



**Australian Government**

# **AVIY0025 Operate powerlift and tilt rotor remote pilot aircraft systems**

**Release: 1**

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## **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 powerlift and tilt rotor 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 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 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

Elements describe the essential outcomes.

#### 1 Launch aircraft in hover mode

### PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 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 Aircraft is maintained in balanced flight during adjustments to attitude and power
- 1.4 Power is maintained as altitude increases
- 1.5 Aircraft is converted from power lift to tilt-rotor mode and 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 at all phases 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
- 3.1 Attitude and power are adjusted to enter and maintain a descent from straight and level flight
- 3.2 Aircraft 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
- 3.4 Clearance ahead and below is maintained
- 3.5 Air traffic control (ATC) altitude restrictions are observed

#### 2 Maintain straight and level flight

#### 3 Descend aircraft

- 3.6 Design limits are not exceeded during aircraft descent
- 3.7 Appropriate altimeter settings are set
- 3.8 Situation awareness is maintained during aircraft descent
- 4 **Turn aircraft**
  - 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 Aircraft is rolled out from the turn to achieve nominated heading or geographical feature alignment
  - 4.3 Aircraft balanced flight is 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 aircraft at any speed**
  - 5.1 Attitude and power are adjusted, accelerated or decelerated to manoeuvre aircraft at any specified airspeed within the flight envelope while maintaining balanced flight
  - 5.2 Height awareness is constantly maintained and appropriate adjustments made as required
  - 5.3 Wind conditions are monitored and appropriate allowance made
  - 5.4 Aircraft 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 aircraft 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 operations
  - 6.4 Approach path applicable to aircraft 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 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 made
  - 6.9 Fuel/power status is monitored and appropriate responses made
  - 6.10 Aircraft 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 Aircraft 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
- 8 **Land in hover mode**
  - 8.1 Aircraft is adjusted appropriately using correct throttle on approach
  - 8.2 Aircraft is converted from tilt rotor to power lift mode and landing sequence is initiated
  - 8.3 Hover is maintained using micro adjustments to maintain position
  - 8.4 Readiness to land is determined and completed in a safe 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.

## **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>