



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

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

Assessment Requirements for AVIJ4002 Conduct quality control operations related to refuelling and defuelling aircraft

Modification History

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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, performance criteria and range of conditions on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying precautions and required action to minimise, control or eliminate identified hazards related to fuel handling procedures
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective equipment conforming to industry and WHS/OHS standards
- working collaboratively with others
- 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, performance criteria and range of conditions and include knowledge of:

- aircraft fuelling/defuelling operations quality control principles and processes
- conduct of dispenser sampling processes
- conduct of fueller sampling processes
- conduct of visual check of fuel samples
- correct fitment and wearing of required safety and personal protective equipment:
 - approved uniform/clothing
 - gloves
 - hearing protection
 - high visibility clothing
 - mask or respirator
 - safety glasses
 - safety headwear and footwear
 - safety vest
- manufacturer instructions for equipment used in quality control processes
- membrane filtration testing (millepore sampling) procedures
- problems that may occur when conducting aircraft refuelling/defuelling quality control operations and appropriate action that should be taken in each case
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders and other regulations for aircraft refuelling and defuelling quality control processes carried
- risks that exist when conducting aircraft refuelling/defuelling quality control operations and related risk control procedures and precautions
- workplace procedures for conducting aircraft refuelling and defuelling quality control 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.

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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.

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