



Australian Government

FWPFGM3216 Fell trees manually (intermediate)

Release: 1

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Modification History

Release	Comments
Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to assess, plan and safely carry out manual felling of intermediate trees using a chainsaw. This unit covers the felling procedures for trees with a level of complexity that requires significant tree assessment and practical felling skills.

Individuals competent in this unit should be able to effectively fell most trees, except advanced trees and/or those with significant defects and/or characteristics that cause excessive complexity.

Trees typical to the scope of this unit may have some of the following characteristics:

- lean and weight distribution that can be assessed and readily adapted to falling direction with the use of wedges and/or controlled with hinge wood of a larger size than typical for the local environment
- limited visible damage or defect
- multi-stems
- forward lean, backward lean or side lean
- small or medium size diameter trees that can be safely felled with intermediate felling techniques
- dead trees with minimal visible damage or defects that do not add significant complexity to the cutting technique
- various dimensions relative to other trees when working in a forest environment
- in local site conditions that add additional complexity to the felling operation, including site conditions that impact the working position of the operator or the natural direction of fall of the tree.

The unit applies to individuals who fell intermediate trees as part of arboriculture, forestry, agriculture, conservation and land management, local government, emergency services and other government agency operations. With the exception of minor forest produce, this unit does not apply to commercial harvesting operations.

All work must be carried out to comply with workplace procedures, according to state/territory health and safety regulations, legislation and standards that apply to the workplace.

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

Pre-requisite Unit

Nil

Unit Sector

Forest Growing and Management (FGM)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for felling	1.1 Determine job requirements from work order or instruction and, where required, seek clarification from appropriate personnel 1.2 Confirm safety and environmental requirements for the task according to workplace procedures 1.3 Identify, assess and take actions to mitigate risks and hazards associated with felling intermediate trees 1.4 Identify, assess and determine felling requirements of trees to be felled according to work order or instruction 1.5 Consult and maintain communication with team members and other appropriate personnel to ensure that work is coordinated effectively with others in the workplace 1.6 Obtain tools and equipment needed for the work, and check for correct operation and safety 1.7 Select, fit and use personal protective equipment
2. Assess site conditions and surroundings	2.1 Inspect site for conditions likely to affect safe implementation of felling activities 2.2 Identify and report site environmental conditions to appropriate personnel 2.3 Determine fall zone and implement control measures to minimise risks and hazards in the zone according to safe work procedures 2.4 Monitor location and activity of other personnel on the work site, and implement control measures according to workplace safety procedures
3. Assess tree and plan	3.1 Identify trees considered outside own skill level, and seek

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
felling	assistance from appropriate personnel where required 3.2 Assess tree visually to identify felling characteristics 3.3 Confirm tree is safe to fell 3.4 Assess trees and site to determine complexity of felling requirements 3.5 Assess and progressively plan tree-felling sequence for individual trees 3.6 Assess and check required felling direction and possible deviation 3.7 Plan sequence of cuts to fell tree according to standard felling procedures 3.8 Assess need, safety and suitability of an industry approved technique and associated equipment to control tree fall 3.9 Identify suitable escape routes, and clear growth and other obstacles according to environmental care principles and workplace procedures
4. Apply tree-felling techniques	4.1 Apply an industry approved technique and equipment to ensure that the tree falls in the direction of the scarf cut 4.2 Fell individual trees using planned and appropriate techniques according to the current Australian Standard and industry code of practice at a safe distance from other personnel in the work area 4.3 Adjust cutting technique in response to movement and condition of tree 4.4 Maintain accuracy of cuts and consistency with the cutting technique 4.5 Use planned escape route when tree starts to fall, and monitor the fall of the tree until all movement has stopped 4.6 Delay movement back into the felling area until all tree material, including from adjacent tree crowns, has fallen or is stable enough to allow safe access back into the felling area 4.7 Identify procedures for removal of trees that are hung-up if safe to do so 4.8 Dispose of waste materials according to environmental and operational requirements
5. Maintain chainsaw and cutting attachments	5.1 Follow workplace health and safety procedures and manufacturer instructions to lock out equipment

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	5.2 Inspect chainsaw on completion of activities 5.3 Inspect for damage to chainsaw and cutting attachments, and tag for repair, service or replacement according to workplace requirements and manufacturer recommendations if required 5.4 Remove, clean, adjust, sharpen or replace chain and other components according to workplace requirements and manufacturer recommendations

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Read workplace documentation and correctly identify work requirements
Writing	Use technical and workplace specific vocabulary to accurately and legibly complete workplace records and forms
Oral communication	- Select and use appropriate spoken communication strategies with work colleagues and other personnel on site when felling trees - Interpret hand signals with other operators to ensure safe tree felling
Numeracy	Complete routine calculations and report on size, length and diameter of felled trees

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FWPFGM3216 Fell trees manually (intermediate)	FWPFGM3212 Fall trees manually (intermediate)	Reworded and added new Performance Criteria Added a new Element Updated Foundation	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		Skills, Performance Evidence, Knowledge Evidence and Assessment Conditions	

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0d96fe23-5747-4c01-9d6f-3509ff8d3d47>

Assessment Requirements for FWPFGM3216 Fell trees manually (intermediate)

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Release 1	This version released with FWP Forest and Wood Products Training Package Version 6.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has assessed, planned and conducted the felling of six intermediate trees. This must include demonstration of:

- two different scarf cutting techniques
- two different back cutting techniques, which must be for either forward leaning, side leaning or back leaning trees
- applying, on one occasion, an industry approved technique, such as the use of wedges, to ensure that the tree falls in the direction of the scarf cut.

The scarfing methods must be selected from the following:

- Standard
- Humboldt
- 90 degree scarf
- V scarf.

In performing all cuts, the individual must have complied with the following criteria:

- direction – the scarf must be in the direction of the desired fell
- depth – the depth of the scarf is $\frac{1}{4}$ to $\frac{1}{3}$ of the diameter of the tree
- size (width) of opening – $\frac{2}{3}$ across the front of the tree
- top and bottom scarf cuts – the two cuts should meet without overcutting or undercutting, the scarf line is level and the scarf line is at 90 degrees to the intended direction of fall
- back cut height – the back cut is level and above the scarf line by about $\frac{1}{10}$ of the tree diameter
- hinge wood thickness is about $\frac{1}{10}$ of the tree diameter.

In completing this work, the individual must demonstrate that, for each tree, the felling technique was consistent with current Australian Standards and industry codes of practice applicable to tree felling operations.

There must also be evidence that the individual has inspected and carried out routine maintenance on one occasion on one chainsaw and its cutting attachments according to manufacturer requirements.

This work must comply with workplace policy and procedures and current workplace health and safety legislation and regulations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- Australian Standards and codes of practice applicable to tree felling operations
- hazards and risks related to felling trees with chainsaws, and methods to minimise associated risks:
 - physical conditions of the site
 - unsafe/hazardous trees
 - fire and other emergency situations
 - overhead and underground services
 - nearby structures
 - standing vegetation in the intended direction of fall
 - falling branches
 - weather conditions
 - impediments of escape routes
 - vehicle and traffic access
 - people on or near worksite
 - machinery on or near worksite
 - carrying and transporting a chainsaw
 - user fatigue
- hazards related to maintaining chainsaws, and methods to minimise associated risks
- features of unsafe/hazardous intermediate trees and defects of trees and how they affect tree felling activities
- types and purposes of cuts to fell intermediate trees:
 - scarf cuts
 - back cuts using different methods to provide hinge wood and wedges to maintain control of tree
- characteristics of intermediate trees
- methods used to identify intermediate trees:
 - that contain hazards and are deemed unsafe to fell
 - that are considered outside own skill level
 - where cuts made may lead to loss of control of tree in felling
- methods used to remove trees that are hung up, and procedures for removal
- methods for assessing chain condition
- types, safe use, operation and maintenance of chainsaws, support tools and attachments

- workplace procedures specific to felling trees with chainsaws:
 - workplace health and safety, with particular emphasis on equipment lock-out, use of personal protective equipment (PPE), safe manual handling and fire prevention measures
 - communication reporting lines
 - recording and reporting repairs, maintenance activities and equipment faults
- environmental protection measures that meet legal obligations and requirements of the industry, state and local standards and/or codes of practice for felling trees with chainsaws:
 - protection of natural and cultural assets
 - cleaning plant, tools and equipment
 - disposing of, recycling and reusing materials
 - disposing of hazardous substances.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in the workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - chainsaw and accessories
 - suitable trees to fell
 - tools and equipment to fell trees
 - PPE required in tree felling operations
 - communication system
- specifications:
 - access to workplace safety and environmental policies and procedures applicable to tree felling and chainsaw operations
 - access to workplace standard operating procedures or operator manual for chainsaws.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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