



Australian Government

**AVIJ4002 Conduct quality control
operations related to refuelling and
defuelling aircraft**

Release: 1

AVIJ4002 Conduct quality control operations related to refuelling and defuelling aircraft

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 conduct quality control operations related to refuelling and defuelling aircraft, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes taking samples from dispensers/fuellers, conducting a visual check of fuel samples, testing membrane filtration (millepore sampling) and measuring pressure differential on filter vessels.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to quality control operations of ground operations 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 as a single operator or within a team 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

J – Quality

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 Conduct dispenser sampling processes

- 1.1 Fuel samples are taken from dispenser for visual testing at the commencement of routine operations in accordance with workplace procedures and regulatory requirements
- 1.2 Fuel samples are taken from dispenser for visual testing during fuelling operations in accordance with workplace procedures and regulatory requirements

2 Conduct fueller sampling processes

- 2.1 Fuel samples are taken from fueller for visual testing at the commencement of routine operations and during fuelling operations in accordance with workplace procedures and regulatory requirements
- 2.2 Additional samples are taken from fueller after defuelling operations, vehicle washing, maintenance and rain events

3 Conduct visual check of fuel samples

- 3.1 Fuel sample is inspected and colour is identified and interpreted to determine grade of fuel in accordance with workplace procedures and established colour criteria
- 3.2 Sample is inspected for free water and dirt particles in accordance with workplace procedures and established manual or automated processes
- 3.3 Water detector capsules are used to check for suspended water in accordance with manufacturer instructions and workplace procedures
- 3.4 Results of visual checks are recorded and reported in accordance with workplace procedures and regulatory requirements

4 Test membrane filtration (millepore sampling)

- 4.1 Hydrant dispenser vehicle is positioned at test rig and is interlocked/chocked in accordance with workplace procedures
- 4.2 Fuellers are tested independent of test rig by circulating product through delivery hose back to tank to achieve required flow rates
- 4.3 Bonding leads are attached in accordance with workplace procedures

- 4.4 Fueller/dispenser delivery hoses are connected to achieve a flow rate of at least 50% of rated flow of filter
 - 4.5 Hydrant dispenser lanyard is connected to pit valve and inlet hose is connected in accordance with workplace procedures
 - 4.6 Colorimetric capsule is loaded in accordance with manufacturer instructions and workplace procedures
 - 4.7 Checks are made to ensure capsule is located in housing with millepore monitor inlet facing upstream
 - 4.8 Apparatus is connected to filter outlet millepore sample connection or nozzle millepore sample point
 - 4.9 Pressure and flow rate are adjusted to workplace specifications
 - 4.10 Apparatus is flushed
 - 4.11 Calorimetric test samples are drawn monthly in accordance with sampling schedules
 - 4.12 Gravimetric and microbiological tests are drawn every three months in accordance with sampling schedules, ensuring that initial sample is drawn for gravimetric test then gravimetric capsule is replaced with microbiological capsule, and another sample is drawn in accordance with workplace procedures
 - 4.13 Apparatus is disconnected and capsule is removed
 - 4.14 Gravimetric and microbiological samples are labelled and despatched to laboratory in accordance with workplace procedures
 - 4.15 Colorimetric assessment is conducted in accordance with manufacturer instructions and workplace procedures
 - 4.16 Test results are documented in accordance with workplace procedures and regulatory requirements
- 5 Measure pressure differential on filter vessels**
- 5.1 Gauge is checked in accordance with manufacturer instructions and workplace procedures
 - 5.2 Flow through vessel into aircraft or test rig is started in accordance with workplace procedures
 - 5.3 Pressure differential at maximum flow rate obtained is read

- 5.4 Results are analysed and recorded in accordance with workplace procedures and regulatory requirements
- 5.5 Where differential pressure exceeds filter manufacturer recommended differential pressure, at flow rates above 50% of the maximum rated flow of filter vessel, situation is reported immediately to supervisor for investigation, in accordance with workplace procedures and regulatory requirements

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.

- Quality control processes must include:
- dispenser sampling
 - fueller sampling
 - measurement of pressure differential on filter vessels
 - membrane filtration tests (millepore sampling)
 - visual checks of fuel samples

Unit Mapping Information

This unit replaces and is equivalent to AVIJ4002B Conduct quality control operations related to refuelling/defuelling aircraft.

Links

Companion Volume implementation guides are found in VETNet -

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