

RIIMPO321F

Conduct Civil Construction Wheeled Front End Loader Operations

Learner Guide Instructions

Who is this document for?

The learner.

What is in this document?

- Course information that matches the PowerPoint presentation.
- Review questions.
- Practical assessment instructions for learners.

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.
3. Set the reading and test time limits that are highlighted in pink at the end of the document.

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

LEARNER GUIDE

RIIMPO321F Conduct Civil Construction Wheeled Front End Loader Operations

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

This Book Contains:

- Course Information.
- Review Questions.
- Practical Assessment overview and instructions.

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1.1 Introduction

This course is based on the unit of competency, **RIIMPO321F Conduct Civil Construction Wheeled Front End Loader Operations.**

You will learn about civil construction wheeled front end loader operations including:

- ◆ Planning and preparing for work.
- ◆ Conducting routine checks.
- ◆ Operating wheeled front end loaders.
- ◆ Relocating the front end loader.
- ◆ Maintenance and other housekeeping tasks.



1.1.1 What is a Wheeled Front End Loader?

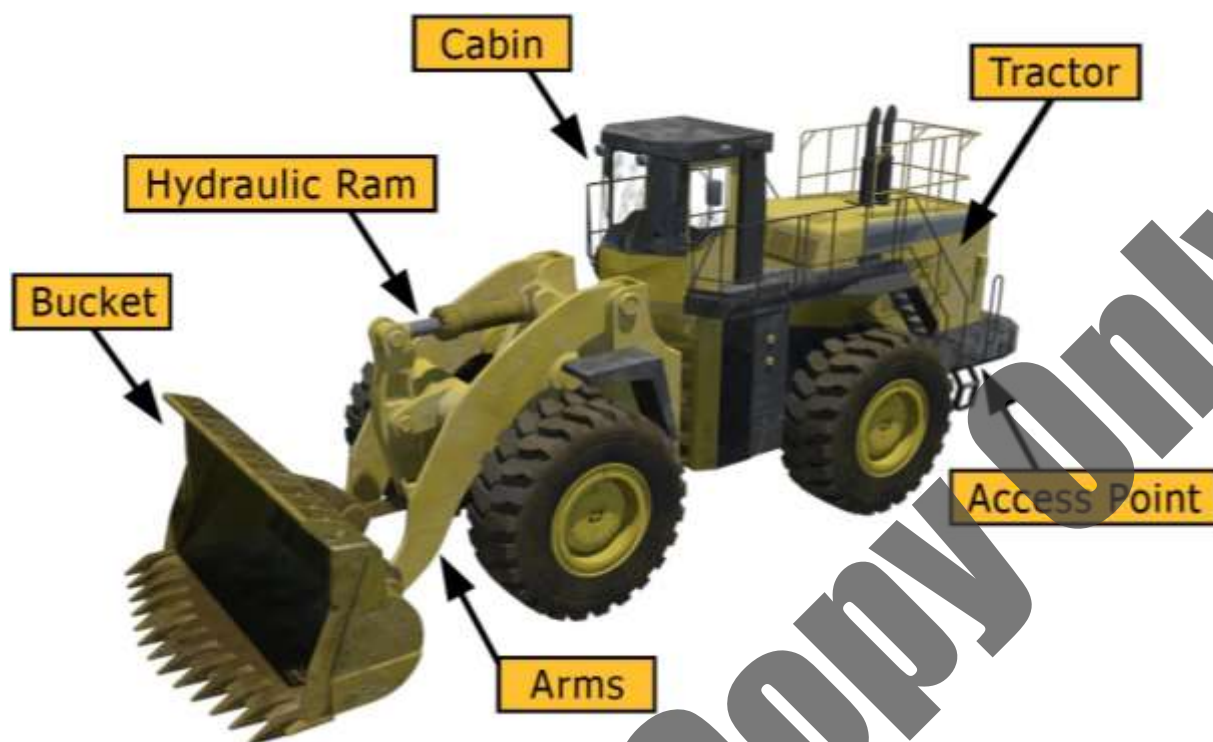
A wheeled front end loader is a self-propelled machine that has a front mounted bucket connected to the end of two booms (arms). The bucket has a very large capacity, and may be removable or permanently mounted.

The machine is self-propelled, meaning that it has a powerful engine and does not require pushing, pulling or towing.



1.1.1.1 Wheeled Front End Loader Components

The following diagram outlines the basic components of a wheeled front end loader:



Component	Description
Cabin	Where the operator sits. Contains the controls for the operation of the wheeled loader.
Tractor	Contains the engine of the machine.
Access Point	The point where the operator can safely access the loader cab.
Arms	Raises and lowers the bucket.
Bucket	Used to move materials. The most common attachment.
Hydraulic Ram	Moves the arms and bucket/attachment.

1.2 Working Safely

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.



1.2.1 Health and Safety Rules

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

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.
Australian Standards	These tell you what the minimum requirement is for a job, product or hazard.

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.

1.2.2 Operations Documentation

Before starting your work you need to make sure you have access to all operations 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. 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 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.



1.2.3 How to Keep Everyone Safe

WHS law says that all companies and workers need to keep themselves and other people safe while they work. This is called a duty of care.



To keep yourself and other workers safe you need to:

- ◆ Follow your instructions.
- ◆ Follow all workplace rules.
- ◆ Make sure all equipment is safe to use.
- ◆ Carry out your work safely.
- ◆ Report any problems.

If you think something is dangerous tell your boss or supervisor as soon as possible.

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 work practices.
- ◆ Personal protective clothing and equipment.
- ◆ Safe use of tools and equipment.



Review Questions

1.	What information could you access to make sure your work is compliant?	<input type="checkbox"/>

2.

List 3 things that may be included in operations documentation.

1.

2.

3.

3.

How can you make sure you meet your Duty of Care requirements to keep yourself and other workers safe?

Evaluation Copy Only

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 obstacles in the way? What are the ground conditions like? Is the site ready for your work to begin? Are there structures, workers, traffic or areas that you need to avoid?
- ◆ **The Weather** – Is there wind, rain or other bad weather? Is it too dark?
- ◆ **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 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 kind of material is being moved? How much is there to move? How long do you have to complete the work? Where will the load be discharged? Does the job need a special type of bucket?
- ◆ **Plant** – What type of plant will be used? How big is it? How much room does it need?
- ◆ **Communications** – How are you going to communicate with other workers?
- ◆ **Procedures & Rules** – Do you need any special permits or licences for the work? Are there site rules that affect the way you will do the work e.g. traffic control requirements?



1.3.1 Reading and Checking Your Work Instructions



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

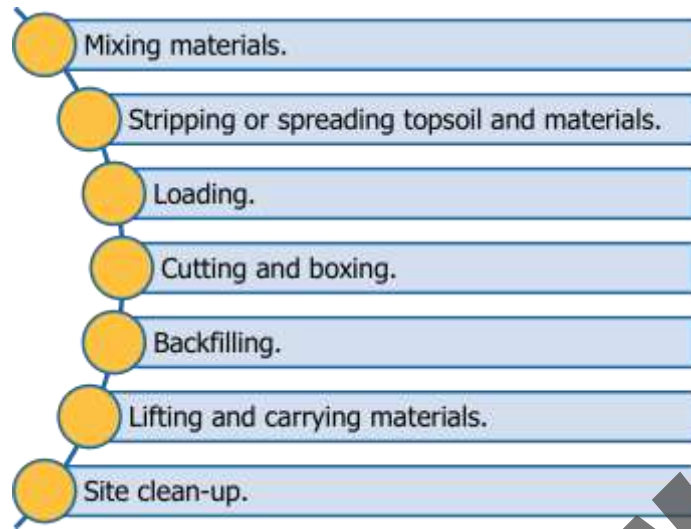
Procedures help to make sure that all work is done in a safe way, without damaging equipment or putting people in unsafe situations. They also help to make sure that work is done in the correct order and doesn't interrupt or get in the way of other work that is happening on the site. This is especially important in civil construction projects that need to be completed in a particular sequence.

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 the language or civil construction terminology being used in them, you can ask your boss or supervisor. They will tell you where to find your work instructions and explain what they mean.

1.3.1.1 Wheeled Front End Loader Operations

Most actions occur through the front end loader's forward movement. The loader is capable of:



A front end loader may also be used for levelling out surfaces.

1.3.2 Work Method Statements

Many worksites require a work method statement before any work can start. A work method statement is a list of steps that outlines how a job will be done. It also includes 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. They will also 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 Project Quality Requirements

Every civil construction project will have quality requirements. These outline when tasks need to be completed and the required standard of the work.



Your work instructions and plans or drawings will guide you, and help you to make sure you are achieving the quality standard for the project.

They can include:

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

1.3.3.1 Site Material Characteristics

Make sure you are familiar with the site product or materials before you start to move them around. Have a look at the composition of the materials to see what kind of equipment you will need to move them, and what techniques to use.

Some materials are more cohesive or sticky while others may be much less stable to work with, or create hazards like dust or damage to equipment if they are not handled just the right way.

Part of the civil construction project may involve compacting materials as part of preparing a site or creating roads. You will need to confirm the level of compaction that is needed in your work instructions or project plans.



1.3.3.2 Plans, Drawings and Sketches

When looking for information or instructions for a civil construction project, you will come across plans, drawings and sketches. Examples of these are:



- ◆ Project plans.
- ◆ Site plans.
- ◆ Work plans.
- ◆ Project drawings.
- ◆ Sketches made to explain work that is happening on site.

Plans and drawings are useful because they can help you to get an overview of the site and the project as a whole. It can also be the best way to explain exactly what needs to be done.

You need to be familiar with the scale and symbols used in the plans and drawings so you can understand them properly. If you're not sure ask your supervisor or site personnel for help.

1.3.4 Civil Construction Sequences

Civil construction projects are made up of a range of smaller tasks or activities. It is important that these are done in the right order for the project to go smoothly.

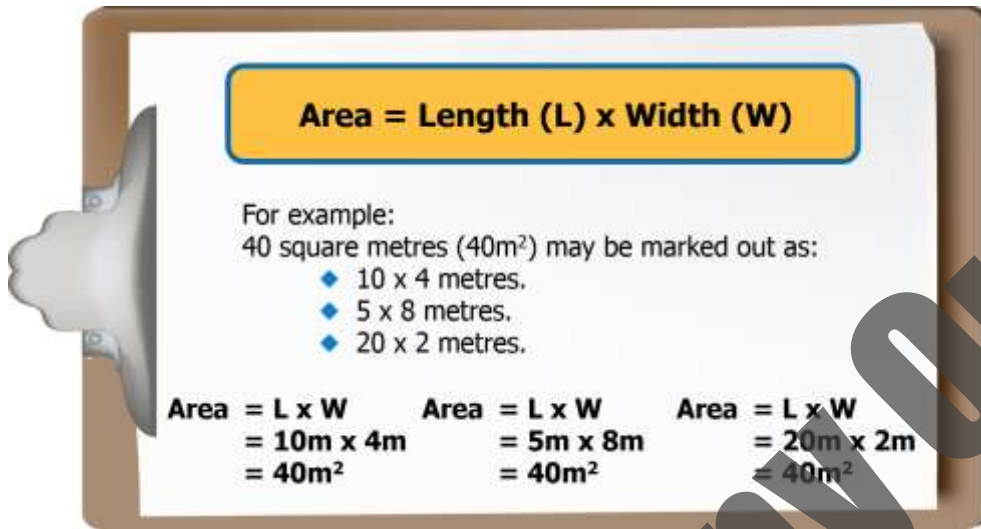
Here is a basic civil construction sequence from clearing the area through to preparing for road construction:



1.3.5 Basic Earthworks Calculations

As a loader operator, the two main calculations you will need to be able to apply are for Area and Volume.

Area can be calculated using the following formula:



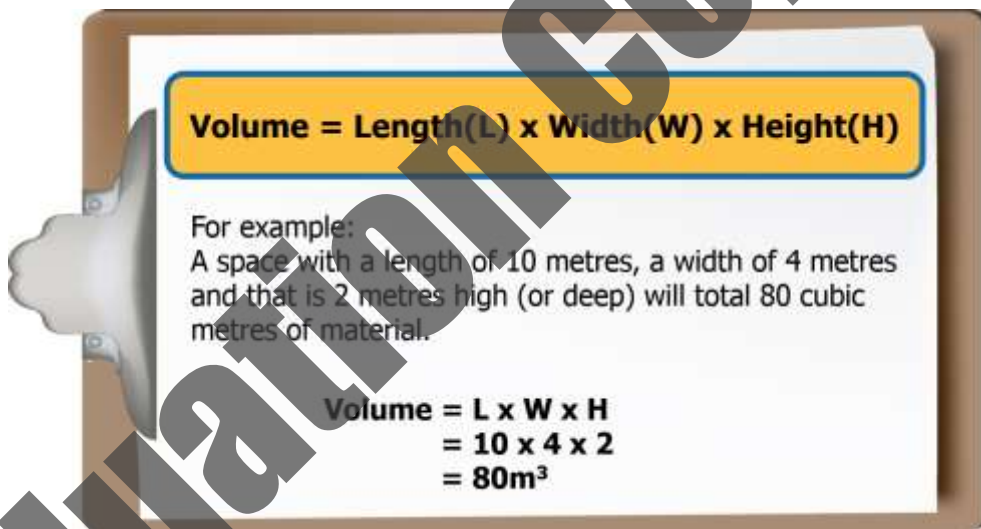
Area = Length (L) x Width (W)

For example:
40 square metres (40m²) may be marked out as:

- ◆ 10 x 4 metres.
- ◆ 5 x 8 metres.
- ◆ 20 x 2 metres.

Area = L x W	Area = L x W	Area = L x W
= 10m x 4m	= 5m x 8m	= 20m x 2m
= 40m ²	= 40m ²	= 40m ²

Volume can be calculated using the following formula:



Volume = Length(L) x Width(W) x Height(H)

For example:
A space with a length of 10 metres, a width of 4 metres and that is 2 metres high (or deep) will total 80 cubic metres of material.

Volume = L x W x H
= 10 x 4 x 2
= 80m³

1.3.6 Emergency Procedures



Emergency procedures will vary depending upon the worksite. These procedures could include:

- ◆ Emergency shutdown.
- ◆ Evacuation.
- ◆ First aid.
- ◆ Fire fighting.

1.3.6.1 Emergency Shutdown of Equipment

If there is a fire, emergency or accident you might need to use the emergency stop on the equipment you are using. This will turn the equipment off immediately. You can also use the emergency stop if the equipment stops working properly or you lose control of the equipment.



1.3.6.2 Evacuation

Things to remember are:

1. Keep calm.
2. Move away from the danger to a designated evacuation point, sometimes called an emergency assembly area.
3. Do not let other people into the area.
4. Call emergency services in accordance with workplace procedures and policies.



1.3.6.3 First Aid



First Aid is the quick care given to an injured or ill person. Every site will have a First Aid Officer. If somebody needs first aid you must tell your supervisor or First Aid Officer. Do not try to give first aid if you have not been trained.