



Trainer and Assessor Guide

To accompany
the interactive CD

Chainsaw operation – beginner to advanced

Developed by

Workspace
TRAINING

www.workspacetraining.com.au

2016 Edition

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Source material

This Trainer and Assessor Guide is based on material produced by Workspace Training for the interactive CD package called *Chainsaw operation – beginner to advanced*, funded by the Commonwealth Government's Workplace English Language and Literacy (WELL) Program. Copyright in the original interactive CD resource is owned by the Commonwealth Government. It is still available for purchase from Workspace Training under the original cost-recovery distribution arrangements – see 'Distribution conditions' for more details.

The resource has since been revised and updated by Workspace Training to meet the FWP and AHC Training Package requirements and released as the 2016 Edition.

Many of the line drawings that appear in the resource were supplied by Husqvarna and used with permission. Some have been kept in their original form and others have been adapted

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Distribution conditions

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Training providers who wish to make copies of the interactive CD must request permission from David McElvenny at: david@workspacetraining.com.au. Where permission is granted, training providers must only produce copies for the immediate training needs of their organisation and for use with students enrolled in their own courses. Copies must not be resold to any party.

The resource includes a complimentary copy of the following two reference booklets:

- *Chainsaw operation – maintenance and cross-cutting*
- *Chainsaw operation – beginner to advanced* (covering the above booklet, plus basic, intermediate and advanced tree falling)

The reference booklets are not to be reproduced by training providers at all, and must be bought individually. Pricing for these booklets has been kept to a minimum (cheaper than the cost of a colour photocopy) to allow them to be bought in bulk by training providers and handed out to their students.

Current and previous editions of this resource

The 2016 Edition of *Chainsaw Operation – Beginner to Advanced* was developed by Workspace Training to meet the criteria for the chainsaw competencies released in 2016 under the following two Training Packages:

- *Forest and Wood Products* (FWP) Training Package
- *Agriculture, Horticulture & Conservation & Land Management* (AHC) Training Package

Much of the material is drawn from the original interactive CD projects developed by Workspace Training for the Workplace English Language and Literacy (WELL) Program, funded by the Commonwealth Government. Copyright in these earlier resources is owned by the Commonwealth Government under a Creative Commons 3.0 Licence.

Workspace Training was granted distribution rights to the WELL project versions by the Commonwealth Government, with the stipulation that the interactive CD package be made available to purchasers on a 'cost recovery' basis. The 2012 *Chainsaw Operation* resource is still available under this arrangement and can be purchased by going to the Workspace Training website and following the links.

Since the abolition of the WELL Program in 2014 and the winding up of all similar federal government programs that were designed to support the development of publicly-available training resources, Workspace Training has had to rely directly on purchasers of the resource to fund continued updates and improvements. Consequently, the price of the 2016 Edition now includes an amount that goes towards on-going development costs.

Acknowledgements

Text

All text was written by David McElvenny. The technical information was drawn from publications made available by Husqvarna and Stihl, plus verbal advice provided by the chainsaw experts who have been involved in the development of earlier versions of the resource.

The 2016 edition of the resource has been reviewed by the following three experts:

Ben Sparks – Training Manager, Savco Vegetation Services

Ray Stone – Principal, Chainsaw Accreditation and Safety Training

Goetz Graf – Director, Tree Management Australia

Images

All line drawings in the interactive CD and accompanying assessment tools have come from the following sources:

- Husqvarna operator manuals and other publications, used with permission
- drawings by Kath Ware (Workspace Training), many of which are based on graphics provided by Husqvarna.

Most of the photos were taken by David McElvenny (Workspace Training). Other photos were supplied by members of the technical advisory committee for this project.

Disclaimer

Chainsaw use is an inherently dangerous activity. This interactive CD training resource is designed to provide background information for participants undertaking a face-to-face course in chainsaw operation with a qualified trainer.

It is not designed to be used as a substitute for face-to-face training.

While all care has been taken in the preparation of this resource, McElvenny Ware Pty Ltd (trading as Workspace Training) and all individuals involved in its development do not accept any liability to any person for the information or advice provided in this training resource, the use of such information or advice, or any errors or omissions.

No liability is accepted for any damage or loss, including indirect and consequential loss, incurred by any person as a result of relying on the information or advice contained in this resource.

The information is provided on the basis that all persons undertake full responsibility for assessing the relevance and accuracy of its content.

In all cases, chainsaw operators, trainers and other parties using this resource should follow the directions provided by the manufacturer of their equipment, and seek further advice from the manufacturer and/or their employer if they believe there are any discrepancies between the different sources of information.

Assessment instruments

The assessment instruments that are supplied as part of this training resource are only provided as suggested content material for registered training organisations (RTOs) to consider when developing their own assessment tools.

These template documents are provided in a Word version to enable RTOs to easily customise the material to suit their own circumstances and training strategies, and to build particular elements into their own assessment tools as needed.

Under the *Standards for Registered Training Organisations 2015*, every RTO is responsible for reviewing its assessment tools and validating them regularly to ensure that they continue to meet the Training Package requirements, Standards for RTOs, expectations of clients, and any requirements imposed by ASQA or other regulatory bodies.

Using the CD

To view the interactive CD, you will need a computer loaded with Microsoft PowerPoint 2003 (or a more recent version). The PowerPoint presentation is locked out as a 'Slideshow' version, which means that the animations and other interactive elements will remain stable.

The CD also has an 'auto-start' function, which is designed to automatically start the program and load the Home page after you insert the CD into your computer's disk drive.

The computer skills needed to view the presentation are minimal. In general, the operation of the navigation buttons will be familiar to anyone who can look up websites on the internet. A brief outline on how the buttons work, and how to navigate through the resource, is included on the CD.

Previous version of the resource had two additional CDs as part of the package. These were a 'Flash' version, for running the presentation as a continuous movie, and a 'Customisable' version, for modifying the content material of the CD. However, it was found in practice that most trainers only used the 'Slideshow' version of the resource. For this reason, the 2016 Edition only comes as a 'Slideshow'.

If you still want to customise the presentation yourself – such as by inserting your own photos, recording your own voice-over narration, or modifying the on-screen text, you are welcome to go back to the original 'Customisable' version of the 2012 edition. This will allow you to pull apart the whole presentation and re-build to your own specifications. For more details see the order form on the Workspace Training website.

Maximising the performance of the interactive resource

The performance of the resource is likely to be improved if you download it to your computer hard drive, and then access it direct from the hard drive. This eliminates potential problems that can occur as a result of lags in the CD player's processing speed. The sorts of problems you may experience include synch slippages between on-screen animations and voice narrations, and narrations cutting short at the end of particular slides.

Some computers are more prone to processing speed problems than others. If you find that the resource plays direct from the CD without any trouble, there is no need to download the files to your computer hard drive – other than for the convenience of not needing to rely on the disk.

However, if you experience synchronisation delays or animations not running smoothly, try the download suggestion to see if that fixes the issue. If you still find problems with the playback, you may need to use a different computer with a faster operating speed for optimal results.

Competencies covered

The content material contained in the interactive CD is aligned to a range of chainsaw-related competencies, and is designed to help learners with the background knowledge requirements for these units.

The sample assessment instruments are also aligned to these chainsaw competencies, and include a theory test (aligned to the knowledge evidence requirements) and practical demonstration checklists (aligned to the performance evidence requirements).

Below are the competencies supported by this resource, divided into their respective Modules. Note that learners undertaking any of the competencies from Module 2 must already be competent in the relevant prerequisite units from Module 1. See the next chapter – *Training strategies* – for suggested course outlines, competency clusters and prerequisite requirements for a range of typical chainsaw courses.

Module 1: Chainsaw basics

AHCMOM213: Operate and maintain chainsaws

FWPCOT2237: Maintain chainsaws

FWPCOT2238: Cut materials with a hand-held chainsaw

FWPCOT2239: Trim and cut felled trees

Module 2: Tree falling with a chainsaw

AHCPCM203: Fell small trees

FWPCOT2236: Fall trees manually (basic)

FWPFGM3212: Fall trees manually (intermediate)

FWPFGM3213: Fall trees manually (advanced)

Training strategies

This interactive CD is suitable for both flexible delivery and face-to-face training modes. Trainers conducting a group training session may use a data projector to screen the presentation, and treat the interactive exercises as discussion points.

The CD can also be sent to course participants in advance of the scheduled commencement date of the practical training sessions. This will give them time to view the presentation and get a head start on the theoretical concepts behind the practical skills.

Don't forget to check whether participants have access to a reasonable computer that can play sound, and whether they have sufficient skills to use the interactive elements on the CD. While it is more than likely that most people will be able to use the CD without any trouble, there is always the chance that some individuals may not have the facilities or skills.

Dealing with poor literacy and numeracy skills

Your practical training sessions in chainsaw operation will make minimal literacy and numeracy demands on participants. However, back on the job they may need some level of literacy and numeracy ability to carry out normal workplace functions, such as filling in daily job sheets, mixing 2-stroke fuel, and so on.

The level of literacy and numeracy ability you expect to see in your participants should be guided by the requirements of the competency units. If it becomes clear that operators are struggling with these basic performance criteria, you should talk to them about the issues and possible causes.

There are a variety of reasons why participants may have poor literacy and/or numeracy skills. These include:

- a lack of basic education, either from having left school early, or simply not being good at academic studies
- coming from a non-English speaking background, especially if their schooling was completed before they arrived in Australia
- having a learning difficulty, such as dyslexia.

Before you take steps to address the issue, you should establish what the likely causes are. In some cases, you may have to seek help from a professional literacy teacher. If it turns out that additional support is required, you can approach your local TAFE campus or community college to enquire about the support services available. Your RTO may also have contacts with specialist literacy teachers and access to special funding schemes.

In your own training delivery, you should always ensure that the literacy and numeracy demands of the course do not exceed the requirements of the job skill itself. In other words, if the primary function of a chainsaw operator is to use a chainsaw skilfully, efficiently and safely, then the training course should lean heavily towards the hands-on development and fine-tuning of those skills.

This means that course notes, handouts and manuals should only be used as an adjunct to comprehensive practical training.

Developing a training plan

The training plan you develop should reflect the profile of the learners and the environment that the training will take place in. It is best to have different training plans for different groups, so you can properly accommodate their needs and the workplace-specific requirements of their employers.

Below are a few suggestions on the duration and content of the main chainsaw courses you are likely to be delivering.

Chainsaw courses aligned to AHC units

The following courses are aligned to units from the *Agriculture Horticulture and Conservation and Land Management (AHC) Training Package*. They are most suitable for people working in amenity horticulture and bush regeneration.

Operate and maintain chainsaws	
Description	Basic skills in how to trim and crosscut felled trees and clear up fallen branches. Also covers basic chainsaw maintenance.
Learner profile	Parks and gardens employees, grounds-people, other outdoor workers, home handypersons.
Pre-requisites	None.
Duration	Two days.
Training location	Day 1 – classroom or group setting, covering safety, chainsaw principles and basic maintenance. May also include practical operation of the chainsaw. Day 2 – outdoor area, learning and practising chainsaw techniques.
Accreditation:	<i>AHCMOM213: Operate and maintain chainsaws.</i>
Interactive CD resource	Learners should view <i>Module 1: Chainsaw basics</i> before commencing the face-to-face training. They should also work through the interactive exercises to help reinforce the concepts learned. During the Day 1 classroom session, excerpts from the six sections in Module 1 should be shown to learners, either on a computer screen or via a data projector. Prior to assessment, learners should be directed to the assessment instrument for <i>AHCMOM213: Operate and maintain chainsaws</i> . This can be found under the <i>Information for learners</i> link on the <i>Chainsaw basics</i> Home page.

Fell small trees	
Description	Skills in falling small trees and other woody forms of vegetation, and removing the material with machinery.
Learner profile	Parks and gardens employees, grounds-people, bush regenerators, other outdoor workers.
Pre-requisites	<i>Operate and maintain chainsaws.</i>
Duration	Two days – ½ day of theory and 1 ½ days of hands-on tree falling and removal.
Training location	Day 1 – classroom or group setting, covering safety and basic techniques, follows by hands-on practice. Day 2 – Further practical instruction and practice in a bushland setting.
Accreditation	<i>AHCPCM203: Fell small trees.</i>
Interactive CD resource	<p>Before commencing the face-to-face training, learners should view all of <i>Module 1: Chainsaw basics</i>, and Sections 1 to 5 of <i>Module 2: Tree falling with a chainsaw</i>.</p> <p>They should also work through the interactive exercises to help reinforce the concepts learned.</p> <p>During the Day 1 classroom session, excerpts from the first five sections in Module 2 should be shown to learners, either on a computer screen or via a data projector.</p> <p>Prior to assessment, learners should be directed to the assessment instrument for <i>AHCARB202A: Fell small trees</i>.</p> <p>This can be found under the <i>Information for learners</i> link on the Home page for <i>Tree falling with a chainsaw</i>.</p> <p>Note that the assessment instrument has been integrated with <i>AHCMOM213: Operate and maintain chainsaws</i>.</p>

Chainsaw courses aligned to FWP units

The following courses are aligned to units from the *Forest and Wood Products (FWP) Training Package*.

'Cut materials' is a basic unit designed for people working in a factory setting. The other units are designed for workers operating in a forest environment.

Cut materials with a hand-held chainsaw	
Description	Basic skills in how to use a chainsaw safely and carry out simple maintenance procedures.
Learner profile	People who need to crosscut timber products or small-diameter logs under controlled conditions, such as in a timber yard or manufacturing plant, or at home cutting firewood to length.
Pre-requisites	None.
Duration	One day.
Training location	On-site at the learner's own workplace, or at a well-equipped training facility complete with materials and equipment.
Accreditation	<i>FWPCOT2238: Cut materials with a hand-held chainsaw.</i>
Interactive CD resource	<p>Before commencing the face-to-face training, learners should view Sections 1 to 5 of <i>Module 1: Chainsaw basics</i>.</p> <p>They should also work through the interactive exercises to help reinforce the concepts learned.</p> <p>During the classroom session, excerpts from Module 1 should be shown to learners, either on a computer screen or via a data projector.</p> <p>Prior to assessment, learners should be directed to the assessment instrument for <i>FWPCOT2238: Cut materials with a hand-held chainsaw</i>.</p> <p>This can be found under the <i>Information for learners</i> link on the Home page for <i>Chainsaw basics</i>.</p>

Trim and cut felled trees	
Description	<p>Skills in how to trim and crosscut felled trees, deal with typical hazards in a forest, and carry out field maintenance and chain sharpening.</p> <p>Includes extensive practice in cutting and boring techniques.</p>
Learner profile	Bush regenerators, council employees, grounds-people, outdoor workers.
Pre-requisites	None.
Duration	Three days – one day of theory and two days of hands-on operation.
Training location	<p>Day 1 – classroom or group setting, covering safety, chainsaw principles and maintenance. May also include practical operation of the chainsaw.</p> <p>Days 2 and 3 – forest or other bushland area, learning and practising chainsaw techniques and maintenance.</p>
Accreditations	<i>FWPCOT2237: Maintain chainsaws; FWPCOT2239: Trim and cut felled trees.</i>
Interactive CD resource	<p>Before commencing the face-to-face training, learners should view all sections in <i>Module 1: Chainsaw basics</i>.</p> <p>They should also work through the interactive exercises to help reinforce the concepts learned.</p> <p>During the Day 1 classroom session, excerpts from Module 1 should be shown to learners, either on a computer screen or via a data projector.</p> <p>Prior to assessment, learners should be directed to the assessment instrument for <i>FWPCOT2239: Trim and cut felled trees</i>.</p> <p>This can be found under the <i>Information for learners</i> link on the Home page for <i>Chainsaw basics</i>.</p> <p>Note that the assessment instrument has been integrated with <i>FWPCOT2237: Maintain chainsaws</i>.</p>

Basic tree falling	
Description	<p>Skills in falling forest trees at a basic level.</p> <p>‘Basic’ trees are smaller in height relative to the local forest size, with a diameter less than the chainsaw bar length, a lean that is not excessive, no visible damage or defects, and a weight distribution that is not complex to assess.</p>
Learner profile	Tree workers, bush regenerators, council employees, volunteer emergency workers, national parks staff, other workers involved in tree falling.
Pre-requisites	<p><i>FWPCOT2237: Maintain chainsaws</i></p> <p><i>FWPCOT2239: Trim and cut felled trees.</i></p>
Duration	Three days – one day of theory and two days of hands-on tree falling.
Training location	<p>Day 1 – classroom or group setting, covering safety and tree falling theory. May also include practical introduction to cutting scarfs and back cuts.</p> <p>Days 2 and 3 – forest or other bushland area, learning and practising tree falling techniques at a basic level.</p>
Accreditation	<i>FWPCOT2236: Fall trees manually (basic).</i>
Interactive CD resource	<p>Before commencing the face-to-face training, learners should revise <i>Module 1: Chainsaw basics</i>, and view Sections 1 to 5 plus Section 8 of <i>Module 2: Tree falling with a chainsaw</i>.</p> <p>They should also work through the interactive exercises in Module 2 to help reinforce the concepts learned.</p> <p>During the Day 1 classroom session, excerpts from Module 2 should be shown to learners, either on a computer screen or via a data projector.</p> <p>Prior to assessment, learners should be directed to the assessment instrument for <i>FWPCOT2236: Fall trees manually (basic)</i>.</p> <p>This can be found under the <i>Information for learners</i> link on the Home page for <i>Tree falling with a chainsaw</i>.</p> <p>Note that the assessment instrument has been integrated with <i>Intermediate and Advanced tree falling</i>.</p>

Intermediate tree falling	
Description	Skills in tree falling at an intermediate level. 'Intermediate' trees have varied heights, a diameter that may be greater than the chainsaw bar length, a lean that is adaptable using wedges and hingewood control, and may be single or multi-stems.
Learner profile	Tree workers, bush regenerators, council employees, emergency workers, national parks staff, other workers involved in tree falling.
Pre-requisites	<i>FWPCOT2237: Maintain chainsaws</i> <i>FWPCOT2239: Trim and cut felled trees</i>
Duration	Three days (or more, depending on the participants' prior experience) – one day of theory and two days of hands-on tree falling.
Training location	Day 1 – classroom or group setting, covering safety and tree falling theory. May also include practical introduction to cutting scarfs and back cuts. Days 2 and 3 (and following days, if required) – forest or other bushland area, learning and practising tree falling techniques at an intermediate level.
Accreditation	<i>FWPFGM3212: Fall trees manually (intermediate).</i>
Interactive CD resource	Before commencing the face-to-face training, learners should revise <i>Module 1: Chainsaw basics</i> , and view all of <i>Module 2: Tree falling with a chainsaw</i> . They should also work through the interactive exercises in Module 2 to help reinforce the concepts learned. During the Day 1 classroom session, excerpts from Module 2 should be shown to learners, either on a computer screen or via a data projector. Prior to assessment, learners should be directed to the assessment instrument for <i>FWPFGM3212: Fall trees manually (intermediate)</i> . This can be found under the <i>Information for learners</i> link on the Home page for <i>Tree falling with a chainsaw</i> . Note that the assessment instrument has been integrated with basic tree falling.

Advanced tree falling	
Description	Skills in tree falling at an advanced level. 'Advanced' trees may have larger heights relative to the local forest size, a diameter greater than the chainsaw bar length, a substantial lean, dead or broken material in the crown, hollow or burnt out butts, other damage or defects, and may be single or complex multi-stems.
Learner profile	Professional tree fallers, emergency workers, national parks staff, other workers involved in advanced tree falling.
Pre-requisites	Extensive experience in falling trees at an intermediate level.
Duration	As required, depending on the participants' prior experience and level of ability.
Training location	Forest area with suitable trees at an advanced level.
Accreditation	<i>FWPFGM3213: Fall trees manually (advanced).</i>
Interactive CD resource	<p>Before commencing the face-to-face training, learners should revise <i>Module 1: Chainsaw basics</i> and <i>Module 2: Tree falling with a chainsaw</i>.</p> <p>They should also work through the interactive exercises in Module 2 to help reinforce the concepts learned.</p> <p>Prior to assessment, learners should be directed to the assessment instrument for <i>FWPFGM3213: Fall trees manually (advanced)</i>.</p> <p>This can be found under the <i>Information for learners</i> link on the Home page for <i>Tree falling with a chainsaw</i>.</p> <p>Note that the assessment instrument has been integrated with the other two tree falling levels.</p>

Assessment instruments

Sample assessment instruments are provided in Word format on the accompanying CD under the 'Information for trainers' link on the Home page

The assessment instruments should be reviewed and modified, as required, to ensure they meet the needs of the training program and participants being assessed, as well as all the evidence requirements set out in the relevant Training Package.

It is also important that you develop your own assessment plan and add any site-specific criteria that may be required to reflect local workplace conditions. For example, the number of observations required for the practical assessments will depend on the type of equipment, species of trees and general site conditions that candidates are working under as they demonstrate their skills.

Note that it is the RTO's responsibility to ensure that learners have been able to demonstrate all the knowledge and skill requirements, over time and across the specified range of conditions. The assessments must be carried out by a qualified assessor working under the auspices of the RTO. For more information about these requirements, you should consult the relevant Training Package (FWP or AHC).

Validation

Make sure you validate the assessment instruments, to ensure that the documents are both relevant to the workplace and in compliance with Training Package requirements and the Standards for RTOs.

You should also make your own decision on the number of observations necessary to ensure that the candidate has met all demonstration criteria adequately and consistently over a period of time. The number of observations made should be noted on the assessment instrument.

In some circumstances, it may also be necessary to ask participants' supervisors to provide third party reports on their competence in the workplace. Supervisors may use the practical demonstration checklists as the basis for their observations.

Advice to participants

Participants should be given a copy of your assessment tool in advance, so they can familiarise themselves with the performance criteria they will need to demonstrate and the questions they will be asked.

Before each assessment event, you should give participants clear instructions on how they are going to be assessed and what you will be looking for. You should also tell them what the opportunities are for re-assessment if they do not meet the required standard, and what the appeals process is if they are not happy with the assessment decision.

Sample assessment instrument for advanced tree falling

Below is an example of one of the sample integrated assessment instruments. This is available in a Word format on the accompanying CD, together with sample assessment instruments for all of the other competencies covered in this interactive CD resource.

Many of the drawings used in this assessment instrument were supplied by Husqvarna, and are used with permission. The remaining drawings were produced by Kath Ware (from Workspace Training). Some of these are based on Husqvarna drawings and have been adapted to suit the assessment criteria covered in this document.

Basic / intermediate / advanced tree falling

Personnel details

Candidate's name			
Assessor's name			
Worksite		Enrolment form on file	Yes <input type="checkbox"/> No <input type="checkbox"/>

Assessment results

Assessed	Unit code and title	Competent	Not yet comp.
<input type="checkbox"/>	FWPCOT2237: Maintain chainsaws	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	FWPCOT2239: Trim and cut felled trees	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	FWPCOT2236: Fall trees manually (basic)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	FWPFGM3212: Fall trees manually (intermediate)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	FWPFGM3213: Fall trees manually (advanced)	<input type="checkbox"/>	<input type="checkbox"/>

Theory assessment	Date completed:	Result: Satisfactory <input type="checkbox"/> Not satisfactory <input type="checkbox"/>
Practical assessment	Date completed:	Result: Satisfactory <input type="checkbox"/> Not satisfactory <input type="checkbox"/>

Candidate's statement: I agree that I was ready to be assessed, that the assessment process was explained to me, and that it was conducted fairly and in accordance with the agreed process

Candidate's signature		Date	
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Assessor's comments: Candidate's performance, areas requiring re-assessment, RPL evidence, etc.

Assessor's signature		Date	
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SECTION 1: Practical demonstrations

Note to assessor: The candidate must meet the following performance criteria consistently over a period of time and in a range of contexts. This may require a number of demonstration events. In instances where there have been insufficient assessor observations to make a decision on competency, the assessor may ask a qualified supervisor to complete a copy of this practical demonstration checklist, to be used as a 'Third party report'.

Where the candidate has previously been assessed as competent in chainsaw maintenance and/or cross cutting within the last three years (or industry-approved time period), the assessor may sight their current accreditation and grant them RPL (recognition of prior learning) in those parts of the assessment instrument – as long as they are able to demonstrate 'current competence' in these skills during the more advanced practical demonstration events.

PART 1: Chainsaw maintenance

If the candidate has been granted RPL status for this part, fill in the following box and go straight to *Part 2: Trimming and cutting*. Note that the following performance criteria also apply to *Part 2*.

RPL for FWPCOT2237: Maintain chainsaws			
Date accreditation issued		Issuing RTO	
Performance criteria	Confirmed		
1. Uses safe work practices and sound environmental care practices at all times, including any site-specific procedures that apply	<input type="checkbox"/>		
2. Complies with all legislative and company SH&E requirements	<input type="checkbox"/>		
3. Wears appropriate personal protective equipment	<input type="checkbox"/>		
4. Identifies safety hazards in the area, assesses their risk and takes steps to control the risks	<input type="checkbox"/>		
5. Understands and carries out instructions correctly, and clarifies any queries with appropriate personnel	<input type="checkbox"/>		
6. Sharpens the chain correctly, maintains accurate cutter angles, and matches pitches and gauges correctly	<input type="checkbox"/>		
7. Files depth gauges correctly and explains the importance of correct settings	<input type="checkbox"/>		
8. Adjusts the chain tension correctly, and explains how to fit and run in a new chain	<input type="checkbox"/>		
9. Correctly identifies blunt or damaged chains and explains how to rectify problems	<input type="checkbox"/>		
10. Dismantles, cleans and inspects required parts of the power head, and re-assembles power head correctly	<input type="checkbox"/>		

Performance criteria	Confirmed
11. Inspects and replaces the following components correctly: drive sprocket, spark plug, fuel filter, starter cord and spring	<input type="checkbox"/>
12. Inspects the following components for wear or damage: chain brake, oil system, flywheel assembly, anti-vibration system, muffler and spark arrestor	<input type="checkbox"/>
13. Cleans and inspects the guide bar, greases the sprocket nose (if required), and removes burrs where necessary	<input type="checkbox"/>
14. Reassembles the saw and re-tensions the chain properly	<input type="checkbox"/>
15. Describes the process for tagging out a faulty saw and reporting faults to the supervisor or maintenance person	<input type="checkbox"/>
16. Cleans up and tidies the work area at the end of the work session	<input type="checkbox"/>
17. Describes or demonstrates the process for completing maintenance checklists and service records	<input type="checkbox"/>

PART 2: Trimming and cutting

If the candidate has been granted RPL status for this part, fill in the following box and go straight to *Part 3: Tree falling*. Note that the criteria shown above for *Part 1: Chainsaw maintenance* also apply to this competency.

RPL for FWPCOT2239: Trim and cut felled trees			
Date accreditation issued		Issuing RTO	
Photocopy attached		Sighted by assessor (signature)	

Performance criteria	Confirmed
1. Carries appropriate support tools, first aid kit and drinking water	<input type="checkbox"/>
2. Explains the emergency procedures that apply to the site	<input type="checkbox"/>
3. Explains the relevant WorkCover regulations and other WHS and environmental legal requirements	<input type="checkbox"/>
4. Demonstrates all required pre-start checks and daily service requirements	<input type="checkbox"/>
5. Mixes correct proportions of oil and petrol to produce 2-stroke fuel and fills up fuel and oil correctly, away from the immediate work area	<input type="checkbox"/>
6. Wears all required PPE and appropriate clothing for the task, worksite conditions and company procedures	<input type="checkbox"/>

Performance criteria	Confirmed
7. Demonstrates cold start, and warm start using approved procedures	<input type="checkbox"/>
8. Demonstrates methods for checking that the chainbrake is operating normally and bar oil is lubricating properly	<input type="checkbox"/>
9. Clears debris from the work area to allow safe access	<input type="checkbox"/>
10. Visually assesses the job, noting environmental conditions, terrain, stresses in the tree, log defects and other site factors	<input type="checkbox"/>
11. Takes account of factors that might affect movement or stability of the felled tree, and puts in place any required safety measures	<input type="checkbox"/>
12. Applies time management skills to maximise work efficiency	<input type="checkbox"/>
13. Correctly identifies areas of compression and tension in logs, and plans the sequences of cuts accordingly	<input type="checkbox"/>
14. Uses correct cutting stance, positioning, and manual handling methods	<input type="checkbox"/>
15. Demonstrates safe and effective de-limbing cuts, and techniques used to trim burls and growths	<input type="checkbox"/>
16. Demonstrates safe and effective swinging, bridging and side bind cuts	<input type="checkbox"/>
17. Demonstrates safe and effective boring and ripping cuts	<input type="checkbox"/>
18. Demonstrates safe and effective step cuts, angle cuts and V cuts	<input type="checkbox"/>
19. Demonstrates safe and effective radius reducing cuts	<input type="checkbox"/>
20. Uses wedges appropriately when required	<input type="checkbox"/>
21. Maintains communication with others, remains aware of their movements and works safely with others in the area	<input type="checkbox"/>
22. Recognises own limitations and situations where help is needed, and seeks assistance when required	<input type="checkbox"/>
23. Demonstrates the processes used to trim and cut trees in dry weather conditions, and/or wet conditions and low to moderate wind speeds	<input type="checkbox"/>
24. Describes or demonstrates the process for reporting equipment faults and other problems according to workplace and procedures	<input type="checkbox"/>

PART 3: Tree falling

Basic tree falling candidates are to complete the **Basic tree falling** section only

Intermediate candidates are to complete the **Basic** and **Intermediate** sections

Date/s of observation	
-----------------------	--

Level being attempted and number of trees felled

Confirmation that evidence requirements for this level have been met	
<input type="checkbox"/> Yes	See below for a summary of the criteria listed in the 'Application' section of the competency. Assessors must ensure that all evidence requirements, including the range of conditions described below, are demonstrated.

Summary of tree characteristics and environmental conditions (taken from 'Application' section)			
Characteristics	Basic	Intermediate	Advanced
Application	Small trees with a low level of complexity	Trees that require significant assessment and felling skills	Trees that require significant assessment and felling skills
Size	Small relative to other trees in the local area	Various sizes, relative to other trees in area	Larger in size, relative to other trees in the area
Diameter	Less than the chainsaw bar length	May be more than the chainsaw bar length	May be more than the chainsaw bar length
Lean	Not excessive	Adaptable to falling direction using wedges or uneven hinge wood	May be substantial
Weight distribution	Not complex to assess or fell	Readily adaptable using wedges and/or hingewood control	May add significant complexity
Damage or defects	None visible	Limited	May include multi-legged, hollow butts, culls and stags
Species prone to free splitting	Not to be felled	May be felled	May be felled
Stems	Single stem or non-complex multi-stem	Single or multi-stems	Single or complex multi-stems
Terrain and slope	Must not add complexity to the falling operation	May add complexity to the falling operation	May add significant complexity to the falling operation

Basic tree falling

Performance criteria (applies to all three levels – basic, intermediate and advanced)	Confirmed
1. Complies with all laws, regulations and licensing conditions that are relevant to the tree falling activity to be undertaken	<input type="checkbox"/>
2. Complies with all relevant policies and procedures, including any site-specific requirements imposed by the landholder	<input type="checkbox"/>
3. Identifies problems that make trees too hazardous to fall at this level of accreditation (such as pipes or unsound wood in the trunk, burnt sections, insect nests, unstable root systems, excessive leans, etc)	<input type="checkbox"/>
4. Identifies which trees are to be felled and which are to be retained	<input type="checkbox"/>
5. Carries out an assessment of the tree prior to falling (including height, diameter, weight distribution, crown shape, natural lean, adjoining trees, open space, ground slope, wind and snow)	<input type="checkbox"/>
6. Properly plans the tree falling sequence (taking into account nearby trees, rocks, steep banks, obstacles and other hazards)	<input type="checkbox"/>
7. Communicates with and monitors other personnel working in the area to ensure safe operations	<input type="checkbox"/>
8. Accurately assess the direction of natural lean of each tree being felled, and plans the direction of fall accordingly	<input type="checkbox"/>
9. Clears vegetation within the immediate area of each tree to be felled, and removes saplings or limbs in the line of fall that might throw material backwards	<input type="checkbox"/>
10. Prepares adequate escape routes at appropriate angles and to the required length	<input type="checkbox"/>
11. Identifies factors that can cause a tree to split while being cut, and explains methods for reducing the risk of a tree splitting	<input type="checkbox"/>
12. Cuts scarfs correctly (paying attention to their direction, depth, level, angles and intersecting cuts)	<input type="checkbox"/>
13. Corrects any problems with scarfs (such as undercuts, overcuts, or the scarf line not being level) before moving on to the next stage of the operation	<input type="checkbox"/>
14. Cuts back-cuts correctly (paying attention to height, depth, level, and thickness of the hinge wood) and uses wedges where needed	<input type="checkbox"/>
15. Uses the planned escape route when the tree starts to fall, never crossing the back of the tree while it is falling	<input type="checkbox"/>

Performance criteria (applies to all three levels – basic, intermediate and advanced)	Confirmed
16. Monitors the tree's fall, as well as adjoining trees and any movement on the ground, and remains aware of any broken branches	<input type="checkbox"/>
17. Takes appropriate action for hang-ups, and explains the process for marking and reporting hang-ups that cannot be immediately cleared	<input type="checkbox"/>
18. Asks for assistance where required, and explains the procedure for seeking help	<input type="checkbox"/>
19. Demonstrates an understanding of how to control risks associated with falling trees at this level, and the ability to work within one's own capabilities	<input type="checkbox"/>
20. Accurately completes required work records	<input type="checkbox"/>

Intermediate tree falling

Performance criteria (applies to intermediate and advanced levels only)	Confirmed
1. Satisfies all performance criteria relating to Basic tree falling (above)	
2. Identifies problems that make trees too hazardous to fall at the Intermediate level of accreditation	<input type="checkbox"/>
3. Communicates with others in an appropriate manner for this level of accreditation, and monitors their movements in the work area	<input type="checkbox"/>
4. Determines the desired direction of fall after taking into account the direction of natural lean, weight distribution in the crown and any other relevant factors	<input type="checkbox"/>
5. Prepares escape routes that are appropriate for the conditions, given the desired direction of fall, natural lean of the tree and other environmental factors	<input type="checkbox"/>
6. Demonstrates the correct use of uneven hinge wood to change direction of fall	<input type="checkbox"/>
7. Demonstrates the correct use of multiple wedges to lift the tree	<input type="checkbox"/>
8. Demonstrates multiple back cuts	<input type="checkbox"/>
9. Demonstrates boring cuts where required, and explains the circumstances under which they should be used	<input type="checkbox"/>
10. Achieves the desired direction of fall, and makes accurate allowances for the weight distribution, natural lean and other factors that may affect the line of fall	<input type="checkbox"/>

Performance criteria (applies to intermediate and advanced levels only)	Confirmed
11. Demonstrates an understanding of how to control risks associated with falling trees at this level, and the ability to work within one's own capabilities	<input type="checkbox"/>

Advanced tree falling

Performance criteria (applies to advanced level only)	Confirmed
1. Assesses hazardous trees accurately, taking into account stability, condition of the bole and crowns that may contain dead or broken material, entanglements or malformation	<input type="checkbox"/>
2. Demonstrates 'boring' and 'strap release' techniques used to fall trees with a heavy forward lean.	<input type="checkbox"/>
3. Demonstrates the technique of boring through the scarf to fall a tree up to two and a half times the length of the bar.	<input type="checkbox"/>
4. Demonstrates advanced techniques used to fall trees with defective trunks, such as trees that are hollow, burnt out or rotten	<input type="checkbox"/>
5. Demonstrates advanced techniques used to fall multi-legged trees	<input type="checkbox"/>
6. Demonstrates advanced techniques used to fall a solid dead tree	<input type="checkbox"/>

Location for assessment events	
Description of chainsaw used	
Description of terrain, weather conditions and forest type	

Assessor's comments			
Assessor's signature		Date	

SECTION 2: Theory test – cutting/maintaining

If the candidate has been granted RPL status for one or both of the following competencies, tick the corresponding YES boxes and then go straight to **Section 3: Tree falling**. Candidate who have not been granted RPL in these units must complete this theory test section.

RPL granted for:	Yes	No
FPICOT2237A: Maintain chainsaws	<input type="checkbox"/>	<input type="checkbox"/>
FPICOT2239A: Trim and cut felled trees	<input type="checkbox"/>	<input type="checkbox"/>

The following questions may be answered verbally, or in the written test. Where the questions are asked verbally, the assessor may write the candidate's answers on the test paper.

Safety and preparation

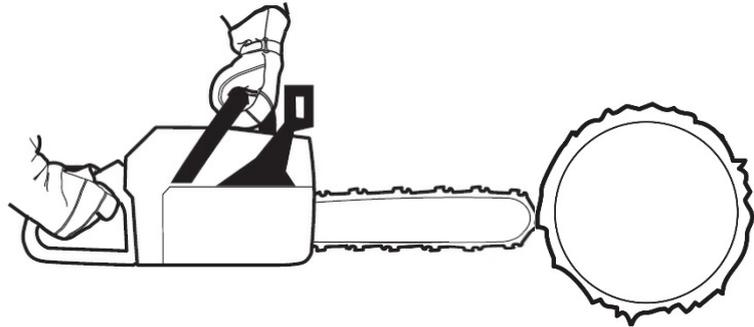
1. Answer True or False to the following questions by circling the correct option.

- | | | |
|--|------|-------|
| (a) You can get advice from WorkCover if you need help to solve a WHS problem. | True | False |
| (b) Workers have no responsibility for the safety of their workmates | True | False |
| (c) Everyone must comply with the WHS Act, including employers, employees and self-employed people | True | False |
| (d) Workers are responsible for taking care of their personal protective equipment | True | False |
| (e) There are heavy penalties for those who disregard the requirements of the WHS Act | True | False |
| (f) Under the WHS Act, an employer is required to provide the following: | | |
| • personal safety equipment | True | False |
| • a safe place to work | True | False |
| • training for the job | True | False |
| • equipment that is in a safe working condition | True | False |
| • compensation for damaged personal possessions | True | False |

2. The chainsaw at right is about to suffer kickback.

Draw an arrow to show in which direction the nose of the guide bar will go.

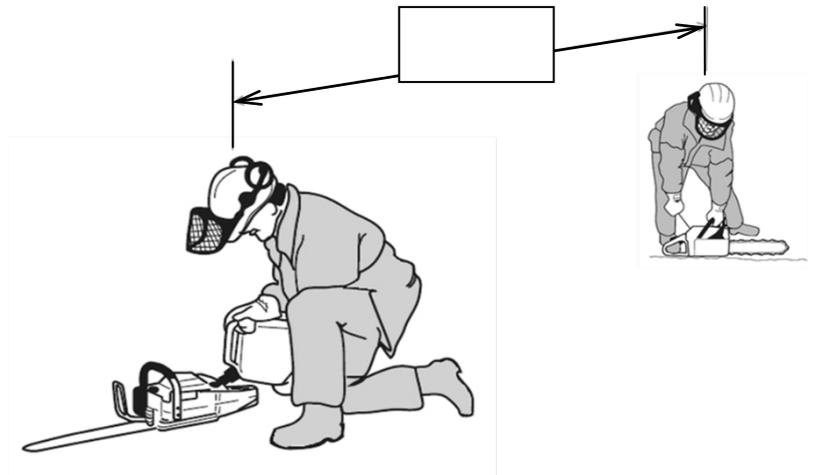
Also shade in the kickback zone on the guide bar.



3. What is the minimum distance you should be from the refuelling area when you start the saw:

- 1 metre,
- 3 metres, or
- 10 metres ?

Write your answer in the box.



4. This chainsaw operator is wearing 7 items of personal protective equipment. Draw a line from the list to the corresponding item on the drawing.

- 1 Gloves
- 2 Eye protection
- 3 Leg protection
- 4 Ear protection
- 5 Safety helmet
- 6 High visibility vest / jacket
- 7 Safety boots



5. Below is a list of 10 safety features that a chainsaw should have. Show where each feature is by writing the correct number beside the terms listed on the right hand side.

The image contains two line drawings of a chainsaw. The top drawing is a side view with arrows pointing to: 1 (a separate guide bar cover), 2 (the chain bar), 3 (the chain), 4 (the front hand guard), 5 (the double action throttle), and 6 (the chain catcher). The bottom drawing is a front view with arrows pointing to: 7 (the rear hand guard), 8 (the sprocket nose guide bar), 9 (the vibration dampeners), and 10 (the muffer/spark arrester).

Chainbrake / front hand guard

Stop control

Double action throttle

Chain catcher

Rear hand guard

Vibration dampeners

Guide bar cover

Muffer / spark arrester

Reduced kickback chain

Sprocket nose guide bar

6. What is the best thing to do if you find that your chainsaw has a problem that you can't fix straight away?

- Put it away and don't use it
- Tag it, and take it to your supervisor or maintenance person
- Use it carefully, and shut it down if something unsafe happens

7. When should you look out for hazards in the work area that might be unsafe?

- Whenever the supervisor says so
- Once per month, during the site inspection
- Before starting any new task, and regularly while you're working

Chainsaw maintenance

8. How should you get rid of used cleaning fluid or dirty fuel when you're in the field?

- Put it in a container and take it back to the depot for proper disposal
- Tip it on the ground away from the work area
- Leave it in an open tray so it can evaporate

9. How often should **periodic** maintenance be carried out on the saw?

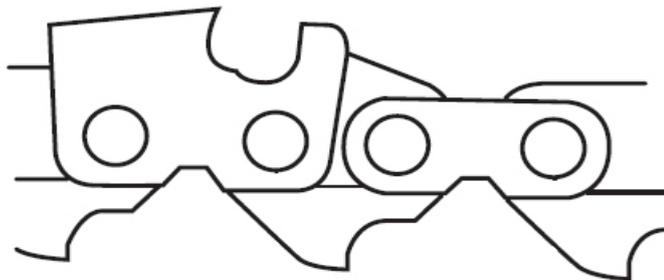
- Every week
- About every 80 hours of use
- Once per year

10. Match up each type of sprocket shown below with its correct name by drawing an arrow from the diagram to its corresponding name.



11. Draw an arrow between each term and the part of the chain it refers to below.

Cutter Rivet Drive link Tie strap Tang



12. Draw an arrow between each term and the part of the cutter it refers to below

Depth gauge Working corner Top plate Side plate



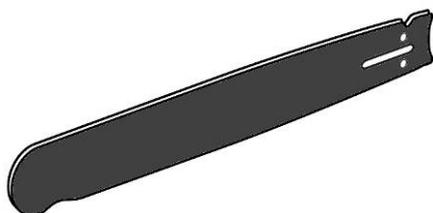
13. The service and maintenance tasks shown below need to be done at different times. Tick the correct answer for each task to show how often it should be done when the chainsaw is under normal use (that is, not under adverse conditions).



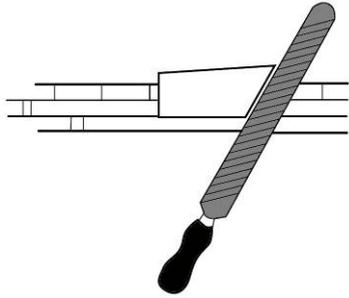
- (a) Cleaning out the guide bar groove
- as often as necessary (could be several times a day)
 - as part of the daily maintenance
 - as part of the periodic maintenance



- (b) Checking or replacing the spark plug
- as often as necessary (could be several times a day)
 - as part of the daily maintenance
 - as part of the periodic maintenance

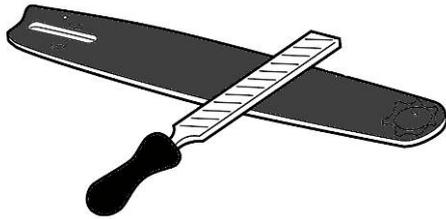


- (c) Checking the guide bar for wear or damage
- as often as necessary (could be several times a day)
 - as part of the daily maintenance
 - as part of the periodic maintenance



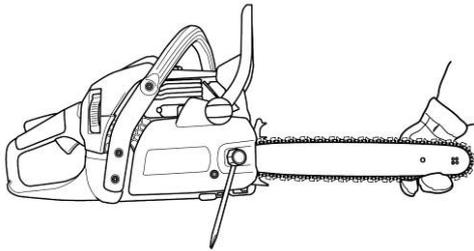
(d) Sharpening the chain

- as often as necessary
(could be several times a day)
- as part of the daily maintenance
- as part of the periodic maintenance



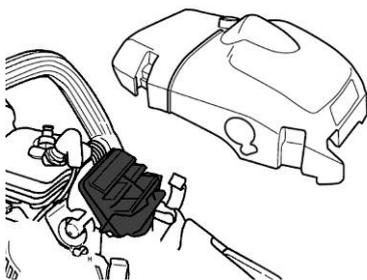
(e) Removing burrs from the guide bar

- as often as necessary
(could be several times a day)
- as part of the daily maintenance
- as part of the periodic maintenance



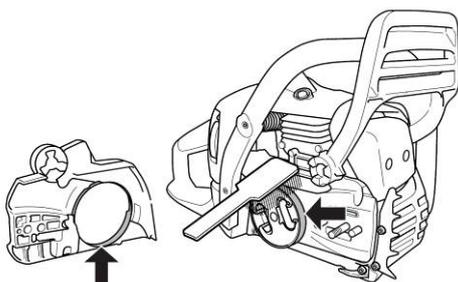
(f) Tensioning the chain

- as often as necessary
(could be several times a day)
- as part of the daily maintenance
- as part of the periodic maintenance



(g) Cleaning the air filter

- as often as necessary
(could be several times a day)
- as part of the daily maintenance
- as part of the periodic maintenance



(h) Cleaning around the clutch and drive sprocket

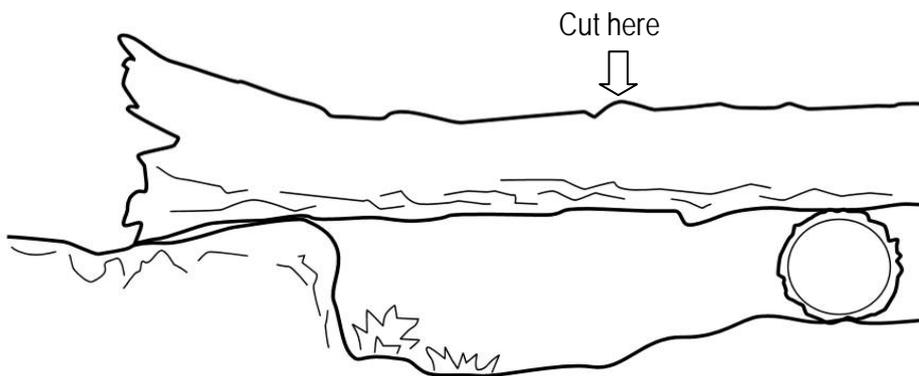
- as often as necessary
(could be several times a day)
- as part of the daily maintenance
- as part of the periodic maintenance

Crosscutting techniques

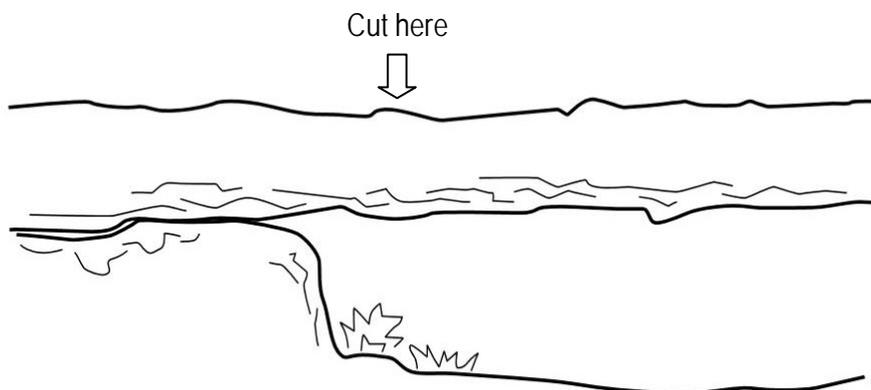
14. On each of the logs shown below:

- mark where the compression and tension occur, using a 'C' and 'T'
- draw where you would position the first cut, and mark it '1'
- draw where the release cut should go, and mark it '2'.

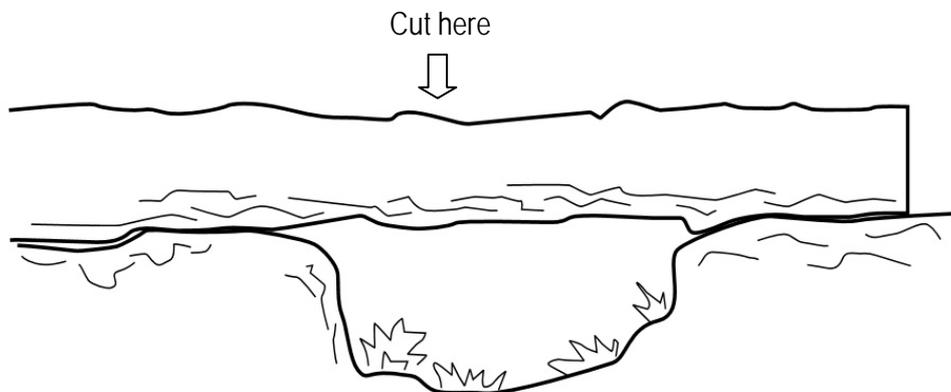
(a)



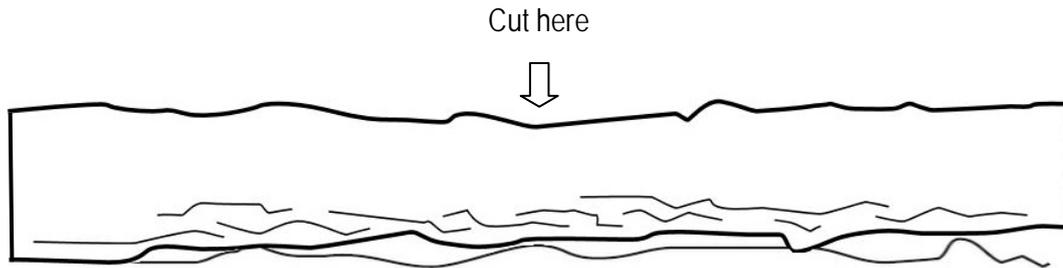
(b)



(c)



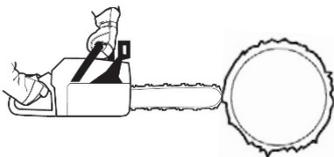
(d)



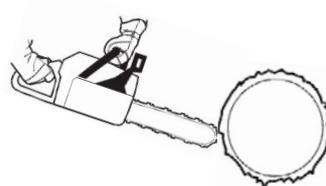
(e) What other item of equipment would be useful when you are cutting the log above? What is its purpose?

15. Which chainsaw is in the correct position to commence a boring cut? Circle the letter that relates to the correct diagram.

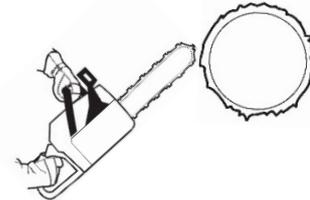
(a)



(b)



(c)



16. Below are four important actions that will help you to avoid kickback while you're making a bore cut. Circle the correct word or phrase for each action.

(a) Make sure the saw has reached **FULL** speed before commencing the cut
HALF

(b) Start the cut with the **TOP** nose quadrant
BOTTOM

(c) Maintain a firm grip and stance, with the saw **IN LINE WITH** your body
OFFSET FROM

(d) Do not straighten the saw until the nose is **BURIED IN** the timber
JUST TOUCHING

SECTION 3: Theory test – tree falling

Basic tree falling candidates are to complete the **Basic tree falling** section only.

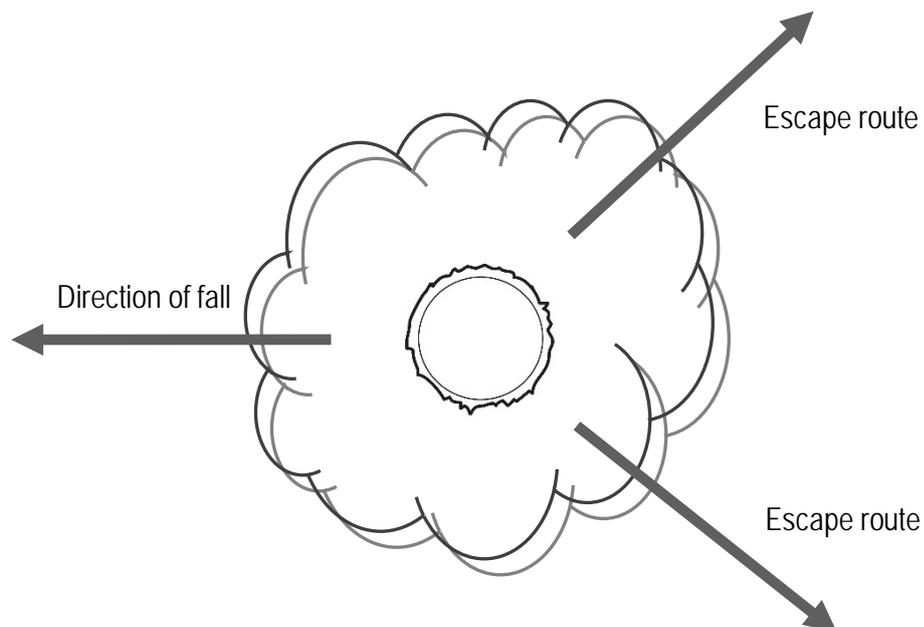
Intermediate candidates are to complete the **Basic** and **Intermediate** sections

Advanced candidates are to complete the **Basic**, **Intermediate** and **Advanced** sections

Basic tree falling

1. The diagram below shows a tree viewed from above, and the direction you are going to fall it in. Also shown are two escape routes extending from the back of the tree.
 - (a) What **angle** are these escape routes in relation to the direction of the fall?
 - (b) What **minimum length** do the escape routes need to be?
 - (c) Mark where the **danger zone** is in the direction of fall, and indicate with arrows how far back it extends on either side, towards the stump.
 - (d) Mark where the **danger zone** is behind the stump.

Write your answers on the diagram.



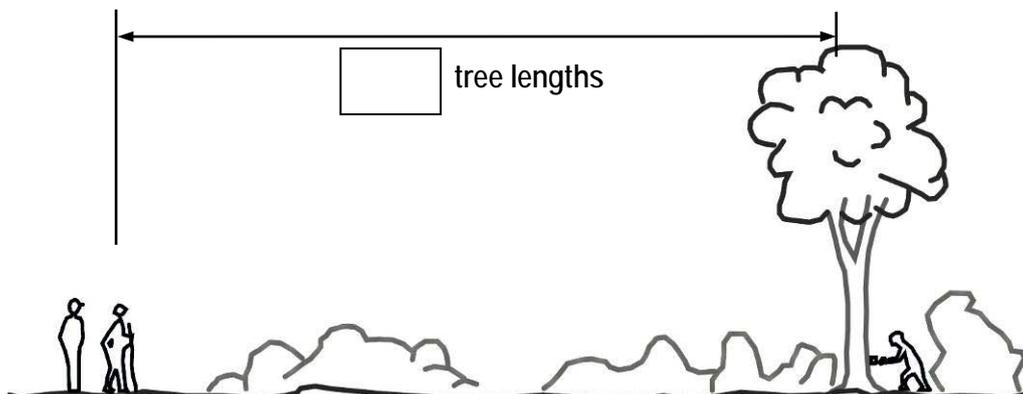
2. There are 7 **hazards** around the tree feller in the diagram below. Each of these needs to be addressed before the feller begins cutting.

Underneath the diagram is a list of these hazards, with a number beside each one. Find each of the hazards in the diagram and write the corresponding number beside it.

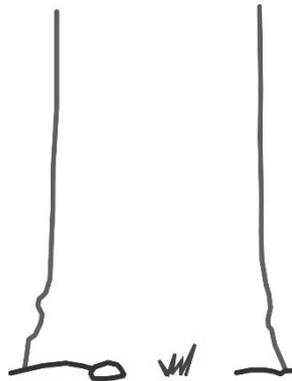


- | | |
|---|--|
| 1. Nearby roadway | 5. Hang-up |
| 2. Widow maker | 6. Burnt out tree in the direction of fall |
| 3. People in the area | 7. Steep bank |
| 4. Interlocking branches with a tree nearby | |

3. What is the minimum **safe distance** between the tree being felled and other personnel or machines in the area? Write your answer in the box below marked, expressed in terms of the number of tree lengths.



4. The diagram below shows a side-on view of the base of a tree. The tree's diameter is less than the length of your guide bar. You are going to fall it using a standard scarf and back cut.
- (a) Draw the top and bottom cuts for your **scarf**, viewed side-on.
 - (b) Draw the **back cut**.
 - (c) Mark how much **higher** the **back cut** is in relation to the scarf line (write in a fraction or percentage of the tree's diameter).
 - (d) Mark how much **allowance** you have made for the **hinge wood** (as a fraction or percentage).

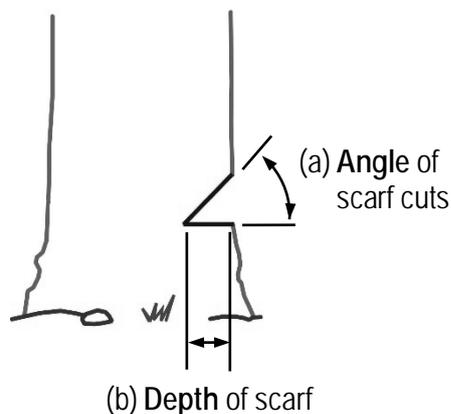


5. Below is a hardwood tree with a sound trunk and no significant lean.
- (a) The minimum and maximum **angles** between the two cuts should be:

to degrees

- (b) The minimum and maximum **depths** for the scarf cut should be:

to of the diameter



Intermediate tree falling

6. The two diagrams below show a tree viewed from the rear and in cross section. The tree's diameter is more than the length of your guide bar.

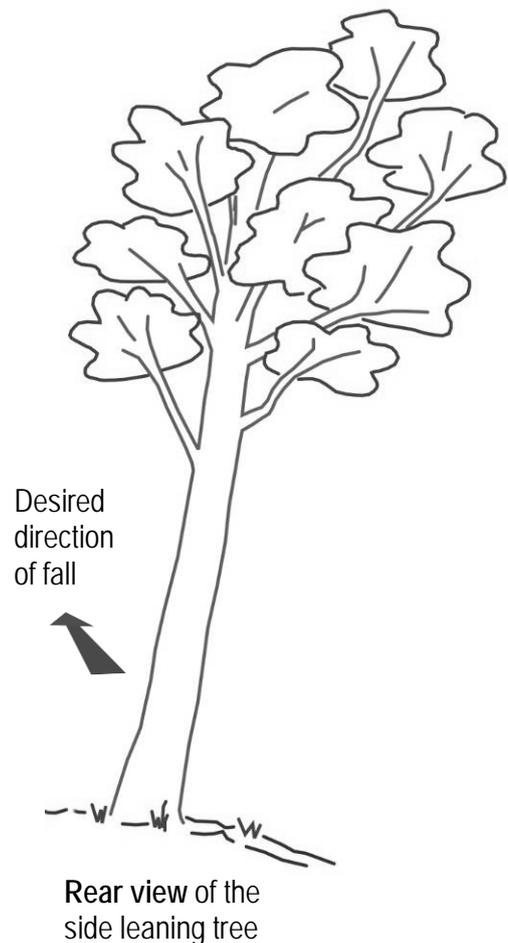
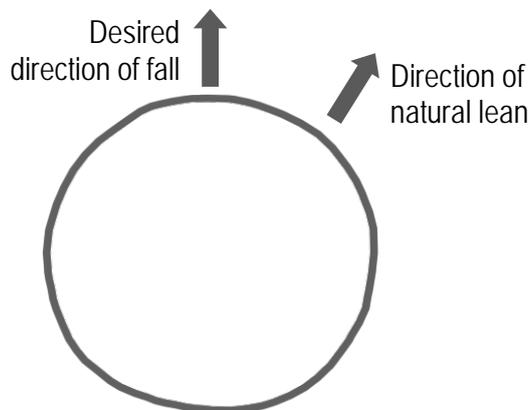
You need to pull the tree away from its natural lean using uneven hinge wood and a wedge.

On both diagrams:

- (a) Mark the **compression** side of the tree with a 'C'.
- (b) Mark the **tension** side of the tree with a 'T'.
- (c) Mark your **escape route** with an arrow and the word 'Escape'.

On the cross section only:

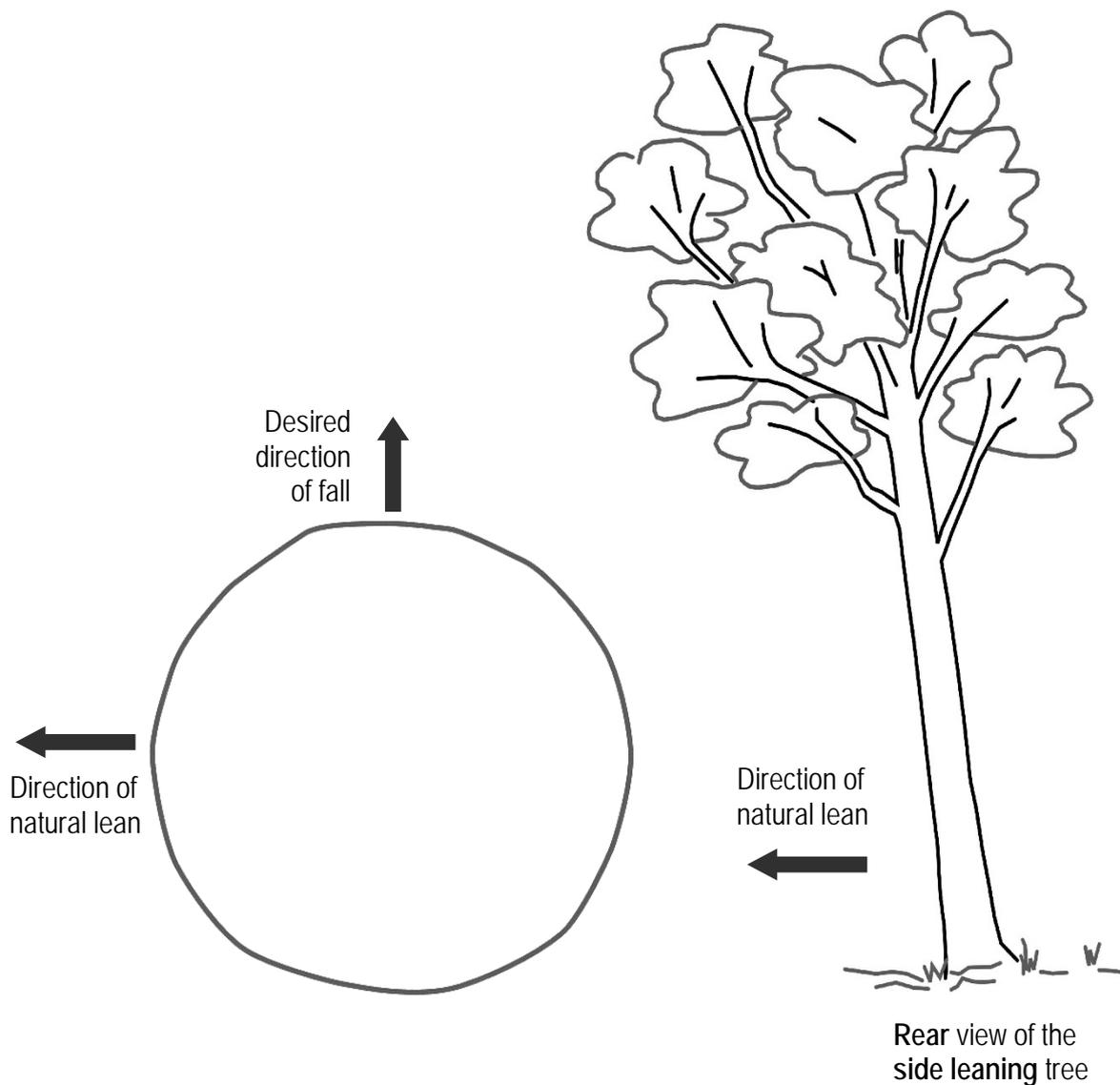
- (d) Draw the **scarf line**.
- (e) Mark where you will commence the **back cut** with an arrow and the word 'Backcut'.
- (f) Draw a line to show the **uneven hinge wood** that will be formed when you finish the backcut.
- (g) Draw the **wedge** in the position you will drive it in.



Advanced tree falling

29. The cross section and side-on views below show a **side leaning** tree. On the **cross section** only, mark:

- where the **scarf cut** would be placed
- the **hingewood** you should leave to pull the tree in the desired direction
- the **first back cut** if you are doing multiple back cuts
- where the **wedge** should go to help the tree fall in the desired direction
- where **you should be** when you have completed the back-cut.



30. The cross section and side-on views below show a **heavy forward leaner**. The tree's diameter is almost twice the length of your guide bar, so you will need to use bore cuts from both sides.

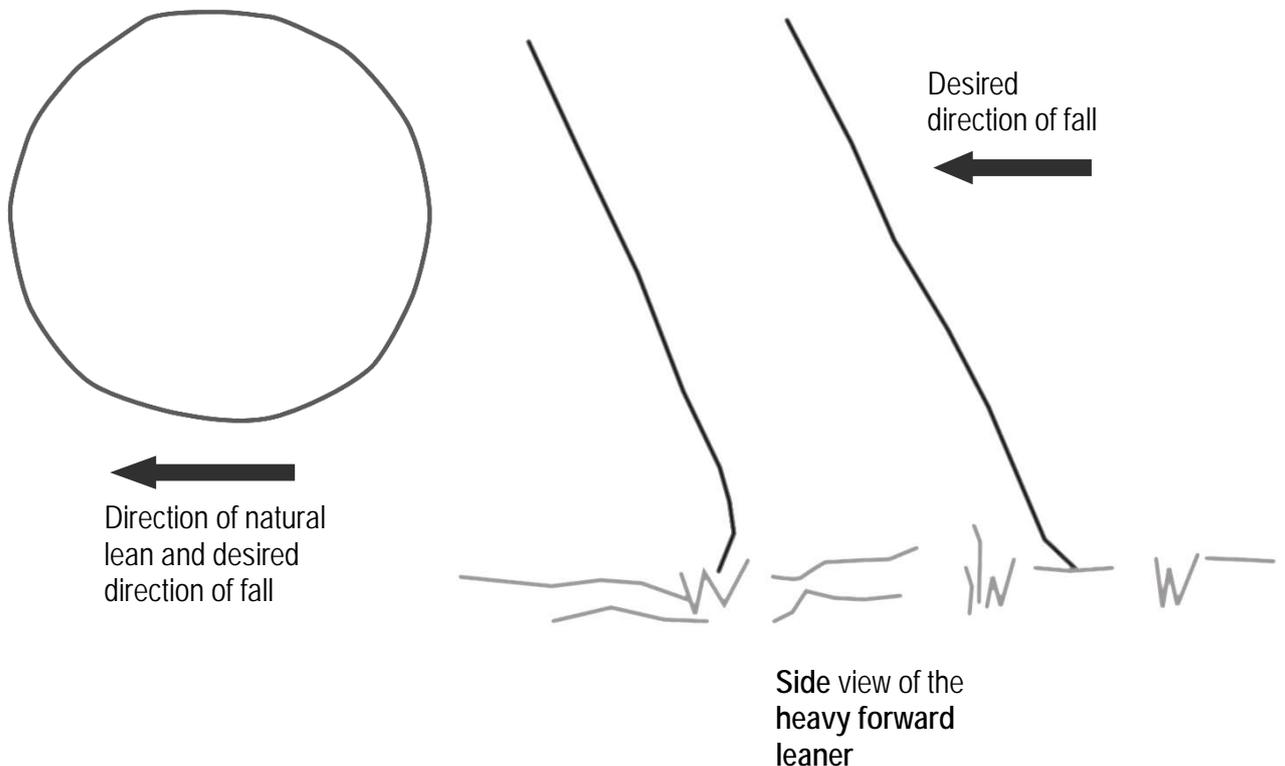
You are to show the sequence and positioning of the cuts required to fall this tree using the **strap technique**.

On the side-on view:

- (a) Draw the **scarf cuts**, taking care to show the correct depth and angle.
- (b) Draw the **bore cut** that will be visible on the near side.
- (c) Draw the **release cut** (that is, the back cut that will release the strap).

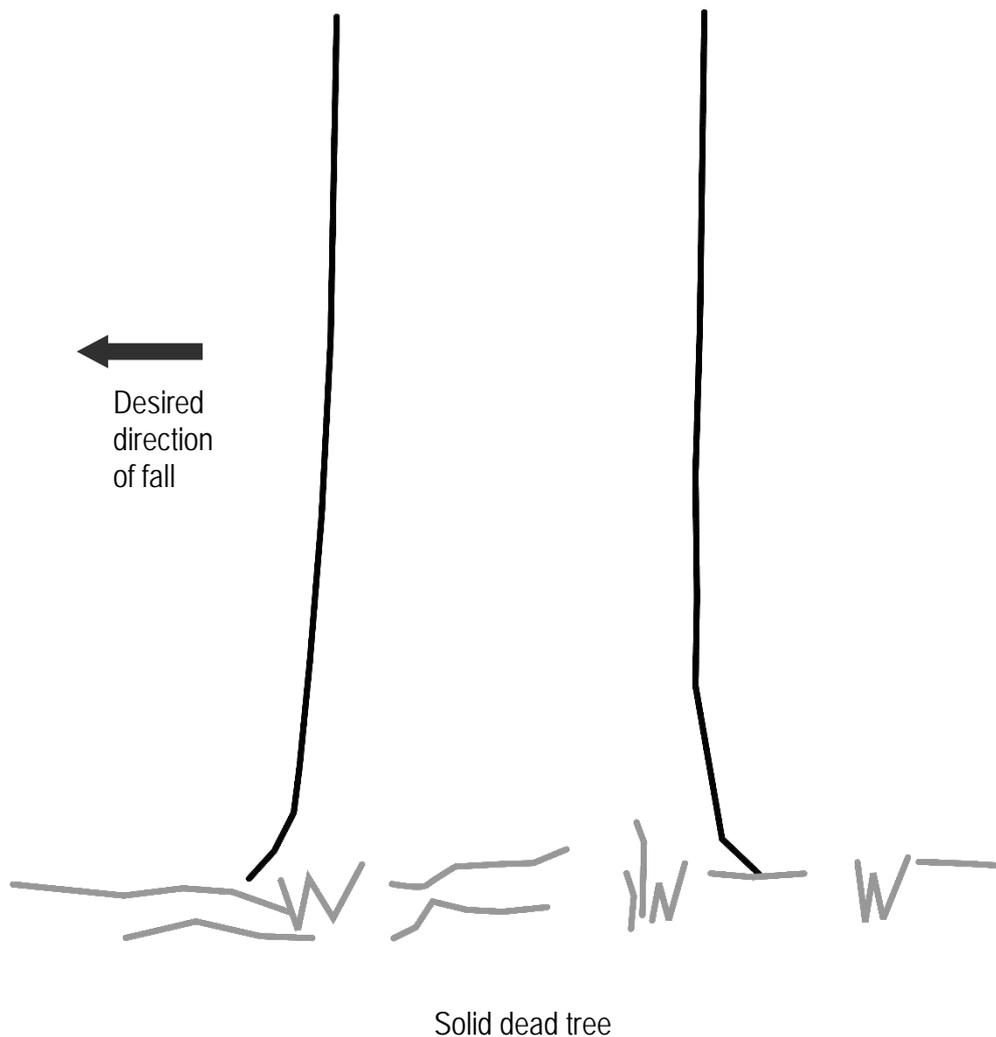
On the cross section:

- (d) Draw the **scarf line**.
- (e) Draw a line to show the thickness of the **hinge wood**.
- (f) Mark with arrows where you will commence the two **bore cuts**, and label them both 'Bore'
- (g) Draw a line to show the thickness of the **strap**.
- (h) Number the cuts in the correct sequence, from 1 to 4.



31. On the diagram below, show the following details you would need to observe when falling a solid **dead tree**:

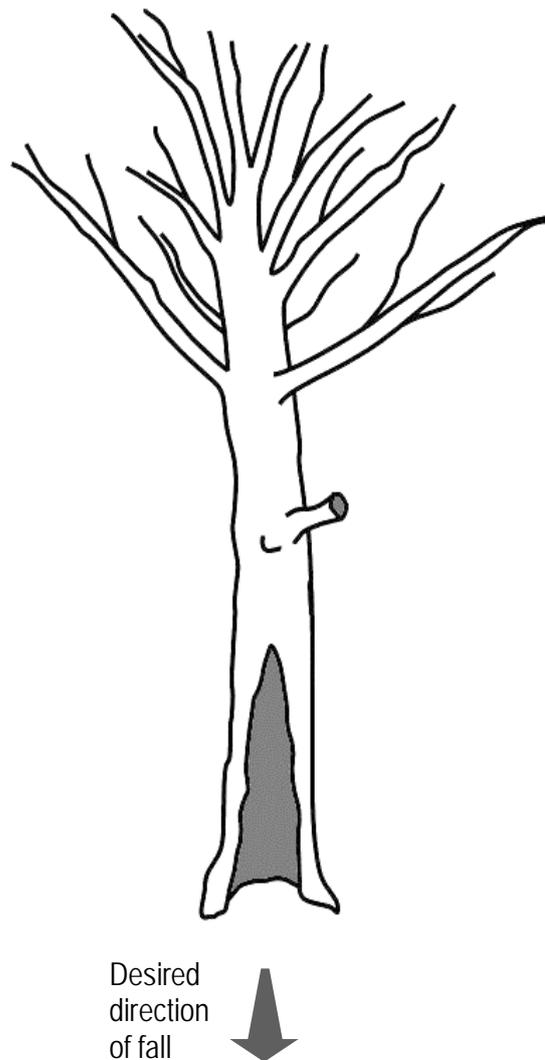
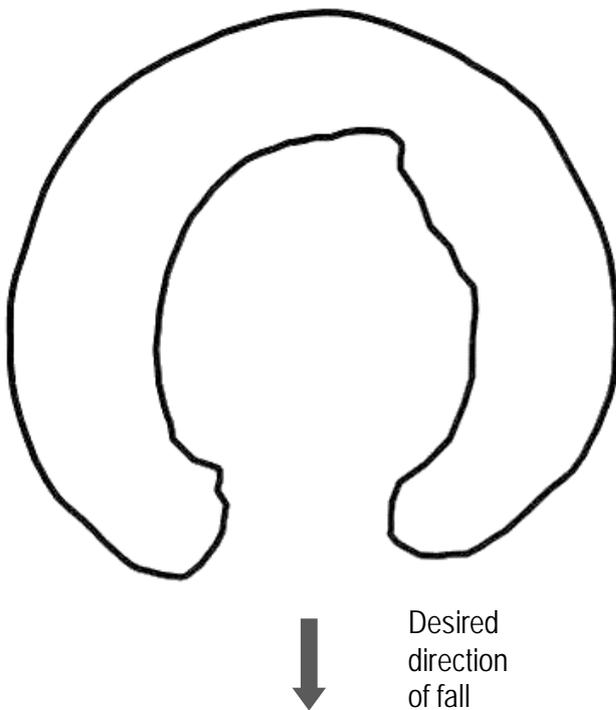
- **scarf cut** – draw the cut and write beside it the depth required
- **back cut** – draw the cut and write beside it the height
- **holding wood** – write in the percentage that needs to be left



32. The cross section and front-on views below show a **burnt out** tree. The tree's overall diameter is twice the length of your guide bar. You are to show the sequence and positioning of the cuts required to fall this tree.

On the cross section:

- (a) Draw the two separate **scarf lines**.
- (b) Draw a line to show the thickness of the **hinge wood** behind each scarf.
- (c) Mark with an arrow where you will commence the **first bore cut** and label it 'Bore'.
- (d) Draw a line to show where you will **finish** the first bore cut.
- (e) Mark with an arrow where you will commence the **second bore cut**, and label it 'Bore'.
- (f) Mark with an arrow the **direction** you will go in to complete this cut around the back of the tree.
- (g) Mark with an arrow your **escape route**, and label it 'Escape'.
- (h) Number the cuts in the correct sequence, from 1 to 4.



33. Below are the side-on views of two double leaders. The tree on the left has a fork at shoulder height. The tree on the right forks at 2.1 metres.

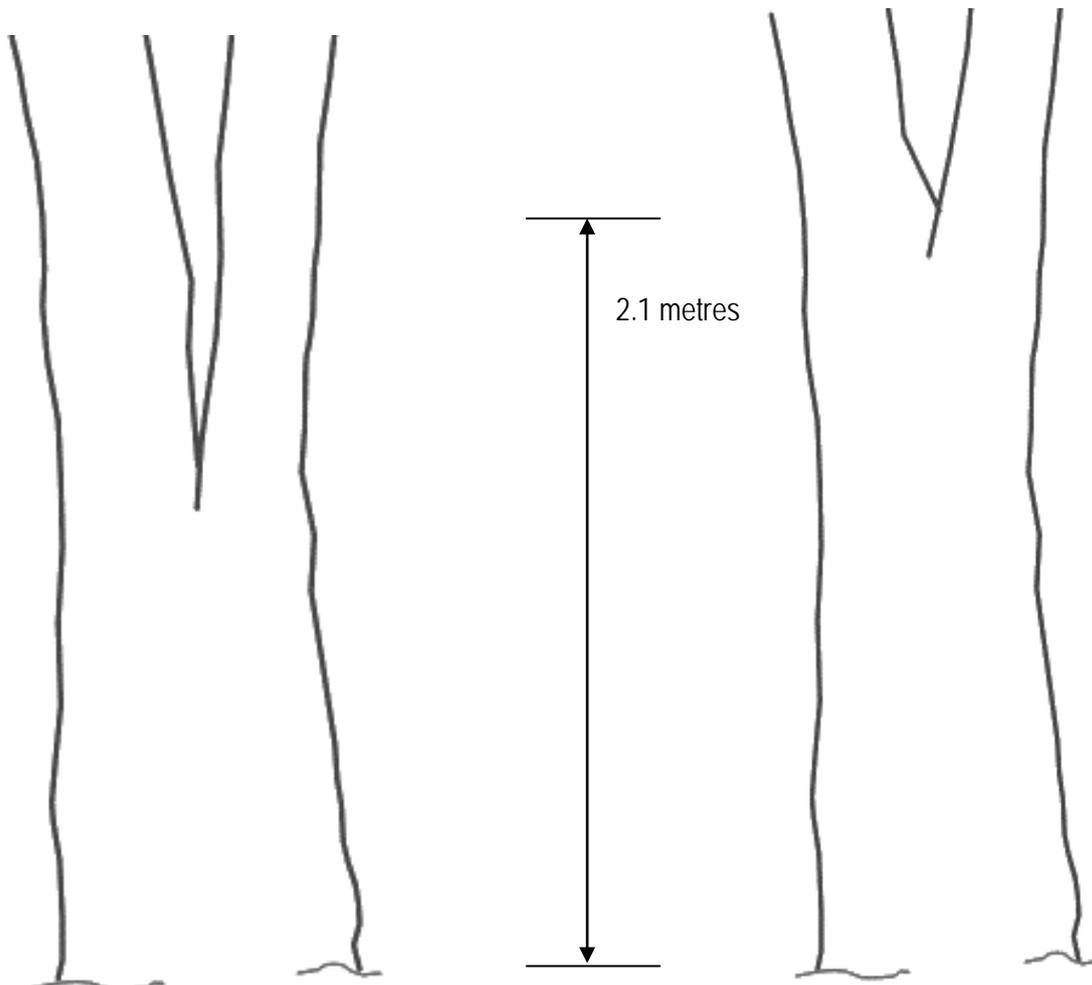
Tree on left (fork at shoulder height):

You have decided to fall each leader separately, to avoid the problem of the trunk splitting along a weakness that might run down from the fork.

- (a) Draw the **ripping cut**, from the fork down to where you will put in the first release cut. Mark the ripping cut with a '1'.
- (b) Draw the **scarf cut** on the leader that you plan to fall first, and mark it '2'.
- (c) Draw the **bore cut** that you will use as the release cut for this leader, and mark it '3'.
- (d) Draw the second **scarf cut** and mark it '4'.
- (e) Draw the second **release cut** and mark it '5'.

Tree on right (fork at 2.1 metres)

- (a) Draw the scarf only, facing the direction you plan to fall the tree in. (put back dimensions)



34. The tree below has a diameter of **more than twice** the length of the guide bar, so you have decided to use a V scarf and centre bore to fall it.

On both diagrams:

- (a) Draw the **V scarf** and mark it '1'
- (b) Draw the **centre bore**, and mark it '2'.
- (c) Draw the **back cut** and mark it '3'

On the cross section only:

- (a) Draw an **arrow** around the back cut to show the direction you will follow as you swing around.
- (b) Draw an **arrow** to show the **escape route** you intend to take once you have finished the back cut, and label it 'Escape'.

