches are checked and cleared in all directions

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		prior to entering runway
	3.3	Aircraft transponder code and appropriate mode are selected
	3.4	Air traffic departure instructions are complied with, and air traffic is advised of clearance instructions non-compliance as soon as possible as required
	3.5	Aircraft separation is maintained and wake turbulence conditions are avoided during aircraft departure sequence
	3.6	Air traffic service is advised of departure details as required
	3.7	Airways clearance instructions are maintained within tracking and altitude tolerances, and lookout is maintained until clear of the aerodrome control zone
4 Perform arrival and landing	4.1	Relevant controlled aerodrome operational information is extracted from authorised sources prior to entering control area
	4.2	Local or area barometric pressure adjusted for sea level (QNH) is set
	4.3	Air traffic clearance is gained from air traffic service and appropriate transponder code is selected prior to entry to control area, and air traffic is advised of clearance instructions non-compliance as soon as possible as required
	4.4	Aircraft separation, lookout and tracking tolerances are maintained within the control area
	4.5	Wind velocity and direction are assessed to confirm clearance instructions, and appropriate circuit and landing direction
	4.6	Landing clearance is confirmed with air traffic service
	4.7	Aircraft is landed and taxi clearance from runway and landing areas is obtained

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0005 Operate at a controlled aerodrome

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:

- advising air traffic service of airways clearance instructions confirmation or non-compliance
- applying aircraft taxi or air transit procedures
- applying relevant aeronautical knowledge
- applying relevant approach and landing procedures
- applying relevant departure procedures
- applying sound airmanship skills during controlled aerodrome operations:
  - during taxi
  - aircraft departure
  - aircraft arrival
  - aircraft landing and dispersal
- determining aerodrome wind velocity, wind direction and appropriate circuit procedure
- identifying relevant operational information from En-route Supplement Australia (ERSA) and Notice to Airmen (NOTAM)
- interpreting weather forecasts and local observations
- obtaining and interpreting traffic information
- recognising and interpreting aerodrome ground markings
- selecting appropriate aircraft lighting configuration
- setting appropriate transponder codes control area operations
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to

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aeroplane or helicopter operations at controlled aerodromes
- controlled aerodrome ground markings and lighting
- NOTAM information
- radio failure procedures
- standard radio telecommunication phraseology
- transponder codes for radio failure and emergency.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0006 Operate aeroplane at low level

Modification History

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

Application

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

It includes planning low-level flight operations, operating aeroplane safely during low-level flight operations, and manoeuvring aeroplane at low-level. It also includes undertaking low-level, straight and level flight, executing low-level turns, executing simulated forced landing from below 500 feet AGL, and operating at low level in hilly terrain.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan low-level flight operations	1.1 Low-level flight hazards are identified, evaluated and treated in accordance with aviation risk management processes
	1.2 Task requirements are confirmed through consultation with stakeholders involved in low-level operations
	1.3 Aeroplane type and performance capability are confirmed as appropriate for task
	1.4 Effects of fatigue and physical health on pilot performance are assessed and allowed for when planning low-level operations
	1.5 Actual and forecast weather conditions are analysed and applied to low-level operations
	1.6 Area of operations is identified using chart and geographical features
	1.7 Geographical characteristics of area of flying operations are assessed to ensure safe completion of task
	1.8 Location of ground support personnel is confirmed
	1.9 Appropriate reconnaissance and pre-manoeuvre or other relevant checks are conducted prior to descending below 500 feet AGL
2 Operate aeroplane safely during low-level flight operations	2.1 Pre-flight inspections are performed and aircraft serviceability is determined prior to flight
	2.2 Navigation systems are initialised and data validity checks are conducted
	2.3 Aeroplane is operated correctly and safely in accordance with aircraft operating requirements

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	2.4	Aeroplane take-off is conducted within authorised operational conditions and limitations
3 Manoeuvre aeroplane at low-level	3.1	Low-level flight manoeuvres are performed safely using pre-planned manoeuvres at planned altitudes
	3.2	Effects of wind velocity, false horizons, rising ground and mountainous terrain are managed and control of aeroplane is correctly maintained
	3.3	Pilot's visual attention is focused outside the cockpit
	3.4	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and/or terrain
	3.5	Natural horizon is used as primary attitude reference
	3.6	Nose of aircraft is cleared to ensure forward visibility when appropriate
	3.7	Situational awareness is maintained at all times during low-level manoeuvres
	3.8	Aeroplane is safely manoeuvred adjacent to power lines and wires
	3.9	Obstacles are identified and are appropriately and safely avoided
	3.10	Personnel, animals, vehicles and buildings are identified and are appropriately and safely avoided
	3.11	Height is maintained by visual reference to the earth's surface when below 500 AGL
	3.12	Weather conditions are monitored and appropriate responses are made
	3.13	Fuel status is monitored and appropriate responses are made
	3.14	Local and published noise abatement requirements and curfews are observed
4 Undertake low-level, straight and level flight	4.1	Aircraft energy state and inertia is managed to maintain safe low-level flight
	4.2	Wind velocity is estimated and is appropriately taken into account during low-level manoeuvres
	4.3	Height is adjusted and effects of rising and descending

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		terrain are considered during straight and level flight
	4.4	Aircraft drift is recognised and compensated for during low-level flight
	4.5	Obstructions are identified and are appropriately and safely avoided
5 Execute low-level turns	5.1	Aeroplane is turned at normal cruise speed at angles of bank up to 60 degrees (45 degrees for multi-engine aircraft)
	5.2	Clearance scan is performed prior to manoeuvre commencement
	5.3	Power is adjusted to maintain required height over terrain
	5.4	Effects of flight over water or featureless terrain are managed
	5.5	Height is adjusted and effects of rising and descending terrain are considered during low-level turns
	5.6	Effects of gradient wind are compensated for and rollout is anticipated to complete low-level turn
6 Execute simulated forced landing from below 500 feet AGL	6.1	Emergency situations requiring a forced landing are identified
	6.2	Immediate actions are performed in accordance with Aircraft Flight Manual (AFM) and/or Pilot's Operating Handbook (POH)
	6.3	Aircraft control is maintained during simulated aircraft forced landing
	6.4	Landing area within safe emergency flight distance is selected and appropriate action plan is formulated
	6.5	Emergency procedures are performed in accordance with AFM/POH and established action plan
	6.6	Air Traffic Service and other traffic are advised of intentions during emergency
	6.7	Aeroplane is landed in accordance with the AFM/POH and established action plan
7 Operate at low level in hilly terrain	7.1	Aeroplane is safely manipulated at low level in hilly terrain
	7.2	Safe operating heights relevant to low-level flight operation type are established and maintained

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7.3 Safe contour flying techniques are applied

7.4 Appropriate natural markers to aid situational awareness are identified and selected

7.5 Safe approaches to higher ground, including identification of escape routes are used during low-level flight operations

7.6 Safe turns in hilly terrain are conducted in accordance with accepted flight handling techniques

7.7 Situational awareness of effects of wind and turbulence in hilly terrain, including lee effects is maintained and managed during low level flight operations

7.8 Situational awareness of illusions in hilly terrain, including false horizon effect and shadows, are maintained and managed during low-level flight operations

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0006 Operate aeroplane at low level

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
- applying correct navigation techniques and procedures at low level
- applying knowledge about wind effect in the vicinity of obstructions, mountainous terrain and illusions
- applying knowledge of the effect of false horizons
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- applying safe contour flying handling techniques
- communicating effectively with others
- completing relevant documentation
- complying with airspace requirements and low-level flight procedures
- conducting procedure turns from a fixed ground reference point and compensating for effect of gradient wind
- establishing and maintaining safe height relevant to low level flight type
- flying at various speed and configurations not below calculated stall speed +15 knots indicated air speed (KIAS) or safe single-engine speed +15 KIAS (for multi-engine aeroplanes)
- identifying and correctly using required equipment
- identifying and justifying a decision to operate aeroplane at low level
- identifying and maintaining a safe distance from pole stay wires
- implementing aviation risk management processes and required action to minimise, control or eliminate identified hazards
- implementing contingency plans
- implementing work health safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining awareness and managing effects of wind and turbulence in hilly terrain,

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including lee effects
- managing energy state of aircraft:
  - identifying high kinetic energy situations
  - identifying low kinetic energy situations
  - identifying high potential energy situations
  - identifying low potential energy situations
- 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
- navigating to a predetermined destination at a height below 500 feet AGL
- operating electronic communications equipment to required protocol
- performing pre-flight inspection and determining aircraft serviceability for intended low level flight
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising and controlling the illusion of slipping and skidding during turns close to the ground
- recognising and managing the impact of sun glare on increased risk of collision with obstacles
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- responding appropriately to wind effect in the vicinity of obstructions, mountainous terrain and illusions
- selecting and using required personal protective equipment conforming to industry and work health and safety (WHS)/occupational health and safety (OHS) standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving identified problems
- using relevant instruments to monitor aeroplane performance
- 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 include knowledge of:

- aeroplane type limitations applicable to low-level flight
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to low

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level aeroplane operations
- dangers associated with 'out of balance' low-level flight manoeuvres
- flight rules:
  - privileges and limitations of a low-level rating
  - provisions of 157 of Civil Aviation Regulations (CAR) 1988
  - requirements for flight and pilot responsibilities for flight below 500 feet AGL
- human factors applicable to low-level flight operations:
  - human factors issues and their impact on the safety of low-level flight operations
  - dehydration and its impact on pilot cognitive function and reaction time
  - fatigue and its impact on pilot cognitive function and situational awareness
  - stress and its short-term and long-term impact
  - drugs (including over the counter) and their impact on pilot cognitive function, reaction time and coordination
  - spatial disorientation and illusions
- legislative restrictions applicable to low flying
- local air traffic control procedures and instructions
- low-level flight operational techniques:
  - methods of managing the following factors:
    - wind direction
    - sun glare
    - obstructions, including wires and power lines
  - identifying wire runs and treating/minimising associated risks:
    - preliminary inspection of treatment area
    - how to judge distance to the wire
    - danger and forms of distraction
    - considerations for flying above or under the wire
    - considerations for crossing oblique wires
    - visual cues of wire locations such as pole runs, type, numbers and attitude
    - insulators, cross-stress and angle of cross-stress, supplementary or spur wires, buildings
    - characteristics and dangers of high wires and guy wires
    - factors affecting misjudgement of wire clearance
    - how to maintain awareness of located wires
    - hazards of mental overload
  - operation of differential global navigation satellite systems (DGNSS for track guidance, including the importance of maintaining an active scan outside the cockpit while referencing the DGNSS
- maximum rate turns and minimum radius turn criteria
- meteorological factors affecting aeroplane flight performance during low-level flight:
  - effects of inversion on low-level flight
  - indicators of mechanical and thermal turbulence and shifting wind and implications for

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low-level operations
  - winds affecting low-level flying and associated flying conditions
  - effect of mountainous influence on airflow and associated flying conditions
  - weather phenomena hazardous to low-level operations
  - terrain and weather conditions that may lead to disorientation during low-level flight:
    - flight into rising ground and toward low ground
    - false horizons
    - ridgeline and valley effects
    - pilot corrective actions
  - typical terrain and seasonal effects on local wind direction, strength and mechanical or thermal turbulence
- minimum height for low-level flight by an aircraft over a city, town or populous area
- minimum lateral and vertical distances that an aircraft must avoid persons, vessels, vehicles, structures or livestock over a sparsely populated area
- operations on, or in vicinity of, non-controlled and controlled aerodromes or airstrips:
  - restrictions and conditions on low-level operations at aerodromes with movements of regular public transport aircraft
  - circuit requirements at various types of aerodromes and aircraft landing areas (ALAs), including conditions applying to exemption from compliance with Civil Aviation Safety Authority (CASA) published procedures
  - aerial inspection methods and purpose
  - location of and planning for obstacle management and ground undulations
- operational planning:
  - flight planning and risk management:
    - aviation risk management processes
    - low- level flight hazards and controls applicable to
      - hilly terrain
      - downdraughts
      - turbulence
      - false horizon effect
      - high country
      - irregular areas
  - pre-flight and after flight inspections:
    - aircraft safety criteria
    - inspections and flight preparation
  - operational inspections:
    - operating area inspection methods and purpose
    - limitations of ground inspections
    - low-flying restrictions, planning notice, precautions and procedures with respect to overflying or in close proximity to buildings during low-level flight operations, including stating the required safety distances and minimum height from buildings

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- problems that may occur when operating an aeroplane at low level and appropriate action that should be taken in each case
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- unintended incipient spinning inducement and pilot corrective actions.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0007 Conduct aerial application operations

Modification History

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

Application

This unit involves the application of skills and knowledge required to conduct aerial application operations, in compliance with the relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes conducting pre-flight operations, performing operational area evaluations, conducting an aerial survey, applying substances through aerial application, and conducting global navigation satellite system (GNSS) swath guidance equipment operations.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Conduct pre-flight actions	1.1 Own fitness for flight and planned operations is self-assessed
	1.2 Operational aircraft type is determined for suitability for type of aerial application operation
	1.3 Aircraft and role equipment are checked and assessed for serviceability prior to commencing flight operations
	1.4 Required applicable maintenance documentation is compiled and checked for accuracy and completeness
	1.5 Role equipment calibration is checked and adjusted as required
	1.6 Planned aerial application operations are assessed for potential or actual hazards
	1.7 Fuel requirements are determined and established within aerial application management plans
	1.8 Logistical considerations are addressed within scope of application management plan including airstrip/aerodrome status, ground support requirements, personal supplies and air traffic service requirements
2 Conduct planning and risk management	2.1 Suitability of current and forecast weather is determined
	2.2 Application management plan is developed and used as the basis for aerial application operations
	2.3 Potential and actual hazards and operational requirements are identified, risks to aerial application operations are assessed and appropriate risk controls are implemented in accordance with the application management plan
	2.4 Treatment area map is correctly interpreted

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	2.5	Command decision on the safety of the proposed application, including refusing to undertake an application where the risks are considered to be too high is made as required
	2.6	Appropriate selection of application pattern and direction of treatment is made, taking into consideration safety, efficiency, hazards and terrain
	2.7	Acceptable aircraft performance for aerial application operational conditions is confirmed through performance planning
	2.8	Normal and abnormal operational communications and signals are confirmed
3 Perform operational area evaluation	3.1	Aircraft is flown to aerial application operational area using appropriate flight and navigational techniques
	3.2	Operational landing areas are assessed for length, condition, approach/landing direction, hazard identification and meteorological conditions
	3.3	Issues relating to aircraft weight, performance, dimensions, load and meteorological conditions are identified and managed
	3.4	Landing areas suitable for conducting aerial application operations are selected
	3.5	Aircraft pre-landing/take off checks are performed in accordance with operational procedures
	3.6	Appropriate landing and take-off techniques are conducted during aerial application operations
	3.7	Appropriate dumping point for each take-off, including adequate safety buffers, is identified
	3.8	One-way airstrip operations are safely applied, as required
	3.9	Safe helicopter operations from a marginal helicopter landing site (HLS) are demonstrated, as required
4 Fly between operational and application areas	4.1	Low-level navigation techniques from an operational area to an application area are used as required
	4.2	Most appropriate routes and heights between operational and application areas with considerations to terrain, stock, populated areas, housing and hazards are selected

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	4.3	Operations at a certified or registered aerodrome are conducted as required
	4.4	Aerial application operations are performed in accordance with published regulations requirements
5 Conduct an aerial survey	5.1	Appropriate aerial survey plans are developed for conducting safe aerial application operations
	5.2	Operating area boundaries are established and environmentally sensitive areas are identified including areas that are noise sensitive, biologically susceptible, populated and urban, and restricted or dangerous
	5.3	Potential emergency or alternate landing areas are identified and/or established for contingency operations
	5.4	Environmental hazard factors affecting aerial application operations are considered
	5.5	Wind velocity and direction are assessed for effect on operations
	5.6	Application management plans are amended or modified based on aerial survey assessment results as required
6 Operate within the vicinity of power lines	6.1	Power lines within and outside the treatment area during an aerial survey are identified
	6.2	Power line infrastructure cues are interpreted to aid wire run identification
	6.3	Wire heights are accurately assessed to support safe operations in vicinity of power lines, including safe flying parallel to wires
	6.4	Other hazards relevant to operations near power lines, such as pole stays, crop height, fences or machinery that may pose a risk are identified and managed
	6.5	Safe command decision whether to fly over or under a wire is made
	6.6	Aerial application operations over wires, including adequate safety buffers for pull-up and let down and accurate cut-off and on-off application equipment are conducted
	6.7	Aerial application operations under wires, including assessment of safe clearance distances are conducted

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	6.8	Application approaches towards power lines when passage beneath is unachievable, are terminated safely
	6.9	Human factors that may affect operations near power lines, particularly distraction, short-term memory limitations and inattention (perceptual) blindness are applied during aerial application operations
7 Apply substances through aerial application	7.1	Substances are applied safely in accordance with the application management plan
	7.2	Correct application height relevant to terrain, application type and meteorological conditions is established and maintained
	7.3	Appropriate airspeed and flight profile is controlled on entry or re-entry to operational areas
	7.4	Aerial application equipment is operated within scope of the application management plan
	7.5	Hazard areas are manoeuvred around with adequate safety margins during application operations
	7.6	Aircraft smoke dispersal equipment is routinely utilised to establish accurate wind velocity and direction
	7.7	Application flow rates, pressure and product quantities are monitored during application operations
	7.8	Decisions to suspend or continue safe aerial application operations are taken based on planned or actual operating conditions
	7.9	Clean up operations and hazard safety checks are conducted on completion of aerial application
8 Conduct GNSS swath guidance equipment operations	8.1	GNSS familiarity is applied to the appropriate level of operational requirement
	8.2	Sound judgement is applied during application treatment area pattern selection
	8.3	Correct swath relevant to aircraft, configuration and substance to be applied is selected
	8.4	AB line and C point is accurately placed as required
	8.5	Aircraft is accurately manoeuvred on correct swath line with

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		reference to light bar and natural features
	8.6	Aircraft is operated at maximum permissible weights for aerial application operations in accordance with manufacturer and regulatory requirements
	8.7	Aircraft take-off weight is determined within requirements relevant to strip length and operating conditions
	8.8	Aircraft is operated safely and effectively at maximum weights during all phases of flight including taxi, take off and climb, approach and landing, application, turns and obstacle avoidance manoeuvres
9 Jettison a load	9.1	Full liquid load is jettisoned during take-off and control of aircraft is maintained
	9.2	Full liquid load is jettisoned during flight and aircraft pitch, roll, yaw and speed changes are controlled

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0007 Conduct aerial application operations

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:

- applying relevant aeronautical knowledge
- applying short field/strip landing and take-off techniques
- assessing airstrip/aerodrome suitability:
  - approach and landing direction
  - airstrip/aerodrome hazards
  - meteorological conditions
  - operational length
  - surface condition and restrictions
- assessing and checking aircraft and role equipment for flight serviceability
- assessing identified environmental hazard factors
- assessing own fitness for flight and planned operations
- assessing relevant wind velocity and direction
- compiling applicable maintenance documentation
- conducting pre-flight operational planning
- determining aircraft take-off weights relevant to strip length and operational conditions
- determining landing area suitability for normal and contingency operations
- determining relevant aircraft type suitability
- developing, amending and modifying application management plans
- establishing and implementing safe operating condition margins during aerial application operations
- establishing operational fuel requirements for normal and contingency operations
- flying aircraft to/from aerial application operating areas
- identifying aerial application hazards
- identifying logistical considerations for application management plan:
  - airstrip/aerodrome status
  - air traffic service requirements
  - ground support requirements
  - personal supplies and life support

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- identifying potential contingency and alternate landing areas
- jettisoning full liquid load and maintaining aircraft control:
  - during take-off prior to lift-off
  - immediately after take-off
  - during flight and control pitch change to maintain altitude (+100/-0 ft) by adjustments of elevator and power
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerial application human factors:
  - heat stress and dehydration
  - in-flight distractions
  - maintaining situational awareness
  - mental and physical fatigue
- aerial application role equipment
- aircraft configuration and flight characteristics for the aircraft being flown during maximum weight flight and load jettison operations
- aircraft flight manual, performance, engine and systems
- applicable regulations that relate to conducting a safe aerial application operation
- aviation risk and fatigue risk management processes
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aerial application operations
- Civil Aviation Safety Authority (CASA) exemptions with regards to maximum take-off weight and applicability of other aircraft limitations
- factors to be considered when determining payload weights for aerial application
- flight control and throttle actions required to maintain control of aircraft being flown when jettisoning a full load
- global navigation satellite system (GNSS) equipment and operator procedures
- low-level flight safety hazards and risks
- meteorological factors affecting aircraft flight performance during low-level flight
- relevant aerodynamics and aircraft performance
- terrain following techniques.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0008 Apply aeronautical knowledge to aviation operations

Modification History

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

Application

This unit involves the skills and knowledge required to apply aeronautical knowledge to aviation operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes utilising aviation terminology, demonstrating knowledge of basic aircraft power plants and systems, and applying aerodynamic theory. It also includes applying knowledge of aviation navigation charts, aircraft operations, and performance and planning factors.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Utilise aviation terminology	1.1 Standard aeronautical terminology and phraseology is used to explain aviation operations
	1.2 Flight direction is correctly explained using accepted units of measure and direction
	1.3 Flight speed, distance and velocity terms are correctly outlined
	1.4 Aviation units of measure are utilised during aviation operations
2 Apply knowledge of basic aircraft power plants and systems	2.1 Piston engine aircraft operating principles are explained
	2.2 Operator knowledge of aviation fuels and oils usage is applied
	2.3 Engine handling techniques and operating limitations are implemented
	2.4 Aircraft system component malfunctions/failures and associated system warnings, cautions and indications are correctly outlined
	2.5 Aircraft flight instruments are identified and their purpose is explained
3 Apply basic aerodynamic theory	3.1 Basic aircraft operational states are explained in terms of kinetic and potential energy terms
	3.2 Standard aerodynamic terminology and phraseology is used to describe aviation operations
	3.3 Wake turbulence and associated aircraft operational effects are explained
	3.4 Thrust stream turbulence including jet blast and rotor

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			downwash hazards to flight operations are identified
4	**Apply knowledge of aviation navigation charts**	4.1	Visual chart types and major chart features displayed are explained
		4.2	Controlled airspace (CTA), prohibited, restricted and danger (PRD) areas are identified on appropriate visual charts
		4.3	Appropriate PRD data is determined and extracted for use in aviation navigation planning
		4.4	Runway information and operational limitations data is extracted from enroute supplements for use in aviation navigation planning
5	**Apply knowledge of aircraft operations, performance and planning**	5.1	Aircraft airworthiness requirements and certification documentation are identified and correctly compiled
		5.2	Aircraft take-off and landing performance data is extracted from authorised sources and is correctly used during aircraft performance planning
		5.3	Aircraft weight and balance planning factors are correctly outlined and used during aircraft loading calculations

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

No equivalent unit.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0008 Apply aeronautical knowledge to aviation operations

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:

- applying basic aerodynamic theory
- applying knowledge of aircraft operations, performance and planning
- applying knowledge of aviation navigation charts
- applying knowledge of basic aircraft power plants and systems
- applying relevant aeronautical knowledge
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- utilising 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 range of conditions and include knowledge of:

- aircraft operations, performance and planning
- applying basic aerodynamic theory
- aviation navigation charts
- aviation terminology
- basic aircraft power plants and systems
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations
- general flight planning and performance:
  - density height
  - take-off and landing performance
  - climb, cruise and descent performance

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- weight and balance
- loading limitations and terminology
- speed limitations and terminology
- en route supplement information relevant to day visual flight rules VFR operations
- flight plan preparation:
  - flight planning
  - equi-time point (ETP)
  - point no return (PNR)
  - diversions.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0009 Apply the principles of civil air law to aviation operations

Modification History

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

Application

This unit involves the skills and knowledge required to apply the principles of civil air law to aviation operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes compiling aviation documentation, applying flight crew licensing requirements, and applying flight rules and conditions of flight to aviation operations. It also includes applying air service operations legislative requirements, aerodrome and airspace knowledge, and aviation emergency and search and rescue (SAR) knowledge to aviation operations.

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.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Compile aviation documentation	1.1 Flight time recording requirements are accurately transcribed and compiled within authorised flight documents and flight record systems
	1.2 Aviation legislation, aeronautical information and general operating rules are confirmed and applied to aviation operations
	1.3 Aircraft maintenance release requirements and documentation compliance requirements are clarified
2 Apply flight crew licensing knowledge	2.1 Knowledge of flight crew licence limitations and privileges is applied
	2.2 Flight crew licence medical standards and limitations are confirmed and applied to aviation operations
	2.3 Licence holder privileges relating to daily maintenance inspections, maintenance release documentation and defect reporting are complied with
3 Apply flight rules and conditions of flight	3.1 Rules of the air are applied to aviation operations
	3.2 Aerodrome operating requirements are applied
	3.3 Separation minima at non-controlled aerodromes is applied
	3.4 Smoking restrictions during take-off, landing and refuelling operations are complied with
	3.5 Carriage and discharge of firearms requirements are applied
	3.6 Visual flight rules (VFR) and visual meteorology conditions are applied to aviation operations below 10,000 feet (ft)
	3.7 Altimetry procedures for flight below 10,000 ft are applied to

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		aviation operations
	3.8	Drugs and alcohol usage rules including temporary medical unfitness for flight are complied with
	3.9	Aircraft lighting configuration and operating requirements are followed
	3.10	Minimum operating heights for flights over populated and other areas are applied
	3.11	Flight operating limitations for acrobatic flights and flights over public gatherings are complied with
	3.12	Flight operating requirements for take-off and landing during daylight hours are applied
4 Apply air service operations legislative requirements	4.1	Passenger carriage legislative requirements are extracted from authorised references
	4.2	Cargo, floatation and survival equipment, dangerous goods and miscellaneous cargo carriage requirements are applied
	4.3	Legislative responsibilities and requirements of the pilot in command (PIC) are identified
	4.4	Legislative requirements of flight crew before and after flight duties are applied
5 Apply aerodrome and airspace knowledge	5.1	Aerodrome movement areas, landing areas, helicopter landing site (HLS) and markings are identified
	5.2	Aerodrome operating procedures are applied to circuit operations
	5.3	Aerodrome meteorological minima is applied
	5.4	Classes of controlled and uncontrolled airspace are complied with
	5.5	Prohibited, restricted and danger (PRD) area flight operating conditions are applied
	5.6	Flight information and air traffic service area boundaries and limitations are identified and applied to aviation operations
	5.7	Altimetry datum and appropriate reference heights are calculated and applied to aviation operations

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	5.8	Airspace documentation is identified and prescribed airspace requirements are followed
	5.9	Air Defence Identification Zone (ADIZ) operating requirements, pilot interception actions and vested powers of the PIC are explained
6 Apply aviation emergency and search and rescue (SAR) knowledge	6.1	Radio equipment testing and listening watch requirements are applied
	6.2	Aircraft navigation and landing light usage during emergency procedures is explained and applied
	6.3	Emergency incident and accident definitions and reporting requirements are outlined
	6.4	Mercy flight conditions and restrictions are outlined
	6.5	Flight incident and accident notification responsibilities of the PIC are identified
	6.6	Search and rescue timings (SARTIME) is determined and applied to aviation operations
	6.7	Emergency procedure documents are identified and utilised during emergency and SAR operations

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

No equivalent unit.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0009 Apply the principles of civil air law to aviation operations

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:

- applying air service operations legislative requirements
- applying aviation emergency and search and rescue (SAR) knowledge to aviation operations
- applying flight crew licensing requirements
- applying flight rules and conditions of flight to aviation operations
- applying relevant aeronautical knowledge
- compiling legislated aviation documentation
- extracting information from civil air law, aviation regulations, policies and procedures
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- application of civil air law, aviation regulations, policies and procedures to aviation operations
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders pertaining to civil air law, regulations, policies and procedures.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0013 Conduct a 2D instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct a 2D instrument approach, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operations and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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 is conducted for a landing on the selected runway

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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

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.

2D instrument approach must include one or more of the following:	• non-directional beacon (2D) • VHF omnidirectional range (VOR) and localiser (LOC) • distance measuring equipment (DME)/global navigation satellite system (GNSS) arrival (DGA) • required navigation performance RNP-LNAV (RNAV/GNSS) and RNP-LP (wide area augmentation system [WAAS]) as required

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0013 Conduct a 2D instrument approach

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
- 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 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)/occupational health and safety (OHS) 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 clothing and equipment conforming to industry and WHS/OHS standards
- selecting approach and determining applicable minima

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- 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 include knowledge of:

- abnormal operations and emergency procedures for an approach, including navigation aid failure
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- cause and magnitude of typical global navigation satellite system (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 enroute, 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

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- radio procedures during an approach
- requirements applicable to pilots and equipment for GNSS operations
- sector entry join 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0014 Conduct a 3D instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct a 3D instrument approach, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operations and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare for approach	1.1 Latest available information for destination is reviewed
	1.2 Navigation system validity check is conducted as applicable
	1.3 Receiver autonomous integrity monitoring (RAIM)/ satellite-based augmentation system (SBAS) check is conducted as required
	1.4 Flight plan is selected, loaded, checked and activated as applicable
	1.5 Current approach chart for approach to be flown is selected and briefed
	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 the holding fix
3 Conduct a holding pattern	3.1 Holding pattern is entered and performed from the 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 Navigation aid signal integrity is monitored during approach
	4.4 Vertical and lateral flight path is flown within published tolerances
	4.5 Specified altitude check on glide slope is performed
	4.6 Aircraft is flown to a stabilised descent profile from the final approach fix to minima

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	4.7	Visual reference is established and a visual circling or runway approach is conducted for a landing on the selected runway
5 Conduct a missed approach	5.1	Missed approach conditions are recognised and missed approach is initiated
	5.2	Aircraft is manoeuvred to the 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

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.

3D instrument approach must include one or more of the following:	• instrument landing system (ILS) • microwave landing system MLS • global navigation satellite system with ground-based augmentation (GLS) • required navigation performance lateral navigation/vertical navigation barometric (RNP-LNAV/VNAV [Baro]) and required navigation performance localizer performance with vertical guidance (RNP-LPV (Wide Area Augmentation System [WAAS]) as required

Unit Mapping Information

No equivalent unit.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0014 Conduct a 3D instrument approach

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
- 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 3D approach procedure applicable minima for aircraft
- determining conditions permitting descent below minima
- identifying and correctly using equipment required to conduct a 3D instrument approach
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting 3D instrument approach procedure chart
- 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 clothing and equipment conforming to industry and WHS/OHS standards
- selecting approach and determining applicable minima
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of

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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 include knowledge of:

- abnormal operations and emergencies procedures during an approach, including navigation aid failure
- adjustment to baro determined minima for temperature effect
- automation and flight management system (FMS) management for low-visibility operations
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- contaminated runway operations
- equipment redundancy during low-visibility operations
- low-visibility operations and environmental limitations
- runway markings and lighting
- runway visual range (RVR) versus slant visual range (SVR)
- temperature effects on altimeter
- types of approach lighting systems
- use of and precautions with approach slope indicators.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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:

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- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0018 Execute advanced aeroplane manoeuvres and procedures

Modification History

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

Application

This unit involves the skills and knowledge required to execute advanced aeroplane manoeuvres and procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes turning the aeroplane steeply, sideslipping, and executing short take-off and landing procedures. It also includes entering and recovering from stall conditions, and recovering from an incipient spin.

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

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Turn aeroplane steeply**	1.1	Pre-manoeuvre checks for steep turning are performed
		1.2	Flightpath is cleared before and during turn
		1.3	Steep level turn of nominated bank angle is achieved without altitude change to nominated heading
		1.4	Descending turn of nominated bank angle is achieved to nominated heading
		1.5	Awareness of higher stall speed in turns is applied
		1.6	Aeroplane operating limits are not exceeded
2	**Sideslip aeroplane**	2.1	Yaw is induced to achieve increased rate of descent while maintaining track and airspeed
		2.2	Recovery from sideslip is achieved and aeroplane is returned to balanced flight
		2.3	Flightpath is cleared before and during manoeuvre
		2.4	Glide speed is maintained
3	**Execute short take off**	3.1	Take-off performance is calculated in accordance with performance chart
		3.2	Pre-take-off, line-up and after take-off checks are performed in accordance with approved checklist and regulatory requirements
		3.3	Aeroplane is lined up to enable use of maximum runway length
		3.4	Short take-off technique is applied in accordance with aircraft flight manual (AFM)/pilot's operating handbook (POH) requirements

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		3.5	Separation with other traffic is maintained
		3.6	Appropriate allowance is made for surface and wind conditions
4	**Execute short landing**	4.1	Landing performance is calculated in accordance with performance chart
		4.2	Aeroplane is landed at nominated touchdown point using appropriate techniques and procedures in accordance with AFM/POH requirements
		4.3	Separation with other traffic is maintained
		4.4	Appropriate allowance is made for surface and wind conditions
		4.5	After landing checks are performed in accordance with approved checklist and regulatory requirements
5	**Enter and recover from stall**	5.1	Pre-manoeuvre checks for stalling are performed
		5.2	Stall signs and symptoms are recognised
		5.3	Aeroplane is controlled by applying required pitch, roll and yaw inputs as appropriate in a smooth, coordinated manner, and aeroplane is accurately trimmed to enter and recover from stall conditions
		5.4	Stall recovery in simulated partial and complete engine failure configurations is initiated and completed using established stall recovery techniques
6	**Recover from incipient spin**	6.1	Pre-manoeuvre checks for an incipient spin are performed
		6.2	Incipient spin signs and symptoms are recognised
		6.3	Aeroplane is controlled during spin manoeuvres by applying required pitch, roll and yaw inputs as appropriate in a smooth, coordinated manner, to enter and recover from spin conditions during straight and level flight, climbing, and turning
		6.4	Spin recovery is initiated and completed using established incipient spin recovery techniques

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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 not equivalent to AVIY4005B Execute advanced aeroplane manoeuvres and procedures.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0018 Execute advanced aeroplane manoeuvres and procedures

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when executing advanced aeroplane manoeuvres and procedures
- compensating for the secondary effects of controls
- completing relevant documentation
- conducting short take offs and landings
- conducting steep turns:
- straight and level
- descending
- entering and recovering from stall conditions:
- incipient stall
- stall with full power
- stall without power applied
- stall during:
- straight and level flight
- climbing
- descending
- approach to land configuration
- turning
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising workload

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- maintaining compliance with regulatory requirements
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring functions of fuel systems
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing pre-manoeuvre checks in accordance with regulatory requirements and manufacturer procedures
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising flight situations that may require advanced manoeuvres and procedures, and applying the necessary techniques
- recognising single engine incipient spin conditions
- recovering from single engine incipient spins:
- straight and level
- climbing turning
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using relevant equipment
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- sideslipping an aeroplane including:
- straight sideslip
- sideslipping turn
- recovery actions
- using instruments to monitor aeroplane performance
- 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 include knowledge of:

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- aerodynamic and aeroplane operational considerations related to slow flight, sideslipping, stalling, spinning, steep turns, upset aeroplane states, including:
- symptoms of approach to stall and throughout the stall, manoeuvre until recovery
- relationship between angle of attack and stall
- effects of weight, ‘g’ force and angle of attack
- dangers of unbalanced flight
- principle of stick and control and the point of stall
- priority given to reduce angle of attack during stall manoeuvres
- loss of height in relation to available height and energy state
- technique of converting excess speed to height
- technique of converting excess height to speed
- symmetrical and rolling ‘g’ force limitations
- higher stall speeds when aeroplane is turning
- effects on fuel, pitot and flap systems
- application of pre-manoeuvre checks in accordance with regulatory requirements and manufacturers procedures
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- contents of the aircraft flight manual (AFM)/pilot’s operating handbook (POH)
- day visual flight rules (VFR) criteria
- effects of ‘g’ forces
- effects of a sideslip on aeroplane performance
- effects of maximum rate and minimum radius turns
- effects of sideslipping on aeroplane on fuel, pitot and flap systems
- environmental conditions that represent visual meteorological conditions (VMC)
- functions and effects of all aeroplane controls
- ground hazards associated with minimum ground roll operations
- hazards of unbalanced flight
- in a Defence context, relevant Defence Orders and Instructions
- increased induced drag during a steep turn
- increased stalling speed in a steep turn
- local and published noise abatement requirements and curfews
- operational circumstances where steep turns are required
- principles of aerodynamics
- procedures and techniques for short take-offs and landings
- procedures and techniques for sideslipping an aeroplane
- procedures and techniques for turning an aeroplane steeply
- procedures for recovering from stalls and spins
- procedures for short take-offs and landings
- recognising stall and incipient spin conditions
- relevant sections of aeronautical information package (AIP)
- relevant sections of Civil Aviation Safety Regulations and Orders

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- relevant WHS/OHS and environmental procedures and regulations
- take-off and landing performance chart calculations
- windsock and other indicators used to determine wind velocity.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0019 Manage abnormal aeroplane flight situations

Modification History

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

Application

This unit involves the skills and knowledge required to manage abnormal aeroplane flight situations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing engine failure after take-off, performing forced landings following engine failure, conducting precautionary search and landing, and managing on-board abnormal and emergency situations.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage engine failure after take- off	1.1 Abnormal or failed engine indications are correctly identified
	1.2 Control of aeroplane is maintained during emergency response procedures
	1.3 Immediate actions are performed in accordance with pilot's operating handbook (POH)
	1.4 Landing area within gliding distance is selected, and emergency procedures are performed in accordance with aircraft flight manual (AFM)/POH
	1.5 Flight profile is flown, from which a controlled landing could be achieved
	1.6 Air traffic services (ATS) or other agencies capable of providing assistance are advised of situation and intentions
2 Perform forced landing following engine failure	2.1 Partial or complete engine failure condition is correctly recognised and appropriate emergency response is identified
	2.2 Control of aeroplane is maintained during emergency response procedures
	2.3 Immediate actions are performed in accordance with POH
	2.4 Recovery plan is formulated and explained, most suitable landing area within gliding distance is selected and aeroplane is manoeuvred to nominated landing area
	2.5 Consideration is given to restarting engine as required, and engine is restarted as required
	2.6 Optimal gliding flight profile is selected and flown, from which a controlled landing could be achieved
	2.7 ATS or other agencies capable of providing assistance are

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		advised of situation and intentions
	2.8	Passengers and/or flight crew members are updated on flight situation and are advised to adopt emergency positions, time permitting
	2.9	Aeroplane is landed ensuring safest outcome if engine restart is not achieved
3 Conduct precautionary search and landing	3.1	Flight circumstances are assessed and appropriate decision to perform a precautionary landing is made
	3.2	Intentions are communicated to other traffic or agencies as required
	3.3	Aeroplane is configured for inspection flight profile
	3.4	Landing area is selected and inspected for approach, landing distance, surface, and obstacle clearance to ensure aeroplane could be landed safely
	3.5	Passengers and/or flight crew members are updated on flight situation and are advised to adopt emergency positions, time permitting
	3.6	Aeroplane is landed and secured and passengers are managed as required
4 Manage on-board abnormal and emergency situations	4.1	Control of aeroplane is maintained during emergency response procedures
	4.2	Abnormal and emergency situations are correctly identified and managed, in accordance with relevant emergency procedures and regulatory requirements
	4.3	Appropriate emergency procedures are followed in accordance with AFM/POH and published procedures while maintaining control of aeroplane
	4.4	Requirement for emergency evacuation of aeroplane is identified
	4.5	Emergency evacuation of aeroplane is executed as required

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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 not equivalent to AVIY4006B Manage abnormal aeroplane flight situations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0019 Manage abnormal aeroplane flight situations

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
- applying awareness of appropriate forced landing areas in the aerodrome environs
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others including when using radio
- compensating for the secondary effects of controls
- completing documentation related to abnormal aeroplane flight situations
- conducting flight with unreliable airspeed indications
- conducting precautionary search and landing
- ensuring compliance with relevant emergency procedures and regulatory requirements
- executing simulated emergency evacuation plans
- identifying aeroplane emergency evacuation conditions
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising workload
- managing engine failure after take-off
- managing on-board abnormal and emergency situations
- 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 aeroplane within its limitations and achieving optimum performance
- operating electronic communications equipment to required protocol
- performing forced landings following engine failure:

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  - complete engine failure (simulated)
  - partial engine failure (simulated)
- performing various flight control functions simultaneously as required
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising situations that may require a precautionary landing
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using relevant equipment in abnormal aeroplane flight situations
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor aeroplane performance
- working collaboratively with others when managing abnormal aeroplane flight situations
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- action planning processes
- action required in an engine failure in flight, other than after take-off
- actions to be conducted following a forced landing
- aircraft performance in a glide (straight and turning)
- applicable engine failure and abnormal situation checklist items
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- causes leading to precautionary landings
- contents of flight manual and pilot’s operating handbook (POH)
- controllability checks and external inspection procedures
- ditching procedures when specified in the aircraft flight manual (AFM), POH or company operations manual
- effects of partial engine failure on aeroplane performance with respect to straight and level flight and turning while maintaining level flight
- effects of partial engine power on performance, flight profile, range and landing options
- emergency radio procedures
- engine failure scenarios and procedures for partial and complete power loss

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- factors affecting a stall
- factors to be considered when deciding whether to land immediately or proceed to a more suitable landing area after a partial engine failure
- forced landing scenarios and procedures
- functions and effects of all aeroplane controls
- hazard of sideslip at low altitude
- hazards associated with flying operations at low level
- hazards associated with turning an aeroplane at slow speed using large angles of bank while maintaining level flight following a partial engine failure after take-off
- height loss while gliding including minimum height to achieve safe turns towards selected landing area
- in a Defence context, relevant Defence Orders and Instructions
- judging descent profiles in various configurations
- operation of safety/survival/life support equipment applicable to aeroplane type
- passenger control and briefing procedures for abnormal and emergency situations
- poor visibility configuration
- potential dangers of unbalanced flight at slow speed
- practical action plans for use in an engine failure after take-off
- pre-abandonment/emergency evacuation checks
- principles of aerodynamics
- prioritising activities during emergencies and non-normal situations
- relevant sections of aeronautical information package (AIP) related to abnormal and emergency flight situations
- relevant sections of Civil Aviation Safety Regulations and Orders related to abnormal and emergency flight situations
- relevant sections of En Route Supplement Australia (ERSA) related to abnormal and emergency flight situations
- relevant WHS/OHS and environmental procedures and regulations
- suitable fields for forced landings and precautionary landings
- survival techniques following an emergency evacuation
- visual meteorological conditions (VMC).

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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requirements of the work being performed and the needs of the candidate.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0020 Taxi helicopter

Modification History

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

Application

This unit involves the skills and knowledge required to taxi a helicopter, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes performing air taxiing manoeuvres and air transiting manoeuvres.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Perform air taxiing manoeuvres	1.1 Helicopter is manoeuvred over the ground on a prescribed track at constant height associated with ground effect and speed is adjusted to suit helicopter type, surface conditions, congestion, maintenance of control and to avoid collision with obstacles or other aircraft
	1.2 Awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is maintained
	1.3 Engine and rotor speed (RPM/RRPM) is managed within normal operating limits
2 Perform air transiting manoeuvres	2.1 Helicopter is manoeuvred, while allowing for prevailing conditions, over a prescribed track within aerodrome boundaries that is clear of obstacles at a height not above 100 feet (ft) above ground level (AGL) at airspeeds greater than speeds used for air taxiing
	2.2 Helicopter performance is considered throughout air transit manoeuvres
	2.3 Awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is maintained
	2.4 Instruments, switches or devices are manipulated when safe to do so, including when the release of the collective pitch level is required, while maintaining height, heading, speed, and attitude and not exceeding RPM or power limits
	2.5 Air transit ground speed is adjusted to suit helicopter type, traffic conditions, congestion, and maintaining control, and to avoid collision with obstacles or other aircraft
	2.6 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	2.7 Appropriate risk management is applied during air transit manoeuvres

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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 not equivalent to AVIY4013B Taxi helicopter.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0020 Taxi helicopter

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
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when taxiing helicopter
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and applying air traffic control instructions
- interpreting/using a helicopter manufacturer height-velocity diagram/graph
- 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 relevant equipment
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor helicopter performance
- working collaboratively with others when taxiing helicopter

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- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- adverse effects of rotor wash
- aerodrome and helicopter landing site markings and their meanings
- application of a height/velocity diagram/graph
- basic principles of aerodynamics
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- causes and effects of ground resonance and related action that should be taken
- causes and effects of loss of tail rotor effectiveness and related action that should be taken
- effects of rotor wash and related precautions that should be taken
- functions and effects of all helicopter controls
- ground resonance and action to be taken when it occurs
- hazards and risks associated with conducting air taxi and air transit manoeuvres, and precautions for controlling the risks
- height-velocity diagram
- helicopter braking and steering systems
- light and marshalling signals relevant to helicopter operations
- local air traffic control procedures and instructions
- loss of tail rotor effectiveness and action to be taken when it occurs
- problems that may occur when taxiing a helicopter and appropriate action that should be taken in each case
- purpose and functions of helicopter systems
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- taxiway and runway markings.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of

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assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0021 Operate helicopter at low level

Modification History

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

Application

This unit involves the skills and knowledge required to operate a helicopter at low level, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning low-level operations, manoeuvring a helicopter at low level, and performing quick stop manoeuvres. It also includes executing reversal turns, executing a forced landing from below 200 feet (ft) above ground level (AGL), and operating at low level in hilly terrain.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan low-level operations	1.1 Requirement to operate at low level is identified and justified in accordance with workplace procedures and regulatory requirements
	1.2 Low-level operational hazards are identified, evaluated and risk managed, and appropriate decision is made concerning the safe conduct of these operations
	1.3 Aircraft type and performance is assessed as appropriate for low-level operations
	1.4 Consultation with all relevant stakeholders involved in a low-level operation is completed to confirm task/operating requirements
	1.5 Pre-flight inspection is correctly performed, and aircraft serviceability type and performance are determined as appropriate for the task
	1.6 Actual and forecast weather conditions are analysed for effects on low-level operations
	1.7 Area of low-level operations is identified using chart and geographical features, including the boundary where low flying may commence and normal flight altitude is required
	1.8 Action plans for the operation are formulated to ensure safe and effective operation of a helicopter at low level
	1.9 Unplanned manoeuvres are avoided
	1.10 Compliance is maintained with air traffic control (ATC) instructions, regulatory and reporting requirements
2 Manoeuvre helicopter at low	2.1 Low-level flight manoeuvres are performed safely using pre-planned manoeuvres at planned altitudes

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	level	2.2 Effects of wind velocity, false horizons, rising ground and mountainous terrain are managed, and control of helicopter is correctly maintained
		2.3 Visual attention is focused outside the cockpit
		2.4 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and/or terrain
		2.5 Natural horizon is used as primary attitude reference
		2.6 Nose of aircraft is cleared to ensure forward visibility when appropriate
		2.7 Situational awareness is maintained at all times during low-level manoeuvres
		2.8 Helicopter is safely manoeuvred adjacent to power lines and wires
		2.9 All obstacles are identified, and are appropriately and safely avoided
		2.10 Personnel, animals, vehicles and buildings are identified, and are appropriately and safely avoided
		2.11 Height is maintained by visual reference to earth's surface when below 500 ft AGL
		2.12 Weather conditions are monitored and appropriate responses are made
		2.13 Fuel status is monitored and appropriate responses are made
		2.14 Local and published noise abatement requirements and curfews are observed
3	**Perform quick stop manoeuvre**	3.1 Deceleration of helicopter from forward flight is initiated into wind, maintaining height to terminate to the hover at nominated hover point
		3.2 Aircraft is turned and decelerated or decelerated and turned, maintaining height by controlled action, to terminate to the hover at nominated hover point, into wind
		3.3 Deceleration/acceleration manoeuvres are conducted within the time and distance limitations specified while maintaining a constant height above the surface

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	3.4	Wind velocity is estimated and is appropriately taken into account in manoeuvres
	3.5	Helicopter inertia is anticipated and appropriate allowance is made in manoeuvres
	3.6	Situation awareness is maintained at all times during a quick stop manoeuvre
	3.7	Obstructions are identified, and are appropriately and safely avoided
4 Execute forced landing from 200 ft AGL	4.1	Emergency situations requiring a forced landing are identified
	4.2	Appropriate immediate actions are performed
	4.3	Landing area within autorotative distance is selected and appropriate action plan is formulated
	4.4	Emergency procedures are performed
	4.5	Emergency radio messages of intentions are transmitted
	4.6	Helicopter is landed and shut down as required
5 Operate at low level in hilly terrain	5.1	Helicopter is safely manoeuvred at low level in hilly terrain
	5.2	Safe operating heights relevant to low-level operation type are established and maintained
	5.3	Terrain flight following techniques are applied during low-level operations
	5.4	Appropriate geographical features and markers are identified and selected to aid situational awareness
	5.5	Rising and falling ground/terrain is identified and approached using safe flying techniques, including identifying abort points and escape routes
	5.6	Effects of wind and turbulence in hilly terrain, including lee effects are identified and managed
	5.7	Spatial disorientation factors relevant to low-level operations are identified and applied to low-level manoeuvres

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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 not equivalent to AVIY4019B Operate helicopter at low level.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0021 Operate helicopter at low level

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
- applying awareness of wind effect in the vicinity of obstructions, mountainous terrain and illusions
- applying correct navigation techniques and procedures at low level
- applying knowledge of the effect of false horizons
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- complying with airspace requirements and procedures
- conducting procedure turns from a fixed ground reference point
- flying at various speed and configurations not below safe single-engine speed (+15 KIAS for multi-engine aircraft)
- identifying and avoiding power lines and wires by a minimum of 15 feet (ft) when crossing overhead
- identifying and correctly using relevant equipment
- identifying and justifying a decision to operate a helicopter at low level
- identifying escape routes and rising ground
- identifying poles, cross trees, wires and insulators to assist power line and wire location
- identifying the requirement to operate in the vicinity of power lines and wires and assessing associated risk
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining a constant altitude over featureless terrain or water

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- managing the aircraft energy state:
  - identifying high kinetic energy situations
  - identifying low kinetic energy situations
  - identifying high potential energy situations
  - identifying low potential energy situations
- 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
- navigating to a predetermined destination at altitude below 500 ft AGL
- operating adjacent to power lines and wires
- operating electronic communications equipment to required protocol
- performing flight at various speed and configurations
- performing low-level circuit and landing
- performing quick stop manoeuvres:
  - into wind entry
  - downwind entry
- performing straight flight
- performing turns at various bank angles up to 60° angle of bank at normal cruise speed
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising and controlling the illusion of slipping and skidding during turns close to the ground
- recognising and managing the impact of sun glare on increased risk of collision with obstacles
- recognising the effect of rising and descending terrain on aircraft performance
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor helicopter performance when operating a helicopter at low level
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- air traffic requirements
- application of the height/velocity diagram/graph
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to low level helicopter operations
- critical operational conditions, including retreating blade stall, vortex ring, overpitching, loss of anti-torque effectiveness, negative g effects
- effect of aircraft inertia at low level
- effect of wind velocity on low-level operations
- effects of illusions
- flight rules and legislation related to low-level ratings
- functions and effects of all helicopter controls, including rotor RPM (RRPM) management (governors) and engine acceleration response
- human factors during low-level operations:
  - dehydration
  - fatigue
  - stress and short/long term impacts
  - drugs impact
  - spatial disorientation and illusions
- local air traffic control procedures and instructions
- low-level operational techniques
- maximum rate and minimum rate turn criteria
- meteorological factors affecting helicopter flight performance during low-level flight
- obstruction avoidance techniques
- operational inspections
- operations on, or in vicinity of, non-controlled and controlled aerodromes or airstrips:
  - aerial inspections
- planning and aviation risk management processes
- pre-flight and after-flight inspections
- problems that may occur when operating a helicopter at low level and appropriate action that should be taken in each case
- procedures for using performance charts
- purpose and functions of helicopter systems
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- safety hazards and risks of low-level helicopter operations and precautions for controlling risks
- terrain following techniques

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- use of escape routes and rising ground
- weather effects on low-level operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY0022 Perform instrument arrival and standard arrival route procedures

Modification History

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

Application

This unit involves the skills and knowledge required to perform instrument arrival and standard arrival route (STAR) procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Prepare for IMC arrival**	1.1	Applicable aerodrome weather, airfield conditions and traffic information is 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
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

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3.5 Aircraft is manoeuvred within tolerance specified in AIP

3.6 ATC instructions amending STAR procedure are correctly implemented

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 but is not equivalent to:

- AVIY5025A Perform an instrument arrival
- AVIY5026A Perform standard arrival route (STAR).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY0022 Perform instrument arrival and standard arrival route procedures

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
- 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)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- working collaboratively with others

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- 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 include 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
- CASR Part 61 Manual of Standards 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4001 Control aeroplane on the ground

Modification History

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

Application

This unit involves the skills and knowledge required to control an aeroplane on the ground, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes starting and stopping an aeroplane engine, and taxiing an aeroplane.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Start and stop engine	1.1 Pre-start and after-start checks are completed in accordance with aircraft flight manual (AFM)/pilot's operating handbook (POH)
	1.2 Engine is started and shut down in accordance with AFM/POH
	1.3 Emergencies are managed in accordance with AFM/POH and regulatory requirements
	1.4 Pre-and after shutdown checks are completed in accordance with AFM/POH
	1.5 Manufacturer limitations are complied with and deviations are reported as required
	1.6 Aeroplane is positioned to ensure safety when starting engine
2 Taxi aeroplane	2.1 Automatic terminal information service (ATIS) reports and taxi clearance are obtained as required
	2.2 Aeroplane control and safe taxi speed is maintained in accordance with prevailing aerodrome, traffic, surface and weather conditions
	2.3 Brake serviceability and functionality checks are performed clear of conflicting traffic and other hazards to confirm serviceability
	2.4 Instrument checks are conducted and altimeter settings are adjusted to confirm serviceability prior to aircraft departure
	2.5 Engine handling and braking on the ground is in accordance with AFM/POH
	2.6 Airfield markings/lights/signals/indicators are interpreted and complied with
	2.7 Lookout is maintained and right-of-way rules are adhered to while complying with applicable air traffic control (ATC) or marshalling instructions
	2.8 Adverse effect of propeller slipstream or jet wash on other

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aeroplanes, aerodrome facilities and personnel is avoided

2.9 Taxi path is inspected when surface conditions are obscured

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 AVIY4001B Control aeroplane on the ground.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4001 Control aeroplane on the ground

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when controlling an aeroplane on the ground
- completing relevant documentation
- complying with regulatory requirements and local air traffic control instructions
- controlling an aeroplane on the ground in accordance with aircraft flight manual (AFM)/pilot's operating handbook (POH)
- controlling and managing engine start and shut-down emergencies
- identifying and correctly using required equipment
- identifying suitable parking areas
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting airfield diagrams
- interpreting and communicating operational information
- interpreting and following operational instructions and prioritising work
- interpreting marshalling signals
- manoeuvring aeroplane on the ground without incident
- 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

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requirements and workplace procedures
- selecting and using relevant equipment including throttle, steering and brakes
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- starting and stopping aeroplane engines
- taking appropriate actions in a brake, tyre or steering failure
- taxiing aeroplanes within controlled or uncontrolled aerodrome environments
- using instruments to monitor aeroplane performance
- 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 include knowledge of:

- aerodrome markings, lighting and marshalling signals
- aeroplane type recognition
- aircraft weight and balance and how to calculate the aircraft centre of gravity
- carburettor icing
- care of propellers
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- cause and effect of fuel vaporisation
- contents of the AFM and POH for the aircraft being flown
- day visual flight rules (VFR)
- differences between normally aspirated and fuel-injected systems
- environmental conditions that represent visual meteorological conditions (VMC)
- in a Defence context, relevant Defence Orders and Instructions
- local air traffic control procedures
- meaning and interpretation of:
  - light and marshalling signals
  - aerodrome markings, signals and local procedures
- on-ground control procedures including pre-start checks, clearing propellers, use of filtered air, hot and cold engine start, after-start checks, pre-shutdown checks, actions in a brake or tyre failure, aeroplane emergency management, and engine hand-start procedures
- propeller wash, rotor wash and jet blast and how they affect other aircraft
- relevant aeroplane/equipment characteristics including starter system limitations, fuel system including cause and effect of fuel vaporisation, and aeroplane braking and steering systems

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- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant sections of the aeronautical information package (AIP)
- relevant sections of the relevant AFM/POH
- relevant WHS/OHS and environmental procedures and regulations
- typical aircraft performance characteristics of single-engine aeroplanes and the effects of local weather conditions on performance
- typical single-engine aeroplane aircraft systems.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4002 Take off aeroplane

Modification History

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

Application

This unit involves the skills and knowledge required to take off in an aeroplane, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

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

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Carry out pre-take-off procedures	1.1 Critical take-off airspeeds, aircraft configuration, and emergency and abnormal procedures for normal and cross-wind take-offs are correctly identified
	1.2 Pre-take-off briefing is completed
	1.3 Approved pre-take off and line up checklists are completed in accordance with flight manual/pilot's operating handbook (POH) or company operations manual
	1.4 Correction for existing wind component to the take-off performance is verified and correctly applied
	1.5 Runway approach path is visually cleared of conflicting traffic and other hazards prior to lining up for take-off
	1.6 Aeroplane is aligned with runway centre line in take-off direction
	1.7 Air traffic control (ATC) clearances are obtained as required
2 Conduct aeroplane take off	2.1 Take-off power is applied, aeroplane is maintained aligned with centre of runway with wings maintained level and rotated at manufacturer recommended speed to achieve planned climb performance
	2.2 Aeroplane is configured for nominated climb profile, and tracking on centreline of runway is maintained during take off
	2.3 Power controls, settings, and instruments during take-off are monitored to ensure all predetermined parameters are achieved and maintained
	2.4 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	2.5 Separation with all circuit traffic is maintained
	2.6 Radiotelephone listening watch is maintained

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	2.7	Local and published noise abatement requirements and curfews are observed
	2.8	After take-off checks are performed in accordance with approved checklist
3 Perform rejected take-off	3.1	Requirement to abort/reject take-off is identified
	3.2	Power is reduced smoothly and promptly
	3.3	Braking devices are activated
	3.4	Control is maintained to bring aeroplane to a safe stop
	3.5	Associated procedures and/or checklists are initiated and completed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to AVIY4002B Take off aeroplane.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4002 Take off aeroplane

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- applying take-off procedures in accordance with regulatory requirements
- calculating normal and crosswind take-off and landing performance
- communicating effectively with others
- compensating for the secondary effects of controls
- completing relevant documentation
- complying with air traffic instructions and regulatory requirements
- conducting aeroplane take-offs:
  - normal
  - cross wind
- identifying and correctly using equipment required
- identifying surface conditions, obstructions, other crossing traffic on runways and taxiways, or other hazards that might hinder a safe take-off
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting windsock indications
- maintaining awareness of the circuit traffic situation
- managing take-off emergencies
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing minimum length take-off procedure

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- performing rejected take-off procedure
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

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

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4003 Control aeroplane in normal flight

Modification History

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

Application

This unit involves the skills and knowledge required to control an aeroplane in normal flight, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes climbing an aeroplane, maintaining straight and level flight, descending an aeroplane, and turning an aeroplane. It also includes controlling an aeroplane at slow speed, performing circuits and approaches, and complying with airspace requirements.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Climb aeroplane**	1.1	Adjustments are made to attitude and power to achieve an increase of altitude at normal, maximum rate (VY), maximum angle (VX) and cruise conditions of flight during straight and turning manoeuvres
		1.2	Aeroplane is maintained in balanced flight and trimmed
		1.3	Aeroplane is levelled off from climb at nominated altitude using standard aeroplane procedures
		1.4	Flightpath clearance is ensured
		1.5	Climb checks are completed
		1.6	Air traffic control (ATC) altitude restrictions are observed
2	**Maintain straight and level flight**	2.1	Power, attitude and configuration are set to achieve straight and level flight
		2.2	Aeroplane is maintained in balanced flight and trimmed
		2.3	Altitude and heading are maintained within tolerances
		2.4	Flightpath clearance is ensured
3	**Descend aeroplane**	3.1	Power, attitude and configuration are set to achieve descent during glide, power assisted flight and approach profiles
		3.2	Aeroplane is maintained in balanced flight and trimmed
		3.3	Aeroplane is levelled from a descent at a nominated altitude
		3.4	Flightpath clearance is ensured
		3.5	ATC altitude restrictions are observed
		3.6	Aeroplane operating limits are not exceeded during descent

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	3.7	Effects of undercarriage and flaps are managed
	3.8	Descent checks are completed
4 Turn aeroplane	4.1	Airspace cleared procedure is carried out
	4.2	Heading is altered in balanced flight during level, climbing, descending and gliding manoeuvres and turns are performed at varying rates to achieve specified tracks
	4.3	Turn on to nominated heading or geographical feature is achieved
	4.4	Aeroplane operating limits are maintained during turns
5 Control aeroplane at slow speed	5.1	Pre-manoeuvre checks are completed in accordance with operating procedures
	5.2	Aeroplane is flown at minimum clean approach speed and at minimum landing configuration approach speed as specified in aircraft flight manual (AFM)/pilot's operating handbook (POH) in balanced flight
	5.3	Height awareness is maintained during slow speed flight
	5.4	Positive control responses are implemented and reduced control effectiveness is recognised during slow flight manoeuvres
	5.5	Stall warnings, cautions and indications are monitored during slow speed flight
	5.6	Recovery to cruise speed is achieved while maintaining height
6 Perform circuits and approaches	6.1	Traffic patterns are conducted in accordance with aeronautical information package (AIP) procedures appropriate to the aeroplane type with allowance for wind velocity on all legs of the circuit
	6.2	All checklists are completed and radiotelephone procedures are followed
	6.3	Approach path is appropriately intercepted and maintained in a manner applicable to aeroplane type, while remaining clear of other traffic
	6.4	Traffic conflict or adverse flight conditions are recognised when they arise and a go-around is performed from any

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		position in the traffic pattern
	6.5	Right of way rules are applied and complied with
	6.6	Radio listening watch is maintained in accordance with established procedures
	6.7	Aeroplane is configured for landing
7 Comply with airspace requirements	7.1	While aeroplane is maintained within a specified area, compliance is maintained with air traffic requirements and restricted, controlled and other appropriately designated airspace
	7.2	Appropriate reactions are made to factors that may affect the safe progress of the flight
	7.3	Awareness of aeroplane position is maintained using charts and geographical features
	7.4	Radio listening watch is maintained in accordance with established procedures
	7.5	Weather conditions are monitored and appropriate action is taken
	7.6	Local and published noise abatement requirements and curfews are observed

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 AVIY4003B Control aeroplane in normal flight.

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Links

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Assessment Requirements for AVIY4003 Control aeroplane in normal flight

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
- adhering to restricted, controlled and other appropriately designated airspace requirements
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- applying the techniques of straight and level, climbing and descending flight to achieve a consistent traffic pattern and approach to landing
- communicating effectively with others when controlling an aeroplane in normal flight including using an aeronautical radio
- compensating for the secondary effects of controls
- completing relevant documentation
- confirming runway and aerodrome serviceability and availability
- controlling an aeroplane during slow speed flight
- controlling an aeroplane during turning manoeuvres
- determining appropriate runway and circuit procedures
- identifying and correctly using relevant equipment
- identifying geographical features from aerodrome charts including:
  - aerodromes and landing areas within local area
  - geographical limits
  - geographical limits of flight training areas
  - restricted, controlled and uncontrolled airspace areas
  - state local airspace limits
  - transit route between departure aerodrome and training area
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations

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- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining separation between aircraft
- 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 safely in the vicinity of local aerodromes and landing areas
- performing circuits and approaches
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- remaining within a designated area while complying with airspace and air traffic requirements
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor aeroplane performance
- working collaboratively with others when controlling an aeroplane in normal flight including using an aeronautical radio
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- after take-off checks
- aircraft performance
- aircraft systems
- aircraft weight and balance
- airspace cleared procedure to be carried out before all turns
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- cause of and compensation for aileron drag
- circuit patterns and procedures
- contents of the aircraft flight manual (AFM) and pilot’s operating handbook (POH)

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- dangers associated with mechanical and wake turbulence
- dangers of turbulence and wake turbulence when flying at low speed
- day visual flight rules (VFR) criteria
- effect of angle of bank and load factor on stall speeds
- effect of turning and acceleration on magnetic compass accuracy
- effects and use of carburettor heat or de-icing systems
- effects of carburettor or intake icing
- effects of excessive cooling on engine performance
- effects of flap
- engine considerations during prolonged climbing and descending
- environmental conditions that represent visual meteorological conditions (VMC)
- functions and effects of all aeroplane controls
- go-around procedures from base leg and final approach
- hazards during maximum rate descent
- hazards when performing performance manoeuvres
- in a Defence context, relevant Defence Orders and Instructions
- local area operating procedures
- operation of stall warning devices fitted to aeroplane
- pre-landing checks
- primary effects of controls
- principles of aerodynamics
- procedures for setting power in normally aspirated, turbocharged or supercharged engines
- relationship between angle of bank, load factor and stall speed
- relationship between induced drag and operating at slow speed
- relationship of attitude and power to trim
- relevant sections of aeronautical information package (AIP)
- relevant sections of Civil Aviation Safety Regulations and Orders
- relevant WHS/OHS and environmental procedures and regulations
- requirements and procedures for maximum rate descent
- tendency to under bank in descending turn and over bank in a climbing turn
- theory and application of best rate and angle of climb
- turning using a magnetic compass
- use of autopilot/flight director functions
- use of flap
- use of instruments to monitor aeroplane performance
- use of trim controls.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include

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requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4004 Land aeroplane

Modification History

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

Application

This unit involves the skills and knowledge required to land an aeroplane, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes conducting aeroplane landings and managing mishandled landings.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Conduct aeroplane landing	1.1 Aeroplane is landed at a controlled rate of descent with alignment above the runway centreline, within a specified area without drift, and directional control is maintained
	1.2 Existing wind conditions are confirmed, drift corrections are applied, precise ground track is maintained, and aeroplane is configured for cross-wind landing conditions as required
	1.3 Ballooning and bouncing are minimised and controlled in accordance with established aeroplane landing procedures
	1.4 Positive directional control is maintained and cross-wind corrections are applied as required during the after-landing roll
	1.5 After-landing checks are performed in accordance with approved checklist
	1.6 Separation with conflicting air and ground traffic is maintained
	1.7 Runway is vacated when practicable
	1.8 Aeroplane is stopped safely using drag and/or braking devices within available runway length
	1.9 Landing clearance is obtained at applicable airfields
	1.10 Wake turbulence is avoided
	1.11 Weather conditions are monitored
2 Manage mishandled landing	2.1 Conditional requirements for conducting a missed approach are recognised
	2.2 Decision to perform missed approach and subsequent go-around is made when safe landing cannot be achieved
	2.3 Power, attitude and configuration are selected to safely control aeroplane
	2.4 Aeroplane is manoeuvred clear of the ground and after take-off procedures are conducted

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2.5 Allowance for wind velocity is made during go-around

2.6 Wake turbulence is avoided

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 AVIY4004B Land aeroplane.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4004 Land aeroplane

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating landing performance
- carrying out correct procedures in a go-around
- communicating effectively with others including using an aeronautical radio
- compensating for the secondary effect of controls
- completing relevant documentation
- conducting aeroplane cross-wind landing procedures:
  - verify existing wind conditions, make proper correction for drift, and maintain a precise ground track
  - configure aeroplane for cross-wind conditions
  - control aeroplane during transition from final approach to touchdown and during after-landing roll
  - apply cross-wind drift corrections during landing and taxi procedures
- conducting aeroplane landing procedures:
  - maintaining constant landing position aim point
  - achieving a smooth, positively-controlled transition from final approach to touchdown, including control ballooning during flare
  - achieving touchdown at a controlled rate of descent, in the specified touchdown zone within tolerances
  - controlling bouncing after touchdown
  - aligning touchdown with centreline within tolerances
  - ensuring separation is maintained
  - maintaining positive directional control and cross-wind correction during after-landing roll

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    - using drag and braking devices, as applicable, in such a manner to bring the airplane to a safe stop
    - completing applicable after-landing checklist items in a timely manner
- conducting aeroplane missed approach:
    - recognising the conditions when a missed approach should be executed
    - making the decision to execute a missed approach when it is safe to do so
    - making a smooth, positively-controlled transition from approach to missed approach, including
        - selecting power, attitude and configuration to safely control aeroplane
        - manoeuvring aeroplane clear of the ground and conducting after take-off procedures
        - making allowance for wind velocity during go-around
        - avoiding wake turbulence
- conducting aeroplane missed landing procedure
    - recognising the conditions when a missed landing should be executed
    - making decision to execute recovery when it is safe to do so
    - making a smooth, positively-controlled transition from missed landing to missed approach, including
        - selecting power, attitude and configuration to safely control aeroplane
        - manoeuvring aeroplane clear of the ground and conducting after take-off procedures
        - making allowance for wind velocity during go-around
        - avoiding wake turbulence
- conducting aeroplane short landing procedures:
    - landing aeroplane at nominated touchdown point at minimum speed
    - controlling ballooning during flare
    - controlling bouncing after touchdown
    - maintaining direction after touchdown
    - applying maximum braking without locking up wheels
    - stopping aircraft within landing distance available
- exercising sound judgement sufficient to perform landing procedures
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining compliance with 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
- recognising and responding to conditions leading to a go-around

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- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using relevant equipment, including trim controls, flaps, carburettor heat and braking devices
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor aeroplane performance
- working collaboratively with others when landing aeroplane
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodynamic forces involved during a flare
- aeroplane limitations
- aeroplane performance
- aeroplane weight and balance
- air traffic procedures
- all required checklist items
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane operations
- causes of aquaplaning and procedures to avoid aquaplaning
- causes of loss of control of aeroplane on landing
- causes of loss of directional control during landing
- circuit and landing procedures
- contents of aircraft flight manual (AFM) and pilot's operating handbook (POH)
- cross wind limits for the aeroplane type flown
- day visual flight rules (VFR) criteria
- effect of wind on landing performance
- environmental conditions that represent visual meteorological conditions (VMC)
- how to calculate a cross wind component
- in a Defence context, relevant Defence Orders and Instructions
- options when local conditions are not suitable for landing
- principles of aerodynamics
- propeller wash, rotor wash and jet blast

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- relevant sections of aeronautical information package (AIP)
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- steps for landing an aeroplane in normal headwind and crosswind
- techniques used to land an aeroplane in a cross wind
- touch and go procedures
- typical single-engine aeroplane aircraft systems
- wake turbulence considerations
- windsock and other indicators that are used to determine wind velocity.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4007 Manage aircraft fuel

Modification History

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

Application

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

It includes planning fuel requirements, managing the fuel system, and refuelling aircraft.

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

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan fuel requirements	1.1 Total en route and reserve fuel requirement is determined in accordance with regulatory requirements
	1.2 Allowance is made for possible abnormal or emergency situation
2 Manage fuel system	2.1 Fuel system including pumps, engine controls and cross-feed systems are operated in accordance with aircraft flight manual (AFM)/pilot's operating handbook (POH)
	2.2 Fuel quantity on-board is verified using two independent methods
	2.3 Fuel quality checks are confirmed before flight
	2.4 Fuel usage and status is monitored throughout flight and fuel log is accurately maintained
	2.5 Aircraft is configured to achieve desired profile, best range or endurance and operational endurance calculations are revised as required
	2.6 Work health and safety (WHS)/occupational health and safety (OHS) procedures are followed at all times
	2.7 Potential hazards are anticipated and precautions are applied
3 Refuel aircraft	3.1 Aircraft is refuelled correctly in accordance with AFM/POH, WHS/OHS, regulatory requirements and workplace procedures
	3.2 Appropriate precautions are taken to ensure the safety of personnel and property during refuelling operations

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 AVIY4007B Manage aircraft fuel.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4007 Manage aircraft fuel

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
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating equi time point (ETP) and point of no return (PNR)
- calculating fuel allowances, consumption and endurance
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing safety precautions during aircraft refuelling
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining workplace records relevant to aircraft fuel management
- managing the operation of an aircraft fuel system
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring fuel usage to achieve desired profile, best range or endurance following configuration changes
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing fuel quality control checks
- planning aircraft fuel requirements
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs

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- recognising deteriorating situations impacting on fuel requirements
- refuelling an aircraft:
  - identifying applicable grade of fuel for aircraft type
  - complying with aircraft bonding and earthing requirements
  - implementing fuel loading and unloading procedures
  - ensuring fuel cap security
  - undertaking fuel quality checks, including:
    - operator checks
- reporting and/or rectifying identified promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively with others when managing aircraft fuel
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodynamic, engine and airframe requirements for aircraft to achieve best range and endurance
- dangers of using the incorrect grade of fuel
- factors affecting fuel consumption
- fire extinguishers that can be used for fuel-related fires, including requirements and how to use them in a fire
- fuel consumption of aircraft at varying power settings
- fuel reserve requirement for aircraft
- hazards that exist when refuelling aircraft and related hazard control procedures and precautions
- how to calculate conversions between imperial and metric measures
- in a Defence context, relevant Defence Orders and Instructions
- limitations on using drum stock fuel
- location of refuelling places
- methods of identifying applicable grade of fuel for aircraft type
- methods of verifying the quantity of fuel on board an aircraft
- minimum fuel requirements for day visual flight rules (VFR) operations
- mixture leaning technique
- operation of the aircraft fuel system

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- principles of aircraft fuel systems
- problems that may occur when managing aircraft fuel and appropriate action that should be taken in each case
- procedures for calculating equi time point (ETP) and point of no return (PNR)
- regulations and procedures for refuelling aircraft
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- variations to planned fuel consumption
- WHS/OHS requirements applicable to aircraft fuelling operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4011 Control helicopter on the ground

Modification History

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

Application

This unit involves the skills and knowledge required to control a helicopter on the ground, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes starting and stopping a helicopter engine, engaging the rotor, and controlling the main rotor disc and anti-torque system.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Start engine and rotor	1.1 Helicopter is positioned with a view to safety and rotor clearance when starting engine and rotors
	1.2 Wind conditions are assessed for start
	1.3 Pre-start checklist actions are performed
	1.4 Engine start and rotor engagement are performed
	1.5 Disc/rotor position is controlled during start
	1.6 Engine is operated within aircraft limits
	1.7 Emergencies are managed
2 Stop engine and rotor	2.1 Wind conditions are assessed and appropriate allowances are made
	2.2 Helicopter is positioned with a view to safety and rotor clearance when stopping engine and rotors
	2.3 Engine shutdown and rotor stop are performed
	2.4 Disc/rotor position is controlled during shutdown
	2.5 Engine and transmission system indications are monitored and managed
3 Control main rotor disc and anti-torque system	3.1 Main rotor disc attitude is maintained during all rotor speed (RRPM) operations
	3.2 Anti-torque pedals are set to compensate for main rotor torque
	3.3 Rotor disc attitude and RRPM are managed while performing other tasks or actions

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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 AVIY4011B Control helicopter on the ground.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4011 Control helicopter on the ground

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:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when controlling helicopter on the ground
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- 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 relevant controls/equipment including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with controlling a helicopter on the ground
- using instruments to monitor helicopter performance
- working collaboratively with others when controlling helicopter on the ground
- working systematically with required attention to detail without injury to self or others, or

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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 include knowledge of:

- aerodrome landing area markings, and light and marshalling signals
- aircraft operational start limitations
- applicable helicopter systems
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- clearing of rotor blades
- dynamic roll over

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- effect of wind on engines and rotor blades (blade sailing)
- fire management applicable to engine starting and stopping
- fitted firefighting extinguishing system and its applications
- fuel system including cause and effect of fuel vaporisation
- ground resonance
- helicopter braking and steering systems
- helicopter starter motor limitations
- hot and cold engine start procedures
- local air traffic control procedures
- local noise abatement procedures and curfews
- on-ground helicopter control procedures including:
  - operating on different surfaces, including sealed and unsealed surfaces
  - pre-start checks
  - after-start checks
  - regulations and procedures relating to ground operation of rotorcraft
- relevant helicopter/equipment characteristics
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant sections of the aircraft flight manual (AFM)/pilot's operating handbook (POH)
- relevant WHS/OHS and environmental procedures and regulations
- rotor engagement system
- shutdown checks
- use of filtered air.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment

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- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4012 Control helicopter in hovering flight

Modification History

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

Application

This unit involves the skills and knowledge required to control a helicopter in hovering flight, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes lifting off to hover and performing hovering checks, hovering a helicopter in cross and tail winds, performing turns around the mast, conducting turns around nose and tail, and performing sidewards and backwards flight. It also includes landing from the hover, managing a mishandled landing, and managing a mishandled lift off.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Lift off to hover and perform hover checks	1.1 Aircraft performance is calculated for flight
	1.2 Pre-take-off checks are performed
	1.3 Flight controls are set to prepare for lift-off to hover
	1.4 Flight and power controls are used to lift helicopter off the surface to a stable hover at appropriate height for helicopter while controlling heading
	1.5 Wind effect is anticipated and accounted for with appropriate control inputs to maintain position over nominated hover point
	1.6 Awareness of adverse effects of rotor downwash on surrounding aircraft, people, objects and environment is applied
	1.7 Flight control functions, centre of gravity and hover power checks are performed
	1.8 Hover taxi manoeuvre is commenced, maintained and stopped at a constant and safe hover height, while maintaining engine power and rotor speed (RRPM) within limits
	1.9 Coordinated corrective action is used to counter wind effects
	1.10 Implications of environmental conditions are assessed and appropriate compensation is made
	1.11 Helicopter is maintained clear of obstructions
	1.12 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
2 Hover helicopter in	2.1 Helicopter is maintained in hovering flight remaining over a

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	cross and tail winds		nominated hover point at a nominated height and heading in cross and tail winds
		2.2	Coordinated corrective action is used to maintain a constant rate of turn and to counter wind effects
3	**Perform turns around mast**	3.1	Helicopter is turned around the mast while maintaining a constant height and specified rate of turn over nominated hover point
		3.2	Turn is completed on nominated heading
		3.3	Controlled corrective action is used to control effects of wind gusts
		3.4	Helicopter is maintained clear of obstructions
		3.5	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		3.6	RPM is managed within limits during turn
4	**Perform turns around nose and tail**	4.1	Helicopter is turned around nominated point on or forward of helicopter nose while maintaining a constant height and specified rate of movement around point
		4.2	Helicopter is turned around nominated point on or aft of helicopter tail while maintaining a constant height and specified rate of movement around point
		4.3	Controlled corrective action is taken to counter effects of wind gusts
		4.4	Helicopter is maintained clear of obstructions during turning manoeuvres
		4.5	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		4.6	Turns in a specified direction are commenced and stopped at a specified heading
		4.7	RPM is managed within limits during turn
		4.8	Ground track is maintained at a constant distance from nominated point
		4.9	Anti-torque pedals are used to ensure helicopter nose or tail

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			is pointed at nominated turning point
5	**Perform sidewards and backwards flight**	5.1	Helicopter is transitioned from static hover to sideways and rearward flight
		5.2	Lookout is maintained in direction of flight using a systematic scan technique at a rate determined by traffic density, visibility, obstructions and terrain
		5.3	Rearward movement is only conducted after visually checking behind helicopter, and height is adjusted as required
		5.4	Helicopter directional control is maintained and manoeuvred clear of obstructions during sidewards and backwards flight manoeuvres
		5.5	RPM is managed within limits during turn
		5.6	Rate of movement of helicopter is maintained at a safe speed
		5.7	Sideways and rearward flight is terminated over nominated hover point
6	**Land from the hover**	6.1	Pre-landing checks are completed as required
		6.2	Helicopter is lowered onto nominated point from hovering flight without adverse longitudinal, lateral, yawing or rolling movements
		6.3	Helicopter stability on landing gear is ensured prior to fully lowering collective
		6.4	After-landing checks are performed
7	**Manage a mishandled landing**	7.1	Appropriate action is taken to identify when an adverse landing situation is developing
		7.2	Appropriate action is taken to either land aircraft or discontinue landing and return to hover safely
8	**Manage a mishandled lift off**	8.1	Appropriate action is taken to identify when an adverse lift off situation is developing
		8.2	Appropriate action is taken to discontinue lift off and return to ground safely

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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 AVIY4012B Control helicopter in hovering flight.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4012 Control helicopter in hovering flight

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter 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)/occupational health and safety (OHS) procedures and relevant regulations
- 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
- 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 relevant controls/equipment including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems when controlling a helicopter in hovering flight
- using instruments to monitor helicopter performance

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- working collaboratively with others when controlling helicopter in hovering flight
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodrome and helicopter landing site markings
- aircraft operational limitations
- application of a height/velocity graph
- calculation of aircraft performance for flight
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- dynamic rollover
- effect of wind on rotor blade control (blade sailing)
- effects of rotor wash
- ground resonance
- hazards and risks when controlling a helicopter in hovering flight and precautions for controlling the risks
- helicopter braking and steering systems
- helicopter hovering procedures
- hover checks
- how to use of fire extinguisher system fitted to helicopter being used
- landing a helicopter
- light and marshalling signals
- local air traffic control procedures
- local noise abatement procedures and curfews
- maintaining hovering flight in a range of operational conditions
- making a transition from static hover to sideways and rearward flight
- managing a mishandled landing
- managing a mishandled lift off
- operating on different surfaces, including sealed and unsealed surfaces
- operational and start limitations of typical helicopters
- pre-take-off checks
- recirculation
- relevant helicopter/equipment characteristics
- relevant sections of aircraft flight manual (AFM)/pilot's operating handbook (POH)
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders

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- relevant WHS/OHS and environmental procedures and regulations
- turning a helicopter around the mast.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4014 Take off helicopter and approach to hover

Modification History

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

Application

This unit involves the skills and knowledge required to take off a helicopter and approach to hover, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes carrying out pre-take-off checks, taking off a helicopter, approaching to hover prior to landing, and performing the go-around procedure.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Carry out pre take-off checks	1.1 Pre take-off checks and safety briefings are completed
	1.2 Safe take-off path is selected
	1.3 Helicopter is lined up in take-off direction and is positioned at the optimum position within the helicopter landing site (HLS)
	1.4 Line-up checks are performed in accordance with approved checklist as required
2 Take off helicopter	2.1 Air traffic control (ATC) clearances are obtained and compliance is maintained with clearance conditions and requirements, when operating within controlled airspace
	2.2 Helicopter is transitioned from a stationary position in a specified direction passing through translational lift, remaining clear of obstructions, and establishing and maintaining a recommended or nominated climb speed
	2.3 Helicopter flight path is controlled using appropriate flight handling techniques including awareness of helicopter performance considerations, aircraft balance and flight control trim as required
	2.4 Power and attitude are managed for flight path, departure profile and indicated airspeed (IAS) being flown
	2.5 Local and published noise abatement requirements and curfews are observed
	2.6 Situational awareness of circuit traffic is maintained and conflict is avoided
3 Approach to hover	3.1 Suitable termination point is selected
	3.2 Pre-landing checks are completed in accordance with approved checklist
	3.3 Appropriate approach angle and track is intercepted and approach manoeuvres are conducted in accordance with air

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		traffic control instructions
	3.4	Helicopter is descended to hover at selected termination point at a reducing closure rate and along a specified track on an approach angle appropriate to helicopter type and conditions
	3.5	Landing gear is aligned to planned approach direction
	3.6	Loss of translational lift is recognised and controlled
	3.7	RPM is managed within normal operational limits
	3.8	Approach is terminated at hover over termination point
4 Perform go-around procedure	4.1	Critical situations are recognised and timely decisions are made to go-around in circumstances that require discontinuing a circuit or approach
	4.2	Go-around is initiated
	4.3	Power and attitude is set to initiate safe climb at appropriate IAS from any position in the circuit
	4.4	Obstructions and traffic are appropriately avoided during climb following a decision to go-around
	4.5	Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
	4.6	Situational awareness of circuit traffic is maintained throughout go-round procedure
	4.7	After take-off checks are completed in accordance with approved checklist
	4.8	Local and published noise abatement requirements and curfews are observed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 AVIY4014B Take off helicopter and approach to hover.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4014 Take off helicopter and approach to hover

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when taking off helicopter and approaching to hover
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting/using a helicopter manufacturer height-velocity diagram/graph
- 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 relevant controls/equipment
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with taking off a helicopter and controlling its approach to hover
- using instruments to monitor helicopter performance
- working collaboratively with others when taking off helicopter and approaching to hover
- working systematically with required attention to detail without injury to self or others, or

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damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodynamic factors affecting helicopter flight performance
- air traffic requirements
- aircraft flight manual (AFM) and pilot's operating handbook (POH)
- aircraft performance
- aircraft systems
- aircraft weight and balance
- all pre- and after- take-off and pre- and after- landing checks
- application of a height/velocity diagram/graph
- avoidance and recognition of recovery techniques appropriate to helicopter type
- basic principles of aerodynamics
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- contributing operational situations and environmental conditions
- day visual flight rules (VFR) criteria
- factors affecting take-off and climb performance
- flapback
- functions and effects of all helicopter controls
- ground effect
- hazards and risks when taking off a helicopter and controlling its approach to hover and precautions for controlling the risks
- inflow roll
- local air traffic control procedures and instructions
- loss of tail rotor effectiveness (LTE)
- low 'g' force and mast bumping
- overpitching or low rotor speed (RRPM) – rotor stall
- problems that may occur when taking off a helicopter and controlling its approach to hover and appropriate action that should be taken in each case
- procedures for using performance charts
- purpose and functions of helicopter systems
- recirculation
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- settling with power

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- translational lift
- vortex ring state
- weight and balance.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4015 Control helicopter in normal flight

Modification History

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

Application

This unit involves the skills and knowledge required to control a helicopter in normal flight, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes climbing a helicopter, maintaining straight and level flight, descending a helicopter, and turning a helicopter. It also includes controlling a helicopter at any speed, performing circuits and approaches, and complying with airspace requirements.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Climb helicopter	1.1 Adjustments are made to attitude and power to achieve an increase of altitude at normal, maximum rate (V_Y), maximum angle (V_X) and cruise climb flight configurations from straight and level flight
	1.2 Appropriate altimeter settings are set
	1.3 Helicopter is maintained in balanced flight during adjustments to attitude and power
	1.4 Power is maintained as altitude increases
	1.5 Helicopter is levelled off from climb at nominated altitude
	1.6 Lookout is maintained during climb using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	1.7 Situational awareness is maintained
2 Maintain straight and level flight	2.1 Attitude and power are adjusted to achieve a constant height, heading and speed while remaining in balanced flight
	2.2 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
	2.3 Natural horizon is used as primary attitude reference
	2.4 Altitude is maintained within allocated height band
3 Descend helicopter	3.1 Attitude and power are adjusted to enter and maintain a descent from straight and level flight
	3.2 Helicopter is levelled from a descent at a nominated altitude
	3.3 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain

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		3.4	Clearance ahead and below is maintained
		3.5	Air traffic control (ATC) altitude restrictions are observed
		3.6	Design limits are not exceeded during helicopter descent
		3.7	Appropriate altimeter settings are set
		3.8	Situation awareness is maintained at all times during helicopter descent
4	**Turn helicopter**	4.1	Attitude and power are adjusted to enter and maintain turns at varying rates from level, climbing and descending flight to achieve nominated tracks
		4.2	Helicopter is rolled out from the turn to achieve nominated heading or geographical feature alignment
		4.3	Helicopter balance and trim are ensured as required
		4.4	Lookout is maintained in direction of turn and above or below using a systematic scan technique at a rate determined by traffic density, visibility and terrain
		4.5	Engine operating limits are not exceeded
5	**Control helicopter at any speed**	5.1	Attitude and power are adjusted, accelerated or decelerated to manoeuvre helicopter at any specified airspeed within the flight envelope while maintaining balanced flight
		5.2	Height awareness is maintained at all times and appropriate adjustments are made as required
		5.3	Wind conditions are monitored and appropriate allowance is made
		5.4	Helicopter is suitably controlled to ensure it is operated within its design limits
6	**Perform circuits and approaches**	6.1	Circuits are joined and conducted in accordance with aeronautical information publication (AIP) and/or local procedures at normal and low altitude appropriate to the helicopter type
		6.2	Due allowance is made for wind and all appropriate checklist items are completed when performing circuits and approaches
		6.3	Radiotelephone procedures are followed during circuit

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		operations
	6.4	Approach path applicable to helicopter type is intercepted and maintained while remaining clear of other traffic
	6.5	Lookout is maintained during circuits and approaches using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	6.6	Conflicting traffic is recognised and appropriate responses are made
	6.7	Right of way rules are applied and compliance with these rules is maintained
	6.8	Weather conditions are monitored and appropriate responses are made
	6.9	Fuel status is monitored and appropriate responses are made
	6.10	Helicopter approach is conducted to establish hover or to conduct a landing at the nominated termination point
7 Comply with airspace requirements	7.1	Suitable aeronautical charts are interpreted and used to maintain airspace compliance requirements
	7.2	Circuit departure is performed
	7.3	Helicopter is maintained within a specified area and/or track while complying with air traffic requirements, controlled or restricted airspace conditions or limitations and reacting to factors that affect the safe progress of a flight
	7.4	Orientation is maintained to geographical features with the aid of suitable charts and maps
	7.5	Circuit join is performed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 AVIY4015B Control helicopter in normal flight.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4015 Control helicopter in normal flight

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others when controlling helicopter in normal flight
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) 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 relevant controls, including throttle, rotor controls, anti-torque pedals and collective and cyclic pitch controls
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems associated with controlling a helicopter in normal flight
- turning a helicopter with the following parameters:

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  - level turns
  - climbing turns with 20° bank angle
  - powered descending turn with 30° bank angle
- using instruments to monitor helicopter performance
- working collaboratively with others when controlling helicopter in normal flight
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- application of a height/velocity diagram/graph
- application of heading and track
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations
- cause and effects of retreating blade stall
- circuit patterns and procedures
- circumstances and procedures for the use of carburettor heat
- conditions leading to loss of tail rotor/anti-torque control during descent
- dangers of wind shear, turbulence and wake turbulence
- effect of turning and acceleration on magnetic compass accuracy
- forces and moments acting on a helicopter and precautions to manage their effects
- functions, and primary and secondary effects of all helicopter controls
- hazards and risks when controlling a helicopter in normal flight and precautions for controlling the risks:
  - in a climb
  - in a turn
  - in straight and level flight
- helicopter instruments and monitoring helicopter performance
- managing non-normal and emergencies in the circuit area
- principles of aerodynamics
- problems that may occur when controlling a helicopter in normal flight and appropriate action that should be taken in each case
- procedures for setting power in normally aspirated, turbocharger, supercharged or turbine engines
- procedures for the use of trim controls if appropriate
- recognition and avoidance of settling with power/vortex ring state

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- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- rotational and induced airflow
- theory and application of best rate and angle of climb
- use of instruments to monitor helicopter performance and significance of colour coding
- vortex ring state
- wind shear, turbulence and wake turbulence.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4017 Execute advanced helicopter manoeuvres and procedures

Modification History

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

Application

This unit involves the skills and knowledge required to execute advanced helicopter manoeuvres and procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes turning a helicopter steeply, performing autorotative flight, and landing on and lifting off sloping ground. It also includes landing, taking off and manoeuvring in a confined area, executing limited power take-offs, approaches and landings, and taking off and landing at a pinnacle or ridge line.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Turn helicopter steeply	1.1 Level turn of nominated bank angle is achieved without altitude change to nominated heading
	1.2 Descending turn of nominated bank angle is achieved to nominated heading
	1.3 Awareness of higher stall speed in turns is applied
	1.4 Helicopter operating limits are not exceeded
2 Perform autorotative flight	2.1 Appropriate action plan, including task priorities, is formulated that ensures the safe completion of autorotative manoeuvres
	2.2 Autorotative flight is entered and maintained at a nominated speed and heading in balanced flight
	2.3 Autorotative flight is performed at the optimum range and minimum descent rate speeds
	2.4 Heading is altered with helicopter in balanced flight at a nominated speed
	2.5 Helicopter is recovered and transitioned to normal flight from autorotative flight using power to a climb at nominated heading and speed
	2.6 Helicopter autorotative landing to the ground is performed into the wind, using appropriate mix of control inputs within tolerances of termination point without lateral or rearward movement, and zero or minimum run-on speed
	2.7 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility and terrain
	2.8 Situation awareness is maintained at all times during autorotative flight

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3	**Land on and lift off sloping ground**	3.1 Surface conditions are confirmed to be suitable for the helicopter type
		3.2 Stakeholders are briefed to ensure safe operations in the vicinity of helicopter
		3.3 Helicopter is landed from the hover onto sloping ground using appropriate slope landing techniques relevant to helicopter type
		3.4 Helicopter is lifted off from sloping ground to a hover using appropriate slope landing techniques relevant to helicopter type
		3.5 Control inputs and adjustments during landing on and lifting off are made in response to wind, surface and applicable aircraft limitations, using appropriate slope landing techniques and helicopter handling procedures
		3.6 Any abnormal situations are recognised and appropriate controlled corrective action is implemented
		3.7 Lookout is maintained using a systematic scan technique at a rate determined by traffic density, visibility or terrain
		3.8 Situation awareness is maintained at all times during lift-offs and landings on sloping ground
4	**Land, manoeuvre and take off in a confined area**	4.1 Confined area is assessed, an action plan is formulated and a decision is made to operate in the area
		4.2 Own pilot capabilities and helicopter performance are assessed, and decisions to take off or land are adjusted accordingly
		4.3 Appropriate approach and departure path is identified, prior to intercepting and approach path to nominated termination point is maintained
		4.4 Helicopter is safely landed in a confined area using appropriate landing on techniques
		4.5 Helicopter is manoeuvred in a confined area while remaining clear of obstructions, and within helicopter operating limitations
		4.6 Helicopter departure plan and contingency procedures are briefed prior to departure

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	4.7	Helicopter is safely taken off from a confined area using appropriate lifting off techniques
	4.8	Situational awareness is maintained at all times during manoeuvres in a confined area
5 Execute limited power take-off, approach and landing	5.1	Need for limited power manoeuvres is established
	5.2	Decision to conduct limited power manoeuvres is implemented and appropriate action plan is formulated to conduct limited power operations
	5.3	Helicopter performance is calculated and power requirements are confirmed prior to commencing limited power operations
	5.4	Appropriate area for a safe take-off and landing suitable for limited power available is selected
	5.5	Awareness of own capabilities is applied, and limitations and decisions to take-off, approach or land are adjusted accordingly
	5.6	Limited power take-off is performed, applying maximum or nominated power while maintaining optimum rotor speed (RRPM)
	5.7	Limited power approach and landing is performed, while managing helicopter airspeed and optimum RRPM appropriate to power available and landing environment
	5.8	Situational awareness is maintained at all times during limited power manoeuvres
	5.9	Appropriate allowance is made for wind effects during limited power manoeuvres
6 Take off and land at a pinnacle or ridge line	6.1	Suitable pinnacle or ridge line is selected and assessed, helicopter performance is assessed and/or confirmed, approach and landing plan is formulated, and decision is made to operate onto the area
	6.2	Awareness of own capabilities is applied, and limitations and decisions to take-off or land are adjusted accordingly
	6.3	Helicopter is safely landed on a pinnacle or ridge line using appropriate landing on techniques
	6.4	Helicopter is safely lifted and taken off from a pinnacle or ridge line using appropriate lifting off techniques

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6.5 Situational awareness is maintained at all times during take-offs, approaches and landings at a pinnacle or ridge line

6.6 Appropriate allowance is made for wind effects , landing surface conditions and approach/departure path obstacles during take-off, approach and landing at a pinnacle or ridge line

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 AVIY4017B Execute advanced helicopter manoeuvres and procedures.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4017 Execute advanced helicopter manoeuvres and procedures

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- following air traffic control procedures and instructions
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- interpreting/using a helicopter manufacturer height-velocity diagram/graph
- 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 autorotative flight:
  - power recovery
  - power termination
  - autorotative landing
- 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 relevant equipment
- selecting and using required personal protective equipment conforming to industry and

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WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems
- using instruments to monitor helicopter performance
- 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 include knowledge of:

- actions to be conducted following a forced landing
- aerodynamic factors affecting helicopter flight performance, including:
  - aerodynamic forces
  - dynamic rollover
  - settling with power
  - recirculation
  - loss of tail rotor (anti-torque) effectiveness (LTE)
- all applicable checklist items
- application of a height/velocity diagram/graph
- basic principles of aerodynamics
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter operations
- cross-wind and rotor control limits for a helicopter
- crosswind loss of rotor control limits for helicopter type flown
- emergency radio procedures
- functions and effects of all helicopter controls
- hazards and risks when executing advanced helicopter manoeuvres and procedures and precautions for controlling the risks
- helicopter performance limitations
- local air traffic control procedures and instructions
- local weather conditions
- pinnacle and ridge line landing techniques:
  - intercept and maintain the approach path to the termination point
  - maintain effective translational lift until touchdown is assured
  - terminate to a hover over selected landing and lift-off area

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  - touchdown on nominated touchdown point
  - control helicopter on the ground
- pinnacle and ridge line lift off techniques:
  - plan take-off from in a pinnacle or ridgeline
  - calculate and confirm helicopter take-off performance is adequate for departure
  - determine an appropriate abort point as required
  - conduct take-off and departure from pinnacle or ridgeline remaining clear of obstacles with a margin that is applicable to the operation
- power required and power available curves
- pressure altitude and density considerations
- problems that may occur when executing advanced helicopter manoeuvres and procedures, and appropriate action that should be taken in each case
- procedures for using performance charts
- purpose and functions of helicopter systems
- relevant instructions, procedures and information
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS and environmental procedures and regulations
- typical hazards and risks associated with conducting advanced manoeuvres, and precautions and procedures to control the risks
- wind and terrain effects.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4018 Manage abnormal and emergency helicopter flight situations

Modification History

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

Application

This unit involves the application of skills and knowledge required to manage abnormal and emergency helicopter flight situations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing a forced landing from level flight after take-off or on approach, managing an engine failure at the hover or during taxi, managing a tail rotor malfunction, and managing a jammed flight control system. It also includes managing adverse aerodynamic conditions and managing a malfunction of the helicopter operating systems.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage a forced landing from level flight, after take-off or on approach	1.1 Emergency situation requiring a forced landing is correctly identified
	1.2 Autorotative flight is entered and established at nominated speed and heading in balanced flight
	1.3 Required immediate actions are performed
	1.4 Rotor speed (RRPM) is controlled within limitations
	1.5 Landing area within autorotative distance is selected and appropriate action plan is formulated to ensure safety of helicopter
	1.6 Emergency procedures are implemented and task priorities are allocated to all actions to ensure aircraft, flight crew and passenger safety
	1.7 Emergency radio messages of intentions are transmitted
	1.8 Helicopter is landed into wind with as slow as practical ground speed while maintaining control of helicopter
	1.9 Situational awareness is maintained at all times during forced landing manoeuvres
2 Manage an engine failure at the hover or during taxi	2.1 Hover and taxi surfaces are suitably selected to maximise options in an engine failure
	2.2 Emergency situation involving an engine failure is correctly identified
	2.3 Required immediate actions are performed
	2.4 Controlled touchdown is performed
3 Manage a tail rotor	3.1 Hover heights and surfaces are selected to maximise options

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	malfunction in flight and at the hover		in a tail rotor malfunction
		3.2	Tail rotor malfunction is correctly identified
		3.3	Required immediate actions are performed
		3.4	Control of helicopter is established and suitable landing area is selected
		3.5	All emergency checks are performed and plan is formulated to achieve an approach and landing
		3.6	Emergency radio messages of intentions are transmitted
		3.7	Controlled emergency landing with a malfunctioning tail rotor is performed
		3.8	Situational awareness is maintained at all times during tail rotor malfunction handling manoeuvres
4	**Manage a jammed flight control system**	4.1	Jammed or malfunctioning flight control system malfunction is correctly identified
		4.2	Control of helicopter is established and suitable landing area is selected
		4.3	All emergency checks are performed and a plan is formulated to achieve approach and landing
		4.4	Emergency radio messages of intentions are transmitted
		4.5	Controlled emergency landing with a jammed flight control is performed
		4.6	Situational awareness is maintained at all times during flight control handling manoeuvres
5	**Manage a malfunction of a helicopter operating system**	5.1	Abnormal situations involving a helicopter system/s malfunction are correctly identified and confirmed
		5.2	Appropriate emergency procedures are conducted while maintaining control of helicopter flight path
		5.3	System malfunctions are managed and situational awareness is maintained at all times during a system malfunction
6	**Manage upset recovery**	6.1	Correct techniques for upset recovery in various configurations are applied
		6.2	Aircraft is configured appropriately

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6.3 Upset conditions are recognised

6.4 Aircraft is recovered to level flight conditions

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 AVIY4018B Manage abnormal and emergency helicopter flight situations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4018 Manage abnormal and emergency helicopter flight situations

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter 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)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting/using a helicopter manufacturer height/velocity diagram/graph
- 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 relevant equipment
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- solving problems associated with managing a helicopter in abnormal and emergency situations
- using instruments to monitor helicopter performance

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- 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 include knowledge of:

- actions to be conducted following a forced landing
- aerodynamic factors affecting helicopter flight performance
- all applicable checklist items
- applicable helicopter system malfunctions:
  - cautions, warnings and indications
  - engine failure/s
  - tail rotor malfunction
  - jammed or malfunctioning flight controls
  - critical flight controls:
    - fuel systems
    - hydraulics
    - flight instruments
- application of a height/velocity diagram/graph
- basic principles of aerodynamics
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to aeroplane or helicopter operations
- emergency procedures
- emergency radio procedures
- functions and effects of all helicopter controls
- hazards and risks when managing a helicopter in abnormal and emergency flight situations and precautions for controlling the risks
- impact of high gross weight and high density altitude on key hazards
- key hazards and typical causal factors and contributing operational situations, avoidance and recognition of symptoms and recovery techniques:
  - vortex ring state
  - ground resonance
  - loss of tail rotor effectiveness (LTE)
  - low ‘g’ force and mast bumping
  - overpitching or low RRPM – rotor stall
  - retreating blade stall

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  - recirculation
  - dynamic rollover
- local air traffic control procedures and instructions
- low level weather and topography effects
- managing system malfunctions
- practical action plans for use in an engine failure
- prioritising tasks when managing malfunctions
- problems that may occur when managing a helicopter in abnormal and emergency flight situations and appropriate action that should be taken in each case
- procedures for using performance charts
- purpose and functions of helicopter systems
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders pertaining to abnormal flight situations
- relevant WHS/OHS and environmental procedures and regulations
- threat and error management:
  - flight planning to avoid hazardous or adverse aerodynamic flight conditions and regimes
  - techniques to avoid a potentially hazardous situation developing while in flight.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4058 Pilot a helicopter during external load operations

Modification History

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

Application

This unit involves the skills and knowledge required to pilot a helicopter during external load operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning and preparing for external load operations, conducting pre-flight briefings, and operating the helicopter during external load operations. It also includes managing abnormal and emergency situations, and conducting post-flight activities.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan and prepare for external load operations	1.1 External load tasking requirements are identified
	1.2 External load is secured, stabilised and rigged in accordance with workplace procedures
	1.3 External load procedure, equipment and personnel required for task are determined
	1.4 Helicopter performance data is interpreted and calculated to ensure suitability of aircraft for external load operations
	1.5 Outbound and return flight routes are planned
	1.6 Secure and stable load preparations are arranged
	1.7 Load-lifting equipment strength and suitability are assessed
2 Conduct pre-flight briefings	2.1 Requirements of load task are explained and confirmed
	2.2 Personnel responsible for inspecting load-lifting equipment for serviceability and security are identified
	2.3 Communication and hook-up procedure is explained
	2.4 Hook-up person and hook-up procedure is specified
	2.5 Departure, transit, approach, termination and load release procedures are explained
	2.6 Emergency procedures are explained and confirmed
	2.7 Pilot vertical reference (long line) procedure is explained
	2.8 Crew and ground support personnel are briefed on all aspects of external load operation
	2.9 Seating is adjusted to ensure full exercise of flight controls

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			and ability to scan instrument panel
		2.10	Helicopter performance data is interpreted and calculated to ensure suitability of aircraft for operations
		2.11	Aircraft is configured for external load operations and security of internal equipment is arranged as required
3	**Operate helicopter**	3.1	Functional and safety checks on role equipment are performed, and defects are reported
		3.2	Fuel and cargo load combinations to achieve task are calculated
		3.3	Adequacy of power margin and directional control are determined
		3.4	Stable hover over load during hook-up/delivery procedures is maintained
		3.5	External load is lifted and transported to a separate location and placed at a specified position
		3.6	External load is monitored and appropriate actions are taken to ensure load security and stability during flight
4	**Manage abnormal and emergency situations**	4.1	Helicopter control is maintained
		4.2	Abnormal and/or emergency situations are identified and managed
		4.3	Load is jettisoned when flight safety is compromised or load stability is uncontrollable
5	**Conduct post-flight activities**	5.1	Operating procedures and outcomes of flight are reviewed and analysed
		5.2	Effectiveness, efficiency and performance of equipment is analysed and reported
		5.3	Inspection, servicing and stowage of equipment is organised

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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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 AVIY4058A Pilot a helicopter during external load operations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4058 Pilot a helicopter during external load operations

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- communicating effectively with others
- completing relevant documentation
- following relevant legislation and workplace procedures
- identifying and assessing vertical, horizontal and relative spatial distances in relation to aircraft fuselage, rotor system, mission and/or operational stores and equipment with regard to potential obstacles to flight safety
- identifying and correctly using equipment required when operating a helicopter during external load operations
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting hover performance and power available/power required from graphs/charts
- maintaining situational awareness
- managing abnormal and emergency situations:
  - load instability:
    - controllable
    - uncontrollable
  - inadvertent load release
  - single engine failure (single/multi-engine)
  - double engine failure (multi-engine only)
  - external load aircraft system failure
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action

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- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing external load scan techniques
- preparing and rigging sling load including all sub-tasks in accordance with workplace procedures and the aircraft flight manual (AFM)/ pilot's operating handbook (POH)
- reading and interpreting relevant instructions, procedures and information
- reporting and/or rectifying identified problems promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor helicopter performance during external load operations
- 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 include knowledge of:

- aerial delivery equipment inspection, operation, safe working loads and limitations
- aerial inspections for external load operations
- aircraft dimensions
- aircraft performance calculations (for all phases of flight)
- awareness of load rigging and preparation for flight
- cargo hook limitations, problems and hazards
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter external load operations
- communication procedure and terminology applicable to external load operations
- control effectiveness in all phases of flight
- engine performance checks for helicopter type to be flown
- external load operational planning and risk control
- external load operations on, or in vicinity of, non-controlled and controlled aerodromes or airstrips
- flight rules applicable to external load operations
- hazards that exist and problems that can occur when operating an aircraft during external load operations
- helicopter dimensions and operating weights:

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  - helicopter landing site (HLS) requirements
  - all up weight (AUW)
  - maximum all up weight (MAUW)
- human factors applicable to external load operations:
  - dehydration and its impact on pilot cognitive function and reaction time
  - fatigue and its impact on pilot cognitive function and situational awareness
  - stress and its short-term and long-term impact
  - drugs (particularly over the counter) impact on pilot cognitive function, reaction time and coordination
  - spatial disorientation and illusions:
    - night external load operations
- in a Defence context, relevant Defence Orders and Instructions
- internal and external load limitations for helicopter type to be flown
- load rigging and preparation for flight
- low-level flight techniques for external load operations
- meteorological requirements for external load operations
- operational planning requirements for external load operations:
  - pre-flight and after-flight inspections
  - operational inspections
- principles of aerodynamics
- privileges and limitations of a low-level rating
- procedures to address problems associated with a helicopter during external load operations
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- vertical reference (long line) operation procedures.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

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Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4059 Pilot a helicopter during rappelling operations

Modification History

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

Application

This unit involves the skills and knowledge required to pilot a helicopter during rappelling operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning rappelling operations, conducting pre-flight briefings, and operating a helicopter. It also includes managing abnormal and emergency situations, and conducting post-flight briefings.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan rappelling operations	1.1 Tasking requirements are identified, including operational variations
	1.2 Crew and equipment required to ensure safe achievement of task are determined
	1.3 Helicopter performance data is interpreted and calculated to ensure suitability of aircraft for rappelling operations
	1.4 Transit, rappelling operation communications and recovery is planned in accordance with workplace procedures
	1.5 Operations at rappelling site including obstructions, terrain and any factors that may adversely affect deployment, are planned
	1.6 Abnormal and emergency rappelling situation contingency procedures are planned
2 Conduct pre-flight briefings	2.1 Rappelling operational requirements are briefed and confirmed
	2.2 Location, terrain features (sea state as applicable) and forecast weather conditions are obtained and confirmed
	2.3 Timings, route/s, airspeeds and altitudes are confirmed
	2.4 Relevant personnel are briefed about pilot, crew and rappelling personnel responsibilities and communication procedures
	2.5 Abnormal and emergency rappelling situation contingency procedures are briefed
3 Operate helicopter	3.1 Adequacy of hover power margin and control limits to perform rappelling operations is checked and maintained

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	3.2	Site inspection, approach and hover heading are determined in accordance with operational requirements
	3.3	Descent and approach are controlled to terminate over rappelling site
	3.4	Control is applied to helicopter to maintain position over rappelling site
	3.5	Obstacle clearances to obstructions, constructions and terrain are maintained during deployment and/or retrieval operation
	3.6	Effective communications with crew and relevant personnel are maintained during operation
	3.7	Safety and security of passengers and/or cargo is managed
	3.8	Rappelling ropes are recovered and/or detached, and site is vacated in accordance with workplace procedures
4 Manage abnormal and emergency situations	4.1	Helicopter control is maintained
	4.2	Abnormal and/or emergency situations are identified and managed
	4.3	Rappelling equipment/personnel are safely jettisoned (as required) when flight safety or hover stability is compromised
5 Conduct post-flight briefings	5.1	Operating procedures and flight outcomes are reviewed and analysed
	5.2	Effectiveness, efficiency and performance of equipment is analysed and reported
	5.3	Inspection, servicing and stowage of rappelling equipment is organised/confirmed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Airborne rappelling operations includes one or more of the following variations:	• single or multiple rappellers • basic airborne rappelling • advanced airborne rappelling • airborne fast roping

Unit Mapping Information

This unit replaces and is equivalent to AVIY4059A Pilot a helicopter during roping operations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4059 Pilot a helicopter during rappelling operations

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying reporting procedures for identified problems
- communicating effectively with others
- completing relevant documentation
- conducting pre-flight and post-flight rappelling operations briefings and debriefings including all sub-tasks:
  - fast rappelling considerations
  - rappelling considerations
  - unprepared helicopter landing sites
  - confined areas
  - unknown landing sites
  - pinnacles
  - embarked/sea platforms (as required)
  - marine environments (as required)
- following relevant legislation and workplace procedures
- identifying and assessing vertical, horizontal and relative spatial distances in relation to aircraft fuselage, rotor system, mission and/or operational stores and equipment with regard to potential obstacles to flight safety
- identifying and correctly using relevant equipment
- identifying and justifying a decision to operate a helicopter during rappelling operations
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting hover performance and power available/power required from graphs/charts

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- maintaining situational awareness
- managing abnormal and emergency situations during rappelling operations:
  - aircraft system failure or malfunction
  - rappelling and rappelling equipment malfunction or failure
  - injury to rappelling/rappelling personnel
  - degraded environmental conditions
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and take appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- reacting appropriately to avoid hazardous situations and/or dangerous situations that pose risks to safety of flight and personnel
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with operating a helicopter during rappelling operations
- using instruments to monitor helicopter performance during rappelling operations
- 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:

- aircraft performance calculations (for all phases of flight)
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter roping or rappelling operations
- communications procedure and terminology applicable to rappelling operations
- control effectiveness in all phases of flight
- engine performance checks for helicopter type to be flown
- flight rules and legislation applicable to rappelling operations
- functions and effects of all aircraft controls and instruments
- hazards, limitations and problems that can occur when operating an aircraft during rappelling operations
- helicopter dimensions
- human factors applicable to roping/rappelling operations:
  - crew coordination

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  - dehydration and effects on pilot cognitive function
  - fatigue and situational awareness
  - stress and short-term, long-term impact
  - drugs including over-the-counter
  - spatial orientation and illusions
- in a Defence context, relevant Defence Orders and Instructions
- internal and external load limitations for helicopter type to be flown including weight and balance consideration
- meteorological requirements for roping/rappelling operations
- operational inspections
- operational planning and risk management processes for rappelling operations
- pre- and post-flight inspection requirements
- principles of aerodynamics
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- rappelling and/or fast roping operational planning requirements:
  - fast roping considerations
  - rappelling considerations
  - unprepared helicopter landing sites
  - confined areas
  - unknown landing sites
  - pinnacles
  - embarked/sea platforms
  - marine environments
- rappelling and/or fast rope attaching point limitations
- rappelling and/or fast roping operational flight techniques:
  - low-level flight handling
  - deployment and recovery procedures
  - abnormal and emergency handling techniques.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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requirements of the work being performed and the needs of the candidate.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY4060 Pilot a helicopter during hoisting operations

Modification History

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

Application

This unit involves the skills and knowledge required to pilot a helicopter during hoisting operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning hoisting operations, conducting pre-flight briefings for hoisting operations, and operating a helicopter during hoisting operations. It also includes managing abnormal and emergency situations during hoisting operations, and conducting post-flight briefings for hoisting operations.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Plan hoisting operations	1.1 Tasking requirements are identified
	1.2 Crew and equipment required to ensure safe achievement of task are determined
	1.3 Helicopter performance data is interpreted and calculated to ensure suitability of aircraft for operations
	1.4 Transit, hoisting operation communications and recovery are planned in accordance with workplace procedures
	1.5 Operations at hoist site, including consideration of obstructions, terrain and any factors that may adversely affect lift, are planned
	1.6 Abnormal and emergency hoisting situation contingency procedures are planned
2 Conduct pre-flight briefings	2.1 Hoisting operational requirements are briefed and confirmed
	2.2 Location, terrain features (sea state as required) and forecast weather conditions are obtained and confirmed
	2.3 Timings, route/s, airspeeds and altitudes are confirmed
	2.4 Relevant personnel are briefed about pilot, crew and hoisting personnel responsibilities and communication procedures
	2.5 Abnormal and emergency hoisting situation contingency procedures are briefed
3 Operate a helicopter during hoisting operations	3.1 Adequacy of hover power margin and control limits to perform hoisting operations is checked and maintained
	3.2 Site inspection, approach and hover heading are determined in accordance with operational requirements

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	3.3	Descent and approach are controlled to terminate over hoist site
	3.4	Control is applied to helicopter to maintain position over hoist site
	3.5	Obstacle clearances to obstructions, constructions and terrain are maintained during deployment and retrieval operation
	3.6	Effective communications with crew and relevant personnel are maintained during operation
	3.7	Safety and security of passengers and/or cargo is managed
	3.8	Hoist cable is recovered and stowed, and site is vacated in accordance with workplace procedures.
4 Manage abnormal and emergency situations	4.1	Helicopter control is maintained
	4.2	Abnormal and/or emergency situations are identified and managed
	4.3	Hoist cargo/personnel are safely jettisoned (as required) when flight safety or hover stability is compromised
5 Conduct post-flight briefings	5.1	Operating procedures and flight outcomes are reviewed and analysed
	5.2	Effectiveness, efficiency and performance of equipment are analysed and reported
	5.3	Inspection, servicing and stowage of hoist equipment are organised/confirmed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

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Unit Mapping Information

This unit replaces and is equivalent to AVIY4060A Pilot a helicopter during hoisting operations.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY4060 Pilot a helicopter during hoisting operations

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant helicopter aeronautical knowledge
- applying reporting procedures for identified problems that may occur when operating a helicopter during hoisting operations
- communicating effectively with others
- completing relevant documentation
- conducting pre-flight and post-flight hoisting operations briefings and debriefings including:
  - hoisting method considerations
  - unprepared helicopter landing sites
  - confined areas
  - unknown landing sites
  - pinnacles
  - embarked/sea platforms (as required)
  - marine environments (as required)
- following relevant legislation and workplace procedures
- identifying and assessing vertical, horizontal and relative spatial distances in relation to aircraft fuselage, rotor system, mission and/or operational stores and equipment with regard to potential obstacles to flight safety
- identifying and correctly using relevant equipment
- identifying and justifying a decision to operate a helicopter during hoisting operations
- identifying and managing abnormal and emergency situations in accordance with workplace procedures and the aircraft flight manual (AFM)/pilot's operating handbook (POH)
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting hover performance and power available/power required from graphs/charts

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- maintaining situational awareness
- managing abnormal and emergency situations during hoisting operations:
  - aircraft system failure or malfunction
  - hoisting equipment malfunction or failure
  - injury to hoisting personnel
  - degraded environmental conditions
- 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
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- solving problems associated with operating a helicopter during hoisting operations
- using instruments to monitor helicopter performance during hoisting operations
- 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 include knowledge of:

- aircraft performance calculations (for all phases of flight)
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to helicopter hoisting operations
- communication procedure and terminology applicable to hoisting operations
- control effectiveness in all phases of flight
- engine performance checks for helicopter type to be flown
- flight rules and legislation applicable to hoisting operations
- functions and effects of all aircraft controls and instruments
- hazards that exist and problems that can occur when operating an aircraft during hoisting operations
- helicopter dimensions
- hoist limitations
- hoisting operation flight techniques:
  - low-level flight handling

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  - deployment and recovery procedures
  - abnormal and emergency handling techniques
- hoisting operational planning requirements:
  - hoisting method considerations
  - unprepared helicopter landing sites
  - confined areas
  - unknown landing sites
  - pinnacles
  - embarked/sea platforms
  - marine environments
- human factors applicable to hoisting operations:
  - crew coordination
  - dehydration and effects on pilot cognitive function
  - fatigue and situational awareness
  - stress and short-term, long-term impact
  - drugs including over-the-counter
  - spatial orientation and illusions
- in a Defence context, relevant Defence Orders and Instructions
- internal and external load limitations for helicopter type to be flown including weight and balance consideration
- meteorological requirements for hoisting operations
- operational inspections
- operational planning and risk management processes for hoisting operations
- pre- and post-flight inspection requirements
- principles of aerodynamics
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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,

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assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5022 Manage traffic flow

Modification History

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

Application

This unit involves the application of skills and knowledge required to manage traffic flow during air traffic control (ATC) operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing traffic flow safely, establishing traffic sequences, and providing traffic flow adjustments.

Air traffic flow management (ATFM) is established and managed using automated systems or by manual determination, to support ATC in ensuring an optimum flow of air traffic to, from, through or within defined areas during times when demand or expected demand exceeds system capacity.

If automated systems are used, human reasoning should be applied to ensure safety and the most suitable flow of traffic, particularly in times of adverse weather and/or emergency and abnormal flight operations.

This unit addresses aviation technical skill requirements (physical, mental and task-\-management abilities) related to ATC duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

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Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage traffic flow safely	1.1 ATFM is established
	1.2 Safety is prioritised when managing traffic flow, including when responding to changed conditions
	1.3 Traffic flow is managed and changed conditions are responded to in a timely manner, in accordance with the situation
	1.4 Hazards are identified, risks are assessed and risk controls are implemented
2 Establish traffic sequence	2.1 Traffic order is established in accordance with runway mode and/or airspace configuration
	2.2 Traffic sequence is monitored and adjustments to traffic flow are made as required
	2.3 Instructions to regulate traffic flow and to maintain safety are issued
3 Provide traffic flow adjustments	3.1 Circumstances where delaying actions are required and their causes, are accurately identified
	3.2 Air traffic clearances are withheld or instructions are imposed to achieve required delay
	3.3 Delaying actions are cancelled or relaxed as required and instructions are issued for onwards flight

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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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIY5022B Manage traffic flow.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5022 Manage traffic flow

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:

- adhering to procedures
- adjusting routing and tracking of aircraft
- advising aircraft of delays
- allocating attention according to demand and task managing:
- human machine interface (HMI) or equipment use
- air traffic communications
- traffic flow
- applying reasoning and decision making to airspace and flight path scenarios
- communicating effectively with others
- conducting holding of aircraft and onwards processing
- formulating and issuing onwards airways clearances, conditional clearances and clearance limits
- identifying and applying precautions and required action to minimise, control or eliminate identified hazards
- implementing contingency plans
- managing traffic flow safely
  - by day and night
  - in variable weather conditions
- prioritising tasks and managing workload
- projecting and planning airspace, traffic and flight path scenarios.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodrome runway combinations and traffic requirements
- air traffic clearances to hold, delay, limit and continue flight

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- air traffic control (ATC) principles
- aircraft performance characteristics
- airspace geography and topography
- airspace, route structures and procedures used to assist strategic air traffic flow management
- area of radar coverage
- classification and special use airspace
- conditional air traffic clearance
- contingency plans including for reduced facilities and degraded systems
- how to interpret airspace charts and approach to land procedures including holding patterns
- how to interpret meteorological data
- non-published aircraft holding techniques
- relevant sections of regulatory and operational documentation
- reporting procedures
- role of air traffic flow management (ATFM)
- to support ATC in ensuring an optimum flow of air traffic to, from, through or within defined areas during times when demand or expected demand exceeds system capacity
- roles and responsibilities for managing air traffic flow
- safety hazards, risks and related risk control procedures and precautions
- systems and tools used for air traffic flow management
- traffic management techniques.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry

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- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
-

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5023 Operate a multi-engine aeroplane

Modification History

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

Application

This unit involves the skills and knowledge required to operate a multi-engine aeroplane, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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 (V_X) or best engine out rate of climb speed (V_Y) until clear of obstacles, then V_Y is maintained

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		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 (V_1)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
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

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height

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 AVIY5023A Operate multi-engine fixed wing aeroplane.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5023 Operate a multi-engine aeroplane

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:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeroplane aeronautical knowledge
- applying relevant 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 (V_1) 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)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work

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- 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 conforming to industry and WHS/OHS 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 include 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 (V1)
- emergency airspeeds including:
  - velocity minimum control speed – Vmca

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  - velocity safe single engine – VSSE
  - engine/s inoperative climb
  - approach and final speed
  - emergency descent
  - best glide range speeds
- emergency procedures for
  - 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:
  - climb
  - cruise
  - descent procedures including, airspeeds, configurations, 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 Vy or V2 during asymmetric flight
- power, flight and configuration requirements that apply to Vmca
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of

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assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5024 Operate aircraft in the traffic pattern at night

Modification History

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

Application

This unit involves the application of 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 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 activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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 pilot activated lighting	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
	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

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		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

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

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Unit Mapping Information

This unit is equivalent to AVIY5024A Operate aircraft in the traffic pattern at night.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5024 Operate aircraft in the traffic pattern at night

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
- 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)/occupational health and safety (OHS) 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 clothing and equipment conforming to industry and WHS/OHS 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

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- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to night visual flight operations
- causes that may aggravate vestibular disorientation:
  - 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:
  - 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:
  - 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

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- 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:
  - privileges and limitations of the rating
  - minimum NVFR aircraft equipment requirements
  - ALA/HLS dimension and lighting requirements
- NVFR operations:
  - 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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.

For aircraft in the helicopter category, taking off at night requires the following additional assessment:

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- accelerating helicopter in take-off direction on a prescribed track
- recognising and controlling translational lift
- executing take-off by reference to flare path/runway lighting or helicopter landing site (HLS) lighting and aircraft instruments
- applying climb power and adjusting aircraft attitude to maintain climb speed appropriate to obstacle clearance requirements
- aligning helicopter landing gear with planned take-off direction until point at which balanced flight is required
- retracting undercarriage at a safe height and airspeed
- trimming and balancing helicopter.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5027 Perform non published instrument departure procedures

Modification History

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

Application

This unit involves the skills and knowledge required to perform non published instrument departure procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Determine applicable standards for an instrument departure (non SID/SRD)	1.1 Standard take-off minima is 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 5 nm of departure aerodrome
	2.6 Transitions from visual meteorological conditions 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

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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 AVIY5027A Perform instrument departure - non published procedure.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5027 Perform non published instrument departure procedures

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
- 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)/occupational health and safety (OHS) 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 clothing and equipment conforming to industry and WHS/OHS 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

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damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- CASR Part 61 Manual of Standards 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

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- 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5028 Perform published instrument departure procedures

Modification History

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

Application

This unit involves the skills and knowledge required to perform published instrument departure procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Determine applicable standards for an instrument departure using published procedures	1.1 Standard take-off minima is determined for the aerodrome 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
	2.6 Transitions from visual meteorological conditions 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

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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 AVIY5028A Perform instrument departure - published procedures (SID/SRD).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5028 Perform published instrument departure procedures

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- calculating standard take-off minima
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting a standard instrument departure (SID) or standard radar departure (SRD) chart
- interpreting and following operational instructions and prioritise workload
- maintaining assigned SID/SRD, including all tracks, headings, altitudes and speeds
- 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 a cleared departure safely and maintaining tracks, headings, altitudes and speeds within specified tolerances
- 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 clothing and equipment conforming to industry and WHS/OHS standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or

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damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- conditions required to effect a take-off with no meteorological forecast
- pilot responsibilities if SID or SRD tracking and performance requirements cannot be met
- pilot responsibilities when SID or SRD clearance is given or cancelled
- procedures for abnormal operations and/or emergencies during SID, including navigation aid failure
- procedures for loss of radio communication during SID or SRD
- radio report requirements to be made in an SID or SRD
- SID and SRD procedures and limitations
- SID and SRD tracking and performance requirements, and flight parameters assumed of aircraft
- take-off minima for single and twin engine aircraft for aerodromes with relevant instrument approach procedures.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5033 Perform visual circling approach

Modification History

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

Application

This unit involves the skills and knowledge required to perform a visual circling approach, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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
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

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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 AVIY5033A Perform visual circling approach.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5033 Perform visual circling approach

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
- 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)/occupational health and safety (OHS) 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight

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- 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 include knowledge of:

- briefing requirements for a circling approach
- CASR Part 61 Manual of Standards 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/OHS and environmental procedures and regulations
- requirements for completing relevant documentation.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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requirements of the work being performed and the needs of the candidate.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5034 Conduct a 2D non-directional beacon instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct a 2D instrument approach using the non-directional beacon (NDB) procedure, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes selecting approach and determining applicable minima, and monitoring aid signal integrity. It also includes conducting initial approach, holding pattern, instrument approach, and missed approach procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Select approach and determine applicable minima**	1.1	Current instrument approach and landing (IAL) chart for the NDB approach to be flown is selected
		1.2	IAL is reviewed and briefed to flight crew in relation to directing entry to the approach, lowest safe altitude (LSALT) or minimum safe altitude (MSA) is maintained prior to entry and tracks, distances, timing and descent limitations are maintained for the approach
		1.3	Fuel availability and latest divert time procedures are enacted as required
2	**Monitor aid signal integrity**	2.1	NDB to be used for selected approach is tuned and identified
		2.2	Morse code identification and NDB indications are monitored throughout selected approach to ensure signal integrity
3	**Conduct initial approach**	3.1	Altimeter is set to appropriate QNH
		3.2	Aircraft is manoeuvred to holding fix on an inbound track and at or above route MSA or LSALT is maintained in accordance with aeronautical information publication (AIP) requirements, using the NDB
4	**Conduct holding pattern**	4.1	Aircraft holding pattern from the holding fix at or above LSALT or MSA is entered in accordance with specified sector entry
		4.2	Holding pattern is performed in accordance with AIP, using the NDB
5	**Conduct instrument approach procedure**	5.1	Altimeter QNH is updated and set prior to approach commencement
		5.2	Instrument approach is conducted in accordance with tolerances specified in AIP using the NDB

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	5.3	Landing runway is identified
	5.4	After establishing visual reference, a visual circling or runway approach is conducted for a landing on selected runway, in accordance with AIP
6 Conduct missed approach procedure	6.1	Conditions requiring a missed approach are recognised and missed approach is initiated
	6.2	Aircraft is manoeuvred to missed approach point (MAPt)
	6.3	Missed approach procedure is conducted in accordance with the IAL chart
	6.4	Obstacle clearance in instrument meteorological conditions (IMC) is maintained

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 AVIY5034A Perform non-directional beacon (NDB) instrument approach.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5034 Conduct a 2D non-directional beacon instrument approach

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
- 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 non-directional beacon (NDB) approach procedure applicable minima for aircraft
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting NDB 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 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight

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- 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 include knowledge of:

- 2D instrument approach procedures and limitations:
  - initial approach
  - holding pattern
  - instrument approach procedure
  - missed approach procedures
  - instrument approach procedures and limitations
- abnormal operations and/or emergency procedures for an NDB approach, including navigation aid failure
- aid signal integrity monitoring techniques
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- emergency procedures
- how to operate electronic communications equipment
- loss of radio communication during an NDB approach procedure
- minimum obstacle clearance criteria during an NDB approach procedure/missed approach procedure
- procedure for joining the circuit from an NDB approach procedure
- procedures for adjusting controls to optimise equipment operation
- procedures for managing and controlling hazardous situations
- radio procedures for an NDB approach
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- relevant sections of national and state/territory regulatory requirements and codes of practice
- relevant WHS/OHS and environmental procedures and regulations
- requirements for completing relevant documentation
- sector entry join procedures for entering the holding pattern of an NDB approach
- sources of information on differences in equipment and related standard operating and servicing procedures
- steps involved in planning work activities
- tracking tolerance and altitude limitations for flying a published distance measuring equipment (DME) arc of an NDB approach procedure.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5035 Conduct a 2D very high frequency omni-directional radio range instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct a 2D instrument approach using the very high frequency (VHF) omni-directional radio range (VOR) or VOR/distance measuring equipment (DME) approach procedure, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes selecting approach and determining applicable minima, and monitoring aid signal integrity. It also includes conducting initial approach, holding pattern, instrument approach and missed approach procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Select approach and determine applicable minima	1.1 Current instrument approach and landing (IAL) chart for the VOR approach to be flown is selected
	1.2 IAL is reviewed and briefed to flight crew in relation to directing entry to the approach, lowest safe altitude (LSALT) or minimum safe altitude (MSA) is maintained prior to entry approach, and tracks, distances, timing and descent limitations are maintained for the approach
	1.3 Fuel availability and latest divert time procedures are enacted as required
2 Monitor aid signal integrity	2.1 VOR to be used for selected approach is tuned and identified
	2.2 Warning flags and course deviation indicators (CDI) are monitored throughout selected approach to ensure signal integrity
3 Conduct initial approach	3.1 Altimeter is set to appropriate QNH
	3.2 Aircraft is manoeuvred to holding fix on an inbound track and at or above route MSA or LSALT is maintained in accordance with aeronautical information publication (AIP) requirements, using the VOR
4 Conduct holding pattern	4.1 Aircraft holding pattern from the holding fix at or above LSALT or MSA is entered in accordance with specified sector entry
	4.2 Holding pattern is performed in accordance with AIP, using the VOR
5 Conduct instrument approach procedure	5.1 Altimeter QNH is updated and set prior to approach commencement
	5.2 Instrument approach is conducted in accordance with tolerances specified in AIP using the VOR or VOR/ DME

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	5.3	Landing runway is identified
	5.4	After establishing visual reference, a visual circling or runway approach is conducted for a landing on selected runway, in accordance with AIP
6 Conduct missed approach procedure	6.1	Conditions requiring a missed approach are recognised and missed approach is initiated
	6.2	Aircraft is manoeuvred to missed approach point (MAPt)
	6.3	Missed approach procedure is conducted in accordance with the IAL chart
	6.4	Obstacle clearance in instrument meteorological conditions (IMC) is maintained

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 AVIY5035A Perform VHF omni-directional radio range (VOR) instrument approach.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5035 Conduct a 2D very high frequency omni-directional radio range instrument approach

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
- 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 VHF omni-directional radio range (VOR) or VOR/distance measuring equipment (DME) approach procedure applicable minima for aircraft
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting VOR or VOR/DME instrument approach procedure chart
- modifying activities dependent on differing 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of

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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 include knowledge of:

- 2D instrument approach procedures and limitations:
  - initial approach
  - holding pattern
  - instrument approach procedure
  - missed approach procedures
  - instrument approach procedures and limitations
- abnormal operations and/or emergency procedures for a VOR or VOR/DME approach, including navigation aid failure
- aid signal integrity monitoring techniques
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- emergency procedures
- full scale range on the CDI for a LLZ
- how to configure the course deviation indicator (CDI) to achieve command guidance prior to conducting a back course localiser (LLZ) approach
- how to operate electronic communications equipment
- loss of radio communication during a VOR or VOR/DME approach procedure
- minimum obstacle clearance criteria during a VOR or VOR/DME approach procedure/missed approach procedure
- navigation aid that provides track guidance for a LLZ approach
- procedure for joining the circuit from a VOR or VOR/DME approach procedure
- procedures for adjusting controls to optimise equipment operation
- procedures for managing and controlling hazardous situations
- radio procedures for a VOR or VOR/DME approach
- relevant sections of national and state or territory regulatory requirements and codes of practice
- relevant WHS/OHS and environmental procedures and regulations
- requirements for completing relevant documentation
- sector entry join procedures for entering the holding pattern of the VOR or VOR/DME approach

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- sources of information on differences in equipment and related standard operating and servicing procedures
- steps involved in planning the work activities
- tracking tolerance and altitude limitations for flying the published DME arc of a VOR or VOR/DME approach procedure.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5036 Conduct a 3D instrument landing system instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct a 3D instrument approach using instrument landing system (ILS) procedures, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes selecting and preparing for approach, and monitoring aid signal integrity. It also includes conducting initial approach, holding pattern, approach and missed approach procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Select and prepare for the approach**	1.1	Current instrument approach and landing (IAL) chart for the ILS approach to be flown is selected
		1.2	Navigation system validity and receiver autonomous integrity monitoring (RAIM)/space based augmentation system (SBAS) checks are conducted as required
		1.3	Instrument approach and missed approach procedure is planned and self-briefed or briefed to flight crew as required
		1.4	Direct entry to the approach is reviewed, briefed to flight crew and evaluated
		1.5	Entry via holding pattern is reviewed, briefed to flight crew and evaluated
		1.6	Minimum altitude, lowest safe altitude (LSALT) or minimum safe altitude (MSA) prior to approach entry, is reviewed and briefed to flight crew in relation to tracks, distances, timing and descent limitations
		1.7	Applicable approach minima for aircraft performance category and runway to be used is selected
		1.8	Pressure error correction for decision altitude (DA) is selected
		1.9	Holding or diversion action if visual reference is not established, is reviewed and briefed
		1.10	Fuel availability and latest divert time is selected as required
		1.11	Aircraft systems are configured for approach and altimeter is set to appropriate QNH
2	**Monitor aid signal**	2.1	ILS to be used for selected approach is tuned and identified

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	integrity	2.2	Warning flags and course deviation indicators (CDI) for localiser (LLZ) and glide slope is monitored throughout the approach to ensure signal integrity
		2.3	Locator beacons for approach are tuned and identified
		2.4	Marker beacon/s are tested and monitored for visual and aural indications during approach
		2.5	Distance measuring equipment (DME) is tuned and identified or global navigation satellite system (GNSS) is configured for ILS approach as required
		2.6	DME/GNSS is monitored for distance indications during applicable approach
3	**Conduct initial approach**	3.1	Altimeter is set to appropriate QNH
		3.2	Holding fix is identified and aircraft is manoeuvred to appropriate sector entry position
4	**Conduct holding pattern**	4.1	Holding pattern at or above LSALT or MSA is entered in accordance with specified sector entry
		4.2	Holding pattern is performed in accordance with instructions in aeronautical information publication (AIP), using the LLZ and any other navigation aids
5	**Conduct approach procedure**	5.1	Aircraft is tracked to initial approach fix using appropriate tracking aids or radar vectors at or above route MSA or LSALT, to intercept the LLZ track
		5.2	ILS approach is conducted from initial approach fix with tracking by reference to LLZ and descent by reference to glide path
		5.3	Marker beacons, DME/GNSS or approved alternative fix are used to provide distance indications
		5.4	Specified altitude check on glide slope is performed
		5.5	Continued descent on glide slope to the DA is performed in accordance with AIP
		5.6	Landing runway is identified
		5.7	Runway or circling approach for a landing is conducted in accordance with AIP after visual reference is established

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6	**Conduct missed approach procedure**	6.1 Conditions requiring a missed approach are recognised and missed approach is initiated
		6.2 Aircraft is manoeuvred to missed approach point (MAPt)
		6.3 Missed approach procedure is conducted in accordance with the IAL chart
		6.4 Obstacle clearance in IMC is maintained

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 AVIY5036A Perform instrument landing system (ILS) instrument approach.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5036 Conduct a 3D instrument landing system instrument approach

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
- 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 instrument landing system (ILS) approach procedure applicable minima for aircraft
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritise work
- interpreting ILS 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 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of

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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 include knowledge of:

- abnormal operations and/or emergency procedures for an ILS approach, including navigation aid failure
- adjustment to baro determined minima for temperature effect
- automation and flight management system (FMS) management for low-visibility operations
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- contaminated runway operations
- emergency procedures
- equipment redundancy during low-visibility operations
- ILS instrument approach procedures and limitations, including the minimum system components required to conduct an approach
- limitations, errors, warnings and messages of a global navigation satellite system (GNSS)
- loss of radio communication during an ILS approach procedure
- low-visibility operations and environmental limitations
- missed approach procedures for an ILS approach
- principles of operation of a GNSS
- procedure for joining the circuit from an ILS approach
- procedures for adjusting controls to optimise equipment operation
- procedures for managing and controlling hazardous situations
- radio procedures for an ILS approach
- relevant sections of national and state or territory regulatory requirements and codes of practice
- relevant WHS/OHS and environmental procedures and regulations
- requirements applicable to pilots and equipment for GNSS operations
- runway markings and lighting
- runway visual range (RVR) versus slant visual range (SVR)
- sector entry join procedures for entering the holding pattern of an ILS approach
- sources of information on differences in equipment and related standard operating and servicing procedures
- steps involved in planning work activities

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- temperature effects on altimeter
- tracking tolerance and altitude limitations for flying a published distance measuring equipment (DME) arc of an ILS approach procedure
- types of approach lighting systems
- use of and precautions for approach slope indicators.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5037 Conduct a 2D distance measuring equipment global navigation satellite system instrument approach

Modification History

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

Application

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

It includes selecting and preparing for approach, using appropriate tracking aid and distance information, and monitoring aid signal integrity. It also includes conducting approach and missed approach procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew, and contributes to safe and effective performance in complex aviation operational environments.

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

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Select and prepare for approach	1.1 Current instrument approach and landing (IAL) chart for the DME/GNSS approach to be flown is selected
	1.2 Instrument approach and missed approach procedures are planned
	1.3 Minimum descent altitude (MDA) is determined
	1.4 Sector entry to approach and holding pattern is selected, reviewed and briefed to flight crew as appropriate
	1.5 Minimum altitude, lowest safe altitude (LSALT) or minimum safe altitude (MSA) prior to approach entry, is reviewed and briefed to flight crew in relation to tracks, distances and descent limitations
	1.6 Applicable approach minima for aircraft performance category and runway to be used, is selected
	1.7 Holding or diversion action if visual reference is not established, is reviewed and briefed
	1.8 Fuel availability and latest divert time is selected as required
	1.9 Altimeter is set to appropriate QNH
2 Use appropriate tracking aid and distance information, and monitor aid signal integrity	2.1 Distance measuring equipment (DME) is tuned and identified
	2.2 Reference way-point (WPT) for GNSS to be used for tracking inbound, is selected
	2.3 Distance indication is checked
	2.4 Approach aid is monitored throughout approach to ensure signal integrity

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	2.5	DME or GNSS is used to provide distance indications for descent via the distance/altitude steps of the approach
	2.6	Availability of receiver autonomous integrity monitoring (RAIM) is ensured before descending below LSALT or MSA
3 Conduct approach procedure	3.1	Initial approach is conducted not below the specified limiting altitude for the distance/altitude descent steps
	3.2	Arrival procedure is conducted while descending on the specified track or sector in accordance with aeronautical information publication (AIP) requirements
	3.3	Landing runway is identified
	3.4	Runway or circling approach for a landing is conducted after visual reference is established
4 Conduct missed approach procedure	4.1	Conditions requiring a missed approach are recognised and missed approach is initiated
	4.2	Aircraft is manoeuvred to missed approach point (MAPt)
	4.3	Missed approach procedure is conducted in accordance with the IAL chart
	4.4	Obstacle clearance in instrument meteorological IMC is maintained

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 AVIY5037A Perform distance measuring equipment (DME) global positioning system (GPS) arrival.

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5037 Conduct a 2D distance measuring equipment global navigation satellite system instrument approach

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
- 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 distance measuring equipment (DME) or global navigation satellite system (GNSS) arrival applicable minima for aircraft
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting a DME or GNSS arrival chart
- 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 clothing and equipment conforming to industry and WHS/OHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of

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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 include knowledge of:

- abnormal operations and/or emergencies during a DME or GNSS arrival including:
  - navigation aid failure
  - loss of GNSS receiver autonomous integrity monitoring (RAIM)
  - GNSS RAIM warning
  - disparity between VOR/NDB track and GNSS track indication
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- cause and magnitude of typical GNSS errors
- conditions and limitations for manoeuvring within a DME or GNSS arrival sector
- conditions required to transition to and operate in the mode of operation for a GNSS/non-precision approach (NPA), and associated course deviation indicator (CDI) sensitivity and RAIM protection provided
- DME or GNSS arrival missed approach
- DME or GNSS arrival procedures and limitations in all classes of airspace
- 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
- 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
- human factors limitations associated with using GNSS equipment
- loss of radio communication during a DME or GNSS arrival procedure
- minimum obstacle clearance criteria during a DME or GNSS arrival missed approach procedure
- mode of operation required during each segment of a GNSS/NPA

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- operating procedures for GNSS equipment that reduce or eliminate errors
- operating procedures that provide safeguards against GNSS navigational errors
- operation of electronic communications equipment
- 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 the en route, terminal and approach modes
- pilot responsibilities when DME or GNSS arrival is conducted outside controlled airspace
- prediction limitations that apply to availability of approach RAIM at the destination or alternate aerodrome
- procedure for joining the circuit from a DME or GNSS arrival
- procedures for adjusting controls to optimise equipment operation
- procedures for managing and controlling hazardous situations
- radio procedures for a DME or GNSS arrival
- relevant sections of national and state/territory regulatory requirements and codes of practice
- relevant WHS/OHS 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5038 Conduct a 2D global navigation satellite system non-precision instrument approach

Modification History

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

Application

This unit involves the skills and knowledge required to conduct 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 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 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 is 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 indictors (CDI) are checked and selected to GNSS as required
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

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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
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 approached 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

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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

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 (GNSS)/non-precision approach (NPA).

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5038 Conduct a 2D global navigation satellite system non-precision instrument approach

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
- 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)/occupational health and safety (OHS) 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

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requirements and workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS 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 include knowledge of:

- CASR Part 61 Manual of Standards 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 navigation performance (RNAV) (GNSS) procedure at the destination
- parameters applicable to RAIM warnings in the en route, terminal and approach modes
- prediction limitations that apply to availability of approach RAIM at the destination or

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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/occupational health and safety (OHS) 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

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

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AVIY5048 Provide approach control services

Modification History

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

Application

This unit involves the skills and knowledge required to provide approach control services during air traffic control operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing terminal airspaces and assuring separation.

This unit is applied to specific terminal airspaces that offer varying levels of air traffic services according to the International Civil Aviation Organization (ICAO) and national classifications of airspaces.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage terminal airspaces	1.1 Traffic priorities are applied in accordance with standard operating procedure
	1.2 Service priorities are applied in accordance with that which is most safety critical
	1.3 Hazards are identified, risks are assessed and risk controls are implemented
	1.4 Control practices and procedures are adjusted in accordance with changing airspace environment factors
	1.5 Systematic scan technique of terminal airspace and air routes is maintained
	1.6 Standard routing is facilitated
	1.7 Documented instructions and agreements applicable to the area of jurisdiction are applied
	1.8 Non-compliance with control instructions and procedures is recognised and addressed
	1.9 Terrain and obstacle clearance is provided
	1.10 Pilot preferred altitudes or flight levels are facilitated
	1.11 Aircraft are authorised to use terminal airspaces
	1.12 Control services are provided in accordance with airspace classification and status
	1.13 Airspaces are administered in accordance with user activity
	1.14 Flight deviations and diversions are facilitated
	1.15 Suitable runway mode is negotiated with aerodrome control

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	1.16 Aircraft release for departure is authorised in accordance with runway mode and airspace configuration
	1.17 Aircraft approach to land is authorised in accordance with runway mode and airspace configuration
2 Assure separation	2.1 Conflicts are recognised and resolved
	2.2 Separation is provided
	2.3 Jurisdiction for maintaining aircraft separation is agreed and assigned
	2.4 Alternative separation is provided as required
	2.5 Separation is adjusted when systems are degraded or airways facilities are reduced
	2.6 Most appropriate separation is applied taking into account safety, expedition, control method and surveillance
	2.7 Compromised separation is recognised and addressed

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIY5048A Provide approach control services.

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Assessment Requirements for AVIY5048 Provide approach control services

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:

- adhering to procedures
- adjusting route and track of aircraft
- allocating attention based on priorities
- applying precautions and required actions to minimise, control or eliminate identified hazards
- applying reasoning and decision making to airspace and flight path scenarios
- assigning separation to pilot
- communicating effectively with others
- completing relevant documentation for approaching control services
- coordinating flight information
- executing control actions
- facilitating in-flight deviations, diversions, changes of altitude and flight level
- facilitating unusual flight operations
- formulating airways clearance and control instructions
- formulating and authorising approach to land for aircraft
- formulating and authorising release of aircraft for departure
- implementing contingency plans
- interpreting and evaluating current traffic events
- interpreting and following operational instructions, and prioritising work
- maintaining a strategic traffic management plan for airspace jurisdiction
- maintaining surveillance of terminal airspaces
- operating equipment in accordance with standard operating procedures
- perceiving and comprehending incoming information
- performing handover/takeover
- planning and prioritising tasks in accordance with safety imperative
- processing military aircraft
- projecting and developing future airspace and flight path scenarios

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- recognising display information and symbology
- recording and annotating flight information and messages
- reporting and rectifying identified problems promptly
- responding to stressful situations with a considered and measured approach
- separating aircraft using approach control techniques and standards
- varying heading of aircraft
- varying speed of aircraft
- working collaboratively with others
- working systematically with attention to detail.

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:

- air navigation systems and visual aids
- air traffic priorities
- air traffic services
- airborne collision and avoidance systems
- aircraft conflict resolution techniques
- aircraft type, associated wake turbulence and performance categories
- airspace service priorities and safety imperatives
- approach control separation standards and techniques
- characteristics of terminal airspace air traffic patterns and traffic flows
- charts and operational documentation
- communication phraseologies and procedures
- compromised separation and non-compliant use of airspaces
- conditional air traffic clearance
- coordination requirements
- departure and approach to land procedures
- display information and symbology
- division of responsibilities for air traffic services
- formation flight configurations, separation and procedures and practices
- handover/takeover procedures and practices
- human machine interface (HMI) states and associated interactions
- jurisdiction and adjacent airspace characteristics
- meteorological documentation, terms and definitions,
- military flight operations
- national airspace system and standard route structure
- navigation principles and terminology
- organisational and licensing administration

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- principles and procedures of altimetry
- principles of error management
- principles of flight
- procedures for recording and annotating operational information
- provision of air traffic services and air traffic flow management during system degradation including facility failures and restoration of system components
- relevant sections of regulatory and operational documentation
- route, track, heading and aircraft performance characteristics
- rules of the air governing visual and instrument flight
- safety occurrence reporting
- security against acts of unlawful interference with aviation
- terrain and prominent landmarks affecting flight operations within terminal airspace
- terrain protection
- transfer of control points
- transition from instrument flight to visual flight
- weather phenomena affecting flight operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
-

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AVIY5049 Provide area control services

Modification History

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

Application

This unit involves the skills and knowledge required to provide area control services during air traffic control operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing enroute airspaces and assuring separation.

This unit is applied to specific airspaces that offer varying levels of air traffic services according to the International Civil Aviation Organization (ICAO) and national airspace classifications.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage enroute airspaces	1.1 Traffic priorities are applied in accordance with standard operating procedure
	1.2 Service priorities are applied according to in accordance with that which is most safety critical
	1.3 Control practices and techniques are adapted to changing airspace environment factors
	1.4 Hazards are identified, risks are assessed and risk controls are implemented
	1.5 Systematic scan technique of airspaces and air routes is maintained
	1.6 Standard routing is facilitated
	1.7 Preferred routing is facilitated
	1.8 Documented instructions and agreements applicable to jurisdictional area are applied
	1.9 Non-compliance with control instructions and procedures is recognised and addressed
	1.10 Terrain and obstacle clearance is provided
	1.11 Pilot requested altitudes and flight levels are facilitated
	1.12 Aircraft are authorised to use enroute airspaces
	1.13 Control services are provided in accordance with airspace classification and status
	1.14 Airspaces are administered in accordance with user activity
	1.15 Flight diversions or deviations are facilitated

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2 Assure separation	2.1 Conflicts are recognised and resolved
	2.2 Separation is provided
	2.3 Jurisdiction for maintaining aircraft separation is agreed and assigned
	2.4 Alternative separation is provided as required
	2.5 Separation is adjusted when systems are degraded or airways facilities are reduced
	2.6 Most appropriate separation is provided taking into account safety, expedition and the method of control and surveillance
	2.7 Compromised separation is recognised and addressed

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to AVIY5049A Provide area control services.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5049 Provide area control services

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 appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- adhering to procedures through a series of steps followed in a regular definite order or as required, a traditional or established way of doing things
- adjusting route and track of aircraft
- allocating attention in accordance with priorities
- anticipating and preparing for work tasks
- applying an error management attitude that limits unintentional deviation from work practices and maintains accuracy through a disciplined approach to implementing procedures and practices, and a methodical work ethic
- applying human reasoning to airspace and flight path scenarios
- applying precautions and required action to minimise, control or eliminate identified hazards
- communicating effectively with others
- completing relevant documentation
- coordinating air traffics services effectively
- executing control actions
- facilitating in-flight deviations, diversions and changes of altitude and flight level
- formulating airways clearance and control instruction
- implementing contingency plans
- implementing decisions using knowledge-based, rule-based and skill-based activities
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and evaluating current traffic events
- interpreting and following operational instructions and prioritising work
- interpreting charts and operational documentation associated with air traffic services
- maintaining a strategic traffic management plan for the airspace jurisdiction
- maintaining surveillance of enroute airspaces

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- maintaining speed control
- operating equipment in accordance with standard operating procedures
- perceiving and comprehending incoming information
- processing military aircraft
- projecting and predicting future traffic scenarios
- reporting and rectifying identified problems promptly
- recording and annotating flight information and messages
- responding to stressful situations with a considered and measured approach
- scanning the human machine interface (HMI)
- separating aircraft using area control techniques and standards
- separating aircraft using wake turbulence standards
- vectoring aircraft
- working collaboratively with others
- working systematically with attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- air navigation systems and visual aids
- air traffic priorities
- air traffic services
- airborne collision and avoidance systems
- aircraft performance characteristics
- aircraft type associated wake turbulence and performance categories
- airspace service priorities and the safety imperative
- area control separation standards and techniques
- characteristics of enroute sector air traffic patterns and traffic flows including critical positions/hot-spots
- charts and operational documentation
- communication phraseologies and procedures
- compromised separation and non-compliant use of airspaces
- coordination requirements
- departure and approach to land procedures
- division of responsibilities for air traffic services
- formation flight configurations, separation and procedures and practices
- handover/takeover procedures and practices
- how to interpret charts and operational documentation associated with air traffic services
- human machine interface (HMI) states and associated interactions
- jurisdiction and adjacent airspace characteristics

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- meteorological documentation, terms and definitions
- military flight operations
- national airspace system and standard route structure
- navigation principles and terminology
  - heading
  - route
  - track
- organisational and licensing administration
- preferred routing
- principles and procedures of altimetry
- principles of flight
- procedures for recording and annotating operational information
- provision of air traffic services and air traffic flow management during system degradation including facility failures and restoration of system components
- rules of the air governing visual and instrument flight
- safety occurrence reporting
- standard routing
- terrain and prominent landmarks affecting flight operations within enroute airspace
- terrain protection
- transfer of control points
- transition from instrument flight to visual flight conditions
- weather phenomena affecting flight operations.
-

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice

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and operation manuals
- acceptable means of simulation assessment.

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AVIY5050 Provide aerodrome control services

Modification History

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

Application

This unit involves the f skills and knowledge required to provide aerodrome control services during air traffic control operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes managing aerodrome traffic zones, aerodrome manoeuvring areas, and assuring separation.

This unit is applied to provide aerodrome control services in control towers equipped with surveillance capability and/or using procedural control practices.

This unit addresses:

- aviation technical skill requirements (physical, mental and task-management abilities) related to managing aerodrome traffic zones and aerodrome manoeuvring areas in which distance between aircraft as well as their relative positions and speed might compromise the safety of the aircraft operations
- air traffic control duties that complement the non-technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

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Competency Field

Y – Aircraft Operation and Traffic Management

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Manage aerodrome traffic zone and aerodrome manoeuvring area	1.1 Traffic priorities are applied in accordance with standard operating procedure
	1.2 Service priorities are applied in accordance with that which is most safety critical
	1.3 Hazards are identified, risks are assessed and risk controls are implemented
	1.4 Control practices and procedures are adjusted in accordance with changing aerodrome traffic zone and aerodrome environment factors
	1.5 Systematic scan technique of aerodrome traffic zone and aerodrome is maintained
	1.6 General and sector weather observations are conducted
	1.7 Documented instructions and agreements applicable to jurisdictional area are applied
	1.8 Non-compliance with control instructions and procedures is recognised and addressed
	1.9 Taxiways are used to facilitate maximum use of runways
	1.10 Runway mode selected is suitable and efficient for traffic flow
	1.11 Runways are operated dependently

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	1.12 Runways are operated independently
	1.13 Control services are provided in accordance with airspace classification and status
	1.14 Airspaces are administered in accordance with user activity
	1.15 Aircraft are authorised to use aerodrome traffic zone and aerodrome
	1.16 Vehicles and pedestrians are authorised to use aerodrome manoeuvring areas
2 Assure separation	2.1 Conflicts are recognised and resolved
	2.2 Separation is provided
	2.3 Jurisdiction for maintaining aircraft separation is agreed and assigned
	2.4 Alternative separation is provided as required
	2.5 Separation is adjusted when systems are degraded or airways facilities are reduced
	2.6 Most appropriate applied separation is provided taking into account safety, expedition and the method of control and surveillance
	2.7 Compromised separation is recognised and addressed

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.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

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Unit Mapping Information

This unit replaces and is equivalent to AVIY5050A Provide aerodrome control services.

Links

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Assessment Requirements for AVIY5050 Provide aerodrome control services

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:

- adhering to procedures
- adjusting route and track of aircraft
- allocating attention according to priorities
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying reasoning and decision making to airspace and flight path scenarios
- communicating effectively with others
- completing relevant documentation
- conducting general and sector meteorological observation
- coordinating air traffic services effectively
- determining runway mode
- executing control actions
- facilitating unusual flight operations
- formulating airways clearance and control instructions
- implementing contingency plans
- maintaining a strategic traffic management plan
- maintaining surveillance of aerodrome traffic zone and aerodrome
- managing aerodrome traffic zone operating equipment in accordance with standard operating procedures
- operating taxiways
- perceiving and comprehending incoming information
- processing military aircraft
- projecting and developing future airspace and flight path scenarios
- recording and annotating flight information and messages
- reporting and rectifying identified conflicts promptly
- reporting and rectifying identified problems promptly
- responding to stressful situations with a considered and measured approach

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- separating aircraft using aerodrome control techniques and standards
- working collaboratively with others
- working systematically with attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- aerodrome and runway markings
- aerodrome control separation standards and techniques
- aerodrome lighting
- air navigation systems and visual aids
- air traffic priorities
- air traffic services
- airborne collision and avoidance systems
- aircraft type, associated wake turbulence and performance categories
- airspace service priorities and the safety imperative
- characteristics of aerodrome traffic zone patterns and traffic flows including critical positions
- charts and operational documentation
- communications phraseologies and procedures
- compromised separation and non-compliant use of aerodromes and airspaces
- conditional air traffic clearance
- coordination requirements
- division of responsibilities for air traffic services
- formation flight configurations, separation, procedures and practices
- handover/takeover procedures and practices
- human machine interface (HMI) states and associated interactions
- meteorological documentation, terms and definitions
- military flight operations
- national airspace system and standard route structure
- navigation principles and terminology
- organisational and licensing administration
- physical characteristics of aerodrome and runways
- principles and procedures of altimetry
- principles of error management
- principles of flight
- procedures for recording operational information
- provision of air traffic services and air traffic flow management during system degradation including facility failures and restoration of system components

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- relevant sections of regulatory and operational documentation
- route, track, heading and aircraft performance characteristics
- rules of the air governing visual and instrument flight
- runway visibility measurement
- safety occurrence reporting
- terrain and prominent landmarks affecting flight operations within aerodrome traffic zone
- terrain protection
- transfer of control points
- transition from instrument flight to visual flight conditions
- weather phenomena affecting flight operations.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
-

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIY5065 Operate a multi-engine helicopter

Modification History

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

Application

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

It includes operating a multi-engine helicopter in all phases of flight, managing engine failures and malfunctions, performing a rejected take-off with engine failure, 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 recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Y – Aircraft Operation and Traffic Management

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Operate a multi-engine helicopter in all phases of flight	1.1 Normal multi-engine helicopter operations on ground and in flight are conducted in accordance with workplace procedures and the aircraft flight manual (AFM)/pilot's operating handbook (POH)
	1.2 Single engine operations contingencies for all phases of flight are anticipated and planned for
	1.3 Single engine operations contingency plan is briefed to crew members as required
2 Manage engine failure/malfunction	2.1 Control of helicopter is maintained and/or regained
	2.2 Failed/malfunctioning engine is identified and confirmed
	2.3 Power set on serviceable engine/s and helicopter configuration is adjusted to achieve desired aircraft performance
	2.4 Failed/malfunctioning engine is managed
	2.5 Decision to continue or abort approach/landing is made
	2.6 Decision height for landing is nominated
	2.7 Indicated airspeed is maintained at or above minimum level flight speed for one inoperative engine
	2.8 Air traffic control (ATC) or another agency capable of assistance is advised of situation and intentions
	2.9 Flight profile is flown from which a controlled landing could be achieved
	2.10 Recovery to a suitable landing site is evaluated and conducted

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3	**Perform rejected take-off with engine failure**	3.1 Requirement for a rejected take-off is recognised
		3.2 Rejected take-off procedures are implemented
		3.3 Contingency power on remaining engine/s is applied as required
		3.4 Controlled landing in rejected take-off distance available is performed
4	**Conduct go-around or missed approach with engine failure**	4.1 Requirement for a go-around or missed approach is identified and confirmed
		4.2 Control of helicopter is maintained and/or regained
		4.3 Engine inoperative go-around is performed from decision height

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 AVIY5065A Operate a multi-engine helicopter.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIY5065 Operate a multi-engine helicopter

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
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant air safety practices and regulations
- applying relevant helicopter aeronautical knowledge
- communicating effectively with others
- completing relevant documentation
- controlling and managing aircraft during flight with failed engine/s
- extracting, calculating and applying all performance information applicable to aircraft
- following relevant legislation and workplace procedures
- identifying and correctly using relevant equipment
- identifying and managing emergency and abnormal situations while maintaining control of aircraft
- identifying critical or malfunctioning engine correctly
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- 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 conforming to industry and WHS/OHS standards

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- 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 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, performance criteria and include knowledge of:

- aircraft performance limitations
- aircraft systems:
  - fuel system
  - hydraulic system
  - electrical system
  - oil system
  - stability augmentation, automatic flight control systems (AFCS) and flight director system (FDS
  - anti-icing and de-icing systems
  - heating and ventilation systems
  - pitot and static system
  - fire extinguisher system
  - engine systems
  - transmission and rotor systems
  - display systems
  - landing gear (fixed or retractable)
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to multi-engine helicopter operations
- climb performance, hover out of ground effect and height-velocity diagram charts
- climb, cruise, descent procedures including airspeeds, configurations, method of drift allowance, setting of flight instruments and non-normal/emergency procedures
- compressor speed (N1) and torque split indications
- corrective action to be taken when engine run-up or run-down has been diagnosed
- emergency procedures for:
  - engine failure in hover
  - engine failure during taxiing

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  - engine failure during transitions before and after take-off
  - engine failure in cruise
  - engine failure on final approach before and after landing
  - engine fire on the ground and airborne
  - electrical fire on the ground and airborne
  - cabin fire in flight
- engine, transmission and any other stated operating limits in the AFM
- equi-time point (ETP) for one engine inoperative
- failed engine operations
- general aircraft data
- how to identify malfunctioning governor in flight and manage the related engine
- in a Defence context, relevant Defence Orders and Instructions
- initial rate of climb and climb gradient for one engine inoperative for specified conditions
- key hazards, typical causal factors and contributing operational situations, avoidance and recognition of symptoms and recovery techniques:
  - vortex ring state
  - ground resonance
  - loss of tail rotor effectiveness (LTE)
  - low ‘g’ and mast bumping
  - overpitching or low RRPM – rotor stall
  - retreating blade stall
  - recirculation
  - dynamic rollover
- low speed wind limits
- make, type and model of helicopter, designation of engines, take-off and rated power
- markings on the performance instruments that apply to failed engine operations
- normal and take-off/landing procedures
- point of no return (PNR) for one engine inoperative
- range of aircraft increases or decreases following an engine failure
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- rotor speed (RRPM) limits (Power ON and Power OFF)
- stated airspeed limitations:
  - velocity never exceed – Vne (at varying all up weights (AUW) and density altitudes)
  - velocity maximum level flight – Vh
  - configuration airspeed limit
  - velocity landing operations – Vlo
  - velocity turbulence penetration – Vturb
  - maximum crosswind
- slope landing limitations
- take-off and landing topics:

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  - continuing and rejected take-off distances
  - take-off decision point
  - landing decision point
- technique and procedures for carrying out a rejected take-off after engine/system/s failure/warnings, including related safety factors
- technique and procedures used during engine failure on take-off, appropriate reference airspeeds, and specific pilot actions required
- technique and procedures used to conduct a go-around or missed approach during engine failure on take-off, appropriate reference airspeeds, and specific pilot actions required
- weight and balance topics:
  - weight, balance and performance
  - permissible take-off weight
  - maximum gross weight, landing weight, ramp weight and zero fuel weight
  - centre of gravity position for any specified conditions
  - centre of gravity limitations
  - appropriate charts to determine centre of gravity
  - calculated centre of gravity position and confirmation it is within limits.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

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Links

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AVIZ0001 Maintain and manage situational awareness as pilot in command

Modification History

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

Application

This unit involves the skills and knowledge required to maintain and manage situational awareness as pilot in command (PIC), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes establishing and maintaining own and flight crew situational awareness, setting crew priorities and task management, and working with others in managing situational awareness.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) of a PIC, 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 and without supervision within a 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

Z – Situation Awareness

Unit Sector

Not applicable.

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Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Establish and maintain situational awareness of self and flight crew	1.1 Continuous active monitoring (effective lookout) of all critical factors relevant to the safe progress of a flight is undertaken
	1.2 Situational awareness is applied to own and others' performance in accordance with relevant regulations and legislative requirements
	1.3 Trends towards an unsafe situation are promptly recognised and appropriate corrective action is taken
	1.4 Breakdown in flight crew situational awareness is identified and rectified promptly
2 Set crew priorities and manage tasks	2.1 Crew priorities and workload are allocated to ensure completion of all tasks relevant to the safety of the flight
	2.2 Safe operation of aircraft is prioritised ahead of competing tasks
	2.3 Critical events and tasks are anticipated and managed to ensure accurate completion within available time constraints
	2.4 Technology is used effectively to reduce workload and to improve ability to safely perform mental and manipulative activities
	2.5 Signs and symptoms of team fatigue are identified and actions are taken to manage fatigue of self or in others
3 Work with others in managing situational awareness	3.1 Collaboration with flight crew members is undertaken to ensure safe completion of flight operations
	3.2 Effective and efficient crew communications and interpersonal relationships are established and maintained to ensure safe flight outcome
	3.3 Flight crew members are encouraged to contribute to safe flight outcome

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3.4 Appropriate actions are taken in conjunction with others to cooperatively correct identified unsafe situations that may develop at any point during the flight

3.5 Command decisions are communicated to other flight crew members to maintain and manage situational awareness

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

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIZ0001 Maintain and manage situational awareness as pilot in command

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:

- accepting responsibility for own performance
- advising pilot flying of deviations from planned operations
- analysing aircraft systems and flight environment information to identify actual and potential threats or errors
- applying relevant aeronautical knowledge
- avoiding fixation on a single task or function
- being assertive
- clarifying problems and making effective decisions
- communicating effectively with others
- cross-checking actions of other flight crew members
- interacting with and delegating tasks to flight crew members
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining compliance with WHS/OHS requirements
- maintaining radio listening watch
- making effective decisions
- managing a flight crew incapacitation event in accordance with published procedures
- monitoring flight path, aircraft configuration and systems to achieve desired performance using a systematic scan technique
- operating electronic equipment, including communications equipment, to required protocols
- prioritising tasks to achieve safe flight performance
- promptly identifying, reporting and rectifying problems
- responding appropriately to cultural differences in the workplace
- selecting and using appropriate instruments, displays, communications equipment and aids
- taking initiative and responding to changing situations
- using visual systematic scanning technique with required attention to detail
- using flight radio and inter-crew communications
- using traffic information to establish and maintain situational awareness

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- utilising available resources to collect flight environment information and to modify planned operations as required.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- CASR Part 61 Manual of Standards aeronautical knowledge relevant to the role of pilot in command
- cockpit management:
  - crew coordination:
    - distribution of responsibilities
    - working with a crew concept
  - crew cooperation:
    - small group dynamics (norms, atmosphere, pressure, communication, structure)
    - conflict management
  - leadership, style of management:
    - concern for performance
    - concern for people
    - democratic versus autocratic style
    - encouraging inputs and feedback
    - optimising flight crew performance in flight
    - correcting crew coordination deficiencies
  - communication:
    - verbal and non-verbal communication
    - one and two-way communication
    - effects of different communication styles
    - miscommunication (including cultural misunderstandings)
- effective decision-making processes:
  - 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 solutions 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

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    - monitor progress against agreed plan
    - evaluate decisions in line with changing circumstances
    - ensure decision-making is improvement-focused and directed towards achieving optimum outcomes
- fatigue risk management processes:
    - proactive
    - predictive
    - reactive
- hazard identification, risk analysis and control
- human performance and its limitations, including the senses, memory and situational awareness
- judgement and decision-making:
    - pilot judgement concepts:
        - types of judgement
        - motor skills and human factors
    - aeronautical decision-making:
        - decision-making concepts
        - pilot responsibilities
        - behavioural aspects
    - identification of hazardous attitudes:
        - physical factors
        - psychological factors
        - social influences and interface between people
    - pilot judgement awareness:
        - risk assessment
        - cockpit stress management
    - applying decision-making concepts:
        - practical application
        - managing resources
        - safety awareness
- relevant problems that may occur and actions to overcome them
- procedures for maintaining situational awareness
- procedures for transferring aircraft control between flight crew members
- standard radiotelephony phraseology
- systematic scanning techniques
- task allocation and management
- threat and error management (TEM) principles
- use of navigational computers and equipment
- workload, stress and time pressure management.

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Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIZ4001 Manage situational awareness in aircraft flight

Modification History

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

Application

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

It includes maintaining situational awareness, assessing situations and making decisions, setting priorities and managing tasks, and working with others in managing situational awareness.

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 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 at time of publication.

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

Pre-requisite Unit

Not applicable.

Competency Field

Z – Situational Awareness

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS		PERFORMANCE CRITERIA	
Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1	**Maintain situational awareness**	1.1	Continuous monitoring of all critical factors relevant to the safe progress of a flight is undertaken
		1.2	Effective visual scan is applied, and radio communication, traffic information and aircraft systems are used appropriately
		1.3	Trends towards an unsafe situations are recognised and appropriate corrective action is employed in accordance with workplace procedures and regulatory requirements
		1.4	Breakdown in situational awareness is identified from errors or discrepancies and is rectified by ensuring safe operation of aircraft and response to situation
2	**Assess situations and make decisions**	2.1	Problems are identified and analysed
		2.2	Solutions are identified and risks are assessed
		2.3	Course of action is chosen to ensure a safe outcome to a flight or manoeuvre
		2.4	Plan of action is communicated and tasks are allocated
		2.5	Actions are taken to achieve optimum outcomes
		2.6	Progress is monitored against plan
		2.7	Plan is re-evaluated to achieve optimum outcomes
		2.8	Operational changes and related risks are monitored and managed to ensure a safe outcome to a flight or manoeuvre
3	**Set priorities and manage tasks**	3.1	Priorities and workload are organised to ensure completion of all tasks relevant to flight safety
		3.2	Safe and effective operation of aircraft is prioritised ahead of

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		competing tasks
	3.3	Technology is appropriately used to reduce workload and to improve ability to perform mental and manipulative activities
	3.4	Fixation on single actions/functions is avoided
	3.5	Symptoms of fatigue are recognised and appropriate action is taken to reduce its effects
	3.6	Critical events and tasks are anticipated and completed in time available
4 Work with others in managing situational awareness	4.1	Level of assertiveness is applied that ensures safe flight completion
	4.2	Effective and efficient communications and interpersonal relationships are established and maintained with all stakeholders to ensure safe flight outcome
	4.3	Passengers and crew members are encouraged to participate in and contribute to safe flight outcome
	4.4	Appropriate action is taken in conjunction with others to cooperatively correct any identified unsafe situations that may develop during an aircraft flight

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is equivalent to AVIZ4001B Manage situation awareness in aircraft flight.

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Links

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Assessment Requirements for AVIZ4001 Manage situational awareness in aircraft flight

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
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using required equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining all necessary communications
- maintaining and managing an aircraft situation alone and in conjunction with others
- maintaining compliance with 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
- responding appropriately to cultural differences in the workplace
- selecting and using appropriate instruments, communications equipment and aids
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- sourcing and interpreting aviation weather forecast products appropriate to flight planning and navigation procedures

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- transferring aircraft control between crew members
- 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:

- air navigation techniques
- aircraft communication procedures and protocols
- aircraft fuel usage rates
- in a Defence context, relevant Defence Orders and Instructions
- operational hazards identified when managing situational awareness and ways of controlling those hazards and associated risks
- principles of aircraft flight
- problems that may occur when managing situational awareness and action that can be taken to overcome these problems
- procedures for maintaining situational awareness
- procedures for transferring aircraft control between crew members
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders
- traffic rules and procedures
- use of a navigational computer.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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

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conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVIZ5049 Manage situational awareness in the air traffic control environment

Modification History

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

Application

This unit involves the skills and knowledge required to manage situational awareness during air traffic control operations, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes establishing and maintaining situational awareness, and contributing to team situational awareness.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) related to air traffic control duties that complement the technical skills of air traffic controllers, and contribute to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of commercial and military air traffic services across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team 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 and Instructions.

Pre-requisite Unit

Not applicable.

Competency Field

Z – Situation Awareness

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Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Establish and maintain situational awareness	1.1 Status of the air traffic control (ATC) environment is established
	1.2 Incoming information is accurately perceived
	1.3 Pertinent information and elements are comprehended and prioritised
	1.4 Elements within the ATC environment are projected and consequences are established
	1.5 ATC environment is monitored and status of elements is updated
	1.6 Loss of situational awareness is identified and actions are taken to recover situational awareness
2 Contribute to team situational awareness	2.1 Team situational awareness is established and monitored
	2.2 Hazards are identified, risks are assessed and risk controls are implemented
	2.3 Required information is recognised and shared

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit is equivalent to AVIZ5049A Manage situational awareness in the air traffic control environment.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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Assessment Requirements for AVIZ5049 Manage situational awareness in the air traffic control environment

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:

- applying precautions and required actions to minimise, control or eliminate identified hazards
- applying reasoning and decision making to airspace and flight path scenarios
- communicating effectively with others
- completing relevant documentation
- implementing contingency plans
- interpreting and following operational instructions and prioritising work
- maintaining a strategic traffic management plan
- making decisions related to managing situational awareness in the air traffic control (ATC) environment
- operating equipment in accordance with standard operating procedures
- perceiving and comprehending incoming information
- prioritising tasks to regulate workload
- projecting and developing future airspace and flight path scenarios
- reporting and/or rectifying identified problems promptly
- responding to stressful situations with a considered and measured approach
- working collaboratively with others
- working systematically with attention to detail.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

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- aircraft performance characteristics
- ATC environment
- duty of care
- factors affecting individual and team situational awareness
- loss of situational awareness identifiers
- loss of situational awareness prevention techniques
- principles of effective ATC
- relevant sections of regulatory and operational documentation
- situational awareness recovery techniques
- techniques for establishing and maintaining situational awareness.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- acceptable means of simulation assessment.
-

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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BSBAUD501 Initiate a quality audit

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to initiate and organise a quality audit with an auditee. It covers assessing the scope and objectives of a quality audit; communicating with the auditee regarding the proposed quality audit; identifying resources required to conduct the audit; and developing and submitting a quality audit plan. The types of audits may include external or internal systems audits or process or product/service audits.

It applies to individuals with a well-established theoretical knowledge base in quality auditing who are proficient in using a wide range of specialised, quality auditing and managerial techniques to plan, carry out and evaluate a quality audit. Individuals also supervise and monitor the processes and outcomes of others working in a quality audit team.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Regulation, Licensing and Risk – Quality Auditing

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1 Assess quality audit scope and objectives	1.1 Determine and discuss audit objectives with the auditee, client and all other relevant parties 1.2 Determine and discuss scope of the quality audit with the auditee, client and all other relevant parties

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ELEMENT	PERFORMANCE CRITERIA
	1.3 Identify relevant standards that impact the environment in which the audit operates 1.4 Determine scope commensurate with identified risks
2 Communicate with auditee regarding proposed quality audit	2.1 Determine audit history, organisational structure and culture through consultation with the auditee 2.2 Negotiate and ensure agreement with auditee, the proposed audit methods and techniques to be applied 2.3 Outline audit processes to establish sequence of audit activities, and the roles of the auditors and auditees in the process
3 Identify resources required to conduct quality audit	3.1 Identify resources required to perform the quality audit efficiently and effectively 3.2 Select audit team members on the basis of relevant expertise 3.3 Confirm availability of resources required to conduct the audit with auditee 3.4 Assign roles and responsibilities to audit team members
4 Develop and submit quality audit plan	4.1 Develop quality audit plan according to established scope and objectives 4.2 Assign timing, schedules and responsibilities for implementation of the audit plan 4.3 Develop audit priorities and ensure agreement with auditees and audit team members 4.4 Document and submit audit plan to auditee
5 Prepare audit team	5.1 Inform audit team members of their responsibilities, audit objectives and scope 5.2 Communicate audit plan and schedules to all audit team members 5.3 Discuss and clarify audit methods and techniques with audit team members
6 Review auditee documentation	6.1 Review auditee’s previous audits to establish possible impact on the conduct of the current audit 6.2 Review and check relevant organisational documents for accuracy 6.3 Resolve arising problems with auditee and relevant parties
7 Identify and prepare checklists and audit	7.1 Develop checklists to reflect audit scope and objectives

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ELEMENT	PERFORMANCE CRITERIA
related documentation	7.2 Develop or obtain documentation required for the audit 7.3 Prepare agenda for entry meeting 7.4 Include value-adding activities in audit related documentation where required

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.3, 4.1, 6.1, 6.2, 7.1	• Interprets and analyses information from organisational documentation
Writing	4.1-4.4, 6.2, 7.1-7.4	• Develops a range of documents using structure, tone and vocabulary appropriate to audience, context and purpose • Records or amends information and conveys details in accordance with audit objectives
Oral Communication	1.1, 1.2, 2.1-2.3, 4.3, 5.1-5.3, 6.3	• Participates in spoken exchanges using structure and language to suit the audience • Uses questioning and listening techniques to clarify requirements
Numeracy	4.2	• Uses mathematical calculations for project scheduling
Navigate the world of work	1.3	• Monitors adherence to organisational policies and relevant standards and considers own role in terms of its contribution to broader goals of the work environment
Interact with others	1.1, 1.2, 2.1, 2.2, 3.4, 4.4, 5.1, 5.2	• Selects the appropriate form, channel and mode of communication for a specific purpose relevant to own role • Recognises the importance of building rapport and building effective working relationships • Collaborates with others to negotiate acceptable outcomes, playing an active role in facilitating effective group interaction
Get the work done	1.1, 1.2, 1.4, 2.1, 2.3, 3.1, 3.2, 4.1,	• Organises, plans and sequences own workload and schedules work activities of others • Uses analytical processes to decide on a course of

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	4.2, 4.3, 6.1, 6.3	action, establishing criteria for deciding between options and seeking advice from others before taking action when necessary • Addresses some unfamiliar problems of increasing complexity within own scope, recognising when to seek the expertise of others

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBAUD501 Initiate a quality audit	BSBAUD501B Initiate a quality audit	Updated to meet Standards for Training Packages	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBAUD501 Initiate a quality audit

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- produce documented audit plans for auditees across a variety of contexts including:
  - the scope and objectives of the audit
  - proposed audit methods and techniques to be used
  - required resources and schedules
  - allocation of individual audit team member responsibilities for conducting the proposed audit.
- use terminology relating to quality auditing in written or oral communications.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify the relevant auditing codes of practice or ethics
- describe auditing methods and techniques
- outline the requirements of auditing regulations and standards
- identify current audit practices
- outline quality auditing principles, techniques and systems
- describe the requirements of house or other style manual protocols for written communications
- identify software applications relevant to quality auditing activities.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the regulation, licensing and risk – quality auditing field of work and include access to:

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- workplace documentation including previous quality audit reports, checklists, risk management plans and audit plans.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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BSBMGT517 Manage operational plan

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Application

This unit describes the skills and knowledge required to develop and monitor implementation of the operational plan to provide efficient and effective workplace practices within the organisation's productivity and profitability plans.

Management at a strategic level requires systems and procedures to be developed and implemented to facilitate the organisation's operational plan.

This unit applies to individuals who manage the work of others and operate within the parameters of a broader strategic and/or business plan.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Management and Leadership – Management

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Develop operational plan	1.1 Research, analyse and document resource requirements and develop an operational plan in consultation with relevant personnel, colleagues and specialist resource managers 1.2 Develop and/or implement consultation processes as an

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ELEMENT	PERFORMANCE CRITERIA
	integral part of the operational planning process 1.3 Ensure the operational plan includes key performance indicators to measure organisational performance 1.4 Develop and implement contingency plans for the operational plan 1.5 Ensure the development and presentation of proposals for resource requirements is supported by a variety of information sources and seek specialist advice as required 1.6 Obtain approval for the plan from relevant parties and explain the plan to relevant work teams
2. Plan and manage resource acquisition	2.1 Develop and implement strategies to ensure that employees are recruited and/or inducted within the organisation's human resources management policies, practices and procedures 2.2 Develop and implement strategies to ensure that physical resources and services are acquired in accordance with the organisation's policies, practices and procedures 2.3 Recognise and incorporate requirements for intellectual property rights and responsibilities in recruitment and acquisition of resources and services
3. Monitor and review operational performance	3.1 Develop, monitor and review performance systems and processes to assess progress in achieving profit and productivity plans and targets 3.2 Analyse and interpret budget and actual financial information to monitor and review profit and productivity performance 3.3 Identify areas of under-performance, recommend solutions and take prompt action to rectify the situation 3.4 Plan and implement systems to ensure that mentoring and coaching are provided to support individuals and teams to effectively, economically and safely use resources 3.5 Negotiate recommendations for variations to operational plans and gain approval from designated persons/groups 3.6 Develop and implement systems to ensure that procedures and records associated with documenting performance are managed in accordance with organisational requirements

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Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.5, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 3.6	• Identifies and extracts relevant information from a range of complex texts • Gathers, interprets and analyses workplace documentation to determine requirements for the operational plan
Writing	1.1-1.5, 2.1, 2.2, 3.1-3.6	• Develops and documents a range of detailed texts relating to the management of an operational plan according to organisational requirements • Ensures the vocabulary, grammatical structures and conventions are appropriate for the context and target audience
Oral Communication	1.1, 1.2, 1.5, 1.6, 3.4, 3.5	• Presents information to a range of audiences using appropriate register, vocabulary and paralinguistic features • Listens and comprehends information from a variety of spoken exchanges with clients, co-workers and other stakeholders • Confirms understanding through questioning and active listening
Numeracy	1.1, 1.3, 1.4, 3.1-3.4	• Selects and uses mathematical problem-solving strategies to organise resource requirements, performance benchmarks and financial viability of the operational plan
Navigate the world of work	2.1, 2.2, 3.4, 3.6	• Monitors adherence to organisational policies, procedures and considers own role in terms of its contribution to broader goals of the work environment • Appreciates the implications of legal responsibilities with specific reference to health and safety
Interact with others	1.1, 1.2, 1.5, 1.6, 3.5	• Identifies and uses appropriate conventions and protocols when communicating with colleagues and external stakeholders • Collaborates with others to achieve joint outcomes, playing an active role in facilitating effective group interaction, influencing direction and taking a leadership role on occasion
Get the work done	1.1-1.5, 2.1, 2.2, 3.1, 3.3, 3.4, 3.6	• Takes responsibility for developing and implementing systems and processes to achieve organisational objectives, seeking advice, feedback and support as

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		required to assist in the development and planning phase • Sequences and schedules complex activities, monitors implementation, and manages relevant communication • Uses systematic analytical processes to aid decision making, identify potential problems and generate contingency plans or solutions

Unit Mapping Information

Code and title current version	**Code and title previous version**	**Comments**	**Equivalence status**
BSBMGT517 Manage operational plan	BSBMGT515A Manage operational plan	Updated to meet Standards for Training Packages. Edits to clarify intent of Performance Criteria. Additional performance criterion and evidence for intellectual property.	No equivalent unit

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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Assessment Requirements for BSBMGT517 Manage operational plan

Modification History

Release	Comments
Release 1	This version first released with BSB Business Services Training Package Version 1.0.

Performance Evidence

Evidence of the ability to:

- develop and implement an operational plan using a variety of information sources and consultation (including using specialist advice if required) which includes:
  - resource requirements
  - key performance indicators
  - monitoring processes
  - contingency plans
- communicate effectively with relevant stakeholders to explain the plan and supporting information, seek approvals, negotiate variations and engage work teams
- develop and implement strategies to achieve the operational plan within the organisation's policies, practices and procedures including:
  - recruiting, inducting and developing personnel
  - acquiring physical resources and services
  - protecting intellectual property
  - making variations to the plan
  - monitoring and documenting performance.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- describe models and methods for operational plans
- explain the role of an operational plan in achieving the organisation's objectives
- explain budgeting processes

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- list alternative approaches to developing key performance indicators to meet business objectives
- outline the legislative and regulatory context relevant to the operational plan of the organisation
- outline the organisation's policies, practices and procedures that directly relate to the operational plan.

Assessment Conditions

Assessment must be conducted in a safe environment where evidence gathered demonstrates consistent performance of typical activities experienced in the management and leadership field of work and include access to:

- relevant legislation and regulations
- workplace documentation and resources
- case studies and, where possible, real situations
- interaction with others.

Assessors must satisfy NVR/AQTF assessor requirements.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=11ef6853-ceed-4ba7-9d87-4da407e23c10

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HLTAID002 Provide basic emergency life support

Modification History

Release	Comments
Release 4	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 3	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. Changes to evidence requirements relative to revised scope of unit.

Application

This unit describes the skills and knowledge required to recognise and respond to life-threatening emergencies in line with the Australian Resuscitation Council (ARC) Guidelines.

This unit applies to all workers who may be required to provide an emergency response in a range of situations, including community and workplace settings.

Specific licensing /regulatory requirements relating to this competency, including requirements for refresher training should be obtained from the relevant national/state/territory Work Health and Safety Regulatory Authorities.

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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
Elements define the essential outcomes.	*Performance criteria specify the level of performance needed to demonstrate achievement of the element.*
1. Respond to an emergency situation	1.1 Recognise an emergency situation 1.2 Identify, assess and minimise immediate hazards to health and safety of self and others 1.3 Assess the casualty and recognise the need for first aid response 1.4 Assess the situation and seek assistance from emergency response services
2. Apply appropriate first aid procedures	2.1 Perform cardiopulmonary resuscitation (CPR) in accordance with ARC guidelines 2.2 Provide first aid in accordance with established first aid principles 2.3 Display respectful behaviour towards casualty 2.4 Obtain consent from casualty where possible 2.5 Use available resources and equipment to make the casualty as comfortable as possible 2.6 Operate first aid equipment according to manufacturer’s instructions 2.7 Monitor the casualty’s condition and respond in accordance with first aid principles
3. Communicate details of the incident	3.1 Accurately convey incident details to emergency response services 3.2 Report details of incident to workplace supervisor as appropriate 3.3 Maintain confidentiality of records and information in line with statutory and/or organisational policies

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Foundation Skills

The Foundation Skills describe those required skills (language, literacy, numeracy and employment skills) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705

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Assessment Requirements for HLTAID002 Provide basic emergency life support

Modification History

Release	Comments
Release 4	Updated: • assessor requirements statement • foundation skills lead in statement • licensing statement • modification history to reflect 2012 standards Equivalent outcome.
Release 3	Updated mapping information. Changes to assessment requirements. Equivalent outcome.
Release 2	Minor corrections to formatting to improve readability. Equivalent competency outcome.
Release 1	This version was released in *HLT Health Training Package release 1.0* and meets the requirements of the 2012 Standards for Training Packages. Significant changes to elements and performance criteria, changes to scope of unit. Changes to evidence requirements relative to revised scope of unit.

Performance Evidence

The candidate must show evidence of the ability to complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the job role.

There must be evidence that the candidate has completed the following tasks in line with state/territory regulations, first aid codes of practice, Australian Resuscitation Council (ARC) guidelines and workplace procedures:

- Followed DRSABCD in line with ARC guidelines, including:
  - performed at least 2 minutes of uninterrupted single rescuer cardiopulmonary resuscitation (CPR) (5 cycles of both compressions and ventilations) on an adult resuscitation manikin placed on the floor

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    - performed at least 2 minutes of uninterrupted single rescuer CPR (5 cycles both compressions and ventilations) on an infant resuscitation manikin placed on a firm surface
    - responded appropriately in the event of regurgitation or vomiting
    - managed the unconscious breathing casualty
    - followed single rescue procedure, including the demonstration of a rotation of operators with minimal interruptions to compressions
    - followed the prompts of an Automated External Defibrillator (AED)
- Responded to at least one simulated first aid scenario contextualised to the candidate's workplace/community setting, including:
    - demonstrated safe manual handling techniques
    - provided an accurate verbal or written report of the incident
- Applied first aid procedures for the following:
    - allergic reaction
    - anaphylaxis
    - bleeding control
    - choking and airway obstruction
    - respiratory distress, including asthma
    - shock

Knowledge Evidence

The candidate must be able to demonstrate essential knowledge required to effectively complete tasks outlined in elements and performance criteria of this unit, manage tasks and manage contingencies in the context of the work role. This includes knowledge of:

- State/Territory regulations, first aid codes of practice and workplace procedures including:
    - ARC Guidelines relevant to provision of CPR and first aid
    - safe work practices to minimise risks and potential hazards
    - Infection control principles and procedures, including use of standard precautions
    - requirements for currency of skill and knowledge
- legal, workplace and community considerations, including:
    - awareness of potential need for stress-management techniques and available support following an emergency situation
    - duty of care requirements
    - respectful behaviour towards a casualty
    - own skills and limitations
    - consent
    - privacy and confidentiality requirements
    - importance of debriefing
- considerations when providing basic emergency life support, including:
    - airway obstruction due to body position

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  - appropriate duration and cessation of CPR
  - appropriate use of an AED
  - chain of survival
  - standard precautions
- principles and procedures for first aid management of the following scenarios:
  - allergic reaction
  - anaphylaxis
  - bleeding control
  - cardiac conditions, including chest pain
  - chocking and airway obstruction
  - respiratory distress, including asthma
  - shock
  - stroke
- basic anatomy and physiology relating to:
  - considerations in provision of first aid for specified conditions
  - chest
  - how to recognise a person is not breathing normally
  - response/consciousness
  - upper airway and effect of positional change

Assessment Conditions

Skills must be demonstrated working individually in an environment that provides realistic in-depth, industry-validated scenarios and simulations to assess candidates' skills and knowledge.

Assessment resources must include:

- adult and infant resuscitation manikins in line with ARC Guidelines for the purpose of assessment of CPR procedures
- adrenaline auto-injector training device
- AED training device
- placebo bronchodilator and spacer device
- roller bandages
- triangular bandage
- workplace First Aid kit
- workplace injury, trauma and/or illness record, or other appropriate workplace incident report form
- wound dressing

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Simulated assessment environments must simulate the real-life working environment where these skills and knowledge would be performed, with all the relevant equipment and resources of that working environment.

Assessor requirements

Assessors must satisfy the Standards for Registered Training Organisations (RTOs) 2015/AQTF mandatory competency requirements for assessors.

In addition hold current first aid certificate HLTAID003 or higher.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ced1390f-48d9-4ab0-bd50-b015e5485705

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AVI Aviation Training Package

Modification History

Release Number	Release Date	Comments
2.0	7 December 2015	Updated to the *Standards for Training Packages* 2012. Products added: • 3 qualifications • 64 units of competency • 1 Skill Set.
1.0	4 September 2015	Updated to the *Standards for Training Packages* 2012. Products in this release: • 1 qualification • 12 units of competency • 2 Skill Sets.

Credit Arrangements

At the time of endorsement of this Training Package no national credit arrangements with higher education institutions exist.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816

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AVISS00063 Multi-Crew Operations Pilot Skill Set

Modification History

Release 1. New Skill Set.

Description

This Skill Set is for Commercial Pilots and Air Transport Pilots who command, supervise, and manage an aircraft in a multi-crew environment in fixed and rotary wing aviation operational environments.

Pathways Information

The AVISS00063 Multi-Crew Operations Pilot Skill Set is part of the AVI Aviation Training Package.

Licensing/Regulatory Information

Candidates should ensure that they have also read the part of the Training Package that outlines licensing and regulatory requirements. Individuals seeking certification should check with the Civil Aviation Safety Authority or Defence Aviation for specific requirements.

Skill Set Requirements

A total of **3 units** of competency must be attained.

AVIN0001	Command an aircraft in a multi-crew environment
AVIN0002	Supervise and manage safe flight operations as pilot in command
AVIZ0001	Maintain and manage situational awareness as pilot in command

Target Group

Commercial Pilots and Air Transport Pilots who command, supervise, and manage an aircraft in a multi-crew environment in fixed and rotary wing aviation operational environments.

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Suggested words for Statement of Attainment

The AVISS00063 Multi-Crew Operations Pilot Skill Set is from the AVI Aviation Training Package and meets the needs of people who command, supervise and manage an aircraft in a multi-crew environment in fixed and rotary wing aviation operational environments.

Custom Content Section

Not applicable.

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AVISS00071 Aviation Risk Management Skill Set

Modification History

Release 1. New Skill Set.

Description

This Skill Set is for individuals who perform aviation risk and fatigue risk management functions within an aviation safety management system (SMS).

Pathways Information

The AVISS00071 Aviation Risk Management Skill Set is part of the AVI Aviation Training Package.

Licensing/Regulatory Information

Candidates should ensure they have also read the part of the Training Package that outlines licensing and regulatory requirements. Individuals seeking certification should check with the Civil Aviation Safety Authority (CASA).

Work is performed in accordance with:

- AS/NZS ISO 31000:2009 Risk management – Principles and guidelines
- Civil Aviation Order 48.1 Instrument 2013 and/or amendments.
-

Skill Set Requirements

A total of **2 units** of competency must be attained.

AVIF0004	Implement aviation risk management processes
AVIF0005	Implement aviation fatigue risk management processes

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Target Group

Individuals interested in performing aviation risk and fatigue risk management functions within an aviation SMS.

Suggested words for Statement of Attainment

This AVISS00071 Aviation Risk Management Skill Set from the AVI Aviation Training Package meets the industry requirements for individuals who work in safety and operational risk, and fatigue risk management roles in an aviation safety management system (SMS), and are required to perform aviation risk and fatigue risk management tasks.

Custom Content Section

Not applicable.

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AVISS00072 Aviation Safety Management Skill Set

Modification History

Release 1. New Skill Set.

Description

This Skill Set is for individuals performing aviation safety and operational management functions within an aviation safety management system (SMS).

Pathways Information

The AVISS00072 Aviation Safety Management Skill Set is part of the AVI Aviation Training Package.

Licensing/Regulatory Information

Candidates should ensure they have also read the part of the Training Package that outlines licensing and regulatory requirements. Individuals seeking certification should check with the Civil Aviation Safety Authority (CASA).

Work is performed in accordance with:

- AS/NZS ISO 31000:2009 Risk management – Principles and guidelines
- AS/NZS ISO: 9000:2006: Quality management systems – Fundamentals and vocabulary
- AS/NZS ISO 19011:2014 Guidelines for auditing management systems
- Civil Aviation Order 48.1 Instrument 2013 and/or amendments.
-

Skill Set Requirements

A total of **5 units** of competency must be attained.

AVIF0004	Implement aviation risk management processes
AVIF0005	Implement aviation fatigue risk management processes
AVIF0006	Manage aviation risk
BSBAUD501	Initiate a quality audit
BSBMGT517	Manage operational plan

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Target Group

Individuals interested in performing aviation safety and operational management functions within an aviation safety management system.

Suggested words for Statement of Attainment

This AVISS00072 Aviation Safety Management Skill Set from the AVI Aviation Training Package meets the industry requirements for individuals who work in safety and operational management roles within aviation safety management systems (SMS).

Custom Content Section

Not applicable.

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