Health & Safety

for Schools Officers

Equipment & Machinery

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SAFE OPERATING PROCEDURES (SOPS) & EQUIPMENT MAINTENANCE RECORDS (EMRS) FOR SCHOOLS OFFICERS

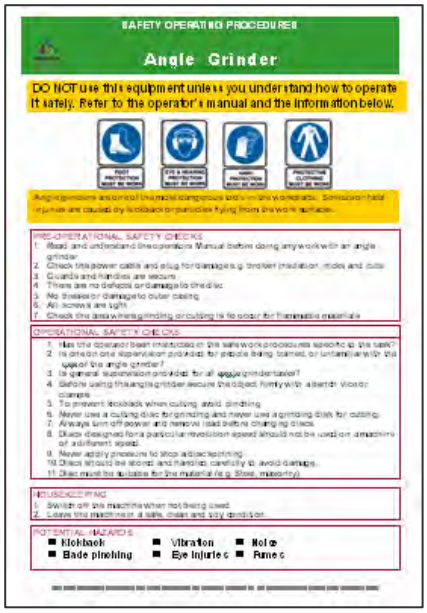
This fact sheet highlights the importance of **Safe Operating Procedures** (SOPs) and **Equipment Maintenance Records** (EMRs) for staff working within the role of Schools Officers (Grounds & Facilities) or other areas within the school where equipment is used. Procedures and processes have already been implemented for cleaning equipment. Enquires related to the use and maintenance of equipment should be directed to your Regional Health & Safety Consultant.

Why do we need SOPs & EMRs for each piece of equipment?

The *Workplace Health and Safety Act* 1995 outlines obligations to manage risks. These obligations extend to managing risks associated with equipment use in schools. The *Plant Code of Practice 2005* (part of the framework of health and safety legislation), provides more detailed information on how to address specific issues related to the use of equipment. Within the Code, aspects of record keeping are outlined which require documents such as SOPs and EMRs to be maintained and retained for the life of the equipment. SOPs and EMRs are important documents that are often requested by auditors and investigation officers in the event of a serious injury or incident involving the use of equipment.

Do I need to use these SOPs & EMRs?

The development of SOP & EMR documents is a time consuming task that can often be placed on the 'to do list - when we have time'. A number of schools may have already been down this path and have completed this process. These generic documents are **not** intended as a replacement for well-established documents and processes that some schools may already be using. However they are intended to provide baseline information for schools to review current processes or assist in developing new procedures.


SAFETY OPERATING PROCEDURE

Angle Grinder

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

OPERATIONAL SAFETY CHECKS

HOUSEKEEPING

POTENTIAL HAZARDS

- Kickback
- Blade pinching
- Vibration
- Eye injuries
- Noise
- Fumes

SOPs : safe operating procedures (see sample right) – these documents are provided in a word format. Select from the list at the following website: **http://education.qld.gov.au/health/safety/hazards/equip-resources.html**

EMRs : equipment maintenance reports (see samples below) – several pages are provided for each piece of equipment; a regular and end of semester checklist and a maintenance record form. Available at the following website: **http://education.qld.gov.au/health/safety/hazards/equip-resources.html**

Regular Equipment Checklist

End of Semester Checklist

Maintenance Record

Implementing your SOPs & EMRs

1. **Access** the generic SOP or EMR (word document) at the website link provided above.
2. **Review** content of documents – there are benefits in using a number of staff in this discussion or process.
3. **Edit** documents as required - changes may be necessary to reflect local circumstances.
4. **Print** documents – SOPs should be laminated, then signed and dated with permanent pen to indicate that the information reflects your school's situation. EMRs should be kept in a secure place and accessed as needed.
5. **Inform** all relevant staff in the use of these documents and develop processes for the on-going instruction of staff eg included in staff handbook for new and casual staff.
6. **Carry-out** checks as scheduled on checklists and record any maintenance to equipment as soon as possible after maintenance work in completed.

Using your EMRs

Many schools may have already developed forms and procedures for managing equipment and machinery. As stated above, the EMRs provided should not be considered as a mandatory system but as a baseline of information for the establishment or review of your school system. The use of these documents also provides a standardised system that will benefit new, relocated and relieving staff throughout the state.

The timelines provided in the generic checklists could be altered to suit local circumstances at your school. It is important that visual checks be undertaken prior to the use of a piece of equipment. The checklists provided **do not** replace the need for this visual check before every use of the equipment.

Reviewing your SOPs and EMRs

Review the SOPs at regular intervals (eg yearly) or when circumstances involving that piece of equipment changes. When needed, wording should be modified to reflect any changed circumstances. After this review process SOPs should be re-signed and dated to indicate a review process has occurred. This will maintain your documents as active and useful resources in your school.

It is also important to review EMRs to ensure that checks are carried-out as per the scheduled timeframes and that maintenance work is documented. The ability to show that SOPs and EMRs are maintained and reviewed regularly provide evidence of your compliance with obligations under Workplace Health and Safety legislation.

More Information

Creating Healthier Workplaces – Health and Safety:
http://education.qld.gov.au/health/safety/index.html

Workplace Health and Safety Act 1995 - Plant Code of Practice 2005 :
http://www.dir.qld.gov.au/workplace/law/codes/plant/index.htm

South Australian Department of Education – Machinery Resources :
http://www.decs.sa.gov.au/ohsw/ (select '*Machine Guarding'* from left side menu)

Education Queensland – Safety Alerts (angle grinder, router, chainsaw) :
http://education.qld.gov.au/health/safety/alerts.html

Contact the Organisational Health Unit – Health and Safety Team :
http://education.qld.gov.au/health/contacts/hscontacts.html

SAFETY OPERATING PROCEDURES

Angle Grinder

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

Angle grinders are one of the most dangerous tools in the workplace. Serious or fatal injuries are caused by kickback or particles flying from the work surfaces.

PRE-OPERATIONAL SAFETY CHECKS

1. Read and understand the operators Manual before doing any work with an angle grinder
2. Check the power cable and plug for damage e.g. broken insulation, nicks and cuts.
3. Guards and handles are secure
4. There are no defects or damage to the disc
5. No breaks or damage to outer casing
6. All screws are tight
7. Check the area for flammable materials where grinding or cutting is to occur

OPERATIONAL SAFETY CHECKS

1. Has the operator been instructed in the safe work procedures specific to the task?
2. Is one on one supervision provided for people being trained, or unfamiliar with the use of the angle grinder?
3. Is general supervision provided for all angle grinder tasks?
4. Before using the angle grinder secure the object firmly with a bench vice or clamps.
5. To prevent kickback avoid pinching of the material when cutting.
6. Never use a cutting disc for grinding and never use a grinding disk for cutting.
7. Always turn off power and remove lead before changing discs.
8. Discs designed for a particular revolution speed should not be used on a machine of a different speed.
9. Never apply pressure to stop a disc spinning.
10. Discs should be stored and handled carefully to avoid damage.
11. Disc must be suitable for the material (e.g. Steel, masonry)

HOUSEKEEPING

1. Switch off the machine when not being used.
2. Leave the machine in a safe, clean and tidy condition.

POTENTIAL HAZARDS

- Kickback
- Vibration
- Noise
- Blade pinching
- Eye injuries
- Fumes

SAFETY OPERATING PROCEDURES

Brush-Cutter & Line-Trimmer

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

1. Check unit for loose/missing nuts, bolts and screws. Tighten and/or replace as needed.
2. Inspect fuel lines, tank, and area around carburetor for fuel leaks. Do not operate unit if leaks are found.
3. Ensure that all guards are fitted, secure and functional.
4. Ensure the blade unit has a debris shield, has either a bar handle or a U-handle, and is suspended from a shoulder harness.
5. Select the correct cutting tool for the task to be undertaken - refer to manufacturer's specification.
6. Load the nylon line cutting head only with nylon trimmer line of the proper diameter.
7. Do not operate if the line cutter is missing.
8. Before operating unit, thoroughly inspect blades for damage and cracks.
9. When operating the unit with a blade, ensure the blade is attached to the unit as designed, such as with a locknut and cotter pin, and with the teeth pointing in the direction the blade head rotates.
10. Faulty equipment must not be used. Report suspect machinery immediately.

OPERATIONAL SAFETY CHECKS

1. Watch especially for ejected material and ensure that no person or animal is endangered when operating.
2. Adjust the handle/s to a position for comfort and good balance.
3. When starting, ensure the machine is in a clear area so the line or blade cannot contact the ground or any other obstruction.
4. The muffler side of the engine should be away from your body to avoid burns.
5. Maintain footing and balance at all times. Do not work on slippery, uneven or unstable surfaces.
6. Maintain a straight wrist position Avoid using your wrist in a bent, extended or twisted position for extended periods.
7. Always keep both hands on the control handles. Do not operate one-handed.
8. Do not raise the line or blade head above knee height.
9. Keep machine clear of fences, wires, posts, rocks, etc. to prevent kick out and cutter head damage.
10. Shut down immediately if the unit starts to shake or vibrate.
11. After shutting down the engine, keep fingers and feet away from the cutting line or blade until all rotation stops.
12. Disconnect spark plug wire before you work on the unit or leave it unattended.
13. Take extreme caution when refuelling to avoid igniting fuel on hot exhaust or engine.

HOUSEKEEPING

1. Remove any foreign material from engine, cutting tool and guards.
2. Keep the work area and implement shed in a clean and tidy condition.

POTENTIAL HAZARDS

■ The blade can push, pull or kick out. ■ Noise ■ Ejected materials ■ Entanglement

SAFETY OPERATING PROCEDURES

Chainsaw

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

Prior to chainsaw use –

Operators of chainsaws should be able to provide evidence to their supervisor of their skills and knowledge in safe chainsaw use.

Examples of this could include:

- **Job experience**
- **Formal course/training**

Completing a specific course is a clear method to demonstrate to your supervisor that you have undertaken recognised training and completed practical tasks and competencies in the safe operation of a chainsaw.

PRE-OPERATIONAL SAFETY CHECKS

1. **Ensure all safety devices, guards, switches, and shields are fitted, secure and functional. Read and understand the Operators Manual before doing any work with a chainsaw**
2. **Ensure the machine is clean to facilitate detection of loose, worn or defective parts and other safety hazards.**
3. **Thoroughly inspect the chainsaw before each use e.g. damaged blade, defective chain, chain tension, fluid levels etc.**
4. **Inspect fuel lines, tank, and area around carburettor for fuel leaks. Do not operate unit if leaks are found.**
5. **Faulty equipment must not be used. Report suspect machinery immediately.**
6. **Check the effectiveness of chain brakes and operating controls.**
7. **Ensure safety guards and other safety devices are fitted, secure and functioning.**
8. **Check condition of the anti-vibration mountings of the handles.**
9. **Ensure chain is sharp and correctly tensioned**

SAFETY OPERATING PROCEDURES

Chainsaw

OPERATIONAL SAFETY CHECKS

1. Always use both hands when starting a chainsaw.
2. Never drop start a chainsaw
3. Always start the chainsaw on the ground.
   - Ensure no obstructions are present particularly near the tip of the guide bar.
   - Place the right foot through the rear handle and place the left hand on the front handle.
   - Operate the starter with the right hand
   - Maintain a proper balance and secure footing when operating the chainsaw
   - Keep a firm grip on the chainsaw with both hands, with the thumb of the hand holding the front handle wrapped around the handle.
4. Start the cut with the saw chain rotating at full speed and the spiked bumper in contact with the wood.
5. Be aware of the guidebar nose at all times when the saw chain is in motion.
6. Pay full attention to the operation and be alert for movement of the material being cut.
7. Be alert to situations that may cause material to pinch the top of the saw chain.
8. Apply chainbrake when saw is at rest.
9. Never force a chainsaw through a cut. (If it is properly sharpened and adjusted it will cut. Keep in mind that the hardness of the wood will have a major effect on how fast it cuts)

OTHER SAFETY INFORMATION

1. Be watchful for blade pinching situations and plan accordingly. Cut at the base of the blade. Do not saw with the tip of the blade.
2. Use high chain speed when reinserting or leaving a cut.
3. Keep saw teeth sharp so they will cut, dull teeth are more likely to cause a kickback.
4. Always cut below shoulder height, otherwise the saw is difficult to control and is close to your face.
5. To avoid serious injury never cut with the saw between your legs, always cut with the saw to the outside of your legs.
6. Never stand on a log and saw between your feet.
7. Always stand to one side of the limb you are to cut never straddle it.
8. Always have a planed escape route.
9. Never leave the leave the chainsaw running with the chain break disengaged and unattended.

HOUSEKEEPING

1. Switch off the machine when not being used.
2. Leave the machine in a safe, clean and tidy state.
3. Store fuel safely
4. Avoid the accumulation of debris around the job
5. Allow a hot chainsaw to cool before refilling the fuel tank.

POTENTIAL HAZARDS

- Kickback
- Vibration
- Noise
- Blade pinching
- Eye injuries

FORBIDDEN

- Children should never operate a chainsaw.
- Never use a chainsaw while affected by alcohol or drugs.

SAFETY OPERATING PROCEDURES

Chipper - Shredder

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

1. Check all bolts and screws for proper tightness to ensure the machine is in safe working condition.
2. Ensure all guards are fitted, secure attached and functional.
3. Never operate without the shredder hopper, chipper chute, or discharge chute properly attached to the machine.
4. Be familiar with all controls and their proper operation.
5. Faulty equipment must not be used. Report suspect machinery immediately.

OPERATIONAL SAFETY CHECKS

1. Do not operate this machine on a paved, gravel or uneven surface.
2. Never run an engine indoors or in a poorly ventilated area.
3. Know how to stop the machine and disengage it quickly.
4. Before starting the machine, make sure the chipper chute, feed intake, and cutting chamber are empty and free of all debris.
5. Keep bystanders well clear from the machine while it is in operation.
6. Do not attempt to shred or chip material larger than specified on the machine or in manual.
7. Do not put hands and feet near rotating parts or in the feeding chambers and discharge opening.
8. If it becomes necessary to push material through the shredder hopper, use a small diameter stick. Do not use your hands or feet.
9. Do not allow an accumulation of processed material to build up in the discharge area.
10. If the impeller strikes a foreign object or if the machine should start making an unusual noise or vibration, immediately shut the engine off. Inspect for damage and make repairs as necessary.
11. Never attempt to unclog either the feed intake or discharge opening, or inspect and repair the machine while the engine is running.
12. Before cleaning, repairing, or inspecting, stop the engine and make certain the impeller and all moving parts have stopped. Disconnect the spark plug wire and ground it against the engine to prevent unintended starting.
13. Never remove fuel cap or add fuel while the engine is hot or running. Allow engine to cool at least two minutes before refueling.

HOUSEKEEPING

1. Allow machine to cool.
2. Clean away any foreign material, debris from in and around the motor, blades and guards.
3. Keep the work area and implement shed in a clean and tidy condition.

POTENTIAL HAZARDS

- Rotating cutting blades
- Eye injuries
- Noise
- Kickback
- Entanglement
- Flying debris

SAFETY OPERATING PROCEDURES

Pedestal / Bench Grinder

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

Grinders are one of the most dangerous tools in the workplace. Serious or fatal injuries are caused by a shattering grinding wheel or particles flying from the work surfaces.

PRE-OPERATIONAL SAFETY CHECKS

1. Check workspaces and walkways to ensure no slip/trip hazards are present.
2. Ensure all guards and safety shields are in position before starting the grinder.
3. Ensure that the wheels do not touch the work rest and that the gap between wheel and rest is no greater than 1.5mm.
4. Check that wheels are running true and are not glazed or loaded.
5. Locate and ensure you are familiar with the operation of the ON/OFF starter.
6. Faulty equipment must not be used. Immediately report any suspect machinery.

OPERATIONAL SAFETY CHECKS

1. Stand to the side of the wheels when starting up.
2. Let the wheels gain maximum speed before starting to grind.
3. Do not grind on the side of the wheel.
4. Small objects must not be held by hand.
5. Never leave the machine running unattended.
6. Do not bend down near the machine whilst it is running.
7. Never force the work piece against a wheel.
8. Slowly move the work piece across the face of the wheel in a uniform manner.
9. If coolant is used ensure any spilt on the floor should be immediately absorbed.

HOUSEKEEPING

1. Switch off the machine when not being used.
2. Leave the machine in a safe, clean and tidy condition.

POTENTIAL HAZARDS

- Hot Metal
- Sparks
- Noise
- Sharp edges and burrs
- Entanglement
- Wheels 'run on' after switching off
- Eye injuries

FORBIDDEN

- Work piece must never be held with gloves, cloth, apron or pliers
- Grinding non-ferrous metals

SAFETY OPERATING PROCEDURES

Power Blower – Petrol Operated

DO NOT use this equipment unless you understand how to operate it safely.
Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

1. Check unit for loose/missing nuts, bolts and screws. Tighten and/or replace as needed.
2. Inspect fuel lines, tank, and area around carburetor for fuel leaks. Do not operate machine if leaks are found.
3. Do not use any attachment or accessory unless it is recommended in the Operator's Manual.
4. Ensure that all guards are fitted, secure and functional.
5. Faulty equipment must not be used. Report suspect machinery immediately.

OPERATIONAL SAFETY CHECKS

1. Ensure that no person or animal is endangered when operating equipment.
2. When starting stand the machine upright on a level surface. Check that blower pipe is not blocked by the ground or by any objects.
3. Allow the machine to warm up at fast idle for a few minutes before using.
4. Keep a firm grip. Hold handle with fingers together encircling handle.
5. Maintain a straight wrist position. Avoid using your wrist in a bent, extended or twisted position.
6. The muffler side of the engine should be away from your body to avoid burns.
7. Maintain footing and balance at all times. Do not work on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders.
8. Never use a higher speed setting then necessary to perform a task.
9. Do not direct the blower in the direction of other people.
10. Take wind conditions into account. Avoid open doors and windows.
11. Minimize dust by using blower at lower speeds.
12. Always keep exhaust area clear of flammable debris.
13. Disconnect spark plug wire before you work on the unit or leave it unattended.
14. Allow the engine and muffler to completely cool before performing any maintenance activity.
15. Do not refuel a hot engine.

HOUSEKEEPING

1. Remove any foreign material from engine, air intake and guards.
2. Keep the work area and implement shed in a clean and tidy condition.

POTENTIAL HAZARDS

- Noise
- Flying debris
- Dust
- Vibration
- Burns from exhaust

SAFETY OPERATING PROCEDURES

Ride On Mower

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

1. Ensure all safety devices, guards, switches, and shields are fitted, secure and functional.
2. Ensure that seat belt, if fitted, is in sound condition.
3. Ensure cutting blades are secure and in good condition.
4. Ensure that any pneumatic and hydraulic mechanisms are in sound condition.
5. Ensure that all electrical switches (including dead mans switch if fitted) are functioning.
6. Faulty equipment must not be used. Report suspect machinery immediately.

OPERATIONAL SAFETY CHECKS

1. Never carry passengers.
2. Be sure the transmission is out of gear and the mower blade clutch disengaged before starting.
3. Keep clear of moving machine parts.
4. Drive at speed slow enough to keep control over unexpected hazards.
5. Travel up/down slopes rather than across taking extra care when ascending/descending steep slopes.
6. Take extreme caution when refuelling to prevent spilling fuel onto hot engine or exhaust.
7. Before making adjustments bring the machine to a complete standstill and isolate.
8. Be aware of the potential for ejected material and ensure that no person or animal is endangered when operating the equipment.

STOPPING THE RIDE ON MOWER

1. Park on even ground.
2. Stop the ride on mower and shift the gear selector to park position.
3. Raise and secure the cutting blades.
4. Lock the parking brake.
5. Stop the engine and remove the keys.

HOUSEKEEPING

1. Clean away any foreign material and debris from in and around engine and catcher parts.
2. Keep the work area or implement shed in a clean and tidy condition.

POTENTIAL HAZARDS

- Rapidly rotating cutting blades
- Eye injuries
- Noise
- Ejected material and flying debris

SAFETY OPERATING PROCEDURES

Slasher -Tractor Operated

DO NOT use this equipment unless you understand how to operate it safely. Refer to the operator's manual and the information below.

PRE-OPERATIONAL SAFETY CHECKS

1. Operate only with Roll Over Protection Structure (ROPS) and seatbelt equipped tractors.
2. Ensure that all guards are fitted, secure and functional.
3. Ensure that the 3-point linkage, securing pinions and safety chains are in sound condition.
4. Ensure that the blades and fasteners are in sound condition.
5. Ensure that hydraulic rams, hoses and couplings are in sound condition.
6. Ensure that the rotary slasher is attached according to manufacturer's specification.
7. Faulty equipment must not be used. Report suspect machinery immediately.

OPERATIONAL SAFETY CHECKS

1. Keep clear of moving machine parts.
2. Allow no passengers on tractor or rotary slasher.
3. Do not use rotary cutter with bystanders in area.
4. Be sure the transmission is out of gear and the mower blade clutch disengaged before starting the engine.
5. Allow moving parts on rotary slasher to stop before repair.
6. Securely support the mower before working underneath. Chock tractor wheels.
7. Lock up raised wings (where fitted) before transport.
8. Do not cut with raised wings (where fitted) in raised or transport position.
9. Before dismounting the tractor:
   - Lower rotary cutter to ground and allow moving parts to stop.
   - Stop engine and set brake.
   - Remove key for unattended equipment.

HOUSEKEEPING

1. Remove any foreign material from blades, fasteners, guards and hydraulic rams.
2. Keep the work area and implement shed in a clean and tidy condition.

POTENTIAL HAZARDS

■ Rapidly rotating blades ■ Eye injuries ■ Flying debris ■ Noise