



Australian Government

AVIH0001 Manage aircraft flight planning and performance as pilot in command

Release: 1

AVIH0001 Manage aircraft flight planning and performance as pilot in command

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 manage aircraft flight planning and performance as pilot in command (PIC), in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes managing flight planning activities, undertaking pre-flight preparations, and managing pre-departure preparations and taxi procedures. It also includes managing aircraft departure procedures, aircraft climb out and cruise, and managing the conduct of approach, landing and post-flight procedures.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to route planning and navigation duties of a PIC, 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 without supervision within a 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.

1 Manage flight planning activities

PERFORMANCE CRITERIA

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

- 1.1 Aircraft requirements for visual or instrument flight are determined
 - 1.2 Current operational documents are obtained and used to support flight planning
 - 1.3 Charts and flight plans for visual or instrument flight are prepared
 - 1.4 Visual or instrument operational requirements are determined
 - 1.5 Notifications for flight are made in accordance with regulatory requirements
 - 1.6 Navigation and flight management systems to record flight planning and performance data are managed in accordance with organisational procedures
- #### **2 Undertake pre-flight preparations**
- 2.1 Cockpit preparation is performed
 - 2.2 All available flight conditions data for planned flight is accessed, analysed and acted on
 - 2.3 Pre-flight inspections and tasks are carried out in accordance with workplace procedures
 - 2.4 Engine start is performed in accordance with aircraft type and standard operating procedures
 - 2.5 Take-off and departure clearances from air traffic control (ATC) are requested
- #### **3 Manage pre-departure preparations and taxi procedures**
- 3.1 Pre take-off preparations are performed
 - 3.2 Cockpit crew and cabin crew are engaged in briefings and hand over communications
 - 3.3 Effective communications are employed with aviation team and passengers
 - 3.4 Taxi and take-off procedures are performed in accordance with aircraft type, regulatory requirements and standard operating procedures

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|---|-----|---|
| | 3.5 | Abnormal and emergency situations occurring during taxi are managed |
| 4 Manage aircraft departure procedures | 4.1 | Normal take-off is performed |
| | 4.2 | Instrument take-off is performed |
| | 4.3 | Upwind, cross wind and downwind take-off is performed |
| | 4.4 | Rejected take-off is performed |
| | 4.5 | Abnormal and emergency situations occurring during aircraft departure are managed |
| 5 Climb aircraft | 5.1 | Pilot navigated standard instrument departure (SID) is conducted |
| | 5.2 | Radar-vector SID is conducted |
| | 5.3 | Radio navigation is changed in accordance with published procedures |
| | 5.4 | Aircraft speed is increased in accordance with aircraft type and standard operating procedures |
| | 5.5 | Abnormal and emergency situations occurring during climb are managed |
| 6 Cruise aircraft | 6.1 | Normal procedures are performed at the top of the climb |
| | 6.2 | Administrative tasks are undertaken |
| | 6.3 | Radio navigation is used to supplement flight management system (FMS) |
| | 6.4 | Descent preparation and arrival briefing is undertaken |
| | 6.5 | Abnormal and emergency situations occurring during cruise are managed |
| 7 Manage approach to land and landing procedures | 7.1 | Normal approach to landing is conducted in accordance with aircraft type and standard operating procedures |
| | 7.2 | Crosswind approach to landing is conducted in accordance with aircraft type and standard operating procedures |
| | 7.3 | Approach to landing is undertaken in accordance with relevant aerodrome navigation system |
| | 7.4 | Abnormal and emergency situations occurring during |

		approach and landing are managed
8	Conduct aircraft landing	
8.1		Normal landing is carried out in accordance with aircraft type, regulatory requirements and standard operating procedures
8.2		Cross wind landing is carried out in accordance with aircraft type, regulatory requirements and standard operating procedures
8.3		Emergency landing is carried out in accordance with regulatory requirements and workplace procedures
9	Conduct post-flight procedures	
9.1		Post landing procedures are completed in accordance with aircraft type, aerodrome requirements, regulatory requirements and workplace procedures
9.2		Aircraft is parked and secured
9.3		Administrative procedures are carried out
9.4		Crew is debriefed in accordance with workplace procedures

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

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AVIH0001 Manage aircraft flight planning and performance as pilot in command

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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:

- accessing all relevant flight planning and performance data
- allocating task priorities to achieve operational requirements
- applying active listening techniques
- applying relevant aeronautical knowledge
- briefing flight and ground crew
- clarifying crew roles and functions
- clarifying problems and making informed decisions
- communicating effectively with others
- completing checklists and writing reports
- completing routine administrative tasks
- confirming flight route
- delegating tasks to appropriate flight or ground crew personnel
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and responding to air traffic control (ATC) requests and clearances
- interpreting flight information
- interpreting weather and meteorological data
- keeping accurate flight planning and flight performance records
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- maintaining control of aircraft during:
 - normal operations
 - abnormal situations
 - emergency situations
- managing flight planning and performance record keeping
- managing fuel during all phases of flight
- managing inflight medical emergencies
- managing non published approach procedures

- managing situational awareness during all phases of flight
- monitoring operational outcomes and evaluating flight performance
- monitoring weather during all phases of flight
- programming flight management systems as required
- programming navigation systems
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- taking initiative and responding to changing conditions
- using all forms of aviation communications equipment
- using radio navigation techniques.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and include knowledge of:

- advanced aircraft aerodynamics
- advanced navigation techniques relevant to air transport pilots:
 - navigation charts
 - time zones
 - flight instruments
 - compasses
 - radiowave propagation
 - radio navigation aids
 - route navigation
 - basic radar principles
- aerodrome layout including runways
- aeronautical information service
- aeronautical competency standards relevant to air transport pilots
- aeronautical knowledge standards relevant to air transport pilots
- air defence identification zones (ADIZ)
- automatic flight control systems
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to air transport operations
- checklists to assist with cockpit preparation
- contingency planning
- dangerous goods compliance
- descent and arrival preparation and procedures
- emergency equipment

- emergency landing processes and procedures
- extended twin operations (ETOPS):
 - adequate airport
 - suitable airport
 - auxiliary power unit
 - ETOPS configuration
 - extended range operations
 - extended range entry point
 - fail-safe
 - inflight shutdown
 - airworthiness
 - 60 minute operation
 - 120 minute operation
 - 180 minute operation
 - minimum equipment list
 - weather
 - fuel
 - operational practices and procedures
 - flight planning
 - one engine inoperative performance
 - all engines operating performance
 - drift down
 - cruise altitude, and coverage at 10,000 feet
 - holding
 - altitude capability
 - missed approach
 - en route alternate airport requirements
 - minima
 - precision and non-precision approaches
 - fuel and oil supply
 - non-standard atmospheric conditions
- fixed radius paths
- flight management systems
- flight planning and flight monitoring:
 - responsibilities
 - delegation of authority
 - determining take-off limits
 - weight and balance calculations
 - route selection and altitudes
 - fuel plan preparation

- navigation plan preparation
- inflight computations, revisions or replanning
- interpretation of maps and symbols
- interpretation of ATC requirements
- calculation of critical points including equi-time point (ETP) and point of no return (PNR)
- flight planning and performance recording systems
- fly-by turns
- fuel management
- ground based augmentation systems (GBAS)
- ground based regional augmentation systems (GRAS)
- hand over and take over protocols
- holding pattern
- instrument approach types:
 - 2D approaches
 - 3D approaches
- instrument meteorological conditions
- instrument navigation charts
- missed approach minima and go-around considerations
- operational planning requirements:
 - flight planning
 - alternate aerodrome requirements
 - holding fuel requirements
 - night visual flight rules (NVFR) operational requirements
 - planned/alternate destination weather conditions below minima
 - receiver autonomous integrity monitoring (RAIM) prediction implications
- performance based navigation (PBN):
 - PBN principles
 - area navigation (RNAV) required navigation performance (RNP) capability
 - core components
 - navigation system performance requirements
 - performance monitoring and alerting
 - RNP specifications and system requirements
 - RNP navigation system errors
 - RNP leg types
 - RNP leg transitions
 - RNP navigation authorisation requirements
 - GNSS receiver requirements for RNP APCH operations
 - GNSS receiver mode conditions and actions for RNP APCH
 - RNP instrument approach requirements
 - augmented and non-augmented approaches

- interpret IAP charts for minima information and operational restrictions
- validity and accuracy of QNH for RNP APCH types
- RNP approach differentiation
- space based augmentation systems (SBAS)
- APV Baro-VNAV instrument approach charts
- vertical guidance information and operational considerations
- Baro-VNAV vertical guidance principles
- performance management of both flight and crew
- processes for managing engine failure in flight
- pre-flight considerations:
 - aircraft equipment fits
 - aircraft exemptions
- rationale and process for rejected take-off
- role and purpose of flight crew briefings
- rules of the air and air traffic services
- safety considerations and planning factors relevant to visual and instrument flight planning
- satellite-based augmentation systems (SBAS)
- standard instrument arrival procedures
- standard instrument departure procedures
- take-off procedures
- taxi procedures
- upwind, crosswind and downwind take-offs
- weight and balance for various aircraft configurations.

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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