

RIIHAN307E

Operate a Vehicle Loading Crane

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

RIIHAN307E Operate a Vehicle Loading Crane

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

This Book Contains:

- ☐ Course Information.
- ☐ Review Questions.

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1.1 Introduction

This training course is based on the national unit of competency **RIIHAN307E Operate a Vehicle Loading Crane.**



You will learn about:

- ◆ Planning the work.
- ◆ Selecting and inspecting equipment.
- ◆ Preparing the site and equipment.
- ◆ Shifting loads using a vehicle loading crane.
- ◆ Shutting down the job and cleaning up.

1.1.1 What is a Vehicle Loading Crane?

A vehicle loading crane is a crane mounted on a vehicle. Its main purpose is to load and unload the vehicle it is mounted onto.

There are 2 main types of vehicle loading cranes:

- ◆ Cranes with less than a 10 metre tonne capacity.
- ◆ Cranes with a 10 metre tonne capacity or more.

This training course is for operating a vehicle loading crane with less than a 10 metre tonne capacity.

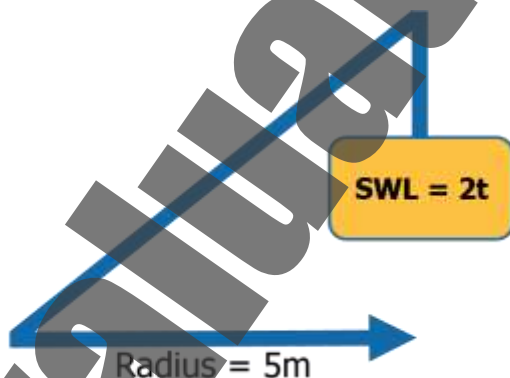


To operate a vehicle loading crane with a 10 metre tonne capacity or more you need a National High Risk Work (HRW) Licence.

1.1.1.1 Do I Need a HRW Licence?

You will need a HRW licence to operate a vehicle loading crane if the capacity of that crane is 10 metre tonnes or more. To work out the capacity of your vehicle loading crane, you need to know the safe working load (SWL) of the vehicle and the working radius for that SWL. These will be found on the load chart.

For example:



$$\begin{aligned}\text{Metre Tonne} &= \text{Radius} \times \text{SWL} \\ &= 5 \times 2 \\ &= 10\text{m/t}\end{aligned}$$

As the capacity of this crane is 10 metre tonnes you must have a High Risk Work licence to operate it.

Review Questions

1.	What do you need to operate a vehicle loading crane with a 10 metre tonne capacity or more?	<input type="checkbox"/>

1.2 Site 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 your work you need to make sure you have access to all vehicle loading crane operation documentation for the job. This will help you to do your work in the safest way and make sure all work is compliant.

Operations documentation includes:

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.

Your worksite will also have instructions for working safely including:

- ◆ Emergency procedures, including using fire fighting equipment, first aid and evacuation.
- ◆ Handling hazardous materials.
- ◆ Safe operating procedures.
- ◆ Personal protective clothing and equipment.
- ◆ Safe use of tools and equipment.



1.2.1 Health and Safety Rules

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

Laws/Rules	Explanation
Acts	These are laws that you have to follow.
Regulations	These explain what the law means.
Codes of Practice	These are instructions on how to follow the law, based on industry standards. An example of a code of practice for vehicle loading cranes is the <i>Mobile Crane Code of Practice 2006</i> .
Australian Standards	These tell you what the minimum requirement is for a job, product or hazard. The Australian Standard for safely loading cranes and lifting is <i>AS 2550.11: Cranes, hoists and winches</i> .

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.

Review Questions

2.	List 4 examples of operations documentation.	<input type="checkbox"/>
<div>1.</div> <div>2.</div> <div>3.</div> <div>4.</div>		

3.

What is the Australia Standard for safely loading cranes and lifting?



1.3 Work Instructions

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

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 buildings, structures, facilities or trees in the way? What are the ground conditions like?
- ◆ **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?



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? Does it need any special lifting gear?
- ◆ **Vehicle and Attachments** – What type of vehicle will be used? How big is it? How much room does it need? What equipment will you need to shift the load safely? Is the equipment available?
- ◆ **Communications** – How are you going to communicate with other workers?
- ◆ **Procedures and Rules** – Do you need any special permits or licences? Are there site rules that affect the way you will do the work?

1.3.1 Reading and Checking Your Work Instructions



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.

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.

1.3.2 Work Method Statements

Many worksites require a work method statement before any high risk construction work can start. A work method statement is a list of steps that outlines how a job will be done and identifies any hazards that occur at each step, and what you need to do about them.

These statements can also be known as Safe Work Method Statement (SWMS), Job Safety Analysis (JSA) or Safe Operating Procedure (SOP).

Work method statements are a great tool for organising your work activities and making sure you have completed everything. This is because they will outline the details of all tools, equipment and coordination with other workers relating to your job. Make sure all of these are available and ready before you start.



1.3.3 Safety Data Sheets

A Safety Data Sheet (SDS) is a detailed document outlining the risks and hazards associated with handling chemicals and other materials.

The SDS will contain details that can help you to identify:



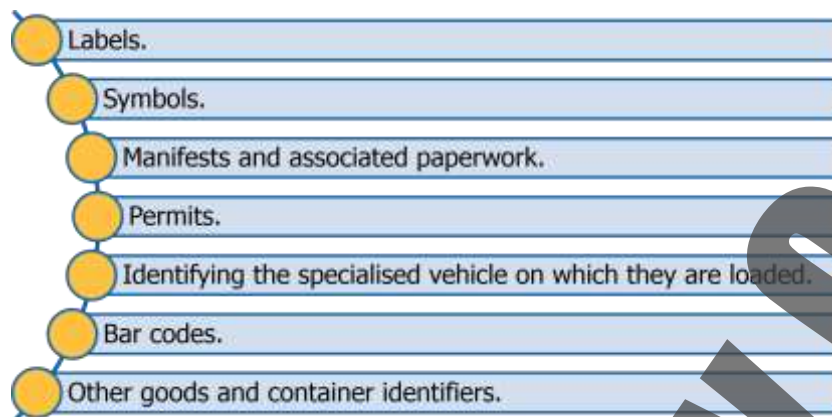
- ◆ **Basic Details of the Chemical or Material** – Name, type and identification number.
- ◆ **Hazards Associated with the Material** – Whether it is flammable or corrosive.
- ◆ **Safe Handling and Storage Procedures** – PPE to use, sealed containers or storage temperatures.
- ◆ **Emergency Procedures** – What to do if the chemical or material gets out of hand.
- ◆ **Disposal Procedures** – Suggestions for removing the chemical or material from the site.

methods.

Talk to your WHS representative or supervisor if you have any questions about legislative requirements relating to your work.

1.3.3.1 Hazardous Loads

Dangerous or hazardous loads can be identified in a number of ways. Normally this will be through the use of:



For example, cargo may be presented with a HAZCHEM plate, an Australian and multi-national warning plate system. It provides information on:

- ◆ What to use to combat an incident.
- ◆ The type of PPE to be worn if an incident occurs.
- ◆ The possibility of a violent reaction, and the hazards posed to the people in the area.

Looking for HAZCHEM signage and using the relevant SDS will help to ensure that you are prepared for transferring the load safely and are able to deal with any incidents or spills that may occur.

HAZCHEM Codes

It is important to understand the **HAZCHEM** code system when inspecting a work site.

The **HAZCHEM** Code consists of either two or three characters – a number followed by either one or two letters.

The number indicates the type of medium to be used in the case of a leak/emergency:

- 1 = The use of solid streams of water.
- 2 = The use of a water fog or fine water spray.
- 3 = The use of a water-based foam.
- 4 = The use of a dry agent such as a dry chemical powder.



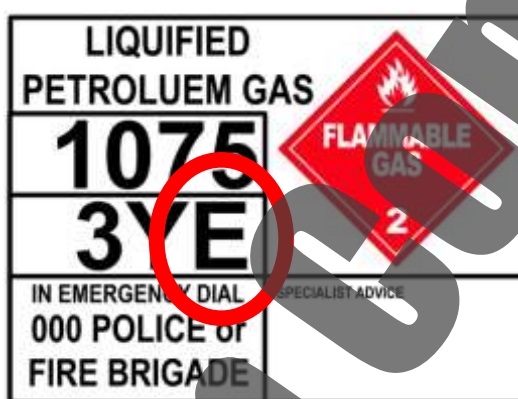
You may use a higher number classification than the one indicated but not a lower one (e.g. a 2 would mean you could use water fog/fine water spray, water-based foam or a dry agent. You could **NOT** use solid streams of water).

The first letter indicates the risk of violent reaction or explosion, type of PPE to be worn and whether the substances should be contained or diluted.

Advice Category	Letters and Meaning
Violent Reaction	P, S, W, Y = A violent reaction or explosion may occur.
Personal Protective Equipment (PPE)	P, R, W X = a full chemical protection suit and breathing apparatus should be worn. S, T, Y, Z = breathing apparatus only needs to be worn.
Dilute or Contain	P, R, S, T = Substance should be diluted. W, X, Y, Z = Substance should be contained.

White letters on a black background indicate that breathing apparatus should be worn only if the substance is involved in a fire.

There may be a letter **E** after the first letter. This indicates that evacuation of other personnel in the area should be considered.



1.3.4 Specifications, Plans and Drawings

Some of your work instructions might be given to you in plans, drawings, reports and specifications. You will need to get the information out of these documents and use it to do your job.

Specifications will tell you the types, quantities, grades and classifications of materials you will be working with. They will guide you, and help you to make sure you are achieving the quality standard for the project.

Specifications can include:

- ◆ Project dimensions.
- ◆ Project tolerances.
- ◆ Standards of work.
- ◆ Material standards.



It is essential that these requirements are known, understood and adhered to in all vehicle loading crane activities and tasks.

Some of your work instructions might also be given to you in drawings and sketches. You will need to get the information out of these and use it to do your job.



Project plans and drawings give you an overview of the site, for example:

- ◆ Location of the site and earthworks in relation to the surrounding area.
- ◆ The position of structures, roads, access areas.
- ◆ Layout of drainage lines.
- ◆ Foundation details and landscaping features.

Depending on the project, drawings may be very detailed or they could be simple sketches.

You should learn about the conventions and symbols used in the plans and drawings so you can understand what the information means.

1.3.5 Geological and Survey Data

Geological and survey data is used to guide you through a job. It tells you what the area is like, what things you will need to think about and what work you need to complete.

Geological and survey data gives you information about the environment you will be working in, such as:

- ◆ Rock or material types and characteristics.
- ◆ Wet and dry areas.
- ◆ Water tables or other sources of water.
- ◆ Broken ground, faults or joints.
- ◆ Underground working and voids.



The data can also be used to mark out work circuits, pick up areas, drop-off areas, spill zones, routes or traffic ways.

All of this information will help you to decide on what equipment you need to use, where to set up the outriggers and position the crane, and how you should travel with the crane or any areas to avoid.

The vehicle loading crane could become unstable during operation if the ground is rough, uneven or soft. The details of the ground should be checked in documents outlining the geological and survey data before setting up the crane. This is to make sure there are no unstable areas or underground services running through the area where you plan to set up the crane.

Review Questions

4.	What 3 details should you have written down about the job before you start working?	<input type="checkbox"/>
<p>1.</p> <p>2.</p> <p>3.</p>		

5.	What is a Work Method Statement?	<input type="checkbox"/>

6.	What are 3 details that a Safety Data Sheet will help you to identify?	<input type="checkbox"/>
<p>1.</p> <p>2.</p> <p>3.</p>		

7.

What will looking for Hazchem signage and using the relevant Safety Data Sheets help you to ensure?

☐

8.

What are 4 details relating to the site overview that you can get from project plans and drawings?

☐

1.

2.

3.

4.

9.

What are 3 pieces of information that geological and survey data will tell you about the environment you will be working in?



1.

2.

3.

1.4 Plan Work

After receiving and clarifying all of your work instructions and requirements, you will need to plan for your work activities. This is a major component of vehicle loading crane operations because each load must be planned for so that the job can be completed as safely and efficiently as possible.

When planning out your work, you will need to consider:

- ◆ Job or task requirements.
- ◆ Priorities or sequencing.
- ◆ Site rules and regulations.
- ◆ Permits and procedures.
- ◆ Site hazards or issues.



Planning out your work activities involves scheduling your daily and weekly tasks to complete all assigned tasks in the best, most efficient manner that still meets the requirements of the worksite. It will allow you to plan for the time ahead to ensure that project timelines do not get out of hand.



Some people prefer a handwritten checklist or work method statement, others a computerised diary entry. What works for you is the most important thing.

Flexibility is important when organising your work priorities to allow you to re-organise if:

- ◆ Higher priority tasks arise.
- ◆ Accidents occur.
- ◆ Weather interferes.
- ◆ There are unexpected conditions onsite.

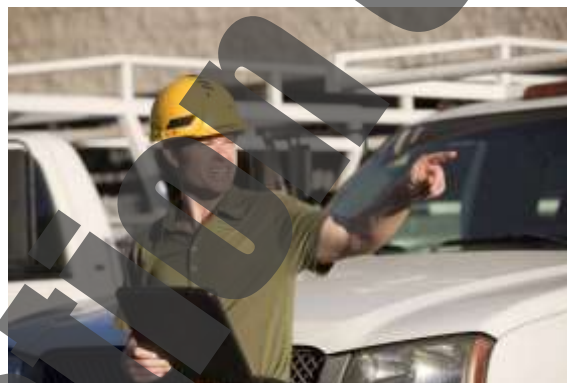
You need to take responsibility for your own activities to make sure that your assigned activities will be completed to the required standard, in the documented manner and within appropriate timeframes.

Review Questions

10.	What are 3 things to consider when planning out your work?	<input type="checkbox"/>
1.		
2.		
3.		

1.5 Hazard Identification and Control

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.



1.5.1 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).

