



**Australian Government**

# **AVIH5017 Navigate aircraft under instrument flight rules**

**Release: 1**

# **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

## **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.

- |  |  |
|--|--|
| <b>1 Select, operate and monitor navigation aids/systems</b>         | 1.1 Navigation aids and systems appropriate for planned IFR flight are selected and operated<br><br>1.2 Ground-based and satellite-based navigational systems confidence and integrity checks are conducted, continuously monitored and maintained   |
| <b>2 Navigate aircraft in instrument meteorological conditions</b>   | 2.1 Aircraft position fix is determined with reference to navigation aid and systems using ground-based and/or satellite-based navigational systems<br><br>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<br><br>2.3 Track is maintained within tolerances specified in authorised publications<br><br>2.4 Timings are recorded, assessed and revised as required<br><br>2.5 Station passage is recognised<br><br>2.6 Global navigation satellite system (GNSS)/distance measuring equipment (DME) arc procedure is performed within tolerances specified in authorised publications<br><br>2.7 Planned route above lowest safe altitude (LSALT) is maintained in accordance with IFR<br><br>2.8 IMC to visual flight transition is performed before descending below the lesser of LSALT or minimum safety altitude (MSA)<br><br>2.9 Route and destination weather conditions are monitored and appropriate actions are executed<br><br>2.10 Descent point calculations are completed |
| <b>3 Conduct a diversion to revised route or alternate aerodrome</b> | 3.1 Requirement for an unplanned diversion is recognised and confirmed<br><br>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
- 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.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>