

OPERATE BASIC MACHINERY & EQUIPMENT



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PUBLICATION NOTES

BHP Billiton Iron Ore is proud to support Greening Australia to provide valuable conservation and land management training to communities throughout the Pilbara through the Indigenous Training Program.

This Learning Guide series has been developed as part of our partnership of the program.

Gavin Price, Head of Environment, BHP Billiton Iron Ore

Greening Australia is proud to produce and provide the comprehensive suite of new ALEP Learning Guides. The guides are compatible with the new horticulture and conservation industries training package and suited to developing skills in Indigenous communities within remote areas of the country where employment opportunities are limited. We would like to thank BHPBIO for their generous support in the development of the guides.

Brendan Foran, National CEO Greening Australia

The second series of ALEP Guides is aligned with a number of units of competence from the *Training Package AHC10 – Agriculture, Horticulture and Conservation and Land Management* (Release 8.0). The units selected are frequently used within Certificates I to III in Horticulture and Conservation and Land Management. As such they cover, where possible, the elements, performance criteria and required skills and knowledge of each unit.

The principal goal of these resources is to support the learning process; the learning activities may complement a trainer's assessment plan. The intent is that they will be used in an interactive manner with learners rather than as self-paced study guides. The structure and sequence have been designed to follow the logical steps of the practical tasks wherever possible. Concepts are introduced and then consolidated with discussion and/or practical activities.

The writers consider that these guides can provide a sound technical foundation but also strongly encourage trainers to complement the guides with additional, authentic resources from relevant industry texts and websites. The guides can be used in part or in their entirety but should always be linked to practical activities to strengthen the teaching and learning.

Genuine consideration was given to the level of language used in the guides. The goal has been to find a balance between simplifying the language to an accessible level and ensuring that the vocational concepts are addressed. The writers contend that with appropriate support these texts can provide an opportunity for students to strengthen their language, literacy and numeracy skills, which may be required for pathway progression.

A number of Aboriginal people have been involved in developing this ALEP Guide, which is considered suitable for use within a program based on Aboriginal pedagogies.

INTRODUCTION

Welcome to *Operate basic machinery and equipment*. This learning guide covers information about using a range of equipment commonly used in horticulture and conservation and land management (CLM). The machinery and equipment you use will depend on your workplace and the jobs you need to do.

It is intended that learners study the equipment they will need to use in their workplace. As such, it is advised to refer to the relevant topics in *Section 3* of this guide. If you would like to look at other basic equipment or machinery that is not covered, you can use the 'Worksheet for other kinds of equipment or machinery' template on page 26 in the *Resources* section.

This guide provides some information about machinery and equipment, but a lot of the learning for this unit will be done practically using the equipment alongside a trainer.

EQUIPMENT REQUIRED

To complete this training you will need the following:

1. Appropriate Personal Protective Equipment (PPE)
2. Safety gear, including first aid kit and drinking water
3. Machinery and equipment used in your workplace
4. Supplies for basic servicing, e.g. oil, fuel, spare blades
5. Manufacturer's instructions for each piece of equipment

LEARNING ACTIVITIES

There are five kinds of activities to complete. These activities may go toward your final assessment.

SECTION	ACTIVITY	SATISFACTORY (Y/N)	DATE
RESEARCH ACTIVITY			
1	Codes of Practice		
PRACTICAL ACTIVITIES			
3.3–3.9	Pre-start check		
5	Maintain machinery and equipment		
DISCUSSION ACTIVITIES			
2.7	Standard Operating Procedures (SOPs)		
3.2	Different types of motors		
WORKBOOK ACTIVITIES			
Throughout	Written responses to workbook questions (Conducted verbally where appropriate)		
PROJECT			
6	Complete a workplace job using machinery and equipment: getting ready, doing the job and finishing up		



Much of the training for this unit should be completed on the job.

1

WHS – WORKPLACE HEALTH & SAFETY



REMEMBER

A hazard is anything that can cause injury, or damage the health of a person or animal.

WHS legislation tells you that, as an employee, you have a 'duty of care'.

Duty of care means that you must look after your own safety and that of others.

Legislation tells you what you have to do to meet your duty of care. Legislation is the law.

When using machinery and equipment the best way to follow the law is to:

- Wear the appropriate PPE
- Do the necessary training
- Be drug free and have a zero alcohol blood level
- Follow all safety signs, including no smoking signs
- Tell your supervisor about anything that could make the workplace unsafe for you or anyone else
- Report any work-related injury that happens to you or to someone else, including details about any medication you are taking that could affect your work

You need to understand the hazards present when working with these tools so you can plan to reduce the risk of injury.

HAZARDS WORKING WITH MACHINERY AND EQUIPMENT

USE OF POWER TOOLS

Can cause:
Injury or electrocution



MANUAL HANDLING

Can cause:
Injury to muscles or bones through strain or crushing



NOISY EQUIPMENT

Can cause:
Damage to hearing



CORDS, ROCKS, SPILT OILS

Can cause:
Slips, trips and falls



FATIGUE

Can cause:
Muscle strain and injury from mistakes



SUN EXPOSURE

Can cause:
Dehydration and sunburn



VIBRATION

Can cause:
Hand-arm vibration syndrome and nerve damage



FLYING DEBRIS

Can cause:
Eye injury, cutting and bruising



SHARP EDGES

Can cause:
Cuts



FLAMMABLE FUEL

Can cause:
Explosions and burns





RESEARCH ACTIVITY

Go to the Safe Work Australia website and search for 'Model Codes of Practice'. Find codes for the hazards you will need to manage working with machinery and equipment.

For example:

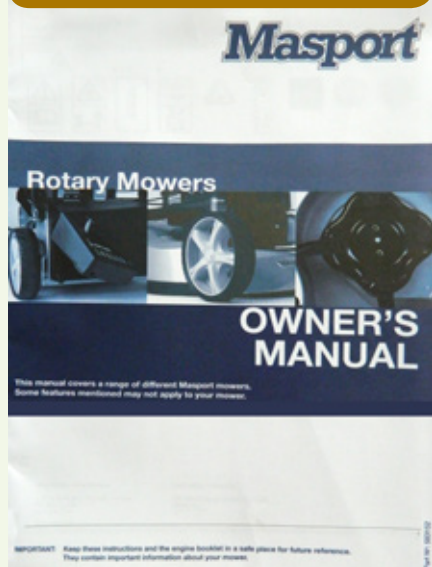
- Managing risks of hazardous chemicals in the workplace
- Managing electrical risks in the workplace
- Hazardous manual tasks

These are generally designed for use by an employer, but it is useful for you to know what is recommended.



2

GET READY



In the workplace your supervisor will tell you the machinery or equipment you need to use to do a particular job.

When you know the job that you are going to do you can identify the hazards and prepare to do the job safely.

2.1 READ MANUFACTURER'S INSTRUCTIONS

Machinery and equipment will always come with instructions from the manufacturer. Even if you have used similar equipment before, you still need to read the book for the equipment you are using.



These books will tell you about:

- Safety
- Operation
- Maintenance
- Servicing

NOTE

If you lose the instructions, you can usually download a copy from the internet.

2.2 SAFETY SYMBOLS

Safety symbols give you information that can help you stay safe. You might see these:

- On the equipment and machinery
- In the manufacturer's instruction book
- On signs around your workplace



The symbol for a hazard is a yellow triangle.



The symbol to tell you to do something is a blue circle. This is a **mandatory** instruction.











WORKBOOK ACTIVITY

What do each of the following symbols mean?

2.3 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) is needed when using any machinery or equipment. What you use will depend on the hazards of each type of equipment.

PPE USED WITH MACHINERY AND EQUIPMENT			
Long cotton shirt and trousers; use high-visibility clothing as required		Broad-brimmed hat	
Steel-capped boots		Hearing protection	
Gloves		Face shield or mesh visor	
Safety glasses (clear or tinted)		Machinery harness	



WORKBOOK ACTIVITY

Look through the manufacturer's instructions for three pieces of machinery or equipment you use in your workplace. List the PPE you will need to use this.

TYPE OF EQUIPMENT	PPE REQUIRED