



**Australian Government**

# **AVIY4018 Manage abnormal and emergency helicopter flight situations**

**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 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

## **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 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 malfunction in flight and at the hover**

- 3.1 Hover heights and surfaces are selected to maximise options 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
  - 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.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>