



Australian Government

AVIY4003 Control aeroplane in normal flight

Release: 1

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

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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
- 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-manoeuve 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 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

7 Comply with airspace requirements	6.7	Aeroplane is configured for landing
	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.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIY4003 Control aeroplane in normal flight

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- 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
- 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)
- 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 requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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

Resources for assessment must include access to:

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

Links

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