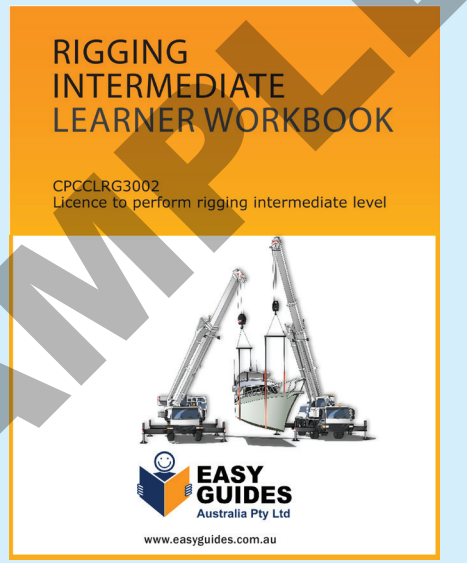
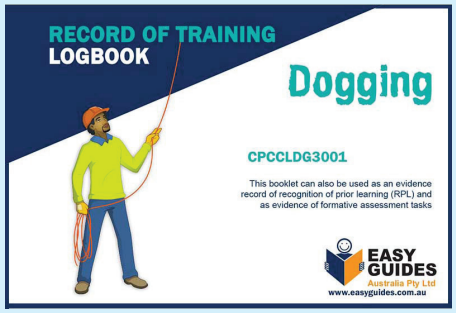
The benefits of using a Trainer Value Pack





Assessment Instrument

Mapping of materials to unit of compentency

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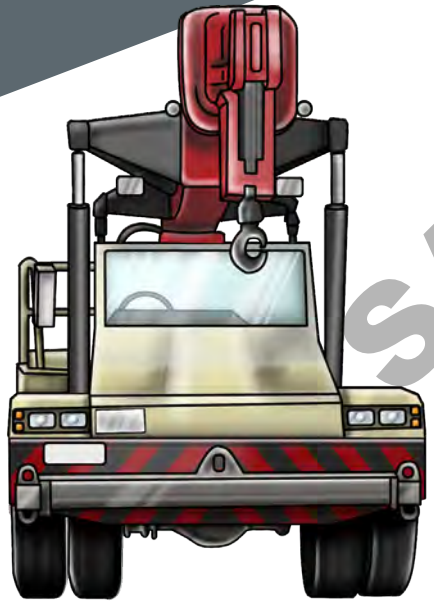
LEARNER GUIDE

Non-slewing Crane



RII COMPETENCY

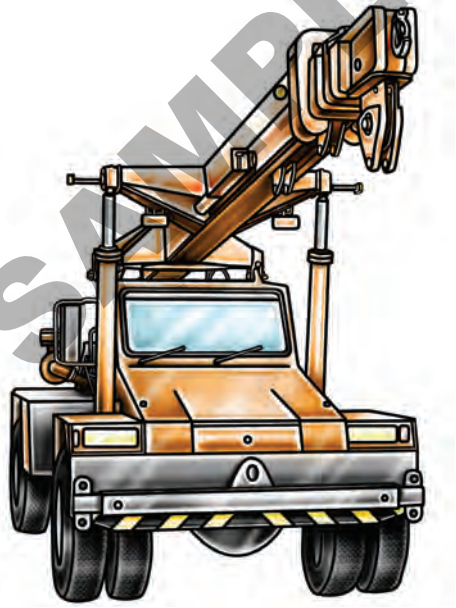
Training support material for:

RIIAN212E
Conduct non-slewing crane operations

EASY GUIDES
Australia Pty Ltd

CONTENTS

Introduction to Non-Slewing Crane



What is a non-slewing crane?

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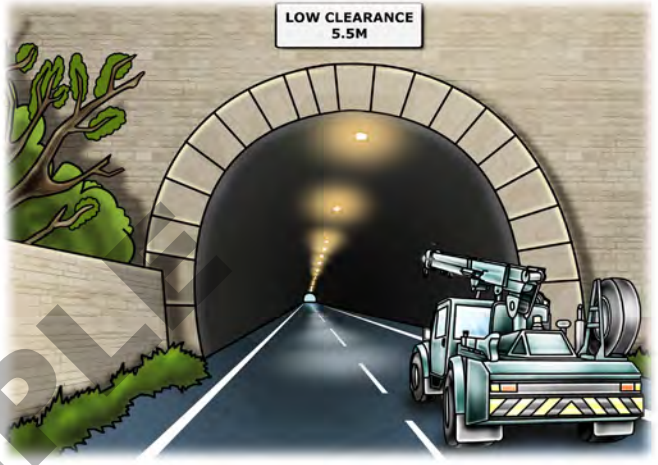
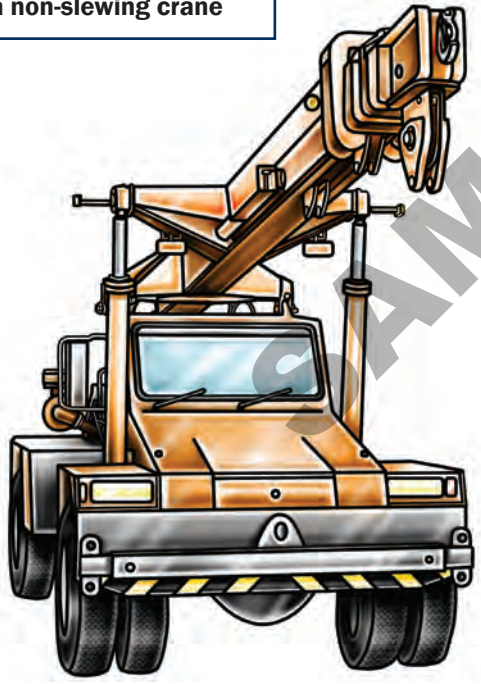
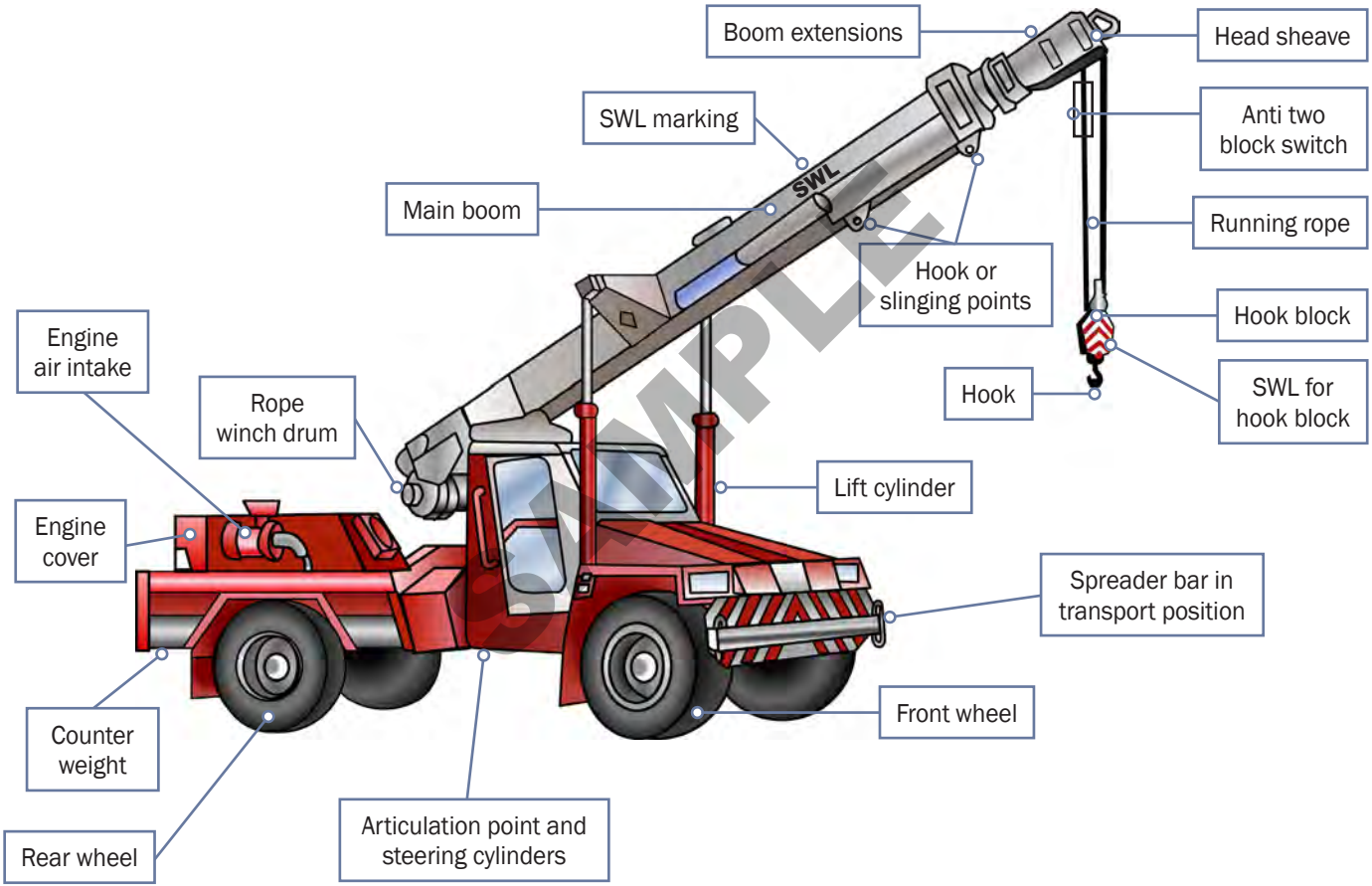
The boom can only luff up and down and telescope in and out. The crane is mounted on a vehicle.

In some states a telescopic handler is classed as a non-slewing crane





Parts of a non-slewing crane



Prepare for non-slewing crane operations

Element 1

Communication

You can communicate many different ways. Sometimes the type of communication method depends on the non-slewing crane that you will be working with and the worksite. You must choose the best communication method for the job.

Make sure you **listen** to information and **ask questions** if you do not understand what you have been told.

You can communicate in many different ways. Examples of types of communication are:

Speaking, listening, asking questions

This is very important because it helps you understand how to do your job safely.

Toolbox meetings

Toolbox meetings are like small staff meetings that provide important information.

Two-way radios

These are common on worksites. If you are using them, always make sure they are working properly before you start the job.

Check the batteries have enough charge and check you have the right channel to communicate with your workmates.

Whistle

Whistles can be used when the operator and other workers are both in and out of sight.

Hazard versus risk

What is the difference?

Different hazards and risks emerge constantly—sometimes instantly.

Hazard

A hazard is any thing or any situation which could injure or harm you.

In other words, it is anything that can hurt you.

Risk

A risk is the chance of a hazard causing harm such as injury, illness or even death.

In other words, how likely it is that somebody or something may be harmed by the hazard.

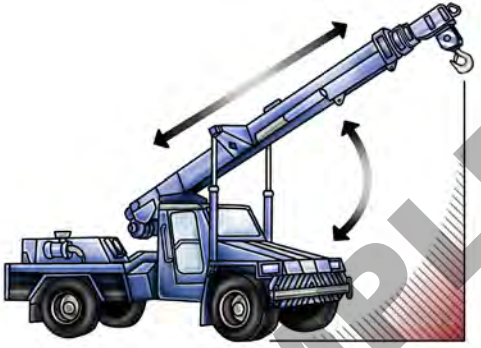
QUESTION 11

...CONTINUED FROM PREVIOUS PAGE

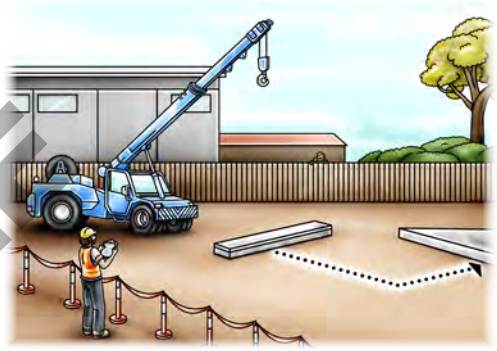
You've already planned for site hazards.

What other things do you plan for before using the crane?

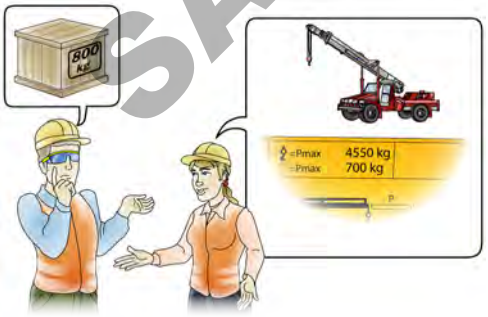
The crane's movement sequence



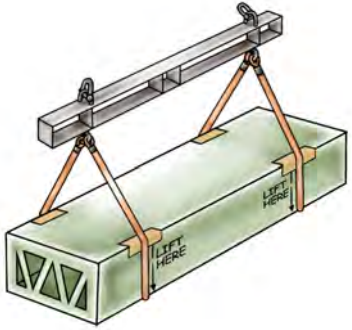
Travel requirements (distance, speed and direction)



Condition and configuration of the load. Plan for weight and size of load.



Slinging method – balance and security of load.



QUESTION 15

What are some ways you can work closer to electric power lines than the minimum distances allowed?

You might be able to get access permit from the electricity supply authority. They will provide help with working safely.

Where possible, the power company may be able to turn off (disconnect) the power supply.

If you can't get the power turned off, the electrical supply authority will need to cover the electric lines with insulation.

These powerlines have been insulated

Use a spotter in the exclusion zone if you are allowed to in your state/territory.

Spotter

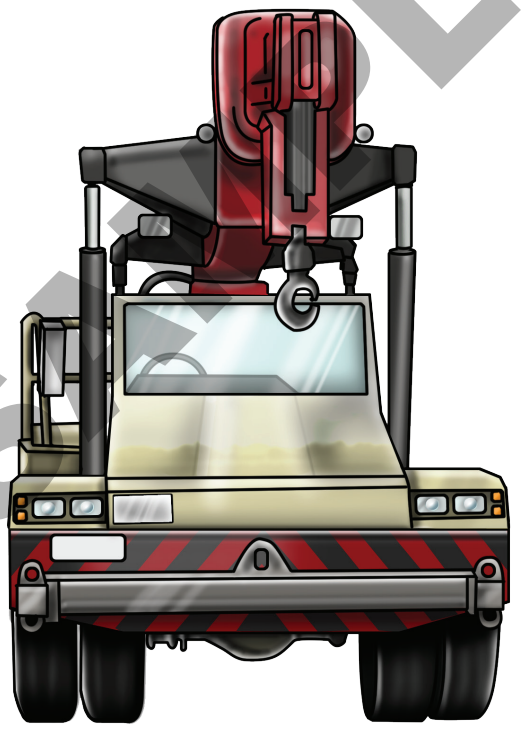
QUESTION 18

What hazards (dangers) are there if you work near (the radius) of the outriggers or chassis of a non-slewing crane?

The crane or load could hit or crush you. You should stay outside the exclusion zone.

NON-SLEWING CRANE LEARNER WORKBOOK

RIIHAN212E
Conduct non-slewing crane operations



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Student number: Date:

Contents

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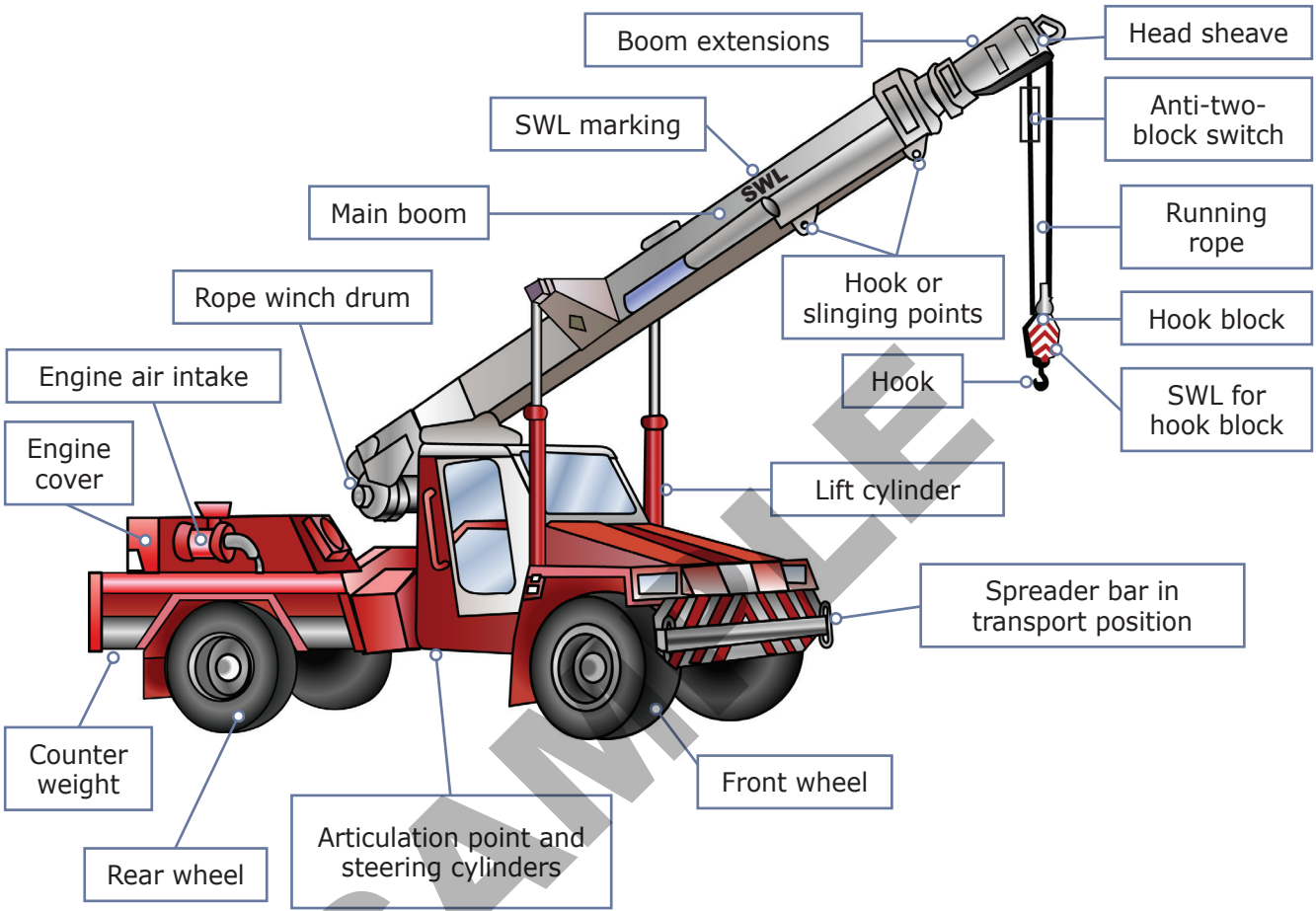
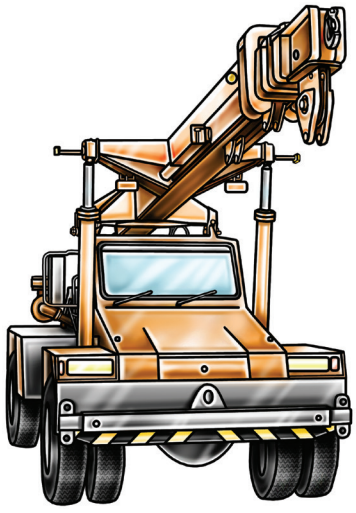
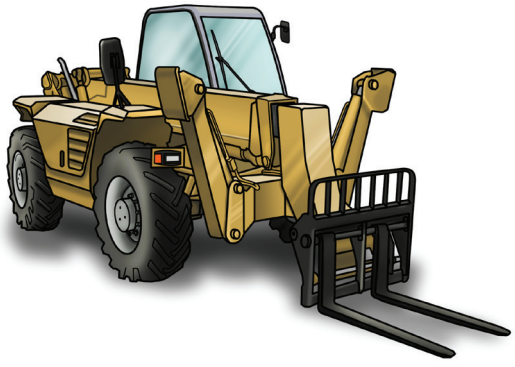






In some states a telescopic handler is classed as a non-slewing crane

Part 2

Communicate Clearly

Performance Criteria: 1.2, 1.6, 2.4

Communicate clearly

Choose the communication equipment you will use for the job. After you have made your choice, test the equipment to make sure it's working. Make sure you understand the dogger's hand signals if you use hand signals.

Theory Training Task 9

Performance Criteria: 1.6, 2.4

You can communicate many different ways. What are some of the ways you can communicate with other workers while moving a load?

Theory Training Task 10

Performance Criteria: 1.2, 1.6

How should you and the dogger communicate when you can see each other? Circle the correct answer.

Hand signals

Whistle

Two-way radio

Theory Training Task 11

Performance Criteria: 1.2, 1.6

a) Name the communication equipment you should test before you start work to see if it functions.

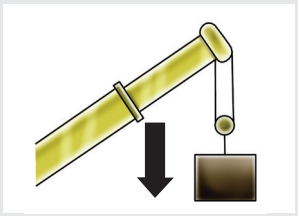
b) What should you do if the equipment doesn't work?

Theory Training Task 12

Performance Criteria: 3.7

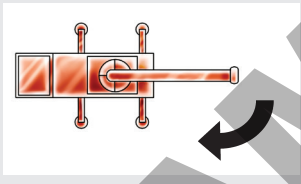
Match the crane boom motion on the left with the correct hand or whistle signals on the right.

Hoisting down



Stop

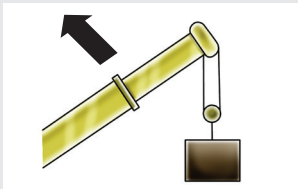
Slewing right



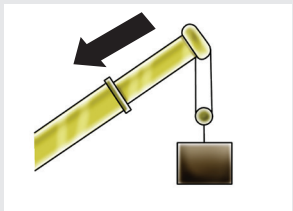
Travel and transverse

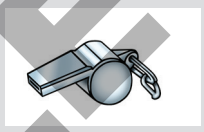
Indicate the direction you want the crane to go

Luffing boom up

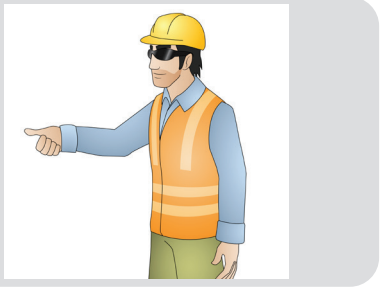


Telescoping boom retract. Jib-trolley in.





1 long



1 long, 2 short

Practical Training Task 3

Part 2—Communicate clearly
Performance Criteria 1.2, 1.6, 2.2, 2.3, 2.4

Communicate Clearly

Learners: You **must** do this task under the **control of a licensed operator**.
Please wait for your trainer to tell you what to do before trying the task.

(a) Your trainer will take you to an area where you'll practise the Australian Standard hand signals with the trainer or dogger. Make sure you understand all of the signals.

(b) Choose a two-way radio and check it for faults or damage. Follow the tag out procedure if the radio doesn't work.

- ☐ Appropriate communication methods are identified with associated personnel. This means you use communication equipment best suited to the job you are to do.
- ☐ All communication equipment is checked for serviceability. This means you make sure any communication equipment is useful and not harmful to you.
- ☐ All communication equipment is tested for functionality. This means you test your communication equipment to see if it works.
- ☐ All required communication signals are correctly interpreted according to procedures and the appropriate standard. This means when moving a load, make sure you know and understand the dogger's hand signals.

Part 2: **Satisfactory** ☐ **Not yet satisfactory** ☐

Signature (licensed operator/trainer) ..... Date .....

Part 3

Check the Crane

Performance Criteria: 2.1, 2.2

Do visual checks

Before you start working, there are important crane safety checks you need to do first. Start with the visual check. Look around the crane for obvious problems such as leaks and damage.

Theory Training Task 13

Performance Criteria: 2.1, 2.2

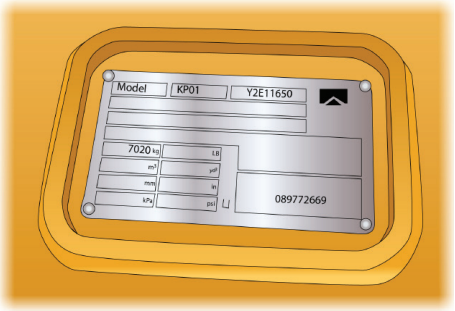
Look at this crane.

Circle the things you should check for on the crane.

Performance Criteria: 2.1, 2.2

Check signs and labels

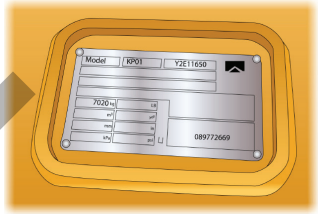
Check the signs, labels and decals on the crane. These will tell you the crane's load limits and what it can and can't do. All signs and labels must be readable and clear.



Theory Training Task 16

Performance Criteria: 2.1, 2.2

List at least two (2) things you should be able to read on a data plate.



Performance Criteria: 2.4

Do the pre-operational checks

Do the pre-operational checks to make sure the crane is safe to use.

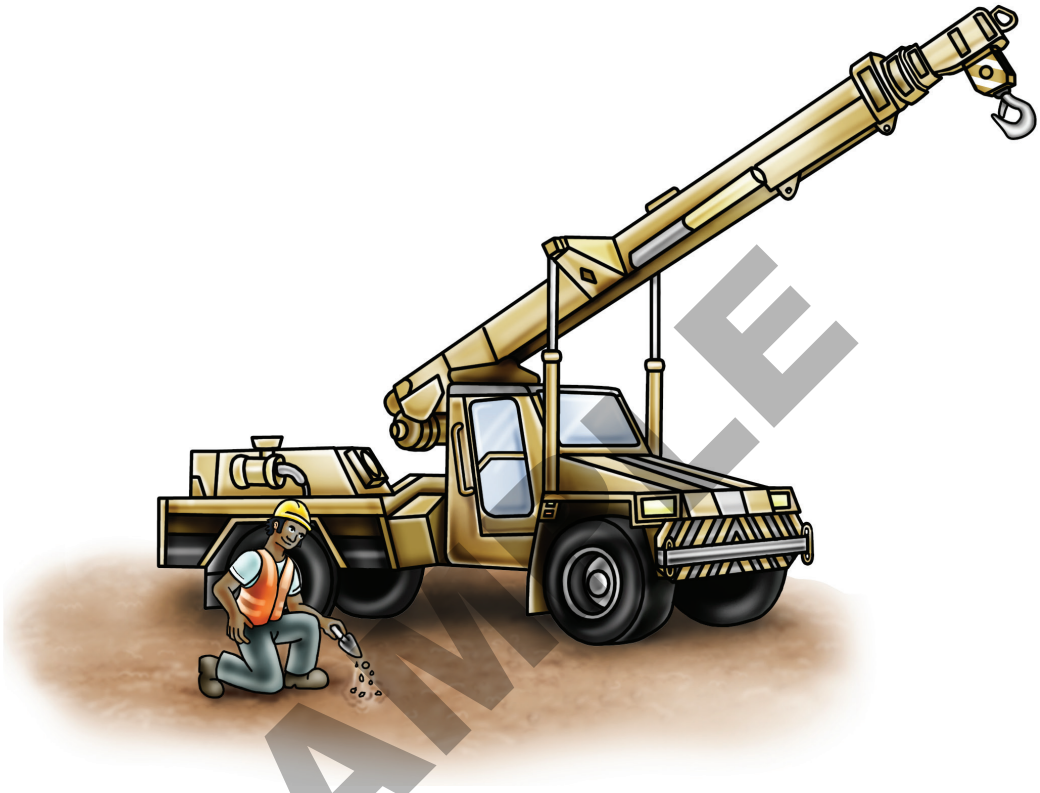
Theory Training Task 17

Performance Criteria: 2.1, 2.2

What are four (4) pre-operational checks you need to do on the crane?

Part 4

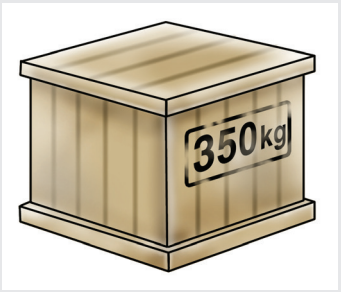
Plan the Lift



Performance Criteria: 1.1, 2.6

Find out the weight of the load

You are planning the lift. Find out or estimate the weight and size of the load you are going to lift.



Theory Training Task 25

Performance Criteria: 1.1, 2.6

Give some examples of how you find the weight of an unmarked load.

Theory Training Task 26

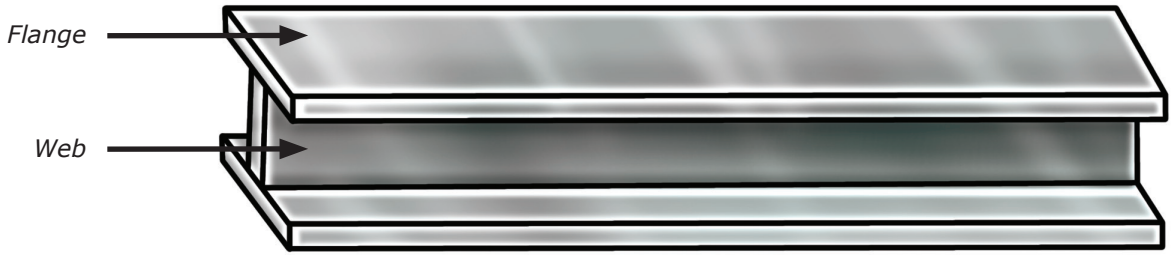
Performance Criteria: 1.1, 2.6

a) You will lift a steel universal beam. The dimensions are:

- Weight of structural steel = 7840 kg per cubic metre

  1 mm = 0.001 m
- Flanges (top and bottom)
  - Length = 12 m
  - Width = 250 mm
  - Thickness = 15 mm
  - Flange = L × W × D × 2 × weight of structural steel
- Web
  - Length = 12 m
  - Width = 275 mm
  - Thickness = 40 mm
  - Web= L × W × D × weight of structural steel

What is the total weight of the steel universal beam in kilograms?



RIIHAN212E

Conduct non-slewing crane operations

MAPPING

The information and questions contained in the Learner Guide/PowerPoint Presentation, Learner Workbook, Review Questions and assessment instrument have been mapped to the elements, performance criteria, and knowledge and performance evidence for the unit of competency RIIHAN212E Conduct non-slewing crane operations

Elements and Performance Criteria

Element 1 – Prepare for non-slewing crane operations

Performance Criteria	Learner Guide/PowerPoint	Learner Workbook	Formative Assessment	
			Knowledge	Performance
1.1 Access, interpret and apply crane operations documentation	• Duty of Care. Page 13 • OHS / WHS guidelines. Page 14 Question 11, 28, 45	Theory Task 20, 25, 26, 27	Q 50	Task 3
1.2 Obtain, interpret, clarify and confirm work requirements	Question 11, 28	Practical Task 2, 3 Theory Task 9, 10, 11	Q 17	Task 3
1.3 Identify hazards and environmental issues, assess the risks and implement control measures in line with workplace policies	• Overhead powerlines on poles. Page 22 • Overhead powerlines on towers. Page 23 • Visual indicators used to identify overhead electric powerlines. Page 26 Question 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23	Theory Task 1, 2, 4, 5, 32, 33, 34 Practical Training Task 1, 2	Q 7, 13, 14, 15, 41	Task 1, 2
1.4 Select and wear personal protective equipment required for work activities	Question 108	Practical Task 2	Q 8, 9	Task 1

Element 2 - Operate non-slewing crane within operating capacities of equipment to complete work activity

Performance Criteria	Learner Guide/PowerPoint	Learner Workbook	Formative Assessment	
			Knowledge	Performance
2.1 Carry out pre-start and start-up checks in line with workplace procedures	Question 46, 47, 51, 52, 53, 54	Theory Task 13, 14, 15, 16, 17, 18, 21, 22, 23, 38, 47, 57, Practical Task 4, 7	Q 19, 26, 29, 32	Task 4, 7
2.2 Identify faults or defects and rectify or report within scope of own responsibility and according to workplace procedures	Question 24, 25, 46, 47, 49, 50, 51, 52, 55, 56, 70, 71, 72, 78, 79, 80, 81, 83	Theory Task 13, 14, 15, 16, 17, 18, 21, 22, 23, 24 Practical Task 3, 4, 7	Q 30, 32, 33, 52, 20, 23, 24	Task 3, 4
2.3 Inspect and confirm lifting gear is attached according to work requirements, equipment specifications, and workplace procedures	• Set up the crane for the task. Page 80 Question 48, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 109, 111	Practical Task 3, 5, 7	Q 40, 47, 48	Task 6, 7
2.4 Confirm the work area is clear and safe prior to commencing work activity.	• Why you need packing. Page 47 • Types of packing. Page 48 • Packing formula. Page 49 • Ground types. Page 50 • Bearing capacity of different types of ground. Page 51 Question 39, 40, 41, 42, 43, 44, 48, 85, 120	Theory Task 9, 17 Practical Task 3, 5, 7	Q 22, 25, 34, 38	Task 5

2.5 Position, stabilise and level crane prior to commencement of lift operations	Question 84, 85	Theory Task 35, 37, 39, 40, 41 Practical Task 5, 6, 7	Q 22, 42	Task 6
2.6 Prepare loads for lift in accordance with crane limitations and rigging requirements, and according to workplace procedures	• Crane configuration and the load chart. Page 79 • Load chart. Page 81 Question 26, 27, 29, 30, 37, 38, 57, 58, 59, 60, 61, 62, 63, 97, 98, 99, 100, 101, 102, 110, 112, 113	Theory Task 25, 26, 27, 28, 29, 42, 43, 44, 45, 46, 48, 50, 53 Practical Task 5, 6, 7	Q 22, 35, 36, 39, 46	Task 5, 6, 7
2.7 Use crane controls and functions to lift and position using techniques suited to equipment capabilities, site and work conditions, and according to workplace procedures	Question 29, 30, 31, 32, 35, 36, 64, 65, 66, 123, 129, 130	Theory Task 19, 49, 50, 51, 52, 53, 54, 55 Practical Task 7	Q 22, 27, 43, 44, 49, 51	Task 7
2.8 Monitor and manage equipment performance using indicators and alarms	• Load monitor indicator. Page 124 Question 65, 73, 74, 75, 77, 103, 104, 135, 136	Theory Task 20, 22, 55, 59 Practical Task 4, 7	Q 30	Task 7