



**Australian Government**

# **AVIY0030 Operate fixed wing remote pilot aircraft systems**

**Release: 1**

# AVIY0030 Operate fixed wing remote pilot 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 fixed wing remote pilot aircraft systems (RPAS) in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes climbing an aircraft, maintaining straight and level flight, descending an aircraft and turning an aircraft. It also includes controlling an aircraft 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.

## Pre-requisite Unit

AVIW0028 Operate and manage remote pilot aircraft systems.

## 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 Climb aircraft**

- 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 conditions of flight during straight and turning manoeuvres
- 1.2** Aircraft is maintained in balanced flight
- 1.3** Aircraft is levelled off from climb at nominated altitude using standard aircraft procedures
- 1.4** Flightpath clearance is ensured
- 1.5** Climb checks are completed

## **2 Maintain straight and level flight**

- 2.1** Power, attitude and configuration are set to achieve straight and level flight
- 2.2** Aircraft is maintained in balanced flight
- 2.3** Altitude and heading are maintained within tolerances
- 2.4** Flightpath clearance is ensured

## **3 Descend aircraft**

- 3.1** Power, attitude and configuration are set to achieve descent during glide, power assisted flight and approach profiles
- 3.2** Aircraft is maintained in balanced flight
- 3.3** Aircraft is levelled from a descent at a nominated altitude
- 3.4** Flightpath clearance is ensured
- 3.5** RPAS altitude restrictions are observed
- 3.6** Aircraft operating limits are not exceeded during descent
- 3.7** Effects of undercarriage and flaps are managed
- 3.8** Descent checks are completed

## **4 Turn aircraft**

- 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                                                                                                                                                                                         |
|                                          | <b>4.4</b> | Aircraft operating limits are maintained during turns                                                                                                                                            |
| <b>5 Control aircraft at slow speed</b>  | <b>5.1</b> | Pre-manoeuve checks are completed in accordance with operating procedures                                                                                                                        |
|                                          | <b>5.2</b> | Aircraft is flown at minimum clean approach speed and at minimum landing configuration approach speed as specified in operations manual/pilot's operating handbook (POH) in balanced flight      |
|                                          | <b>5.3</b> | Height awareness is maintained during slow speed flight                                                                                                                                          |
|                                          | <b>5.4</b> | Positive control responses are implemented and reduced control effectiveness recognised during slow flight manoeuvres                                                                            |
|                                          | <b>5.5</b> | Stall warnings, cautions and indications are monitored during slow speed flight                                                                                                                  |
|                                          | <b>5.6</b> | Recovery to cruise speed is achieved while maintaining height                                                                                                                                    |
| <b>6 Perform circuits and approaches</b> | <b>6.1</b> | Traffic patterns are conducted in accordance with aeronautical information package (AIP) procedures appropriate to the aircraft type with allowance for wind velocity on all legs of the circuit |
|                                          | <b>6.2</b> | All checklists are completed and radiotelephone procedures followed                                                                                                                              |
|                                          | <b>6.3</b> | Approach path is appropriately intercepted and maintained in a manner applicable to aircraft type while remaining clear of other traffic                                                         |
|                                          | <b>6.4</b> | Traffic conflict or adverse flight conditions are recognised when they arise and a go-around is performed from any position in the traffic pattern                                               |
|                                          | <b>6.5</b> | Right of way rules are applied and complied with                                                                                                                                                 |
|                                          | <b>6.6</b> | Radio listening watch is maintained in accordance with established procedures                                                                                                                    |
|                                          | <b>6.7</b> | Aircraft is configured for landing                                                                                                                                                               |
| <b>7 Comply with airspace</b>            | <b>7.1</b> | While aircraft is maintained within a specified area, compliance is maintained with air traffic requirements and restricted, controlled and other appropriately designated                       |

**requirements****airspace**

- 7.2 Appropriate reactions are made to factors that may affect the safe progress of the flight
- 7.3 Awareness of aircraft 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 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

No equivalent unit.

## Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

# Assessment Requirements for AVIY0030 Operate fixed wing remote pilot 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 (SOPs)
- adhering to restricted, controlled and other appropriately designated airspace requirements
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aircraft 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 aircraft in normal flight, including using an aeronautical radio
- compensating for the secondary effects of controls
- completing relevant documentation
- confirming area of operation serviceability and availability
- controlling an aircraft during slow speed flight
- controlling an aircraft during turning manoeuvres
- determining appropriate runway and circuit procedures
- identifying and correctly using relevant equipment
- identifying geographical features from charts, including:
  - landing areas within local area
  - geographical limits
  - geographical limits of flight training areas
  - restricted, controlled and uncontrolled airspace areas
  - state/territory local airspace limits
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining 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 area of operations 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 (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instruments to monitor aircraft performance
- working collaboratively with others when controlling an aircraft 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 launch checks
- aircraft performance
- aircraft systems
- aircraft weight and balance
- airspace cleared procedure to be carried out before all turns
- Civil Aviation Safety Regulation (CASR) Part 101 Manual of Standards (MOS) Aeronautical Knowledge relevant to remote pilot aircraft operations
- cause of and compensation for aileron drag
- circuit patterns and procedures
- contents of the operations manual 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 aircraft controls
- go-around procedures from base leg and final approach
- hazards during maximum rate descent
- hazards when performing performance manoeuvres
- local area operating procedures
- operation of stall warning devices fitted to aircraft
- 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 balanced flight
- relevant sections of aeronautical information package (AIP)
- relevant sections of CASRs and Civil Aviation Orders
- relevant WHS 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 aircraft performance.

## Assessment Conditions

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

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

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

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations

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

## Links

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