



Australian Government

PUAFIR322 Push trees with machines in forest fire control operations

Release 2

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Modification History

Release	TP Version	Comments
2	PUA12 V2.1	Editorial changes.
1	PUA12 V2	New unit.

Unit Descriptor

This unit covers the competency required to apply machine operation skills to the specific circumstances of fire operations, including fire control line construction; pushing trees; clearing vehicle turnarounds and passing bays; and constructing helipads at a wildfire in forested land.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication

Application of the Unit

This unit applies to personnel who operate a bulldozer or front end loader and will be directed to push trees to support fire operations.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

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

ELEMENT

PERFORMANCE CRITERIA

- | | |
|-----------------------------------|--|
| 1. Use and service machine | 1.1 <i>Machine</i> is set up, maintained and serviced to ensure safe operation in forest environments and that it is free of soil and water borne disease and weeds, prior to and after use.
1.2 Effective communication is established with supervisor, team members and support vehicle/s.
1.3 <i>Safe procedures</i> are employed when using the machine to push trees.
1.4 Machine is parked safely and securely when not in operation.
1.5 Personal protective clothing and equipment are worn and used in accordance with agency requirements. |
| 2. Plan to push tree | 2.1 Tree is <i>assessed</i> for suitability for pushing.
2.2 Topographical and vegetation factors are considered.
2.3 <i>Environmental, cultural and heritage factors</i> are considered in relation to the area where tree/s may be pushed or fall.
2.4 Approval is <i>sought and gained</i> for tree/s to be pushed.
2.5 <i>Hazards</i> and safe clearances are established around the tree selected for pushing.
2.6 Escape routes are identified.
2.7 Support personnel are warned of tree to be pushed. |
| 3. Push tree | 3.1 Communication is maintained with ground crews during tree pushing operations
3.2 <i>Ground is prepared</i> for tree pushing.
3.3 Direction of fall is determined.
3.4 Tree is pushed applying safe tree pushing practices. |
| 4. Undertake mop-up and | 4.1 Tree and debris are cleared for <i>access and mop-up</i> |

rehabilitation activities**work** as required.

4.2 Area is made safe for personnel to enter.

4.3 **Rehabilitation works** are conducted to specified standards as required.

Required Skills and Knowledge

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

Required Skills

- communicate effectively orally
- maintain and service machine in non-fire environments
- operate machines in a non-fire environment

Required Knowledge

- burn-over survival techniques
- capabilities of support vehicles
- environmental factors
- machine capabilities and limitations
- machine design and safety features
- machine maintenance requirements in a fireground environment
- organisational operating procedures (relevant to machine operations)
- wildfire control tactics and techniques

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

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

Assessment must confirm the ability to:

- maintain effective cooperation with support personnel and vehicles
- push trees in support of fire operations
- communicate effectively with supervisor and other members of the team

Consistency in performance

Competency should be demonstrated over time; some performance criteria may be performed in a simulated wildfire environment.

Context of and specific resources for assessment

Context of assessment

Competency should be assessed in an operational environment or in a field-based simulated environment; Element 3 should be assessed in a forest environment.

Specific resources for assessment

Access is required to:

- trees requiring pushing
- machinery
- communications equipment
- support personnel

Method of assessment

Assessment should be conducted by direct observation in either the workplace (through recorded subject matter supervision and/or mentoring) or the training environment.

Assessment may occur in an operational environment or in an industry-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

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. ***Bold italicised*** wording in the Performance Criteria is detailed below.

<i>Machine</i> may include:	• bulldozer • excavator • front end loader
<i>and must be fitted with</i>	• falling object protection systems (FOPS) • roll over protection systems (ROPS)
<i>Safe procedures</i> may include:	• ensuring FOPS and ROPS are correctly fitted and used • applying safe work practices • assistance to vehicles and personnel working with machines • communication with fire control line supervisors and support vehicles • maintenance of contact and cooperation with support vehicles • position in relation to live fire edge and fire intensity • survival techniques in burn over situations • wearing appropriate personal protective equipment • wearing seatbelts in the cabin • working within the limits of machine capability
<i>Assessment</i> of trees must include:	• entangled crowns • fire burning in the tree • faults • growth characteristics and stresses • hanging and insecure limbs • hollows • lean of tree • multi leaders • potential for 'domino' effect • size of tree • slope of land • soundness of timber • species • weight distribution
<i>Topographical and vegetation factors</i> may include:	• density and condition of vegetation • proximity to and crossing of, drainage lines and creeks • rockiness of terrain

	• size, condition and proximity of hazardous trees • soil type • steepness of terrain
Environmental factors may include:	• presence of or sensitivity to, environmental diseases or weeds that may be spread by machines • presence of species sensitive to disturbance • protection of flora and fauna habitat • reference/research areas • rock outcrops and caves • soil disturbance and erosion • water quality
Cultural and heritage factors may include:	• aboriginal sites • historic sites • structures and earthworks
Sought and gained may include:	• notifying supervisor of selected tree/s • confirming permission to push tree/s • confirming tasks are approved in incident action plan
Hazards may include:	• buildings and other structures • falling trees and branches • heat, dust, smoke • hot ash • power lines • roads • rock outcrops and caves
Ground preparation may include:	• clearing escape route • clearing vegetation and obstacles (such as logs, rocks) around tree • creating ramp for pushing • ripping or severing roots of tree to be pushed
Safe tree pushing practices must include:	• avoiding obstacles such as tree roots and rocks rising as a result of the tree falling • direction of approach relative to proposed direction of fall • minimum and gradual power application to effect tree fall • not rocking tree • awareness of point of contact with machine • use of blade and/or tree arm for optimal leverage
Rehabilitation works may	• breaking up heaps and levelling mounds • removing material from creek and drainage lines

include:	• filling in stump holes
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Unit Sector(s)

Not applicable.