

# **RISK ASSESSMENTS FOR MAINTENANCE AND USE OF CHAINSAW, WOOD CHIPPER & STUMP GRINDER.**

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# 1. The Chainsaw

## Chainsaw Maintenance

The assessment is based on the site being one of the arboriculture workshops.

SITE	
THREAT	CONTROL
Slips, trips and falls	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Communication</li><li>- Good housekeeping</li></ul>
Third party access	<ul style="list-style-type: none"><li>- Close doors</li><li>- Operator awareness</li><li>- Communication</li></ul>
Collision damage to machines or impact injury from other operators doing maintenance	<ul style="list-style-type: none"><li>- Good housekeeping</li><li>- Operator awareness</li><li>- Communication</li></ul>
Fumes from fuel	<ul style="list-style-type: none"><li>- Ensure the workshop is well ventilated</li><li>- Minimise transfer of fuel</li><li>- Correct storage of fuel</li></ul>
Ignition of fuel	<ul style="list-style-type: none"><li>- No flames, vaping or smoking in workshop</li><li>- Correct storage of fuel</li></ul>
TASK	
THREAT	CONTROL
Cuts to operators hands or fingers whilst sharpening or handling the chain or from sharp edges of the guide bar.	<ul style="list-style-type: none"><li>- Minimise handling of cutters</li><li>- Correct work positioning</li><li>- Operator awareness</li><li>- Wear appropriate gloves</li></ul>
Crush Injury to operators fingers or hand from use of vice.	<ul style="list-style-type: none"><li>- Operator awareness</li></ul>

**361 - 1: RISK ASSESSMENTS**

Cuts or other injury to operator from use of hand tools

- Operator awareness
- Right tool for the right job
- Don't use excessive or uncontrolled force
- PPE

Damage to machine from incorrect maintenance

- Follow manufacturers guidance
- Proper training
- Right tool for the right job
- Don't use excessive or uncontrolled force

Loss of small, but critical parts of the machine during maintenance

- Operator awareness
- Use containers to store small parts
- Good housekeeping

Acute or chronic injury to operator from use of compressed air.

- Operator awareness
- Communication
- Eye protection, hearing protection and hand protection.

**MACHINE****THREAT****CONTROL**

Injury or 💀 death 💀 caused by unfamiliarity with machine

- Follow manufacturers instructions
- Read safety decal
- Training
- Operator awareness

Acute or chronic damage to operators hearing from noise

- Do not use in enclosed spaces
- Correctly rated ear protection

Acute or chronic damage to operator from fumes

- Do not use in enclosed spaces
- Ensure exhaust is working correctly
- Correct working position

Acute or chronic damage to operator nerves from vibration

- Use battery saws
- Ensure hands are warm
- Ensure AV system working correctly
- Use models with heated handles
- Use chainsaw gloves

**361 - 1: RISK ASSESSMENTS**

Acute trauma injury to operator or other operators from contact with running chain	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Safe working distances</li><li>- Safe starting procedure</li><li>- Safe stop procedure</li><li>- Correct chain brake usage</li><li>- Correct training</li><li>- Correct work positioning</li><li>- Protective chainsaw trousers (<i>Type C aerial, Type A ground</i>)</li><li>- Protective chainsaw boots with steel toe caps</li></ul>
Damage to environment from leaking fuel or oil	<ul style="list-style-type: none"><li>- Ensure fuel and oil caps are fastened</li><li>- Check at fuel site</li><li>- Correct maintenance</li></ul>

## Chainsaw Use

The assessment is based on the site being the arboretum or pinetum

SITE	
THREAT	CONTROL
Slips, trips and falls	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Communication</li> <li>- Good housekeeping</li> </ul>
Minor or major Injury to third party through unauthorised access	<ul style="list-style-type: none"> <li>- Signage and cordon off the area</li> <li>- Banksman</li> <li>- Operator awareness</li> <li>- Communication</li> </ul>
Sudden inclement weather creating unsafe working conditions.	<ul style="list-style-type: none"> <li>- Check weather forecast for alerts at start of day</li> <li>- Operator awareness</li> <li>- Communication</li> </ul>
Damage to environment from spillage of fuel or oil	<ul style="list-style-type: none"> <li>- Dedicated fueling site</li> <li>- Use of spill mats</li> <li>- Ensure caps are correctly tightened</li> <li>- Operator awareness</li> <li>- At least ten metres from watercourses</li> <li>- Correct storage of fuel</li> </ul>
Strike injury to operator from unseen deadwood or debris above the operator	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Communication</li> <li>- Helmet</li> </ul>
Transmission or transport of a bio-pathogen through the use of the tool.	<ul style="list-style-type: none"> <li>- Sanitise saw before and after use</li> <li>- Leave infected materials in place</li> </ul>
TASK	
THREAT	CONTROL
Acute injury to operator from kickback	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Avoid kickback zone</li> <li>- Use anti-kickback chain</li> </ul>

**361 - 1: RISK ASSESSMENTS**

Saw becoming stuck whilst cutting	<ul style="list-style-type: none"> <li>- Read timber for compression and tension</li> <li>- Cut compression wood first (<math>\frac{1}{3}</math>), then complete by cutting tension wood</li> <li>- Use of relief cuts 12" away from power unit with another saw</li> <li>- Operator awareness</li> <li>- Communication</li> </ul>
Ignition of fuel when refuelling	<ul style="list-style-type: none"> <li>- No flames, vaping or smoking around fuel</li> <li>- Correct storage of fuel</li> </ul>
Acute or chronic damage to operators hearing from noise	<ul style="list-style-type: none"> <li>- Do not use in enclosed spaces</li> <li>- Correctly rated ear protection</li> </ul>
Acute or chronic damage to operator from fumes	<ul style="list-style-type: none"> <li>- Do not use in enclosed spaces</li> <li>- Ensure exhaust is working correctly</li> <li>- Correct working position</li> </ul>
Acute or chronic damage to operator nerves from vibration	<ul style="list-style-type: none"> <li>- Use battery saws</li> <li>- Ensure hands are warm</li> <li>- Ensure AV system working correctly</li> <li>- Use models with heated handles</li> <li>- Use chainsaw gloves</li> </ul>
Acute trauma injury to operator or other operators from contact with running chain	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Safe working distances</li> <li>- Safe starting procedure</li> <li>- Safe stop procedure</li> <li>- Correct chain brake usage</li> <li>- Correct training</li> <li>- Correct work positioning</li> <li>- Protective chainsaw trousers (<i>Type C aerial, Type A ground</i>)</li> <li>- Protective chainsaw boots with steel toe caps</li> </ul>
Acute trauma from flying debris	<ul style="list-style-type: none"> <li>- Correct operator positioning</li> <li>- Eye protection</li> </ul>

**361 - 1: RISK ASSESSMENTS**

Acute or chronic damage to operator from continued chainsaw use

- Follow manufacturers instruction
- Correct training
- Correct work positioning
- Improve physical readiness

**MACHINE****THREAT****CONTROL**

Acute or chronic damage to operators hearing from noise

- Do not use in enclosed spaces
- Correctly rated ear protection

Acute or chronic damage to operator from fumes

- Do not use in enclosed spaces
- Ensure exhaust is working correctly
- Correct working position

Acute or chronic damage to operator nerves from vibration

- Ensure hands are warm
- Ensure AV system working correctly
- Use models with heated handles
- Use chainsaw gloves

Damage to environment from leaking fuel or oil

- Ensure fuel and oil caps are fastened after filling
- Correct maintenance



## 2. The Wood Chipper

### Wood Chipper Maintenance

The assessment is based on the site being one of the arboriculture workshops.

SITE	
THREAT	CONTROL
Slips, trips and falls	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Communication</li><li>- Good housekeeping</li></ul>
Third party access	<ul style="list-style-type: none"><li>- Close doors</li><li>- Operator awareness</li><li>- Communication</li></ul>
Fumes from fuel	<ul style="list-style-type: none"><li>- Ensure the workshop is well ventilated</li><li>- Minimise transfer of fuel</li><li>- Correct storage of fuel</li></ul>
Ignition of fuel	<ul style="list-style-type: none"><li>- No flames, vaping or smoking in workshop</li><li>- Correct storage of fuel</li></ul>
TASK	
THREAT	CONTROL
Acute trauma, amputation or 💀 death 💀 to operator from accidental starting of the machine whilst performing maintenance	<ul style="list-style-type: none"><li>- Keys out of the machine and into operators pocket</li><li>- Operator awareness</li><li>- Communication</li></ul>
Crush injury or acute trauma to operator from dismantling machine to expose engine	<ul style="list-style-type: none"><li>- Follow manufacturers instructions</li><li>- Correct work positioning</li><li>- Operator awareness</li><li>- Wear appropriate gloves</li></ul>

**361 - 1: RISK ASSESSMENTS**

Cuts or other injury to operator from use of hand tools	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Right tool for the right job</li> <li>- Don't use excessive or uncontrolled force with hand tools</li> <li>- PPE</li> </ul>
Damage to machine from incorrect maintenance	<ul style="list-style-type: none"> <li>- Follow manufacturers guidance</li> <li>- Proper training</li> <li>- Right tool for the right job</li> <li>- Don't use excessive or uncontrolled force with hand tools</li> <li>- Do not cross thread bolts or nuts</li> </ul>
Loss of small, but critical parts of the machine during maintenance	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Use containers to store small parts</li> <li>- Good housekeeping</li> </ul>
Acute or chronic injury to the operator from use of compressed air.	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Communication</li> <li>- Eye protection, hearing protection and hand protection.</li> </ul>
Acute discomfort or chronic illness from exposure to carcinogenic substances ( <i>engine oil, hydraulic oil, coolant, diesel or petrol</i> )	<ul style="list-style-type: none"> <li>- Avoid skin contact</li> <li>- Well ventilated area</li> <li>- Eye protection, hearing protection and hand protection.</li> </ul>
Irreparable damage to flesh and organs from hydraulic injection.	<ul style="list-style-type: none"> <li>- Visual check for hydraulic leaks before other methods</li> <li>- Avoid direct contact with pressurised hydraulic lines</li> <li>- Use safe methods of diagnosis when fault finding hydraulics</li> <li>- Eye protection and hand protection when working on or next to hydraulic systems</li> </ul>
MACHINE	
THREAT	CONTROL
Injury or 💀 death 💀 caused by unfamiliarity with machine.	<ul style="list-style-type: none"> <li>- Follow manufacturers instructions</li> <li>- Read safety decal</li> <li>- Training</li> <li>- Operator awareness</li> <li>- PPE</li> </ul>

**361 - 1: RISK ASSESSMENTS**

Crush injury from incorrect manoeuvring.	<ul style="list-style-type: none"><li>- Follow manufacturers instructions</li><li>- PPE</li></ul>
Acute or chronic damage to operators hearing from noise	<ul style="list-style-type: none"><li>- Do not use in enclosed spaces</li><li>- Correctly rated ear protection (30snr+)</li></ul>
Acute or chronic damage to operator from fumes	<ul style="list-style-type: none"><li>- Do not use in enclosed spaces</li><li>- Ensure exhaust is working correctly</li><li>- Correct working position</li></ul>
Damage to the environment from leaking fuel, engine oil, hydraulic oil or coolant.	<ul style="list-style-type: none"><li>- Use dedicated fueling &amp; oil sites</li><li>- Correct maintenance</li><li>- Operator awareness</li><li>- Spill kits</li></ul>

## Wood Chipper Use

The assessment is based on the site being the arboretum or pinetum

SITE	
THREAT	CONTROL
Slips, trips and falls	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Communication</li><li>- Good housekeeping</li></ul>
Minor or major injury to third party through unauthorised access	<ul style="list-style-type: none"><li>- Signage and cordon off the area</li><li>- Banksman</li><li>- Operator awareness</li><li>- Communication</li></ul>
Sudden inclement weather creating unsafe working conditions.	<ul style="list-style-type: none"><li>- Check weather forecast for alerts at start of day</li><li>- Operator awareness</li><li>- Communication</li></ul>
Damage to the environment from spillage of fuel, engine oil, hydraulic oil or coolant.	<ul style="list-style-type: none"><li>- Correct maintenance</li><li>- Dedicated fueling site</li><li>- Use of spill mats</li><li>- Ensure caps are correctly tightened</li><li>- Operator awareness</li><li>- At least ten metres from watercourses</li><li>- Correct storage of fuel</li></ul>
Strike injury to operator from unseen deadwood or debris above the operator	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Communication</li><li>- Helmet</li></ul>
Damage to site ground layer and mechanical damage to trees from tracks	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Gentle, wide turns</li><li>- Avoid wet ground</li><li>- Use of matting in delicate areas</li></ul>
Transmission or transport of a bio-pathogen through the use of the chipper.	<ul style="list-style-type: none"><li>- Sanitise chipper before and after use</li><li>- If possible, do not chip infected material</li><li>- Do not remove infected chip from site</li></ul>

**361 - 1: RISK ASSESSMENTS**

TASK	
THREAT	CONTROL
Crush, mechanical amputation or 💀 death 💀 from being drawn into feed mechanism	<ul style="list-style-type: none"> <li>- Pre-use checks ensure emergency stops are working</li> <li>- Stand to the side of hopper when loading stuff</li> <li>- Wear non-snag outer clothing</li> <li>- Never put hands beyond the in-feed chute</li> <li>- Operator awareness</li> <li>- PPE</li> </ul>
Crush injury to hands or wrist from stuff being turned unexpectedly by feed roller	<ul style="list-style-type: none"> <li>- Do not hold onto stuff once it has entered feed roller</li> <li>- Never put hands beyond the in-feed chute</li> <li>- Operator awareness</li> <li>- PPE</li> </ul>
Strike injury to face or body from unexpected ejected material	<ul style="list-style-type: none"> <li>- Correct positioning at side of hopper</li> <li>- Understanding of timber characteristics</li> <li>- PPE</li> </ul>
Damage to trees, persons or property from wood chip ejection either from accidental loosening of chute or incorrect set up.	<ul style="list-style-type: none"> <li>- Ensure ejection chute is properly aimed before chipping</li> <li>- Ensure chute is properly secured</li> <li>- Operator awareness</li> <li>- Communication</li> </ul>
Risk to climbers from accidentally putting rope into the chipper	<ul style="list-style-type: none"> <li>- Keep all ropes zoned away from chipper</li> <li>- Good housekeeping</li> <li>- Operator awareness</li> <li>- Communication</li> </ul>
Damage to chipper blades from non-woody materials	<ul style="list-style-type: none"> <li>- Stage arisings on stone free staging area</li> <li>- Inspect all stuff for the chipper before chipping</li> <li>- If unsure, do not chip it.</li> </ul>
MACHINE	
THREAT	CONTROL
Acute or chronic damage to operators hearing from noise	<ul style="list-style-type: none"> <li>- Do not use in enclosed spaces</li> <li>- Correctly rated ear protection for wood chippers (30 snr+)</li> </ul>

**361 - 1: RISK ASSESSMENTS**

Acute or chronic damage to operator from fumes	<ul style="list-style-type: none"><li>- Do not use in enclosed spaces</li><li>- Ensure exhaust is working correctly</li></ul>
Damage to the environment from leaking fuel, coolant, engine oil or hydraulic oil.	<ul style="list-style-type: none"><li>- Ensure correct maintenance</li><li>- Operator awareness</li></ul>

## 3. The Stump Grinder

### Stump Grinder Maintenance

The assessment is based on the site being one of the arboriculture workshops.

SITE	
THREAT	CONTROL
Slips, trips and falls	<ul style="list-style-type: none"><li>- Operator awareness</li><li>- Communication</li><li>- Good housekeeping</li></ul>
Third party access	<ul style="list-style-type: none"><li>- Close doors</li><li>- Operator awareness</li><li>- Communication</li></ul>
Fumes from fuel	<ul style="list-style-type: none"><li>- Ensure the workshop is well ventilated</li><li>- Minimise transfer of fuel</li><li>- Correct storage of fuel</li></ul>
Ignition of fuel	<ul style="list-style-type: none"><li>- No flames, vaping or smoking in workshop</li><li>- Correct storage of fuel</li></ul>
TASK	
THREAT	CONTROL
Acute trauma, amputation or 💀 death 💀 to operator from accidental starting of the machine whilst performing maintenance	<ul style="list-style-type: none"><li>- Keys out of the machine and into operators pocket</li><li>- Operator awareness</li><li>- Communication</li><li>- PPE</li></ul>
Crush injury or acute trauma to operator from dismantling machine to expose engine	<ul style="list-style-type: none"><li>- Follow manufacturers instructions</li><li>- Correct work positioning</li><li>- Operator awareness</li><li>- Wear appropriate gloves</li></ul>

**361 - 1: RISK ASSESSMENTS**

Cuts or other injury to operator from use of hand tools	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Right tool for the right job</li> <li>- Don't use excessive or uncontrolled force</li> <li>- PPE</li> </ul>
Damage to machine from incorrect maintenance	<ul style="list-style-type: none"> <li>- Follow manufacturers guidance</li> <li>- Proper training</li> <li>- Right tool for the right job</li> <li>- Don't use excessive or uncontrolled force with hand tools</li> <li>- Do not cross thread bolts or nuts</li> </ul>
Loss of small, but critical parts of the machine during maintenance	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Use containers to store small parts</li> <li>- Good housekeeping</li> </ul>
Acute or chronic injury to the operator from use of compressed air.	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Communication</li> <li>- Eye protection, hearing protection and hand protection.</li> </ul>
Acute discomfort or chronic illness from exposure to carcinogenic substances ( <i>engine oil, hydraulic oil, coolant, diesel or petrol</i> )	<ul style="list-style-type: none"> <li>- Avoid skin contact</li> <li>- Well ventilated area</li> <li>- Eye protection, hearing protection and hand protection.</li> </ul>
Irreparable damage to flesh and organs from hydraulic injection.	<ul style="list-style-type: none"> <li>- Visual check for hydraulic leaks before other methods</li> <li>- Avoid direct contact with pressurised hydraulic lines</li> <li>- Use safe methods of diagnosis when fault finding hydraulics</li> <li>- Eye protection and hand protection when working on or next to hydraulic systems</li> </ul>
MACHINE	
THREAT	CONTROL
Injury or 💀 death 💀 caused by unfamiliarity with machine.	<ul style="list-style-type: none"> <li>- Follow manufacturers instructions</li> <li>- Read safety decal</li> <li>- Training</li> <li>- Operator awareness</li> <li>- PPE</li> </ul>



**361 - 1: RISK ASSESSMENTS**

Crush injury from incorrect manoeuvring.	- Follow manufacturers instructions
Acute or chronic damage to operators hearing from noise	- Do not use in enclosed spaces - Correctly rated ear protection
Acute or chronic damage to operator from fumes	- Do not use in enclosed spaces - Ensure exhaust is working correctly - Correct working position
Damage to the environment from leaking fuel, engine oil, hydraulic oil or coolant.	- Use dedicated fueling & oil sites - Correct maintenance - Operator awareness - Spill kits

## Stump Grinder Use

The assessment is based on the site being the arboretum or pinetum

SITE	
THREAT	CONTROL
Slips, trips and falls	- Operator awareness - Communication - Good housekeeping
Minor or major injury to third party through unauthorised access	- Signage and cordon off the area - Banksman - Operator awareness - Communication
Sudden inclement weather creating unsafe working conditions.	- Check weather forecast for alerts at start of day - Operator awareness - Communication

**361 - 1: RISK ASSESSMENTS**

Damage to the environment from spillage of fuel, engine oil, hydraulic oil or coolant.	<ul style="list-style-type: none"> <li>- Correct maintenance</li> <li>- Dedicated fueling site</li> <li>- Use of spill mats</li> <li>- Ensure caps are correctly tightened</li> <li>- Operator awareness</li> <li>- At least ten metres from watercourses</li> <li>- Correct storage of fuel</li> </ul>
Strike injury to operator from unseen deadwood or debris above the operator	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Communication</li> <li>- Helmet</li> </ul>
Damage to site ground layer and mechanical damage to trees from wheeled machine	<ul style="list-style-type: none"> <li>- Operator awareness</li> <li>- Gentle, wide turns</li> <li>- Avoid wet ground</li> <li>- Use of matting in delicate areas</li> </ul>
Transmission or transport of a bio-pathogen through the use of the grinder.	<ul style="list-style-type: none"> <li>- Sanitise grinder before and after use</li> <li>- If possible, do not grind infected stumps</li> </ul>
TASK	
THREAT	CONTROL
Mechanical amputation or destruction of bone and muscle tissue from contact with the flywheel.	<ul style="list-style-type: none"> <li>- Operator positioning</li> <li>- Training</li> <li>- Read operators manual</li> <li>- Operator awareness</li> <li>- PPE</li> </ul>
Damage to buried services and costly fixes.	<ul style="list-style-type: none"> <li>- Diligent inspection on site for services before</li> <li>- If in doubt dig area out by hand</li> <li>- Operator awareness</li> </ul>
Disturbance to burrowing wildlife	<ul style="list-style-type: none"> <li>- Inspection of the area before grinding</li> <li>- If in doubt dig area out by hand</li> <li>- Operator awareness</li> </ul>

**361 - 1: RISK ASSESSMENTS**

Damage to paving, concrete or other nearby hard surface

- Operator awareness
- Training

Damage to windows from flying debris

- Protective boarding
- Machine and operator positioning

**MACHINE****THREAT****CONTROL**

Acute or chronic damage to operators hearing from noise

- Do not use in enclosed spaces
- Correctly rated ear protection

Acute or chronic damage to operator from fumes

- Do not use in enclosed spaces
- Ensure exhaust is working correctly

Damage to the environment from leaking fuel, coolant, engine oil or hydraulic oil.

- Ensure correct maintenance
- Operator awareness