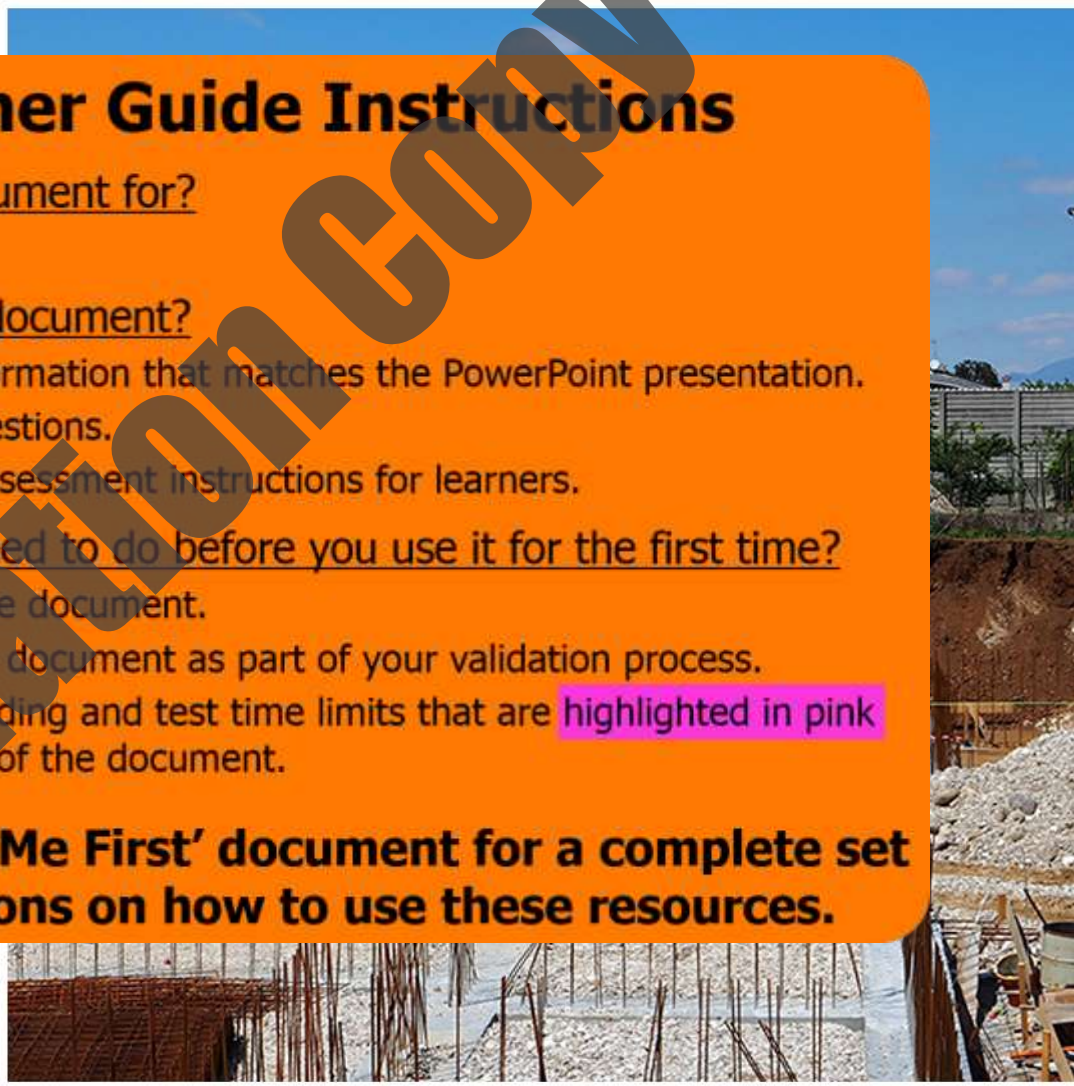
RIIHAN309F

Conduct Telescopic Materials Handler 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

RIIHAN309F Conduct Telescopic Materials Handler 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.

Table of Contents

1.1 Introduction

This training course is based on the unit **RIIHAN309F Conduct Telescopic Materials Handler Operations.**

This course is applicable for non-slewing telescopic materials handler operations less than 3 tonnes using:

- Forks.
- Work platform basket (boom length less than 11m).
- Earthmoving buckets.
- A jib and hook attachment.

Please Note:

- If operating the machine with a work platform and a boom length over 11m an elevating work platform high risk work licence is required.
- If the telescopic handler has a capacity over 3 tonnes a non-slewing mobile crane high risk licence is required.
- If the telescopic handler is capable of slewing, a slewing mobile crane high risk work licence is required.

You will learn about:

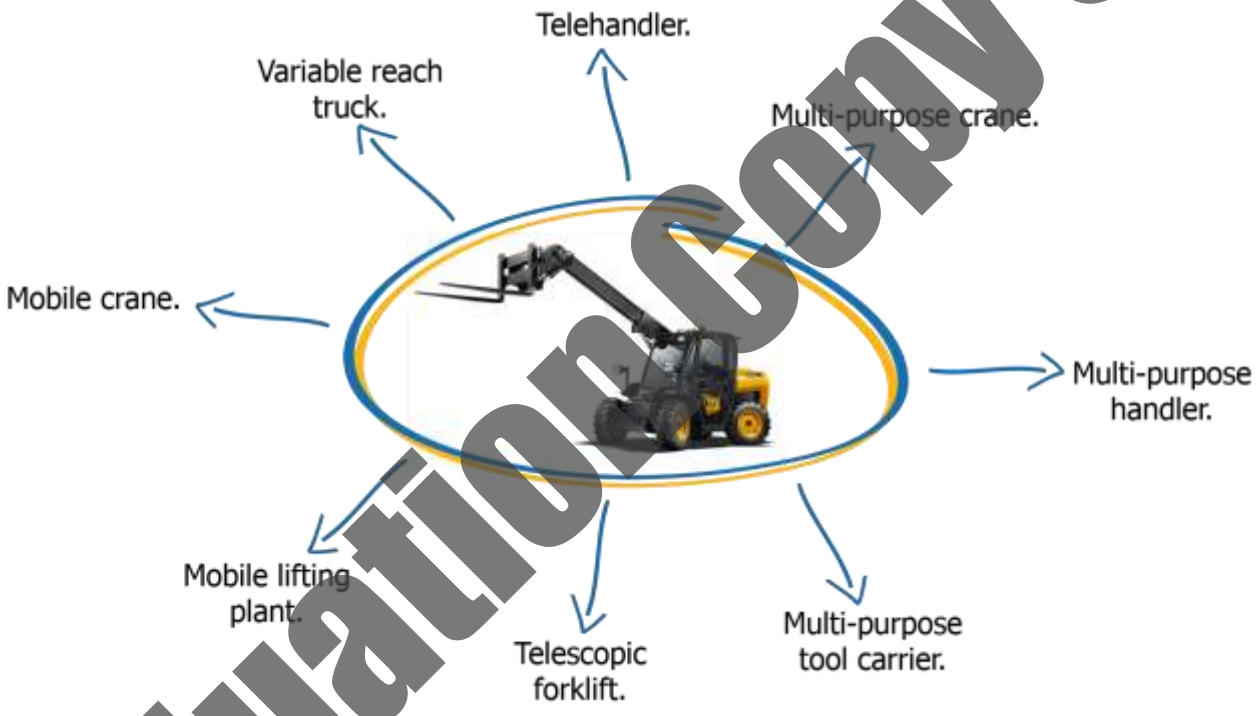
- Planning and preparing for operations.
- Selecting, fitting and removing attachments.
- Conducting pre-operational checks.
- Operating the handler.
- Attaching, securing, lifting, carrying and placing materials and loads.
- Relocating the telescopic materials handler from one site to another.
- Carrying out machine operator maintenance.
- Cleaning up.

1.1.1 What is a Telescopic Materials Handler (Telehandler)?

Telescopic materials handlers (telehandlers) are very versatile machines that can be used for lifting and carrying materials. They come in a variety of sizes with different capacities for lifting, carrying, scooping and stacking.

Telehandlers are known by various names depending on the state or territory you are working in.

These names include:



A telehandler is a self-propelled wheeled machine with a hydraulically operated telescopic boom that can move vertically, horizontally and rotate.

A wide variety of attachments are available which can be fitted using a coupling system.

The capacities of telehandlers vary with the size and model but the types and characteristics, capabilities and limitations stay the same.

1.1.2 Telehandler Components

Component	Description
Boom	The arm of the telehandler that is able to telescope in and out and is used to lift and shift materials.
Cabin	The position from which the operator controls the telehandler. It should be fitted with a ROPS (roll over protective structure) and a FOPS (falling object protective structure).
Stabilisers	Used to maintain stability while lifting a load.
Attachments	Interchangeable tools used to handle different types of loads. Common attachments include forks, buckets, workbaskets, jibs and other specific materials handling tools (grapples, cages).

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 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 (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.

Review Questions

1.	List 3 things that may be included in 'operations documentation'.	☐
1. 2. 3.		

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? 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?

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 equipment?
- **Plant** – What type of plant will be used? How big is it? How much room does it need?
- **Attachments** – 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 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).

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 Use of 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.

It will be issued by the manufacturer and may or may not include material handling methods.

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

1.3.4 Basic Calculations

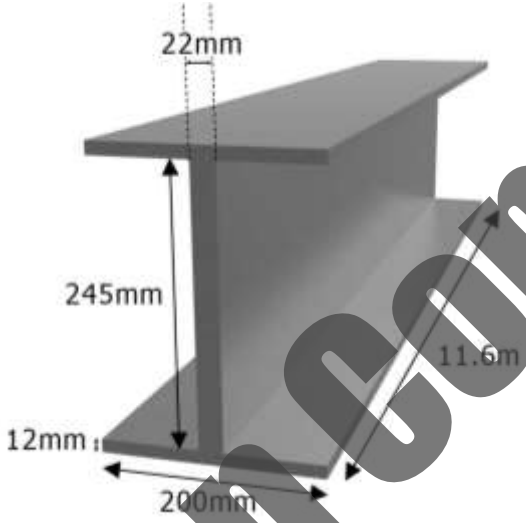
It is important that you are able to calculate the volume and weight of different loads.

The following are examples of how to calculate the weight of a load.

Each telehandler attachment has a set of documents that outline its unique specifications.

Example 1 – Load Calculation – Single Beam

Work out the weight of a steel universal beam with the following dimensions to the nearest kilogram.



Concrete Tee Beam			
Top and bottom flanges		**Web**	
Length	11.6m	**Length**	11.6m
Width	200mm	**Width**	245mm
Depth	12mm	**Depth**	22mm

Note: Steel has an approximate weight of 7850 kg per cubic metre.

The first step in calculating the weight of the beam is to work out the volume of the beam.

The general rule for finding out the volume of an object is:

Length x Width x Depth

The steel beam has 3 main parts within it – the web and the two flanges. Each of these sections can have their volume calculated separately and then added together for a total volume.

Before beginning any calculations it helps to convert the inputs into the same units of measurement:

Concrete Tee Beam					
Top and bottom flanges			**Web**		
Length	11.6m	= 11.6m	**Length**	11.6m	= 11.6m
Width	200mm	= 0.2m	**Width**	245mm	= 0.245m
Depth	12mm	= 0.012m	**Depth**	22mm	= 0.022m

We can begin by working out the volume for both of the flanges (because they have the same dimensions):

Volume = L x W x D
= 11.6 x 0.2 x 0.012
= 0.028 m^3

Make sure that you multiply this answer by two because there are two sections that are this volume – both of the flanges:

0.028 m^3 x 2
= 0.056 m^3

Working out the volume of the web follows much the same process as above:

Volume = L x W x D
= 11.6 x 0.245 x 0.022
= 0.062 m^3

Now that we have worked out the volume for all the separate sections you add these together to find the total volume of the beam:

0.056 + 0.062 = 0.118 m^3

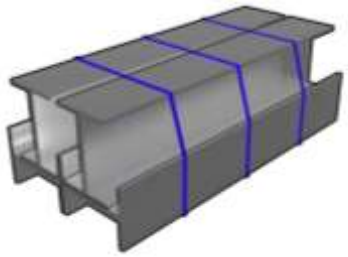
Now that we have the total volume of the beam you can use this to find the weight. Steel has an approximate weight of 7850 kg per cubic metre.

To find out the weight of the beam we simply multiply the volume of the beam by the approximate weight of steel per cubic metre:

0.118 x 7850 = 926.3 kg

Therefore:
The steel beam weighs 926.3 kg (or 0.926 tonne).

Example 2 – Load Calculation – 4 Beams



If there were 4 of these beams bundled together, what would the total weight of the load be?

To work this out we need to take the total weight of 1 beam and multiply it by 4:

926.3 kg x 4 = 3705.2 kg or 3.7 tonnes

Example 3 – Load Calculation – Bin of Materials

The telehandler needs to shift a bin containing a range of scaffolding materials. The measurements and quantities are listed below:

- 12 x 2m Steel scaffold tube
- 18 x 3m Steel scaffold tube
- 21 x 1m Steel scaffold tube
- 1 x Box of scaffold parts labelled as 35kg
- 15 x Timber scaffold planks each weighing 16kg
- 1 x Bin weighing 375kg

To work out the total weight of this load we need to calculate the weight of each of the items.

For the purpose of this example the steel scaffold tubes weigh 9kg per metre.

Item	Calculation
2m scaffold tubes	12 x 2 x 9 = 216kg
3m scaffold tubes	18 x 3 x 9 = 486kg
1m scaffold tubes	21 x 1 x 9 = 189kg
Box of scaffold parts	1 x 35 = 35kg
Timber scaffold planks	15 x 16 = 240kg
Bin	1 x 375 = 375kg
Total Weight	**216 + 486 + 189 + 35 + 240 + 375 = 1541kg or 1.54 tonnes**

Review Questions

2.	What details about the work area can you get from your work instructions?	☐

3.	What is a Work Method Statement?	☐

4.	What is a Safety Data Sheet?	☐

5.	What is the formula for calculating Volume?	☐

6.	Work out the weight of a steel universal beam based on the information provided below. **Universal Steel Tee Beam** **Top and bottom flanges** / **Web** Length 5.2m / Length 5.2m Width 300mm / Width 600mm Depth 12mm / Depth 24mm **Note:** Steel has an approximate weight of 7850 kg per cubic metre. Show all workings.	☐