

Safe Work Instruction	Issue date: 26/08/09
<b>Chainsaws</b>	Review date: 26/08/12

<b>Document no.</b> SMS-06-SW-0402	<b>Work description</b> Use of chainsaws.		
	<b>Scope</b> Applies to the use and operation of chainsaws to ensure they are operated safely and maintained in good working order.		
<b>Review date</b> 26/08/12	<b>References</b> <ul style="list-style-type: none"> <li>OHS Reg 2001 Chapter 5</li> <li>NSW WorkCover Chainsaw Safety Guide</li> <li>AS/NZS 2906: 2001 Fuel containers - Portable-plastic and metal</li> <li><a href="#">SMS-16-SR-0057 Inspection and Testing</a></li> <li><a href="#">SMS-06-GD-0225 Plant</a></li> <li><a href="#">SMS-06-GD-0306 Plant Risk Assessment</a></li> <li><a href="#">SMS-06-SW-0261 Tree Lopping</a></li> <li><a href="#">SMS-06-SW-0262 Working with Tree Service Chainsaws</a></li> </ul>		
<b>Responsible supervisor</b> <i>Insert name in BLOCK letters</i>	<b>PPE and precautions</b>	<b>Competencies or qualifications</b>	<b>Licences or permits required</b>
	See below	Trained and competent in chainsaws. TAFE 23183 Basic Chainsaw Safety Awareness (8 hours) or higher eg. Licence to operate chainsaw issued by State Forests (70 hours for Level 1 licence, 175 hour for Level 3 licence.	N/A
<b>Tools and equipment required</b>			
See below			
IF CONTROL MEASURES ARE NOT SUITABLE AND MAJOR CHANGES ARE NEEDED, CONDUCT A RISK ASSESSMENT AND DEVELOP NEW CONTROLS ACCORDING TO <a href="#">SMS-06-PR-0104 WORKPLACE RISK MANAGEMENT</a> .			

<b>Preparing for cutting</b>	<b>Clear the work area</b> <ul style="list-style-type: none"> <li>Make sure there are no nails in the wood or loose objects in the area where you are cutting, such as twigs, brush, leaves and stones.</li> </ul> <b>Check the conditions where you are cutting</b> <ul style="list-style-type: none"> <li>If you are felling a tree, make sure you consider which way the wind is blowing in deciding which direction the tree should fall. Also look for a lean in the tree and a heavy imbalance if several large limbs are all on one side of the tree.</li> <li>IN EVERY CUTTING SITUATION make sure you have secure footing. If the ground is slippery from rain, snow or ice, then you should not cut there. Always look for broken limbs or other trees caught in the tree you want to cut.</li> </ul> <b>Check the chain's condition and sharpness</b> <ul style="list-style-type: none"> <li>Follow the instructions in your manual and use the proper maintenance tools.</li> <li>Sharpness - a sharp chain make the chainsaw easier to use.</li> <li>Tension - if the chain is too loose, it may derail and cause a severe injury; but if it is too tight, it may bind and also cause an accident or damage to the chainsaw.</li> <li>Idle speed - prevents the chain from rotating when the controls are in the idle position.</li> <li>All nuts and screws should be tight. Everything should be well lubricated.</li> </ul> <b>Fuel the saw in a safe place</b> <ul style="list-style-type: none"> <li>Completely wipe off spilled fuel and move the chainsaw to a new location before starting the engine.</li> </ul> <b>Plan an escape route</b> (refer to Figure 1) <ul style="list-style-type: none"> <li>Make sure there are no obstacles that can cause you to trip.</li> <li>Then, after you have made your cut, you will be able to move rapidly at least 25 feet away from the tree at a 45-degree angle without any hazard.</li> <li>If you have an electric saw, be careful not to trip over the cord.</li> </ul>
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## Chainsaws

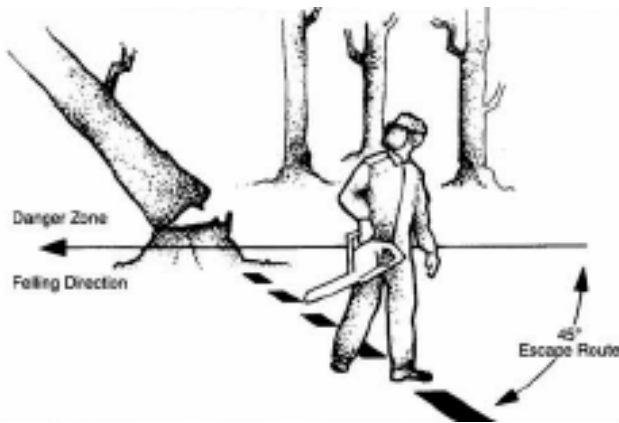


Figure 1 Example of planned escape route

**Preventing fire**

Avoid starting a fire:

- don't smoke while filling or operating the saw
- refuel in a clean area
- refuel the saw only after the motor has cooled down, e.g. after re-sharpening
- make sure fuel caps are screwed on tight and any fuel spillage is wiped off
- move at least three metres away from the fuelling area before starting
- use only safety-approved fuel containers which comply with AS/NZS 2906: 2001
- keep a fire extinguisher, knapsack spray or water pump and shovel nearby.

**Safe starting**

- Don't use the "drop-start" method to start a chainsaw when on the ground. This method may be used only when working according to the [Tree Lopping](#) and [Working with Tree Service Chainsaws](#) SWIs
- Always cold-start a chainsaw on the ground. Get down on your left knee, with the toe of your right boot firmly on the base plate of the trigger guard. Have the chain brake off, as you will be using the choke in cold starting. Refer to Figure 2
- Always choose a flat piece of ground, clear of debris, before cold-starting a chainsaw on the ground.
- The approved safe way to warm-start a chainsaw while standing is by bracing the trigger guard between your knees, ensuring the chain brake is engaged, and keeping your left forearm rigid while pulling the starter cord with your right hand.

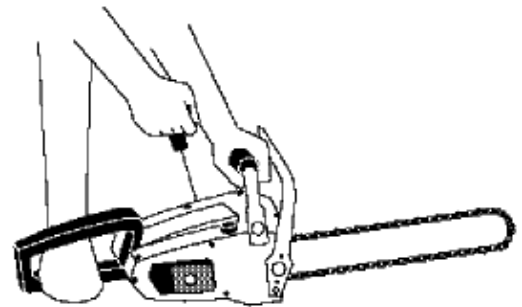


Figure 2 Recommended method for on-ground chainsaw starting

**Safe chainsaw operation**

While cutting, always:

- run the chainsaw motor at full revs; this makes the job safer, as there is less chance of pull-in or kick-back
- position your body to the left of the chainsaw so if it kicks back uncontrollably, it goes over your right shoulder
- keep a firm grip with your left hand on the front handle, with your thumb securely below the handle; the swivel of your wrist in a kick-back situation activates the chain brake
- make sure the chain is tensioned correctly
- observe the size of wood shavings; if they become dusty the chain could need sharpening.

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<b>Avoiding kickback</b>	<p>Kickback is one of the greatest saw hazards. It occurs when a force throws the saw rapidly and sometimes uncontrollably towards you. It is a very violent and sudden motion which can severely or fatally injure you. There are several causes:</p> <ul style="list-style-type: none"> <li>• an abrupt change in wood character - hitting a knot or a nail</li> <li>• striking a nearby limb with the tip of the moving chain while cutting</li> <li>• running the chain too slowly</li> <li>• twisting the saw in your cut so the chain grabs</li> <li>• using a dull or loose chain</li> <li>• having a loose grip on the saw or cutting with only one hand.</li> </ul> <p>Kickback can be prevented by a few steps and precautions on your part. These steps DO NOT PREVENT kickback completely, but they do reduce the possibility of it happening to you:</p> <ul style="list-style-type: none"> <li>• Always hold the saw firmly with both hands and keep the left arm as straight and stable as possible</li> <li>• Use a saw equipped with a chain brake, anti-kickback chain, or other Anti-kickback devices.</li> <li>• BUT, do not rely exclusively upon safety devices.</li> <li>• Watch for twigs that can snag the chain -- the area should be free from any obstructions.</li> <li>• Cut with the lower part of the saw blade-not with the tip or nose.</li> <li>• Maintain a high saw speed when entering, cutting and leaving the wood cut.</li> <li>• Keep the chain sharp.</li> <li>• DO NOT cut above mid chest height - the saw is too close to your face.</li> <li>• DO NOT cut brush or shrubbery.</li> <li>• Use only replacement bars specified by the manufacturer.</li> </ul>
<b>Jamming</b>	<p>To avoid jamming the saw:</p> <ul style="list-style-type: none"> <li>• always cut into the compression wood first until the cut starts to close</li> <li>• always make the compression cut beneath if the log or limb is suspended from one end, (and on top if it is supported at both ends)</li> <li>• cut from the other side towards the compression cut</li> <li>• make a habit of using a wedge to prevent the compression cut jamming tight on the chainsaw blade.</li> </ul>
<b>PPE</b>	<ul style="list-style-type: none"> <li>• Do not wear anything loose that could catch in the moving chain, such as sleeve cuffs, cuffed pants, scarves, loose long hair (tie it back), jewellery.</li> <li>• Wear sturdy, snug-fitting clothing that gives you complete freedom of movement. <ul style="list-style-type: none"> <li>- either a face shield or safety glasses</li> <li>- a hard hat</li> <li>- approved ear plugs or muffs</li> <li>- heavy duty, non-slip gloves –that improve grip and protect hands from abrasions, cuts and splinters</li> <li>- sturdy boots with non-slip soles ensure good footing; and protective toes and high top boots protect your feet and ankles</li> <li>- leg protection - safety trousers or 'chaps'.</li> </ul> </li> </ul>
<b>Trouble-shooting</b>	<p>If you are having difficulty cutting or the saw is cutting poorly, consider whether:</p> <ul style="list-style-type: none"> <li>• the chain is dull</li> <li>• the chain is improperly sharpened</li> <li>• the chain is installed backwards</li> <li>• the chain is not properly tensioned</li> <li>• the bar and chain are not properly lubricated</li> <li>• the guidebar is damaged</li> <li>• the exhaust ports are dirty</li> <li>• the fuel filter is dirty</li> <li>• the air filter is clogged</li> <li>• the spark plug is fouled.</li> </ul> <p>Your chain saw gives clues that it is time to sharpen the chain, when:</p> <ul style="list-style-type: none"> <li>• you notice the chain tends to walk sideways while cutting</li> <li>• the cut produces fine powder instead of chips</li> <li>• you find yourself pressing down hard to keep cutting</li> <li>• you smell burnt wood</li> <li>• it takes considerably longer to complete cuts made in less time earlier on the job.</li> </ul>

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Refuelling	<ul style="list-style-type: none"><li>Follow manufacturer's directions for oil/fuel mixture.</li><li>Use only safety containers for storing and dispensing fuel that have been approved</li><li>Do not refuel a running or hot saw.</li><li>Use funnel or spout for pouring.</li><li>Wipe off any spills.</li><li>Mix fuel in a well-ventilated area.</li><li>Keep a well-maintained fire extinguisher near by.</li><li>Do not smoke or allow any ignition sources while refuelling.</li></ul>	
Field maintenance	<p>When using a chainsaw for extensive cutting, always have nearby:</p> <ul style="list-style-type: none"><li>a supply of fuel</li><li>bar oil</li><li>tools for tightening the chain - or removing the drive sprocket outer casing to clean out debris - or re-seat the chain should it dislodge</li><li>cloth or absorbent material to wipe any spilt fuel or oil from the chainsaw after refuelling</li><li>a file and file guide for sharpening the chain after every refuel</li><li>some sort of portable vice to grip the chain bar during sharpening</li><li>a small brush to regularly clean the air filter and around the chain sprocket.</li></ul> <p>Always:</p> <ul style="list-style-type: none"><li>store fuel and tools at least 10 metres from where you are cutting</li><li>choose a flat place for tools and fuel, where the ground is free from flammable vegetation.</li></ul>	
Maintenance after use	<p>After completing chainsaw work, always:</p> <ul style="list-style-type: none"><li>reverse the chain bar, top to bottom, to avoid wear on one side</li><li>clean out the groove on the chain bar</li><li>clean the chainsaw, particularly the air filter, cooling inlets and inside the sprocket cover</li><li>clean the chain brake mechanism.</li></ul>	
Inspection and maintenance	<ul style="list-style-type: none"><li>Chainsaws must be inspected, serviced and maintained on a periodic basis in accordance with the manufacturer's instructions.</li><li>Persons inspecting, maintaining or repairing a chainsaw should hold appropriate trade qualifications.</li><li>For all chainsaws, a record of maintenance by a competent person and the details of the periodic inspections must be kept for the life of the chainsaw.</li><li>The record is to include the date of purchase, the date of introduction to service, relevant general details of the service, the dates and details of every evaluation by a competent person and the dates and details of the periodic inspections.</li></ul> <p>Inspections and tests are to be carried out in accordance with the <a href="#">Inspection and Testing</a> requirement and records maintained in accordance with <a href="#">Records Management</a> requirement</p>	
Training	<p>Users of chainsaws must be competent persons who having practical and theoretical knowledge and relevant experience. Training is to be provided through a recognized course and is to contain instruction on:</p> <ul style="list-style-type: none"><li>safe working techniques</li><li>operating conditions, including unusual or dangerous conditions</li><li>basic information about the chainsaw and its controls, attachments and components, design, capacity, stability and limitations</li><li>correct stopping and starting techniques</li><li>cleaning and servicing</li><li>being alert for the possibility of kickback</li><li>chain sharpening techniques.</li></ul>	
Additional controls		