

RIIHAN203E

Conduct Lifting Operations

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course training content (this matches the PowerPoint Presentation).
- Review questions.

What do you need to do before you use it for the first time?

1. Rebrand the document.
2. Review the document as part of your validation process.

See the 'Read Me First' document for a complete set of instructions on how to use these resources.



LEARNER GUIDE

RIIHAN203E Conduct Lifting Operations

Learner Name:	
Learner ID:	
Learner Contact Number:	
Learner Email Address:	
Date Training Commenced:	

This Book Contains:

- Course Information.
- Review Questions.

Table of Contents

Table of Contents	3
1.1 Introduction	5
1.1.1 Training and Licencing Requirements	5
Review Questions	5
1.2 Confirm Work Requirements	6
1.2.1 Health and Safety Requirements	6
1.2.1.1 Duty of Care Relating to Slinging Loads	7
1.2.2 Workplace Policies and Procedures.....	7
1.2.3 Work Instructions.....	8
1.2.3.1 Site Details	8
1.2.3.2 Task Details and Instructions.....	9
Review Questions	9
1.3 Identify and Manage Hazards	11
1.3.1 Identify Hazards.....	11
1.3.2 Assess Risks	12
1.3.3 Control Hazards	13
1.3.3.1 Personal Protective Equipment.....	14
1.3.4 Reporting Hazards.....	15
1.3.5 Environmental Issues and Considerations	15
1.3.5.1 Weather Conditions.....	15
Review Questions	15
1.4 Prepare a Lifting Plan	17
1.4.1 Lifting Plan Details	17
1.4.2 Check and Confirm Job Feasibility	19
1.4.3 Finalise and Confirm Lifting Plan	19
Review Questions	20
1.5 Select and Inspect Lifting Equipment	21
1.5.1 Lifting Devices	21
1.5.1.1 Electric or Pneumatic Chain Hoists	22
1.5.1.2 Cranes	22
1.5.1.3 Manual Chain Blocks or Hand Winches	22
1.5.2 Lifting Gear.....	23
Review Questions	27
2.1 Confirm Load Specifications	28
2.1.1 Load Calculations	28
2.1.1.1 Volume.....	28
2.1.1.2 Weight	29
2.1.2 Identify Lifting Points	29
Review Questions	30
2.2 Connect Lifting Gear	30
2.2.1 Attach Lifting Gear to the Load	30
2.2.2 Position the Lifting Device above the Load.....	31
2.2.3 Attach Lifting Gear to the Hook	31
Review Questions	31
2.3 Shift Load	32
2.3.1 Check the Work Area before Lifting	33
2.3.2 Conduct a Test Lift	33
2.3.3 Raising a Load (Vertical Lift) with Powered or Manual Devices	34
2.3.4 Transfer the Load using an Overhead Crane	35
2.3.4.1 Steadying a Load	36
2.3.5 Coordination with Other Workers	36
2.3.5.1 Load Moving Signals.....	36
2.3.6 Lateral Load Movement	38
Review Questions	38

2.4 Land and Secure Load	39
2.4.1 Safely Land and Secure the Load	40
2.4.2 Remove Lifting Gear	41
2.4.2.1 Load Destination	41
2.4.2.2 Restraining Loads on Vehicles	41
Review Questions	42

Evaluation Copy Only

1.1 Introduction

This course is based on the unit of competency **RIIHAN203E Conduct Lifting Operations**.

You will learn about:

- ◆ Preparing for lifting operations.
- ◆ Developing a lifting plan.
- ◆ Lifting devices and gear.
- ◆ Directing load movement.
- ◆ Safely lifting, moving and landing loads using:
 - ◇ Electric or pneumatic chain hoists or cranes.
 - ◇ Portable lifting equipment including chain blocks and lever hoists.
 - ◇ Lateral load movement or 'drifting' using multiple lifting devices.



1.1.1 Training and Licencing Requirements

You will often need to work with doggers (or riggers) during lifting operations. A dogger (or rigger) is someone who is qualified and holds a High Risk Work Licence to carry out dogging work.



Dogging work includes:

- ◆ Assessing, identifying or calculating the weight of a load.
- ◆ The selection and inspection of lifting gear.
- ◆ The application of slinging techniques based on calculations.
- ◆ The directing of a crane or hoist operator in the movement of a load when the load is out of the operator's view.
- ◆ Communicating with the crane operator to confirm the capabilities of the crane.

It is important to know what doggers are responsible for and what you need to do to assist them so that you can safely carry out load shifting operations. There are some situations that allow for non-licensed workers to shift loads using lifting gear and devices and these will be explained in the next section.

Review Questions

1.	What is someone who is qualified and holds a High Risk Work Licence to carry out dogging work known as?	<input type="checkbox"/>

Fdo,

2.

What does dogging work include?



1.2 Confirm Work Requirements

Your work requirements include everything from specific task instructions to broad health and safety responsibilities. This information comes from a wide range of sources including:



- ◆ Standard operating procedures.
- ◆ Workplace policies and procedures.
- ◆ Manufacturer's specifications.
- ◆ Industry codes of practice.
- ◆ Legislation.

Some of these sources of information are accessed regularly to perform your work. Others are interpreted by members of the organisation who are responsible for implementing safety policies and procedures. This information will help you to plan out lifts in the safest possible way.

1.2.1 Health and Safety Requirements

Every workplace has to follow laws and rules to keep everyone safe. There are 4 main types:

Law	Description
Acts	These are laws that you have to follow.
Australian Standards	These tell you what the minimum requirement is for a job, product or hazard.
Codes of Practice	These are instructions on how to follow the law, based on industry standards.
Regulations	These explain what the law means.

Some states use OHS laws, and other states use WHS laws. They both talk about the same thing, but use different words or names for people. If you have any questions about safety rules you should talk to your boss or supervisor.

1.2.1.1 Duty of Care Relating to Slinging Loads

Duty of care is a principle of Work Health and Safety laws that requires each person to perform their work in a way that does not endanger themselves or others, or cause harm to equipment. Generally, following instructions, using equipment in accordance with manufacturer's instructions and implementing hazard controls in preparation for work are all contributing to your duty of care responsibilities.

It is the duty of care requirement of a person who is involved with the slinging of a load to ensure they have their dogging licence in the following situations:

- ◆ When selecting or inspecting slings and other lifting gear.
- ◆ When determining slinging techniques and configurations.
- ◆ When directing the crane operator in the movement of the load, particularly when the load is out of view of the crane operator.



It is the responsibility of the person who can legally sling the load, generally the dogger, to determine the weight of the load to be lifted.

In some situations, you may be able to sling the load without a dogging licence. This is only in cases where there is no decision required specific to any of the following:



- ◆ The selection of slinging equipment (it has already been selected by an authorised person).
- ◆ The inspection of slinging equipment (it has already been checked and found to be in safe working order).
- ◆ The lift points on the load (as they are clearly defined).
- ◆ Directing the crane operator in the movement of the load (where the crane operator never loses site of the load while it is being shifted).
- ◆ Determining the weight of the load (where it is marked directly on the load or has been determined by an authorised person).

For example, you may move the same type of load regularly that always has the same weight, shape and size. In some workplaces crane operators will be instructed on the correct equipment and technique to use with that particular load by a dogger, and must always sling the load as instructed. This is common in processing or manufacturing sites where identical loads are regularly shifted.

If you are not sure if you are allowed to sling a load or not, speak to your supervisor.

1.2.2 Workplace Policies and Procedures

You must follow all safety rules and instructions when performing any work. If you are not sure about what you should do, ask your boss or supervisor. They will tell you what you need to do and how to do it in a safe way.

Before starting work you need to make sure you have access to all load handling documentation for the job. This will help you to plan out and complete your work in the safest way and make sure all work is compliant.



Load handling and lifting device policies and procedures may include:

Site Details	The information and safety requirements of the workplace environment (where you will be working).
Hazard Details	Any hazards in the work area or related to the work. This could also include instructions on how to handle dangerous or hazardous materials.
Task Details	Instructions of what the work is or what you will be doing (this can include diagrams or plans). Also instructions on how to safely do the job.
Faulty Equipment Procedures	Isolation procedures to follow or forms to fill out.
Signage	Site signage tells you what equipment you need to have, or areas that are not safe to be in.
Emergency Procedures	Instructions on what to do in emergency situations, for example if there is a fire, accident or emergency where evacuation or first aid is needed.
Equipment and Work Instructions	Details of how to operate plant and equipment and the sequence of work to be done.

All work needs to follow worksite, environment and company safety procedures.

Procedures help to make sure that all work is done in a safe way, without damaging equipment or putting people in unsafe situations. They also help to make sure that work is done in the correct order and doesn't interrupt or get in the way of other work that is happening on the site.

1.2.3 Work Instructions



You need to be clear about what work you will be doing. Make sure you have obtained clear written work instructions before you start. This includes what you will be doing, how you will be doing it and what equipment you will be using.

1.2.3.1 Site Details

Make sure you have all of the details about where you will be working. For example:

- ◆ **The Site** – Is there clear access for all equipment? Are there obstructions in the way? Is there a safe place for the load to be moved to?
- ◆ **The Weather** – Is there wind, rain or other bad weather? Is it too dark?
- ◆ **Facilities and Services** – Are there power lines or other overhead or underground services to think about?
- ◆ **Traffic** – Are there people, vehicles or other equipment in the area that you need to think about? Do you need to get them moved out of the area? Do you need to set up barriers or signs?
- ◆ **Hazards** – Are there dangerous materials to work around or think about? Will you be working close to power lines or other people?



1.2.3.2 Task Details and Instructions



You also need to make sure you have all of the details about the kind of work you will be doing:

- ◆ **The Task** – What load is being moved? How big is it? How much does it weigh?
- ◆ **Plant and Equipment** – What type of plant or equipment will be used? How big is it? How much room does it need?
- ◆ **Communications** – How are you going to communicate with other workers?
- ◆ **Procedures and Rules** – Do you need any special permits or licenses? Are there site rules that affect the way you will do the work?

Your work instructions will tell you the safest way to do the job, and the equipment that you will need to use. It is a good idea to check your work instructions with your boss or supervisor to make sure you know exactly what you need to do.

If you don't know where to get your instructions or you can't understand them, you can ask your boss or supervisor. They will tell you where to find your work instructions and explain what they mean.

All of these details and instructions will assist you to develop the lifting plan to shift the load.



Review Questions

3.	What are the main types of laws and rules every workplace has to follow?	<input type="checkbox"/>
4.	What must you follow when performing any work?	<input type="checkbox"/>

5.

What do you need to make sure you have access to before starting work?

6.

Site details, hazard details, task details, emergency procedures may be found in what?

7.

What is the purpose of work instructions?

1.3 Identify and Manage Hazards

Before you start work, you need to check for any hazards or dangers in the area. If you find a hazard or danger you need to do something to control it. This will help to make the workplace safer.



1.3.1 Identify Hazards

Part of your job is to look around to see if you can find any hazards before you start any work.



A **hazard** is the thing or situation with the potential to cause injury, harm or damage.

When you start checking for hazards, make sure you look everywhere. A good way to do this is to check:

- ◆ Up high above your head.
- ◆ All around you at eye level.
- ◆ Down low on the ground (and also think about what is under the ground).

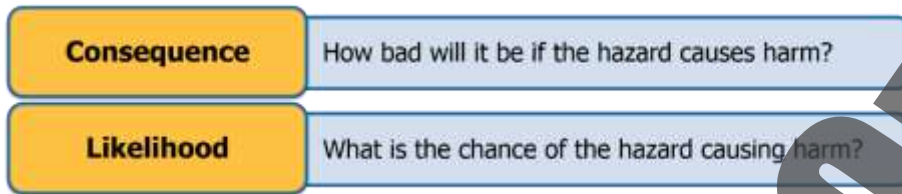
Some hazards you should check for in the work area:

Environment	e.g. wind, lightning, storms.
Dangerous Materials	e.g. fuels, chemicals.
Traffic and People	e.g. pedestrians, vehicles.
Facilities	e.g. insufficient lighting, obstructions.
Other Equipment	e.g. plant, other cranes on the runway.

1.3.2 Assess Risks

Once you have identified the hazards on site or related to the work you will be doing you need to assess their risk level.

Risk levels are worked out by looking at 2 factors:



You can use a table like the one shown here to work out the risk level:

Likelihood	Consequence				
	1. Insignificant	2. Minor First Aid Required	3. Moderate Medical Attention and Time Off Work	4. Major Long Term Illness or Serious Injury	5. Catastrophic Kill or Cause Permanent Disability or Illness
1. Rare	Low	Low	Moderate	Moderate	Moderate
2. Unlikely	Low	Low	Moderate	Moderate	High
3. Possible	Low	Moderate	High	High	Extreme
4. Likely	Moderate	Moderate	High	High	Extreme
5. Almost Certain	Moderate	High	High	Extreme	Extreme

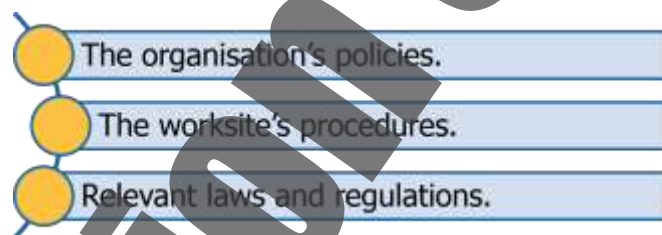
For example, a hazard that has a **Major** consequence and is **Almost Certain** to occur has a risk level of **Extreme**.

Likelihood	Consequence				
	1. Insignificant	2. Minor First Aid Required	3. Moderate Medical Attention and Time Off Work	4. Major Long Term Illness or Serious Injury	5. Catastrophic Kill or Cause Permanent Disability or Illness
1. Rare	Low	Low	Moderate	Moderate	Moderate
2. Unlikely	Low	Low	Moderate	Moderate	High
3. Possible	Low	Moderate	High	High	Extreme
4. Likely	Moderate	Moderate	High	High	Extreme
5. Almost Certain	Moderate	High	High	Extreme	Extreme

The risk level will help you to work out what kind of action needs to be taken, and how soon you need to act. The table below is an example of a site risk policy:

Risk Level	Action
Extreme	This is an unacceptable risk level. The task, process or activity must not proceed .
High	This is an unacceptable risk level. The proposed activity can only proceed, provided that: <ol style="list-style-type: none"> 1. The risk level has been reduced to as low as reasonably practicable using the hierarchy of risk controls. 2. The risk controls must include those identified in legislation, Australian Standards, Codes of Practice etc. 3. The risk assessment has been reviewed and approved by the Supervisor. 4. A Safe Working Procedure or Work Method Statement has been prepared. The supervisor must review and document the effectiveness of the implemented risk controls.
Moderate	This is an unacceptable risk level. The proposed activity can only proceed, provided that: <ol style="list-style-type: none"> 1. The risk level has been reduced to as low as reasonably practicable using the hierarchy of risk controls. 2. The risk assessment has been reviewed and approved by the Supervisor. 3. A Safe Working Procedure or Work Method Statement has been prepared.
Low	The proposed task or process needs to be managed by documented routine procedures, which must include application of the hierarchy of controls.

The action you take will depend on:



1.3.3 Control Hazards

The best way to control hazards is to use the Hierarchy of Hazard Control. The Hierarchy of Hazard Control is the name given to a range of control methods used to eliminate or control hazards and risks in the workplace.



You start at the top of the list and see if you can take away (eliminate) the hazard or danger.

If you can't take it away you move down the list to see if you can swap it for something safer (substitution).

Keep working through the list until you find something that controls that hazard or danger.

This table shows you the 6 different types of controls in order from most effective to least effective:

Hierarchy Level	Action
1. Elimination	Completely remove the hazard. This is the best kind of hazard control.
2. Substitution	Swap a dangerous work method or situation for one that is less dangerous.
3. Isolation	Isolate or restrict access to the hazard.
4. Engineering Controls	Use equipment to lower the risk level.
5. Administrative Controls	Site rules and policies attempt to control a hazard.
6. Personal Protective Equipment	The least effective control. Use PPE while you carry out your work.

Hazard control measures need to be put in place before you start your work, or as soon as you see a hazard while you are doing your work. Hazard controls can sometimes be listed in your work instructions or you can ask your boss or supervisor for help.

Once a hazard control is in place you will need to check to make sure it is working well to control the hazard or danger.

Talk to your supervisor or safety officer if you are not sure if it is safe enough to carry out your work. If you think the hazard is still too dangerous you should not try to do the work.



1.3.3.1 Personal Protective Equipment

Personal Protective Equipment (PPE) is clothing and equipment designed to lower the chance of you being hurt on the job. It is required to enter most work sites.

It includes:



- ◆ **Head protection** – hard hats and helmets.
- ◆ **Foot protection** – non-slip work boots.
- ◆ **Hand protection** – gloves.
- ◆ **Eye protection** – goggles, visors or glasses.
- ◆ **Ear protection** – plugs or muffs.
- ◆ **Breathing protection** – masks or respirators.
- ◆ **Hi-visibility clothing** – clothing that makes you stand out and lets other people know where you are.
- ◆ **Weather protection** – clothing that protects you from the sun or from the cold.

Make sure any PPE you are wearing is in good condition, fits well and is right for the job.

If you find any PPE that is not in good condition, tag it and remove it from service. Then tell your supervisor about the problem and they will organise to repair or replace the PPE.

1.3.4 Reporting Hazards

Any hazard or environmental issue that you identify will need to be reported.

This could include written or verbal reports. Your worksite may have standard paperwork that needs to be filled out, for example:

- ◆ Hazard report forms.
- ◆ Work method statements.
- ◆ Other documents.

Your report may need to be given to a safety officer, supervisor or a member of the management team.



1.3.5 Environmental Issues and Considerations



When inspecting the work area, you will need to take the surrounding environment into consideration. Being aware of the impact of equipment and trucks and gaining access to the work area will help you to plan out and coordinate the task with the least possible negative impact.

1.3.5.1 Weather Conditions

Extreme weather conditions such as strong winds, heavy rain or storms can make it dangerous to shift loads. Part of the preparation for shifting loads needs to take these conditions into consideration.

Loads with a large surface area or loads that are relatively light can be caught by the wind and swing out of control. If the load is being lifted by a crane, this can cause the load to move beyond the safe operating radius of the crane and it can become unstable or be damaged.



Heavy rain can reduce visibility and create slippery surfaces. These can be highly dangerous, and any work should be postponed until the rain has stopped and conditions have improved.

Review Questions

8.	Before starting work, where should you check for hazards?	<input type="checkbox"/>

9.

When do hazard control measures need to be put in place?



10.

What are the six (6) types of controls in the Hierarchy of Hazard Control?



1.

2.

3.

4.

5.

6.