



Australian Government

AVIY4007 Manage aircraft fuel

Release: 1

AVIY4007 Manage aircraft fuel

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 fuel, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority and national operating standards.

It includes planning fuel requirements, managing the fuel system, and refuelling aircraft.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties of flight crew and ground personnel, 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

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

- | | |
|---------------------------------|---|
| 1 Plan fuel requirements | 1.1 Total en route and reserve fuel requirement is determined in accordance with regulatory requirements |
| | 1.2 Allowance is made for possible abnormal or emergency situation |
| 2 Manage fuel system | 2.1 Fuel system including pumps, engine controls and cross-feed systems are operated in accordance with aircraft flight manual (AFM)/pilot's operating handbook (POH) |
| | 2.2 Fuel quantity on-board is verified using two independent methods |
| | 2.3 Fuel quality checks are confirmed before flight |
| | 2.4 Fuel usage and status is monitored throughout flight and fuel log is accurately maintained |
| | 2.5 Aircraft is configured to achieve desired profile, best range or endurance and operational endurance calculations are revised as required |
| | 2.6 Work health and safety (WHS)/occupational health and safety (OHS) procedures are followed at all times |
| | 2.7 Potential hazards are anticipated and precautions are applied |
| 3 Refuel aircraft | 3.1 Aircraft is refuelled correctly in accordance with AFM/POH, WHS/OHS, regulatory requirements and workplace procedures |
| | 3.2 Appropriate precautions are taken to ensure the safety of personnel and property during refuelling operations |

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 AVIY4007B Manage aircraft fuel.

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 AVIY4007 Manage aircraft fuel

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
- applying air safety practices and regulations
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating equi time point (ETP) and point of no return (PNR)
- calculating fuel allowances, consumption and endurance
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing safety precautions during aircraft refuelling
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining workplace records relevant to aircraft fuel management
- managing the operation of an aircraft fuel system
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring fuel usage to achieve desired profile, best range or endurance following configuration changes
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing fuel quality control checks
- planning aircraft fuel requirements
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recognising deteriorating situations impacting on fuel requirements
- refuelling an aircraft:

- identifying applicable grade of fuel for aircraft type
- complying with aircraft bonding and earthing requirements
- implementing fuel loading and unloading procedures
- ensuring fuel cap security
- undertaking fuel quality checks, including:
 - operator checks
- reporting and/or rectifying identified promptly, in accordance with regulatory requirements and workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively with others when managing aircraft fuel
- 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:

- aerodynamic, engine and airframe requirements for aircraft to achieve best range and endurance
- dangers of using the incorrect grade of fuel
- factors affecting fuel consumption
- fire extinguishers that can be used for fuel-related fires, including requirements and how to use them in a fire
- fuel consumption of aircraft at varying power settings
- fuel reserve requirement for aircraft
- hazards that exist when refuelling aircraft and related hazard control procedures and precautions
- how to calculate conversions between imperial and metric measures
- in a Defence context, relevant Defence Orders and Instructions
- limitations on using drum stock fuel
- location of refuelling places
- methods of identifying applicable grade of fuel for aircraft type
- methods of verifying the quantity of fuel on board an aircraft
- minimum fuel requirements for day visual flight rules (VFR) operations
- mixture leaning technique
- operation of the aircraft fuel system
- principles of aircraft fuel systems
- problems that may occur when managing aircraft fuel and appropriate action that should be

taken in each case

- procedures for calculating equi time point (ETP) and point of no return (PNR)
- regulations and procedures for refuelling aircraft
- relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders
- relevant WHS/OHS and environmental procedures and regulations
- variations to planned fuel consumption
- WHS/OHS requirements applicable to aircraft fuelling operations.

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.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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

Companion Volume implementation guides are found in VETNet -

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