



Australian Government

FWPHAR4201 Apply tree jacking techniques

Release: 1

FWPHAR4201 Apply tree jacking techniques

Modification History

Release	Comment
1	Replaces equivalent unit FPIHAR4201B Apply tree jacking techniques, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format.

Application

This unit of competency describes the outcomes required to use tree jacking techniques in the process of felling trees 180° away from their natural direction of fall using purpose built tree jacks. Techniques are used in a forest or farm forest setting.

The unit applies to job roles including Harvesting Supervisor, Harvesting Team Leader, Arboriculture Supervisor, Farm Forestry Supervisor, Forestry Supervisor, Forestry Operations Supervisor, Propagation and Stand Health Supervisor and Tree Farm Supervisor.

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

Pre-requisite Unit

Nil

Unit Sector

Harvesting and Haulage

Elements and Performance Criteria

<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.</i>
1. Prepare for tree jacking	1.1 Review work plan and check where required with appropriate personnel. 1.2 Identify type and quantity of trees to be tree jacked and assess activities for safety and environmental protection practices. 1.3 Select appropriate equipment and check for operational effectiveness in line with manufacturer's recommendations.

	1.4 Plan tree jacking activities in line with workplace health and safety (WHS) procedures and work plan.
2. Assess and plan tree jacking	2.1 Assess environmental conditions and use outcomes to plan felling of each tree. 2.2 Monitor location and movement of other personnel and modify work to ensure safety. 2.3 Assess tree, location and stability for conditions likely to affect safety of tree jacking activities. 2.4 Visually assess tree for defects, grade and recovery status. 2.5 Select escape route, clear route and growth around tree manually or mechanically. 2.6 Assess fall direction and allowable degree of error, considering hang ups, damage, extraction constraints and available open space. 2.7 Plan cutting sequence to control direction of fall and minimise damage to tree and surrounding environment; communicate to others. 2.8 Mark trees too dangerous to fell safely and refer to appropriate personnel.
3. Tree jack trees	3.1 Complete equipment pre start-up checks. 3.2 Remove and clear leaders in line with tree jacking work plan. 3.3 Diagnose unexpected characteristics of tree and review plan. 3.4 Make jacking slots to provide for placement of tree jacks in line with planned falling direction. 3.5 Adjust cutting technique and use tree jacks to control movement and direction of tree being felled. 3.6 Complete felling and use planned safe exit route in line with safety procedures. 3.7 Monitor ground movement of tree; assess and clear trees that hang up. 3.8 Record and report tree jacking process and equipment faults to appropriate personnel.
4. Complete operator maintenance	4.1 Follow organisational safety procedures to lock out equipment. 4.2 Check chain for bluntness or damage. 4.3 Remove, sharpen, adjust and replace chain and other components in line with manufacturer's recommendations. 4.4 Assess and adjust chainsaw set-up to suit cutting conditions. 4.5 Maintain operational condition of chainsaw to meet standards prior to use.

	4.6 Check and service tree jacks.
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Foundation Skills

This section describes those core and employment skills that are essential to performance and are not explicit in the performance criteria.

Numeracy skills to:	- identify quantities of trees within work plans and complete basic calculations of time required to complete activities - determine dimensions of trees through estimation or measurement and calculate appropriate quantities of tree jacks - complete calculations and report on size, length, diameter and grade of felled trees.
Oral communication skills to:	- ask questions and actively listen to clarify contents of work plans - provide clear, unambiguous information about jacking and felling process to ensure safety of self and others.
Reading skills to:	- interpret: - WHS procedures - work plans - manufacturers 'maintenance recommendations.
Writing skills to:	complete accurate reports on tree jacking process and equipment faults.
Planning and organising skills to:	efficiently and logically sequence the stages of preparation for and felling of trees using work order to guide activities.
Problem-solving skills to:	identify unexpected operational, environmental and equipment problems and implement appropriate responses.
Technology skills to:	select, use and maintain appropriate machinery, tools and personal protective equipment used for tree jacking.

Range of Conditions

Not Applicable

Unit Mapping Information

FPIHAR4201B Apply tree jacking techniques

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWP HAR4201 Apply tree jacking techniques

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Release	Comment
1	Replaces equivalent unit FPIHAR4201B Apply tree jacking techniques, which was first released with FPI11 Forest and Forest Products Training Package Version 2.2. This is the first release of this unit in the new standards format. Assessment requirements now specify the performance and knowledge evidence, as well as assessment conditions for this unit of competency. These sections simplify and replace components used in the previous unit format, including 'Required Skills and Knowledge, Evidence Guide and Range Statement.

Performance Evidence

A person demonstrating competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit. If a specific volume or frequency is not stated below, then evidence must be provided that the following requirements have been performed on at least one occasion:

- follow organisational policies and procedures relevant to tree jacking
- apply tree jacking techniques in line with the work order and within prescribed organisational tolerances
- conduct operator maintenance on a chainsaw.
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Knowledge Evidence

A person competent in this unit must be able to demonstrate knowledge of:

- key features of these varying environmental conditions and effects on tree felling:
 - general forest lean
 - ground growth
 - ground hazards and obstacles
 - ground slope
 - gullies
 - presence and density of seed and habitat trees
 - water courses
 - wet and adverse weather conditions
 - wind speed and direction

- environmental protection practices including:
 - safe disposal of waste material
 - cleaning of plant, tools and equipment
- typical tree defects and how these affect tree jacking and felling:
 - stability
 - insect defects
 - knots
 - resin pockets
 - shakes
- techniques used in the tree jacking process:
 - tree jacking
 - chainsaw cutting sequences and techniques used to control direction of fall
 - clearing trees that hang up
- communication methods used for tree jacking activities:
 - verbal
 - hand signals
 - eye contact with other operators
 - use of electronic communication devices
- typical industry chain of command for communication of information and instruction
- types of tree jacking tools and equipment; their purpose, features, operation and basic non-specialist repair and maintenance:
 - tree jacks
 - chainsaws
 - maintenance tools and equipment
 - personal protection equipment
- organisational procedures specific to tree jacking activities:
 - workplace health and safety with particular emphasis on pre-start up checks and equipment lock out for safe use of chainsaws
 - use and maintenance of equipment
 - communication reporting line during tree jacking process
 - recording and reporting tree jacking process and equipment faults.

Assessment Conditions

The following resources must be made available:

- tree jacks
- chainsaws
- maintenance tools and equipment for chainsaws and tree jacks
- personal protective equipment suitable for tree jacking activities and chainsaw maintenance
- manufacturers' instructions for use and maintenance of equipment

- work plan for tree jacking activities with specific instructions for the work site
- relevant personnel for the purposes of communicating information
- template reports for recording tree jacking process and equipment faults
- organisational and site procedures for tree jacking activities.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessor requirements

Assessors must:

- hold the appropriate assessor competency standards as outlined in regulations; and
- be able to demonstrate vocational competencies at least to the level being assessed; and
- be able to demonstrate how they are continuing to develop their VET knowledge and skills as well as maintaining their industry currency and assessor competence.

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