



THE UNIVERSITY OF SYDNEY



# Farm Workshop Safety

## A Practical Guide



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Title: Health and Safety in the Farm Workshop - A practical guide

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ISBN:

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Published in February 2005

Revised October 2014

This Practical Guide is a product of the Farm Machinery Safety Project, a program of Farmsafe Australia, with funding from the Commonwealth Department of Health and Ageing.

## CONTENTS

	Page
Health and Safety in the Farm Workshop - A practical guide	
1. Introduction	2
1.1 This publication - Its purpose	2
1.2 Health and safety problems in the farm workshop	2
1.3 Legal obligations of the people who work in farm workshops	2
	4
Finding and fixing safety problems in the farm workshop	
Hazards, risk and risk controls in the farm workshop	6
3.1 Farm workshop design for safety	7
3.2 Traffic flow, and access to work	7
3.3 Operator skill	8
3.4 The workshop work environment	9
3.5 Welding	15
3.6 Oxyacetylene welding and cutting	17
3.7 Grinding with a bench grinder or angle grinder	19
3.8 Using hoists	20
3.9 Power tools, hand tools and air powered tools	21
3.10 Battery charging	23
3.11 Tyre changing	24
3.12 Portable ladders	25
Residual Current Devices - Frequently asked questions	27
Personal Protective Equipment - Frequently asked questions	29
Signs for the Farm Workshop - Frequently asked questions	34
Further information and useful contacts	37
Workshop Safety Checklist	37

# **1. Introduction**

## **1.1 This publication - Its purpose**

This publication aims to provide practical guidelines to improve and ensure the safety of those who work in farm workshops and those who are in areas where fabrication, machinery service, maintenance and repair are done.

Information on the hazards and risks associated with working in farm workshops is described. Practical guidance on how to implement effective Work Health and Safety (WHS) controls to reduce risk and assist farmers to meet WHS regulatory requirements and improve productivity are also outlined.

The publication has been prepared under the direction of Farmsafe Australia's National Farm Machinery Safety Reference Group, comprising representatives from industry, Work Health and Safety Authorities, injury research centres, farmers and manufacturers.

## **1.2 Health and safety problems in the workshop**

People working in the farm workshop are exposed to risk of injury and illness associated with a range of hazards. Up to 20% of farm injuries presenting to hospital Emergency Departments are caused by farm maintenance work. More than 30% of these are eye injuries and a further 30% involve hand injuries.

Hazards associated with work in the farm workshop include:

- Poor workshop design and layout
- Electricity
- Arc welding
- Oxyacetylene welding and cutting
- Grinding
- Using power hoists
- Using power and hand tools
- Battery charging
- Tyre changing
- Working under raised equipment

The types of injury range from death, serious injury requiring hospitalization and down time, to "nuisance" injury that stops work for a short time, or makes work slower and reduces productivity.

## **1.3 Legal obligations of the people in agriculture production enterprises**

WHS laws are similar in all states in that they lay down the responsibilities of key parties involved in reducing risk of injury and illness associated with work.

Responsibilities of *employers* or PCBU include:

- Consultation with workers to implement farm WHS programs
- Providing a safe work place
- Organisation of safe systems of work
- Maintaining work areas, machinery and equipment in a safe condition
- Ensuring safe use, handling, storage and transport of plant and hazardous chemicals
- Assessing health and safety risks to employees (workers), contractors and others in the workplace, and instituting effective risk control measures
- Providing safety information, induction, instruction, training and supervising workers, and
- Providing facilities (toilets, meal rooms, First Aid) for the welfare of workers

*Workers (employees and contractors)* also have responsibilities. Workers must take reasonable care of the health and safety of themselves and others, and cooperate with management in their efforts to comply with WHS requirements.

*Employers and self-employed persons* (PCBU) must ensure the health and safety of people visiting or working at their places of work, who are not their employees, by not exposing them to risk - this includes contractors.

*Manufacturers, designers and suppliers* of plant and substances for use by people at work must make sure that they are safe and without risks to health when properly used. They must also supply adequate information to ensure safe use.

Each of these WHS obligations must be met in all agricultural industries and on each individual enterprise.

## **2. Finding and fixing safety issues in the workshop**

The key processes (or steps) that must be set in place to manage WHS risk are:

**Step 1: Consulting with workers** - there must be ways for workers to actively participate in the farm business WHS program. Information should be shared with workers and they should be given the opportunity to express their views and these views should be taken into consideration prior to decisions being made.

How farm owners and managers consult with workers will be different on different farms and may include:

- Regular meetings where safety issues are discussed e.g. toolbox talks
- More formal arrangements where a safety representative(s) is/are nominated to have specific responsibility for liaison between workers and those managing farming operations.

Whatever system is in use, it is essential that there is a clear commitment to safety by the owner (PCBU) and manager and that this is obvious by the attitude, behaviour and activity of everyone on the farm on a daily basis.

**Step 2: Identifying hazards** - safety hazards must be identified systematically. This means that farm owners, managers and workers must identify machinery, jobs and situations on the farm that may cause injury or illness not only to people doing the work, but also to contractors, visitors and bystanders.

Identifying hazards should be an ongoing activity and be carried out:

- At least annually
- When systems are changed - new equipment, changed facilities, changed work practices

All workers should be actively encouraged to report anything that could be considered hazardous to health and safety - any unsafe condition, or unsafe task needs to be identified and action taken to make it safe.

**Step 3: Assessing risk** - risks associated with safety hazards must be assessed

Risk associated with each hazard must be assessed in terms of the severity of the potential harm that could occur, and the likelihood that such harm could occur - generally the risk is greater if workers are frequently exposed to the hazard.

**Step 4: Control risk using the hierarchy of control approach** - risks must be controlled to prevent injury. A plan of action must be developed which outlines how the risk of injury or illness from the hazard will be minimised. To decide how the risk will be controlled, consider each of the options (Points 1 - 5) below for every hazard. A combination of these options should also be considered.

The hierarchy, or order of effectiveness, is as follows:

### **1. Eliminating the Hazard**

Where reasonably practicable, hazards must be eliminated, or removed from the workplace. This is obviously the most effective way to reduce risk. While it is often not possible to eliminate a hazard, WHS regulations require PCBUs to use this option where there is a known solution. If it is not possible, then the next most effective solution should be sought and put in place (see Point 2 below).

### **2. Substituting for a Hazard of lesser risk**

Where it is not possible to eliminate a hazard altogether, consider whether the hazard can be substituted for something that will do the same job, but is less hazardous.

### **3. Isolation of Hazard from workers and other engineering controls**

If the hazard cannot be substituted, consider whether it is possible and practicable to improve the design of equipment and/or isolate the worker from the hazard e.g. machinery

guarding. This is the method of many of the safety improvements that should be put in place in the workshop to reduce risk of injury as well as to be compliant with WHS regulations.

#### **4. Administrative Controls**

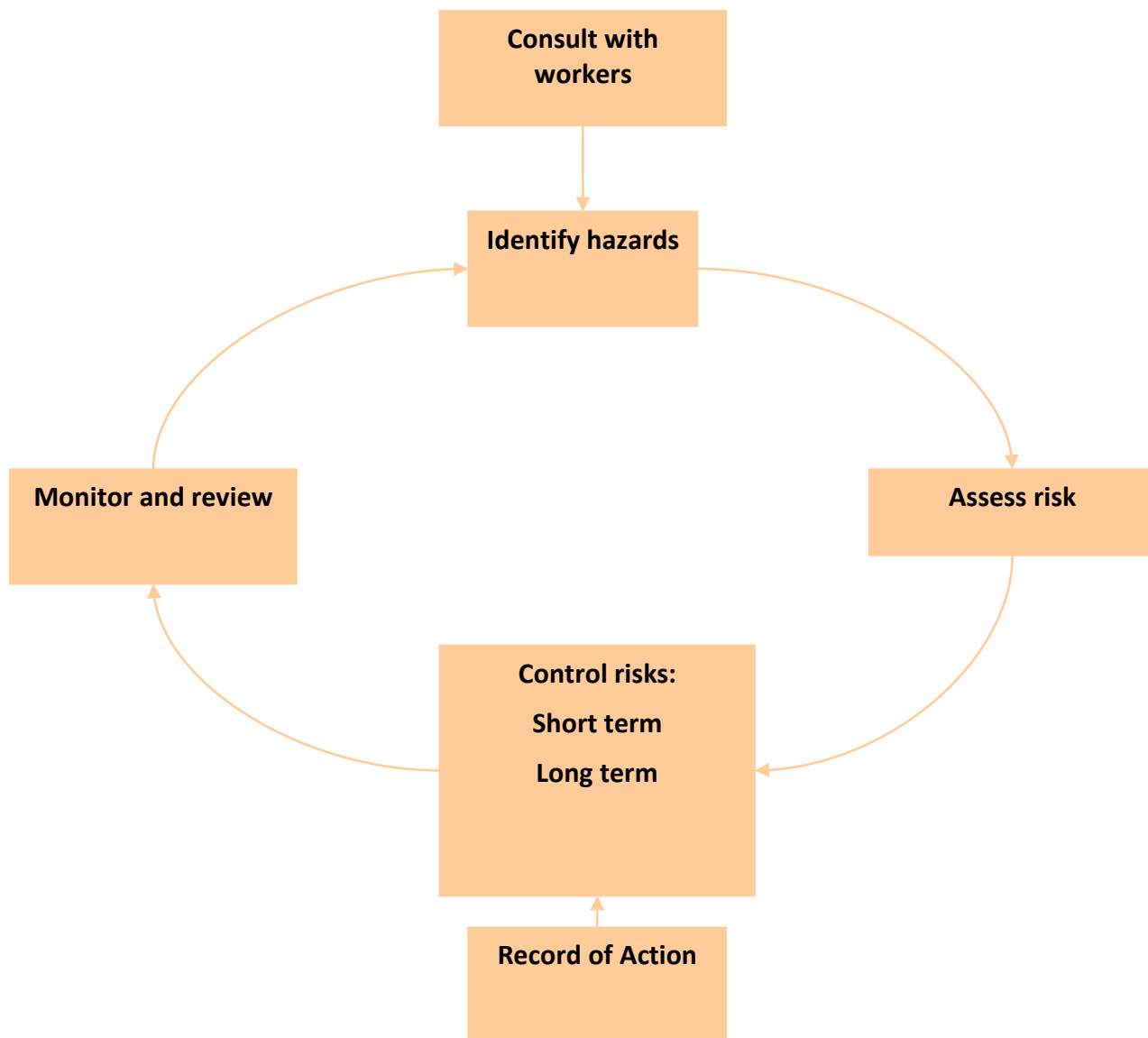
Administrative controls include safe operating procedures or rules, organising work in such a way that reduces risk, giving safety induction and training to workers, supervising unskilled workers and providing information to workers about the safety risks associated with work on the farm and how these risks can be minimised.

#### **5. Personal Protective Equipment**

Personal Protective Equipment (PPE) must be provided and used where workers cannot be protected from a hazard by a control measure higher up the order (Points 1 - 4). This includes providing eye and hearing protection to protect workers and bystanders in the workshop from injury.

The guidelines provided in this document suggest the use of higher order controls in the first instance (Points 1 - 3 above), with the lower order, less effective controls that depend on individual behaviour, further down the list (Points 4 - 5 above). In practice, the best WHS risk management, requires a mix of controls for high risk hazards.

**Step 5: Keep Records** - records of the risk management process, Step 1 to Step 4, must be kept. The checklist at the end of this guide will provide a starting point for risk management in the workshop and a template for keeping records. These are not steps to be taken on a once-off basis. The process would be better illustrated this way:






### 3. Hazards, risk and risk controls

This section gives practical examples of how the principles outlined in Section 2 (Finding and fixing safety issues in the workshop) can be put into practice.

#### 3.1 Farm workshops - design for safety

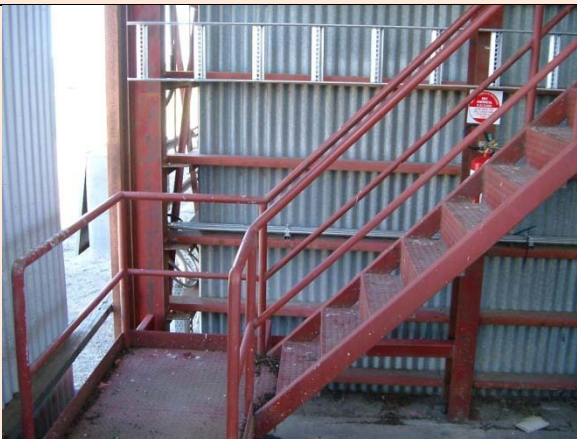
One of the most important issues to consider for safety in and around the farm workshop is the overall plan and layout of the various sections in relation to each other. A smooth flow of work, machinery and equipment is not only efficient, but is generally safer for workers, contractors and other bystanders.

Hazards and Risks	Risk Controls
<p>Poor design and layout poses risk of injury and chronic medical conditions associated with unnecessary handling of equipment, exposure to dust and noise, and the risk of collision with plant and people.</p>	<p>Review the design and layout of the workshop, taking into account the flow of work and machinery.</p> <p>Consult with workers to identify potential hazards and improvements that could be made to workshop layout.</p>
	
<i>Workshop with unobstructed access</i>	

#### 3.2 Traffic flow, and access to work

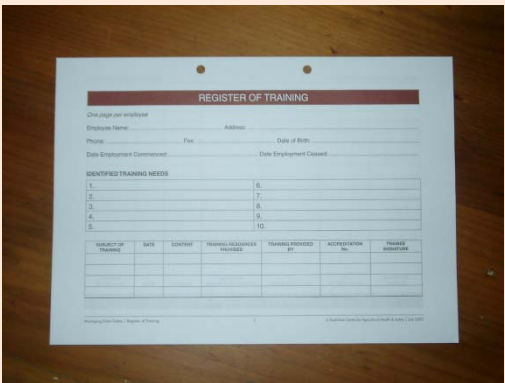
The safety of people should be ensured in planning and organising traffic flow in and around the workshop.

Hazards and Risks	Risk Controls
<p>Workers and visitors to the workshop are at risk of injury if access to the workplace is cluttered, if stairways and walkways are in an unsafe condition, and if there is risk of collision with traffic or other people.</p>	<p>Access to the workshop for all workers and visitors should be clearly defined and separated from vehicular traffic.</p> <p>Machinery and other items that reduce visibility should be located away from doorways, corners and other high traffic areas.</p> <p>Workshop floors should be kept clear of slip</p>

Hazards and Risks	Risk Controls
 <p><i>Well constructed stairs with a handrail</i></p>	<p>and trip hazards.</p> <p>Hazardous conditions or locations should be sign-posted.</p> <p>Provide wide steps with a non-slip surface when access is required.</p> <p>Provide a handrail around all platforms where there is a risk of falling, use the Australian Standard <i>AS 1657:2013 - Fixed platforms, walkways, stairways and ladders - Design, construction and installation</i> as a guide.</p> <p>Provide a handrail on all steps higher than 1 metre.</p>
<p>Visitors and children in the workshop may be at risk of injury due to their lack of knowledge or awareness about the hazards that exist</p>	<p>Farm family rules that restrict access of children except under close adult supervision should be enforced by family and workers.</p> <p>Direct all visitors to a safe area with clearly marked signs.</p>

### 3.3 Operator skills

It is a requirement under the WHS legislation that PCBU's provide all workers (employees and contractors) with adequate safety information, induction, instruction, training and supervision.

Hazards and Risks	Risk Controls
<p>People who are unskilled in the work process and unaware of the safety risks, are at a higher risk of injury and illness in the workplace. They can also place others in the workshop at a higher risk of injury.</p>  <p><i>Training Register</i></p>	<p>All workers must undertake safety induction which includes:</p> <p>Information regarding the risks associated with various processes undertaken and equipment used, in the workshop.</p> <p>Specific rules that have been developed to minimise the risk of injury and illness.</p> <p>How to report hazards they identify in the workshop.</p> <p>That they are competent to perform the work required of them.</p> <p>Provision of specific information, instruction, training and supervision to all workers. Keep a record of training and assessment of workers.</p>

### 3.4 The workshop work environment

There are specific hazards in many workshops that commonly pose a risk of injury or illness. These risks must be eliminated or controlled to ensure the health and safety of workers and to comply with WHS regulations.

Hazards and Risks	Risk Controls
<b>Temperature</b>  Excessive heat in the workshop may put workers at risk of heat exhaustion and decrease the likelihood of workers wearing protective equipment.  Excessive cold in the workshop can make existing medical conditions worse e.g. arthritis. It may also increase the risk of injury from the wearing of excessive clothing which restricts range of movement.	  Reduce heat in the workshop by installing vents and/or windows for cross ventilation, using fans or painting the roof white to reflect the heat.  Encourage workers to wear light, cool clothing - this should not be at the expense of personal protective equipment that is required for the job being done.  Ensure workers take frequent breaks when working in hot conditions and re-schedule work to avoid working in the workshop in the hottest part of the day if possible.  Reduce excessive cold by stopping draughts and providing heating.
<b>Light</b>  Poor lighting increases the risk of collision when moving from bright sunlight into a dark workshop.  Poor lighting may increase the risk of slips, trips and falls, plus errors in work.  Flickering lighting may effect concentration and lead to medical conditions such as headache.	  Ensure lighting is adequate by providing lighting over benches and other key work areas.  Provide portable lighting for work on machinery.   <i>A well-lit workshop</i>

Hazards and Risks	Risk Controls
<p><b>Noise</b></p> <p>Noise is a common hazard in farm workshops posing risk of permanent hearing loss and tinnitus (ringing in the ears), for workers.</p> <p>Damaging noise levels are generated by operation of machinery and equipment including portable welders, air compressors and power tools.</p> <p>Noise is increased if music is played.</p> <p>A rule of thumb is that if you have to raise your voice to be heard by a person about one metre away, then the noise level exceeds the safe level.</p> <p>To properly assess risk, noise levels at work stations should be measured. Maximum noise exposure that is permitted by WHS Regulations is 85 dB<sub>A</sub> for 8 hours per day. Many smart phones now have a reasonably accurate noise meter, which can provide a general indication of noise levels.</p> <p>NB - With each 3dB<sub>A</sub> increase in noise level, there is a doubling of the intensity of the noise, so the exposure time has to be halved. Therefore, if the noise level is 88dB<sub>A</sub> the maximum exposure limit is 4 hours.</p>  <p><i>Australian Standard approved ear muffs</i></p>	<p>Eliminating the noise hazard is generally not practical for farm workshops where mechanical tools are in use in fabrication and in maintaining, servicing and repairing machinery and equipment.</p> <p>When choosing new equipment or machinery, consider the noise it produces and find out if less noisy equipment is available. Sometimes mufflers or similar add-ons such as noise covers that reduce noise are available.</p> <p>Where possible locate noisy equipment such as generators and air compressors, away from the main work area.</p> <p>Noise may also be reduced by:</p> <ul style="list-style-type: none"> <li>• Fitting sound absorbing materials to ceilings and walls</li> <li>• Improving exhaust systems</li> <li>• Installing noise dampers</li> <li>• Placing noisy equipment at the front or opening of the workshop so noise dissipates and does not reverberate.</li> <li>• Proper maintenance and repair of machinery and equipment</li> </ul> <p>Providing and wearing suitable earmuffs or ear plugs is necessary where noise levels cannot be reduced below acceptable levels.</p>

## Hazards and Risks

## Risk Controls

### Electricity

Electrocution from the movement of machinery and equipment under overhead powerlines is a major risk.

Where powerlines pose a risk of contact with vehicles, machinery and equipment (e.g. workshops, silos, livestock loading ramps, irrigation pipes etc), these should ideally be underground or relocated (if possible).

Overhead and underground powerlines should be clearly identified.



Many electrical incidents are caused by faulty wiring and electrical installation.

Overloaded installations also cause problems - with too many appliances on the one circuit or when heavy duty equipment is used on a circuit not designed to supply the required electricity.

Electrocution is more likely to occur when:

- Fixed wiring, electrical cords or equipment has been installed, altered or repaired by anyone other than a registered electrician
- Damaged equipment, extension leads, wiring or fittings are used
- There are unprotected wires near plugs
- Too many appliances are used at once, overloading circuits

The risk of electric shock and electrocution can be eliminated by the use of air powered tools when possible.

A Residual Current Device (RCD) must be installed at the fuse box to provide protection across the power circuits of the electrical system. If the whole system is not protected, then portable RCDs can be plugged directly into electrical outlets.

(Note Circuit Breakers are not RCDs. Circuit Breakers protect electrical circuits against overloading and overheating. They offer no protection to people).

Only licensed electricians should undertake electrical installations, extensions, alterations and repairs.

RCDs should be checked regularly.

(For more information on RCDs see



## Hazards and Risks

- Fuses or circuit breakers with incorrect ratings are used
- Work is undertaken too close to overhead powerlines, resulting in arcing and electrocution
- Earth connections on fixed electrical items are corroded or not properly connected
- Electrical equipment is used in wet areas
- Trenches or holes are dug and contact with underground electric cable



*Residual Current Device fitted to power circuit*

## Risk Controls

information box on page 26).

A system of regular inspections of electrical leads, fittings and equipment to identify electrical hazards should be put in place.

(Note that in some states routine testing and tagging of electrical extension cords and appliances differ). See relevant State WHS legislation/ Codes of Practice and the Australian Standard *AS/ NZS 3760:2003 - In-service safety inspection and testing of electrical equipment*.

Workers should be instructed to report any faulty electrical equipment or installations immediately.

Use extension cords only when there is no alternative.

Unwind extension cords fully when in use and always use a heavy duty cord.

Route extension cords to protect them from damage from machinery and animals.

Avoid using double adapters - install additional power points where required.

Store electric tools where cords will not be damaged.

Use extreme caution when working in damp or wet conditions.

## Hazards and Risks

## Risk Controls



*Extension cord suspended off the floor*

### Smoking in the workshop

Smoking is a risk to long-term health. Exposure to exhaled smoke is also a well-established risk for bystanders (passive smoking).

Flammable materials and situations may also exist in the workshop, increasing the risk of fire and explosion.

No-smoking rules should be established and enforced within the workshop, including eating and mess areas.

Outdoor areas where workers may smoke should be safe from traffic hazard.

### Amenities

Lack of amenities such as toilet, washing and eating facilities and clean cool drinking water, may reduce productivity and increase the risk of fatigue and ill health

Provide hand washing and clean toilet facilities as well as a sheltered place for workers to eat and take breaks away from workshop hazards.

Provide a source of cool, clean drinking water.

## 3.5 Welding

The electric arc welding process involves risk of injury and illness associated with electricity, emission of harmful fumes, sparks, the generation of heat and radiation emitted during the welding process. These risks apply not only to the person undertaking the work but also to bystanders. These risks can be eliminated by having welding work done in town by an

engineering works. However, if this is not practical, below are some measures that will control the risk associated with these hazards.

Hazards and Risks	Risk controls
<p>Electric shock or electrocution can result from contact with live components of a welding circuit, especially where there is a poor earth or welding in wet conditions.</p> 	<p>Do not touch the electrode or metal parts of the electrode holder with skin or wet clothing.</p> <p>Ensure welding cables and electrode holders are not damaged and they are in good condition.</p> <p>Keep welder cables off the floor.</p> <p>Supply and ensure the use of dry leather gauntlet gloves.</p> <p>Make sure the earth electrode wire and clamp are not frayed or damaged.</p>
<p>Inhalation of fumes from the welding rod or the surface being welded can result in respiratory problems.</p>	<p>Ensure adequate cross ventilation.</p> <p>Use low fume welding rods.</p> <p>Supply and ensure the use of face masks or respirators where necessary.</p>
<p>Sparks generated during the welding process may result in fire and/or explosion.</p> 	<p>Do not weld near flammable or combustible items (petrol, paints, thinners, cardboard, paper, acetylene, charging batteries).</p> <p>Take care when welding in dusty conditions as dust particles may oxidise and result in a flash fire or explosion.</p> <p>Ensure material being welded does not have a flammable coating, or contain flammable materials.</p> <p>Never fuel portable welders when running.</p> <p>Ensure appropriate emergency equipment is available e.g. First aid kit, fire extinguisher.</p>

*Fire extinguisher readily available*



Hazards and Risks	Risk controls
<p>Flash burns to the eyes and burns to the skin may result from exposure to radiation from the welding arc.</p> <p>Heat generated during the welding process may result in burns to the skin.</p>  <p><i>Australian Standards approved welding helmet</i></p>	<p>Weld in a screened area to protect other workers from radiation or use portable welding screens.</p> <p>Ensure clothing, gloves and hands are free from grease and oil.</p> <p>Do not weld with cigarette lighter in pockets.</p> <p>Take care when quenching hot items in water.</p> <p>Mark hot items with soapstone.</p> <p>Supply and ensure the use of appropriate eye protection including welding helmet or hand held face shield and a fire retardant apron.</p> <p>Display signs which highlight the hazards associated with using the welder.</p>
<p>When using portable welders there is a risk of noise induced hearing loss (hearing injury) and entanglement in moving parts.</p>  <p><i>Portable welder</i></p>	<p>Ensure all guards are in place and functional on portable welders.</p> <p>Supply and use of ear muffs or ear plugs where necessary.</p>

### 3.6 Oxyacetylene welding and cutting

The use of oxygen and acetylene gas in the workshop carries with it some very high risks to the person doing the work and also to others in the workshop. To eliminate these risks, work requiring oxyacetylene cutting or welding may be done in town at an engineering works. If this is not practical, an alternative cutting method may be employed such as the use of a power tool or hand tool. If this substitution is not possible then below are some measures that can be used to control the risk.

Hazards and Risks	Risk Controls
<p>Using oxyacetylene for welding and cutting may result in burns to the skin from the flame, from hot metal or from steam when quenching hot objects.</p>  <p>Operation of equipment using appropriate personal protective equipment.</p>	<p>Ensure clothing, gloves and hands are free from grease and oil.</p> <p>Handle hot metal with pliers or tongs.</p> <p>Light flame with a flint lighter or pilot light only, not matches or cigarette lighters.</p> <p>Take care when quenching hot items in water.</p> <p>Mark hot items with soapstone.</p> <p>The following should be provided for all individuals undertaking oxyacetylene work:</p> <ul style="list-style-type: none"> <li>• appropriate eye protection including goggles and/or face shield</li> <li>• fire retardant apron</li> <li>• heat resistant gloves</li> <li>• close fitting clothing</li> <li>• enclosed leather footwear</li> </ul> <p>In addition to providing the above equipment, supervisors must be vigilant in ensuring its use.</p>
 <p><i>Flint lighter</i></p>	<p>The flammability of oxygen and acetylene increases the risk of fire and explosion.</p> <p>The hot spatter produced during oxyacetylene work may ignite combustible material.</p> <p>Clearly identify and make visible emergency equipment.</p> <p>If any doubt exists regarding the safe distance from flammable material then a fire resisting screen should be used.</p> <p>Do not undertake oxyacetylene work near flammable or combustible products (petrol, paints, thinners, cardboard, paper, charging batteries).</p>

## Hazards and Risks



*Oxy acetylene cylinders chained upright in position*

Moving heavy oxygen and acetylene cylinders poses the risk of back and other musculoskeletal injuries.

## Risk Controls

Shut off the blow pipe when not in use.

Check connections for leaks with soapy water.

Ensure cylinders are chained upright in a well ventilated area - do not secure around the bottle stem or regulator.

Fit flash arresters to oxygen and acetylene lines near the bottle and non return valves near the hand piece.

Leave cylinder key in position when fuel gas cylinder valves are open.

Keep hoses away from the working area to prevent damage and contact with flame, heat sparks or hot spatter.

Ensure appropriate emergency equipment is available e.g. first aid kit, dry powder fire extinguisher and fire blanket.

Mount cylinders that are in use on a trolley so they can be moved easily.



*Mobile oxy acetylene cylinders*




### 3.7 Grinding with a bench grinder or angle grinder

Eye and hand injuries are particularly common in farm workshops. The high velocity metal produced from grinding and exposure to a quickly spinning grinding wheel, contribute to these injuries. In some instances it may be possible to substitute the grinder for a manual filing or cutting tool with which there is less risk. However, if this is not practical there are some measures that will assist in controlling the risks associated with using grinders.

Hazards and Risks	Risk Controls
<p>High velocity particles that are generated during grinding may result in eye injury to both the operator and bystanders.</p> 	<p>Ensure that all appropriate guards are in place and functional.</p> <p>Do not exceed the recommended wheel speed and size as the wheel may fly apart.</p> <p>Keep bystanders clear when grinding work is being undertaken.</p> <p>Provide and ensure the use of appropriate eye protection when grinding including goggles and/ or a face shield.</p>
<p>Hand injury may result from exposure to the grinding wheel and items that have become hot from grinding.</p>	<p>Ensure the bench grinder tool rest is adjusted as the wheel wears to avoid jamming between the wheel and the rest (the rest should never be more than 2 mm from the wheel).</p> <p>Use clamps or a vice to hold work.</p> <p>Consider not wearing gloves when using bench grinders.</p>

*Bench grinder with all guards in place*

Hazards and Risks	Risk Controls
 <p data-bbox="186 1099 775 1173"><i>Operation of angle grinder using appropriate protective equipment</i></p>	
<p data-bbox="186 1200 775 1350">The grinding process often generates a lot of noise that may result in noise induced hearing loss to both the operator and bystanders.</p>	<p data-bbox="810 1200 1374 1308">Glue a 6 mm piece of rubber to bench grinder's tool rests to reduce vibration and noise.</p> <p data-bbox="810 1332 1342 1406">Provide and ensure hearing protection is used (ear muffs or plugs) when grinding.</p>

### 3.8 Using hoists in the workshop

In many workshops there is a requirement to lift and move heavy objects. To minimise the risk of manual handling injuries, hoists and/or block and tackles are often used. These pose a very serious risk to the health and safety of people working in the workshop. The term hoist encompasses cranes, (both vehicle and floor mounted), plus overhead chain hoists.

Hazards and Risks	Risk Controls
<p data-bbox="186 1767 761 1874">When lifting materials there is a risk of failure of the hoist and crushing of a person beneath the falling load.</p>	<p data-bbox="810 1767 1353 1841">The safe working limit (SWL) for the hoist should be clearly marked on it.</p> <p data-bbox="810 1865 1401 1973">If a hoist is suspended from a beam in the workshop, the beam should be rated and the SWL clearly marked on it.</p> <p data-bbox="810 1998 1390 2020">Workers should be trained in inspection and</p>



*Clearly visible safe working limit*

maintenance of hoists, chains and hooks, and load limits.

Loads should be lifted slowly to ensure the load is seated properly and the hoist is operating properly.

Ensure workers do not pass beneath or work under a load that is suspended by a hoist only.

Workers should know and use the appropriate hand signals for operating a hoist, especially when working in noisy environments.

Ensure pinch points and cables are adequately guarded when possible.

Some hoists have pinch points and moving cables that may cause injury or entangle clothing.

Ensure that when using the hoist, workers wear close fitting clothing and non slip soled work boots, tie long hair back and do not wear dangling jewellery.

### 3.9 Power tools, hand tools and air powered tools

Power tools, hand tools and air powered tools contribute to injury in the workshop. Whilst it is not often that these injuries are life threatening, they certainly result in significant loss of productivity.

#### Hazards and Risks

Electric shock may result from poorly maintained power tools, electrical cords and extension cords.



*Electrical inspection tag*

#### Risk Controls

Use compressed air driven tools or hand tools where possible.

Ensure that power tools and electrical cords and extension cord sets are regularly inspected and where required tested by a competent person.


Store tools where they and their cords will not be damaged.

Avoid working in damp and wet conditions.

Regularly inspect and check electrical power tools, electric cords and extension cords for wear and damage.

Hazards and Risks	Risk Controls
<p>Hand injury including burns, cuts, abrasions and punctures may result from the use of power, compressed air driven and hand tools.</p>  <p><i>Work held securely in a vice</i></p>	<p>Ensure the use of the right tools for the right job e.g. use a ring spanner instead of a shifting spanner where possible.</p> <p>Secure work with clamps or in a vice.</p> <p>When using hand tools use a 'pulling' rather than a 'pushing' action - if a pulling action cannot be used then push the tool with the open palm of the hand.</p> <p>Ensure adequate lighting where work is to be undertaken.</p> <p>Ensure that workers wear hand protection when appropriate if they are at risk of hand injury - keep in mind that in some situations gloves may actually increase the risk of entanglement.</p> <p>Supply and ensure the use of appropriate eye protection, goggles and/ or face shield, for workers and others who may be at risk of eye injury.</p>
<p>Eye injury may result from high velocity flying particles and dust.</p> <p>Clothing may become entangled in power tools and compressed air driven tools, including the air compressor.</p>  <p><i>An air compressor with the appropriate drive belt and pulley guarded</i></p>	<p>Eye injury may result from high velocity flying particles and dust.</p> <p>Ensure guards are in place and functional.</p> <p>Ensure that workers wear close fitting clothing, leather work boots with a non slip sole, do not wear dangling jewellery and tie back long hair.</p>
<p>The use of compressed air to power tools carries the risk of severe injury from air penetrating the skin and flesh.</p>	<p>Ensure that workers always direct the air blast away from themselves and other people.</p>



Hazards and Risks	Risk Controls
<p>Noise induced hearing loss may result from the use of power tools and compressed air driven tools (including constant running of an air compressor).</p>  <p><i>Compressed air ducted into the workshop</i></p>	<p>Never use compressed air to blow dust off clothing.</p> <p>Locate the air compressor away from work areas and duct the air into the workshop.</p> <p>Supply and ensure the use of appropriate hearing protection - ear muffs or ear plugs.</p> <p>Ensure that all areas where hearing protection is to be worn are clearly identified.</p>

### 3.10 Battery charging

Gases that are produced during the charging process, when coupled with other workshop activities, can produce a very high risk workshop environment.

Hazards and Risks	Risk Controls
<p>Gases that are released during battery charging are flammable and may result in explosion.</p>	<p>Always charge in a well ventilated area away from ignition sources including sparks produced by welding, oxyacetylene work and grinding.</p> <p>Charge batteries in an area away from where people are working.</p> <p>Do not smoke around batteries that are charging.</p> <p>Turn off the mains power before disconnecting charger clips to prevent</p>





*Battery charging in a well ventilated area*

sparks.

Do not remove caps, unscrew and rest them on the opening to prevent spatter, dust and foreign objects falling in cells and to prevent explosion.

Only purchase sealed batteries to eliminate the risks associated with electrolyte (battery acid).

Exposure to battery acid (electrolyte) may result in acid burns.

Obtain the appropriate Safety Data Sheet (SDS) for the electrolyte (battery acid).

Safety Data Sheets contain First Aid and safety information for workers.

Provide and ensure the use of the appropriate protective equipment if handling of electrolyte is required including neoprene, rubber or latex-nitrile gloves, chemical resistant apron, and eye protection.

Lifting heavy truck and tractor batteries may result in back and other musculoskeletal injuries.

Use correct lifting techniques.

Use mechanical devices for lifting and moving large batteries.

Place batteries on a bench rather than the floor if they have to be lifted again to prevent bending.

### 3.11 Tyre changing

Tyre changing in the farm workshop has been associated with very serious injury including death and amputation. This hazard can be eliminated from the workshop by having all tyre repairs done in town by a qualified person with the appropriate safety systems. If this is not practical, below are measures that will assist in controlling the risks associated with changing and inflating tyres.

## Hazards and Risks

Injury including death and amputation may result from split rim wheel assembly blow apart.



*Tyre cage for tyre inflation*

## Risk Controls

Make available and ensure a tyre cage is used for inflating split rimmed tyres.

Inspect rims before placing tyres on them.

Ensure rim pieces are seated properly.

Inflate tyres in 10 psi stages and check the rim after each inflation.

Crush injuries may result from a machine that moves or falls whilst raised.

Chock wheels at the rear axle.

Use blocks or stands to stabilise machinery that is raised rather than relying on a jack.



*Vehicle stand*

### 3.12 Portable ladders

Serious injury and death have resulted from improper use of portable ladders on farms. To reduce the risk of injury it is essential to ensure that the type and length of ladder is appropriate for the work to be done, that the ladder is in sound condition and complies with the Australian Standard *AS/ NZS 1892:1996 -portable ladders*. Below are measures that will assist in controlling the risks associated with the use of portable ladders.

Hazards and Risks	Risk Controls
<p>Severe injury may result from falls from portable ladders.</p> <p>Falling ladders and objects falling whilst a person is working on a ladder, may cause injury to bystanders.</p>  <p><i>Ladder placed using the "4 in 1" rule</i></p> <p>Enclosed footwear with a non slip sole should be worn when climbing ladders.</p>	<p>Always use the "4 in 1" rule when working on ladders - for every 4 metres in ladder length it should be 1 metre out from the wall (a 6m ladder should be 1.5m from the wall at the base).</p> <p>When using the ladder to gain access to a working platform or roof, the ladder should extend at least 1 metre above the platform or roof.</p> <p>When the top of the ladder is supported against a surface that is not flat, the top of the ladder should be secured.</p> <p>Always face the ladder when climbing up or down.</p> <p>Hoist materials up and down the ladder or attach them to a belt to ensure that both hands can be in contact with the ladder at all times.</p> <p>Never stand any higher than the third rung from the top.</p> <p>Work should only be carried out within an easy arms reach of the ladder.</p> <p>Ladders should be inspected for damage and areas of weakness prior to use.</p> <p>Extreme care should be taken when using ladders in wet and/or windy conditions.</p>
<p>Electrocution may result from contact with powerlines and electrical circuits.</p>	<p>Metal ladders should not be used where the risk of electrocution exists.</p>
<p>Muscular sprains and strains may result from lifting ladders which are often heavy and awkward to move.</p>	<p>Have a second person help when lifting and moving heavy or extra long ladders.</p>
<p>Inappropriately stored ladders may cause</p>	<p>Ladders should be stored in or on racks when</p>

Hazards and Risks	Risk Controls
people to trip, causing injury.	not in use, preferably under cover.

## Residual Current Devices (RCD) or Earth Leakage Devices

### Frequently Asked Questions

#### ***What is a residual current device (RCD)?***

An RCD is an electrical safety device capable of detecting very small leakages of current to earth and responding by either signaling the presence of the leakage or switching off the supply of electricity.

#### ***Why is an RCD necessary?***

Whether a person survives an electric shock depends on the magnitude of the current and the time that it continues to flow. RCDs interrupt the supply of electricity before it reaches a magnitude and flows through the body for such a time, that it causes serious health effects or death.

#### ***At what current does the RCD trip?***

The tripping current of the usual type of RCD installed to protect final sub-circuits in Australia is 30mA.

#### ***How long does it take from the commencement of leakage until the RCD cuts in?***

While the allowable operating time of RCDs is 300ms, it is usual to find an operating time of less than 50ms.

#### ***Does an RCD provide protection in all situations?***

A properly functioning RCD will protect operators of appliances with earth connections. However, appliances that are double insulated do not have an earth wire and as such do not have a residual current that is seen by the RCD. In the case where a double insulated appliance suffers gross damage and an active part is earthed, the RCD will operate. If an individual is involved, they will receive an electric shock, but will not be electrocuted. In the situation where a double insulated item is immersed in a conducting liquid which is in an unearthed container e.g. a bath, and a person touches the water, the RCD will operate but the person will still receive a shock although not great enough to cause electrocution.

#### ***How are RCDs installed?***

There are three broad types of RCD:

**Fixed installation** - non-portable unit that is installed into the switchboard and provides protection for the entire installation, or a selected circuit.

**Fixed socket units** - non-portable unit wired into a fixed socket and provides protection to equipment plugged into that particular socket

**Portable** - the portable unit is plugged into a socket and electrical equipment then plugged into the portable unit. Protection is provided only to equipment plugged into the portable unit. There are various models available.

### ***What problems are encountered with the use of RCDs and how can they be overcome?***

#### **Unwanted tripping of RCDs:**

- Incorrect installation
- A neutral to earth fault in the installation
- Accumulation of small leakages from a number of appliances
- Reduced sensitivity or failure to trip - usually due to:
  - Faulty RCD
  - A neutral to earth fault (detected during testing via 'test' button)
  - Presence of standing-residual-currents on a different phase

Any of these problems should be investigated by a licensed electrician.

#### ***Does an RCD require any maintenance?***

RCDs should be regularly tested by a competent person as outlined below.

Type of environment and/or equipment	Interval between inspection and tests for RCDs			
	Push button test by user		Operating time and push button test	
	Portable	Fixed	Portable	Fixed
1 Factories, workshops, places of work or repair, manufacturing, assembly, maintenance or fabrication	Daily, or before every use, whichever is the longer	6 months	12 months	12 months
2 Environment where the equipment or supply flexible cord is subject to flexing in normal use OR is open to abuse OR is in a hostile environment	3 months	6 months	12 months	12 months
3 Environment where the equipment or supply cord is NOT subject to flexing in normal use and is NOT open to abuse and is NOT in a hostile environment	3 months	6 months	2 years	2 years

Source: AS 3760 *In-service safety inspection and testing of electrical equipment*.

#### **References:**

Standards Australia. AS/ NZS 3760:2003 *In-service safety inspection and testing of electrical equipment*.

Standards Australia. SAA HB 113 *Residual Current Devices - What they do and how they do it*.

Worksafe Western Australia Commission. 1998. *Electricity Residual Current Device -Guide*.

## **Personal Protective Equipment**

### **Frequently Asked Questions**

There is a wide variety of personal protective equipment (PPE) currently on the market to protect against hazards in the workshop. The aim of this publication is to answer some frequently asked questions about PPE in an attempt to make selection of the appropriate equipment easier.

For all protective equipment there are some general principles that should be followed:

- All persons exposed to hazards in the workplace, that cannot be controlled by other means, must be supplied with the appropriate protective equipment
- People who use PPE in the workplace must receive training in its correct use, fit, maintenance and storage
- Areas where people need to wear PPE to reduce the risk of injury must be clearly identified with the appropriate signs
- Facilities should be available for the storage of PPE to ensure it remains clean and functional
- PPE should be available close to the hazard for which it must be worn

When purchasing PPE ensure that it complies with the appropriate Australian Standard - A list of Standards is included at the end of this publication.

## **Hearing Protection**

### **What kind of hearing protection is available?**

There are basically two different kinds of hearing protection, ear muffs and ear plugs.

### **Is one kind better than the other?**

No, generally one is not better than the other, but you may find that one will suit a certain situation better than another. For example, people who wear spectacles may find it uncomfortable to wear ear muffs, or when working in particularly noisy situations you may find that only ear muffs will provide the protection needed. In some situations it may be necessary to wear ear plugs and ear muffs together.

### **How do I know that what I am purchasing will give me adequate protection?**

When purchasing hearing protection you need to make sure that it is rated to dampen the noise to an appropriate level. To do this you need to look for the SLC80 rating. This is the amount that the noise will be dampened by e.g. SLC80 rating of 20 will dampen the noise by 20 decibels (dB). When working in agriculture you should purchase protection that has an SLC80 rating of 20 or higher. You will find this rating on the packaging rather than on the muffs or plugs themselves.

### **How do I care for my hearing protectors?**

Ear plugs may be disposable or reusable. Generally, when they become soiled they should be cleaned in detergent and water, then allowed to dry completely before the next use. If ear plugs lose their softness, or shrink, it is time for a new pair. Ear muffs need to be



inspected regularly for damage. The cushioning should be soft with no cracks in it; you may be able to replace the cushions if they become hard or brittle. The cushions and the head band should be wiped clean and stored where they can be kept dry, clean and out of the sun.

### **How do I fit my ear muffs properly?**

Check to see how the ear muffs should be worn. Oval ear muffs should be worn with the oval vertical.

Make sure your hair is not in the way as it may affect the seal.

Your ears should fit inside the shells.

Adjust the head band so that the ear muffs fit snugly on your head.

When wearing ear muffs fitted to a hard hat, both should be fitted to the individual to ensure a proper seal.

### **How do I fit ear plugs?**

Check to see how the plugs should be worn, some may require moulding with your fingers; others are caps that sit over the opening of the ear canal.

When inserting the ear plug pull your ear up and back with the opposite hand to straighten the canal.

Wait a few seconds to allow the ear plug to expand in the ear canal.

## **Eye Protection**

### **What kind of eye protection is available?**

There are basically four types of eye protection:

**Safety glasses** - provide protection from low and medium velocity flying particles from in front of the wearer and may be tinted to provide protection when working in sunlight. They may be fitted with side shields to provide extra protection.

**Safety goggles** - provide the same protection as safety glasses but with added side protection. They may also be designed to protect from splashes or dust and may be worn over prescription glasses.

**Face shield** - Provide protection to the eyes, forehead and face from low, medium and high velocity flying particles and splashes. Also available as an eye shield which protects only the eyes and forehead.

**Welding helmet** - provide protection from non-ionising radiation from arc welding. The degree of protection will depend on the rating of the filter

### **Can I wear my prescription spectacles as eye protection?**

Prescription spectacles generally provide inadequate protection against flying particles. There are a few alternatives for individuals who require prescription spectacles:

- Safety goggles or a face shield may be able to be worn over prescription spectacles

- Safety glasses may be able to be fitted with prescription lenses; these glasses will only provide protection against low velocity flying particles
- Contact lenses may be able to be worn instead of spectacles, allowing the appropriate eye protection to be worn. Contact lenses do not provide eye protection from flying particles.

### **How do I stop my safety goggles from fogging?**

There are many anti-fogging products available on the market and it is also possible to purchase anti-fog type goggles.

## **Respiratory Protection**

### **What kind of respiratory protection is available?**

There are basically two different ways that respirators provide protection:

Air purifying - purifies the air that is breathed by drawing it through a filter

Supplied air - supplies air that is respirable via an air line, air hose, or by carrying equipment that provides respirable air.

### **How do I know which one I need?**

The situation in which you are working and what kind of protection you require, will govern which kind of respirator you need. When working in situations where dust particles or vapour/gas is a problem an air purified respirator will mostly suffice, although there are some gases and vapours that are not able to be filtered out. When purchasing a respirator for this purpose, ensure that the filter is appropriate; some will only filter dust OR gas/vapours, whilst others will provide protection against both. An air purifying respirator with a gas and particulate filter will be sufficient for most workshop situations.

### **Are there different types of air purifying respirators?**

Yes, there are disposable respirators such as a dust mask and there are reusable respirators with one or more disposable filters.

### **How do I know when to change the filter on my respirator?**

The filter on your respirator needs replacing when it becomes difficult to breathe through or when you are able to smell through the filter. A good test is to open some acetone (nail polish remover) and hold it close to your face; if you can smell its strong scent, then the filter(s) needs replacing. The filter may also have an expiry date.

## **Hand Protection**

### **What kinds of gloves might I need to work safely in the workshop?**

The following table gives some general guidelines as to the kind of protection offered by different materials.

Type of work being done	Suitable glove materials
Handling hot objects	Leather/pigskin, aramid blends



Welding	Leather/pigskin, aramid blends
Steel fabrication, manufacturing	Leather/pigskin, neoprene, nitrile
Acid/solvent handling, degreasing	PVC, PVA, nitrile, neoprene, rubber, vinyl

### How do I fit gloves correctly?

Glove manufacturers should indicate two measurements for proper glove fit, hand circumference and hand length. To obtain these measurements follow the instructions below:

**Hand circumference** - this measurement is taken around the right hand knuckles at the base of the fingers.

**Hand length** - this measurement is taken from the notch where the thumb joins the wrist to the tip of the middle finger.

### Foot Protection

#### What kind of footwear should people be wearing when working in the workshop?

An assessment of the hazards that exist in the workshop should be completed to identify what kinds of injuries the foot may sustain. This will assist in deciding which footwear is appropriate. The following table has been adapted from *AS/ NZS 2210.1:1994 Occupational protective footwear Part 1: Guide to selection, care and use* and indicates the type of construction materials that are appropriate for hazards that may be encountered in the workshop.

Type of hazard	Sole			Upper	
	Preferred Material	Tread	Midsole	Type	Preferred Material
Falling or rolling objects	-	-	-	Ankle boot	Leather, PVC blends, polyurethane
Climbing ladders	Vulcanised nitrile rubber, polyurethane, PVC blends	Deep tread with heel	Arch support	Ankle boot	-
Sharp materials underfoot	Vulcanised rubber, nitrile polyurethane, PVC blends	-	Penetration resistant midsole	-	-
Wet concrete	Vulcanised nitrile rubber, polyurethane, PVC blends				

Oily greasy concrete	Vulcanised nitrile rubber, PVC blends				
Chemical degradation	Depends on the type of chemical - woven fabrics are not recommended for uppers where chemicals are present				

Generally, an ankle boot with a leather upper, non slip PVC sole and toe cap is adequate for work in the farm workshop.

### Other Protective Clothing

In addition to the specific equipment discussed here, people who work in farm workshops should be instructed to:

- wear close fitting work clothes or overalls made out of natural fibres. If further protection is required then a fire retardant apron may be worn when doing work that generates sparks. Clothing should be in good condition with no loose threads.
- ensure that long hair is tied back.
- remove any dangling jewellery that may become entangled. Finger rings and ear rings may also cause injury if caught on protruding objects.

### References:

AS/ NZS 1269.3:1998 Occupational noise management Part 3: Hearing protector program.

AS/ NZS 1336:1997 Recommended practices for occupational eye protection.

AS/ NZS 1715:1994 Selection use and maintenance of respiratory protective devices.

AS/ NZS 2161.0:2000 Occupational protective gloves Part 1: Selection, use and maintenance

AS/ NZS 2210.1:1994 Occupational protective footwear Part 1: Guide to selection, care and use

## Signs for the Farm Workshop

### Frequently Asked Questions

#### Do I need to put up signs in the workshop?

To fulfill their legal obligation under WHS Regulations employers (PCBUs) must ensure that any person who may be exposed to a risk at their workplace is informed of that risk and places where Personal Protective Equipment (PPE) is required, are clearly identified.

#### Can I make my own signs?

Signs that are used in the workshop in relation to safety should comply with Australian Standard AS 1319:1994 *Safety signs for the occupational environment*. These symbols and sign layouts have been specifically tested to ensure that they are easily understood by all people, including those with language or literacy barriers.

#### What specific signs do I need in my workshop?

You will need to have a look at your workshop specifically, the kind of work that is undertaken, as well as the number of people who work there at any one time. This will help you decide which kind of signs you need and where they should be placed. Care should be taken not to place too many signs close together - people may become confused or the message may not be absorbed due to the large amount of information. The table below from AS 1319 outlines some specific signs that *may* be appropriate for your workshop:

### Prohibition Signs

(Indicate that an action or activity is not permitted)

Sign No.	Sign	Meaning
401		Smoking prohibited
402		Fire, naked flame and smoking prohibited
403		No pedestrian access
404		Water not suitable for drinking






## Mandatory Signs

(Indicate that an instruction must be carried out)

Sign No	Sign	Meaning
421		Eye protection must be worn
422		Full face mask respiratory protection must be worn
423		Half face mask respiratory protection must be worn
424		Head protection must be worn
425		Hearing protection must be worn
426		Hand protection must be worn
427		Foot protection must be worn
428		Protective body clothing must be worn
429		Face protection must be worn
430		Long hair must be contained or covered


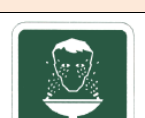

## Hazard Signs

(Indicate hazards either life threatening or non life threatening)

Sign No	Sign	Meaning
441		Fire risk
442		Explosion risk
444		Toxic hazard
445		Corrosion risk
447		Electric shock risk

## Emergency Information Signs

(Indicating the location of, or directions to, emergency related facilities)

Sign No	Sign	Meaning
471		First Aid
472		Emergency (safety) eye wash
473		Emergency (safety) shower

You may decide to combine a number of these signs into one sign and/or add a written warning to the sign. An example of this might be:



### **Where should I put signs in the workshop?**

Signs should be located where they are clearly visible and attract the attention of all people in the workshop. Prohibition, mandatory or hazard signs should be situated to give enough time after viewing the sign to heed the warning. They should be mounted in the line of sight in the vertical plane - approximately 1500 mm from the ground.

### **References:**

*AS 1319:1994 Safety signs for the occupational environment.*

## Further Information and Useful Contacts

### State / Territory Work Health and Safety Authorities

#### New South Wales

WorkCover NSW

Ph: 13 10 50

[www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)

#### South Australia

WorkCover Corporation

Ph: 13 18 55

[www.workcover.sa.gov.au](http://www.workcover.sa.gov.au)

#### Australian Capital Territory

ACT WorkCover

Ph: 02 6205 0200

[www.workcover.act.gov.au](http://www.workcover.act.gov.au)

#### Western Australia

WorkSafe - WA

Ph: 08 9327 8800

[www.safetyline.wa.gov.au](http://www.safetyline.wa.gov.au)

#### Victoria

Victorian WorkCover Authority

Ph: 1800 136 089

[www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)

#### Northern Territory

Northern Territory WorkSafe

Ph: 1800 019 115

[www.nt.gov.au/deet/worksafe](http://www.nt.gov.au/deet/worksafe)

#### Tasmania

WorkCover Tasmania

Ph: 1300 366 322

[www.worksafe.tas.gov.au](http://www.worksafe.tas.gov.au)

#### Queensland

Department of Industrial Relations - Qld  
Workplace Health and Safety

Ph: 1300 369 915

[www.deir.qld.gov.au](http://www.deir.qld.gov.au)

#### National Contacts:

##### Safe Work Australia

Ph: 1300 551 832

[www.swa.gov.au](http://www.swa.gov.au)

##### Farmsafe Australia

Ph: 02 6752 8218

[www.farmsafe.org.au](http://www.farmsafe.org.au)

##### Standards Australia

Ph: 1300 65 46 46

[www.standards.com.au](http://www.standards.com.au)

##### Australian Centre for Agricultural Health and Safety

Ph: 02 6752 8210

[www.aghealth.org.au](http://www.aghealth.org.au)

#### **4. Farm Workshop Safety Checklist and Action Plan**

The following checklist should be used to identify hazards in the workshop, then to develop action plans to control the risk associated with those hazards. This should be completed on a regular basis i.e. at least annually, but more frequently if the workshop or work in the workshop, changes.

These checklists may be copied so they can be used more than once. Any additional hazards that are identified that are not already listed, should be added so that the checklist is continually growing and becoming more relevant to each specific workshop.



OWNER / MANAGER:

Completed by:

PROPERTY NAME & ADDRESS:

PHONE:

FAX:

Date Completed:

---

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
<b>Infrastructure</b>								
Can all doors be opened from the inside and outside to allow quick exit in an emergency?								
Is there adequate workspace in the workshop?								
Are floors free of slip/ trip hazards including oil, tools, extension cords and rubbish?								
Does the workshop floor drain properly?								
Are work benches at an appropriate height for working and lifting?								

<b>C. Workshops</b>	<b>Yes</b>	<b>No</b>	<b>Action Planned</b>	<b>Cost \$</b>	<b>Target Date</b>	<b>Action Date</b>	<b>Person Responsible</b>	<b>Notes</b>
Is there good ventilation in the workshop?								
Is there good lighting in the workshop?								
Are lights covered where there is risk of bulbs being broken?								
Are jacks, cranes and hoists present to reduce lifting where possible?								
Are hoists routinely serviced and chains checked for wear?								
Is the minimum load bearing capacity clearly marked on jacks, cranes, hoists and gantries?								
Is shelving strong enough to hold loads?								
Is there a safety cage for the inflation of split-rimmed tyres?								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
Are stands used to support raised vehicles, machinery and equipment?								
Are there safety signs in place when mechanical pits are in use?								
Is the mechanical pit covered when not in use and are covers in good condition?								
Are there separate rubbish bins for combustible and non-combustible material?								
Are gutters and areas around buildings clear of flammable debris and rubbish?								
Are ladders and other means of climbing onto roofs and tall structures stored away and inaccessible to children and other								

<b>C. Workshops</b>	<b>Yes</b>	<b>No</b>	<b>Action Planned</b>	<b>Cost \$</b>	<b>Target Date</b>	<b>Action Date</b>	<b>Person Responsible</b>	<b>Notes</b>
unauthorised persons?								
Do ladders comply with the Australian Standard for fixed or portable ladders?								
Is a fall arrest harness available when working on buildings and roofs?								
Are buildings and other structures with mezzanine type storage areas fitted with handrails and a toe board to prevent falls?								
<b>Electrical Tools and Power Supply</b>								
Is all electrical work carried out by a licensed electrician?								
Are underground electrical cables clearly marked?								
Are overhead powerlines clearly								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
marked and located clear of moving machinery?								
Is all electrical wire in conduit or electrical wire at risk of being struck, damaged or cut in conduit?								
Are all power tools double insulated?								
Are only heavy duty extension cords used?								
Are all power tools and extension cords regularly inspected, tested and tagged?								
Is a Residual Current Device (RCD) fitted to the electrical circuit board?								
Is the RCD routinely tested?								
If no RCD is fitted to the electrical circuit board, is a portable								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
RCD used?								
Is the portable RCD routinely tested?								
Are portable power tools unplugged and stored away when not in use?								
Is there any water problem posing an electrical hazard?								
Is the electric power board protected from the weather and water?								
Are electrical switches and power points undamaged?								
Are outside power points weatherproof?								
<b>Equipment</b>								
Are welder electrode leads and connections in good condition?								



C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
Is there good ventilation when welding?								
Are protective screens used to protect bystanders when welding?								
Are oxyacetylene cylinders used and stored secured in an upright position?								
Are flash arrestors fitted to all oxyacetylene equipment?								
Are pressure gauges on oxyacetylene cylinders in working order and well maintained?								
Are all oxyacetylene hoses and fittings in good condition and free of leaks?								
Are bench grinders located away from traffic areas?								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
Are bench grinder wheels regularly dressed and tool rests correctly adjusted?								
Are bench grinder wheels guarded and eye shields in place?								
Are all power tool guards in place and well maintained?								
Is the air compressor properly guarded?								
Is the air compressor located away from work areas to reduce noise?								
Are batteries charged in a well ventilated area away from sparks and flames?								
Are pressure gauges available to correctly inflate tyres?								
Is Personal Protective Equipment (PPE) available for all work								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
including eye goggles, welding helmet, hearing protection and gloves?								
Is combustible material stored away from sparks and flames?								
Are exhaust systems on equipment in good order to reduce the level of noise/ fume emissions and the risk of fire?								
<b>Emergency Preparedness</b>								
Are appropriate fire extinguishers available in the workshop?								
Are fire extinguishers easily accessible and sign posted?								
Is a first aid kit readily available in the workshop?								
In an emergency, can emergency services be								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
contacted?								
<b>Policy and Practice</b>								
Have all workers been inducted for safe work in the workshop on this farm?								
Have all workers been trained/ instructed in the correct use of all tools and equipment in the workshop?								
Are floors kept clean and the workshop tidy?								
Is the condition of power tools regularly checked?								
Are gauges on oxyacetylene regulators well maintained and always turned off after use?								
Are tools, paints and other chemical products stored away safely after use?								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
Are firearms and ammunition stored separately in appropriate lockable stores?								
Are mechanical devices used when moving heavy items such as 200 litre drums and other heavy equipment?								
Is noisy equipment (where practical) placed towards the front of the workshop to help dissipate sound?								
Is Personal Protective Equipment (PPE) is provided where required?								
Is there appropriate signage to warn persons entering the workshop of hazards?								

C. Workshops	Yes	No	Action Planned	Cost \$	Target Date	Action Date	Person Responsible	Notes
Do you encourage a <i>NO SMOKING</i> policy in the workshop, especially around flammable or combustible materials?								
Do you provide proper amenities for workers?								
<b>Additional Hazards</b>								



## Health and Safety in the Farm Workshop

### Resource Evaluation

We are very interested in your feedback regarding this resource so that we can continually improve it. Please complete the questions below and return to:

Email: [aghealth@health.usyd.edu.au](mailto:aghealth@health.usyd.edu.au)

Fax: 02 6752 6639

Post: Australian Centre for Agricultural Health and Safety

P O Box 256

Moree NSW 2400

Have you used this Guide to help you with health and safety in the farm workshop?

☐ Yes

☐ No

If you answered yes above, how useful was the information in the Guide?

☐ Very useful  
useful

☐ Useful

☐ Not very useful

☐ Not at all

What was it about the guide that you liked?

What was it about the guide that you disliked?

What changes have you made, or do you plan to make, as a result of using this guide?

Please complete your details below if you would like to register with Farmsafe Australia to receive further information regarding health and safety issues on the farm.

Name:

Address:

Telephone:

Fax:

Email:

What type of farming enterprise do you have (please tick):

☐ Beef cattle

☐ Fruit

☐ Pigs

☐ Sheep and wool

Other:

☐ Cotton

☐ Grains

☐ Poultry

☐ Sugar cane

☐ Dairy cattle

☐ Grapes

☐ Rice

☐ Vegetables

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