



Australian Government

PUAFIR312B Operate aerial ignition equipment in an aircraft

Release 2

PUAFIR312B Operate aerial ignition equipment in an aircraft

Modification History

Release	TP Version	Comments
2	PUA12 V2	Content reviewed Application of the Unit added Method of assessment added
1	PUA00 V8.1	Primary release on TGA

Unit Descriptor

This unit covers the competency required to prepare, operate and maintain aerial ignition equipment in an aircraft. Aerial ignition equipment is used to drop incendiaries (capsules or gelled petroleum) from fixed-wing aircraft or by helicopter.

Aerial ignition operations are undertaken to reduce, modify or reduce fuel loads in key areas to reduce fire intensity and suppression difficulty at wildfire or prescribed burn.

Aviation operations occur in a heavily regulated environment. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

This unit applies to personnel responsible for the safe, effective and efficient conduct of aerial ignition operations to a specified burn prescription, fire suppression operations and for liaising with ground and support crews, such as incendiary operations supervisors.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

PUAFIR209B Work safely around aircraft

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

- 1. Prepare for operations of ignition equipment**
 - 1.1 *Personal protection and safety equipment* and procedures are selected and inspected/tested prior to operations commencing.
 - 1.2 *Organisational procedures* relating to personal protection and safety equipment are implemented.
 - 1.3 Requirements for operations are identified and confirmed with relevant personnel.
 - 1.4 Activities are undertaken in accordance with work health and safety (WHS) requirements, organisational guidelines and aviation regulations.
 - 1.5 Incendiary device to be used is confirmed.
 - 1.6 *Incendiary devices and associated consumable materials* are stored and transported in accordance with the organisation's requirements.
 - 1.7 *Ignition equipment* is installed in aircraft in accordance with the organisation and aircraft operator requirements.
 - 1.8 Ignition equipment is inspected to ensure correct operation.
 - 1.9 *Mixing* operations for incendiary device are undertaken as per manufacturer's guidelines and prevailing conditions.
 - 1.10 Incendiary devices are loaded into ignition equipment in accordance with the organisation's procedures.
 - 1.11 Ignition equipment is tested, and adjusted where required, to ensure correct operation.
- 2. Conduct aerial ignition operations**
 - 2.1 Ignition equipment is operated in accordance with the manufacturer's specifications and the organisation's procedures.
 - 2.2 Adjustments to ignition equipment are undertaken as required in response to changed conditions or alterations to burn plan.
 - 2.3 *Emergency procedures* are conducted as required.
 - 2.4 Communications between pilot, navigator and ignition equipment operator are maintained.
 - 2.5 Ignition operations are completed in accordance with burn plan.
- 3. Service, maintain and store incendiary equipment**
 - 3.1 Excess incendiary devices are disposed of in accordance with the organisation's guidelines.
 - 3.2 Ignition equipment is *serviced, maintained and*

repaired within scope of authority.

3.3 Major faults to equipment are documented and forwarded to appropriate personnel for action.

3.4 Ignition equipment is stowed and forwarded to appropriate personnel for rectification.

Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Required Skills

- display mechanical aptitude including appropriate hand-eye coordination
- operate effectively in an aircraft for extended periods
- use communications equipment effectively
- work as a member of a team

Required Knowledge

- aircraft safety
- mechanical knowledge sufficient to maintain and repair machines
- legislative and organisation's rules and regulations governing aerial ignition operations
- forms and applications of various aerial ignition technology
- safety and emergency procedures when undertaking aerial ignition operations

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential for this unit that competence be demonstrated in:

- adherence to safe working practice including safety response action in the event of machine or ignition equipment malfunction
- demonstration of correct pre-flight testing and installation procedures
- accurately dispensing incendiaries
- servicing and maintenance of equipment

Consistency in performance

Evidence should be gathered over a period of time in a range of actual or simulated workplace environments

Shows evidence of application of relevant workplace procedures including:

- codes of practice
- hazard policy and procedures
- job procedures and work instructions
- guidelines relating to safe use of equipment
- house keeping procedures
- following workplace procedures
- action taken promptly - accidents and incidents reported within regulatory and organisation's requirements
- work completed systematically in accordance with safe operating procedures to minimise risk of injury to self, others or damage to equipment
- Competency in using this equipment is required at least 2 yearly under carriage of dangerous goods CAR 262a

Context of and specific resources for assessment

Context of assessment

Assessment will take place in a simulated environment followed by assessment by an accredited operator on-the-job

Specific resources for assessment

- aerial ignition equipment and materials
- transport of incendiary devices and ignition equipment
- personal protective and safety equipment
- an area to conduct operations
- aircraft and necessary equipment

- appropriate tools and equipment for testing, maintenance and inspection of equipment
- safe disposal facilities

Method of assessment

In a public safety environment assessment is usually conducted via direct observation in a training environment or in the workplace via subject matter supervision and/or mentoring, which is typically recorded in a competency workbook.

Assessment is completed using appropriately qualified assessors who select the most appropriate method of assessment.

Assessment may occur in an operational environment or in an agency-approved simulated work environment. Forms of assessment that are typically used include:

- direct observation
- interviewing the candidate
- journals and workplace documentation
- third party reports from supervisors
- written or oral questions

Range Statement

<p>The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. <i>Bold italicised</i> wording in the Performance Criteria is detailed below.</p>	
<p><i>Personal protection and safety equipment</i> may include:</p>	<ul style="list-style-type: none"> • ear protectors • eye protection, gloves and personal protection • fire resistant clothing • footwear • rubber gloves, vapour masks and respirators • safety helmets with visors
<p><i>Organisational procedures</i> may include:</p>	<ul style="list-style-type: none"> • compliance with: <ul style="list-style-type: none"> • aeronautical engineer's orders • aircraft safety procedures • dangerous goods legislation • Fire Code of Practice • flight supplement specifications • installation on hook-up procedures • manufacturer specifications • material safety data sheets (MSDS) or safety data sheets (SDS) • organisational operational procedures • WHS guidelines
<p><i>Incendiary devices and associated consumable materials</i> may include:</p>	<ul style="list-style-type: none"> • potassium permanganate • ethylene glycol (antifreeze) • unleaded or super petrol • aluminium powder (Surefire) • methanol
<p><i>Ignition equipment</i> includes:</p>	<ul style="list-style-type: none"> • helitorch/aerial driptorch • hand-held manual incendiary injection • automated incendiary machines
<p><i>Mixing equipment</i> may include:</p>	<ul style="list-style-type: none"> • hand mixing tools and pumps • air compressors and air operated pumps
<p><i>Emergency procedures</i> may include:</p>	<ul style="list-style-type: none"> • jammed incendiary device • ignited incendiary device • electrical system fault • fuel spillage • incendiary fire in ignition device • fuel fire
<p><i>Servicing, maintaining and</i></p>	<ul style="list-style-type: none"> • strip and assembling equipment

<i>repairing equipment</i> may include:	<ul style="list-style-type: none">• fault finding and rectification• service, cleaning and maintenance according to manufacturer's specifications• liaising with specialist personnel• security procedures
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Unit Sector(s)

Not applicable.