Trainer Value Pack

NON-SLEWING MOBILE CRANE
SAFETY AND LICENCE GUIDE

Training support material for:

TLILIC0040
Licence to operate a non-slewing mobile crane
(Greater than 3 tonnes capacity)

Produced by:

EASY GUIDES
Australia Pty Ltd

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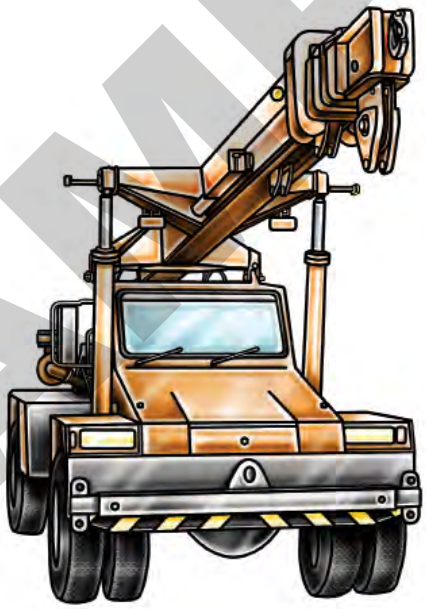
INTRODUCTION TO NON-SLEWING MOBILE

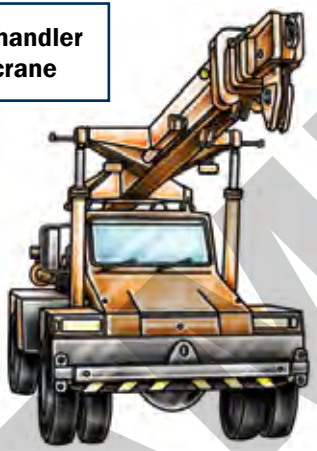


What is a non-slewing mobile crane?

A non-slewing mobile crane is a powered crane which features a boom or jib that does not slew.

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

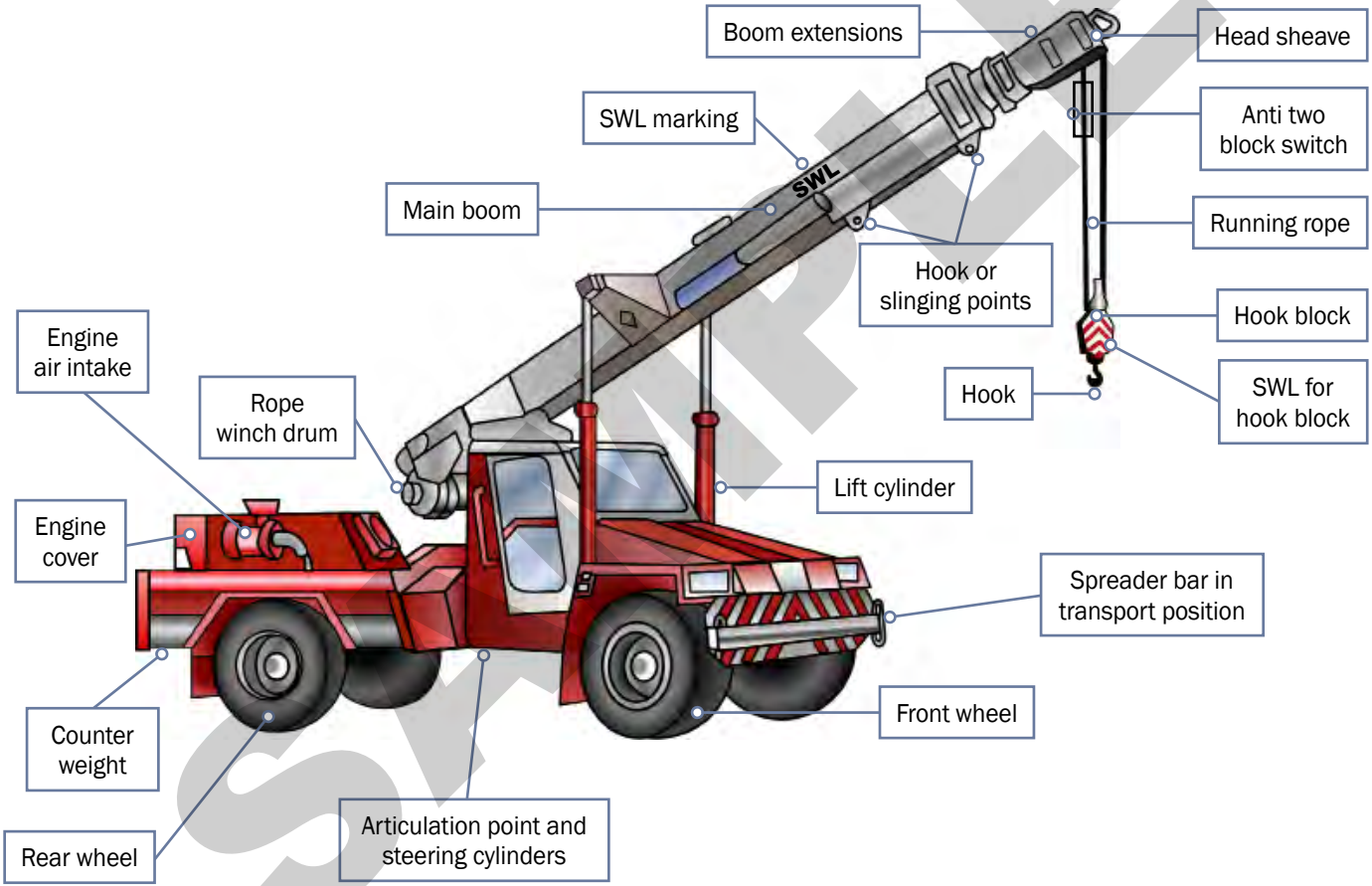
In some states a telescopic handler is classed as a non-slewing crane



A non-slewing mobile crane is a type of crane that can lift and move loads but does not rotate or “slew” around a vertical axis. Instead, it typically has a fixed boom that can extend or retract, and it moves by rolling on wheels or tracks.

Articulated non-slewing mobile cranes have joints that allow the boom to bend, which enhances their versatility and maneuverability.

Parts of a non-slewing mobile crane



PLAN WORK / TASK

Element 1

QUESTION 11. What are some common workplace hazards?

Workplace hazards need to be identified **before** you start work.

Take a good look at your workplace and decide if anything could possibly cause injury to you or anyone else in the area.

Zones/areas to check for hazards:

Above eye level

You should check above eye level for:

- powerlines
- other overhead services
- buildings
- trees
- surrounding structures and facilities
- other obstructions

Ground to eye level

You should check around eye height for:

- other equipment
- machinery/plant
- people
- pedestrians
- things in the path of travel
- insufficient lighting
- weather conditions
- dangerous materials
- surrounding structures
- facilities

Ground level (and below)

You should check the ground to see if:

- the surface is stable and level
- there is debris or rubbish in the way
- the surface is strong enough to support the weight of any equipment or materials
- if there are any open trenches or recently filled trenches/excavations
- unstable ground
- underground services

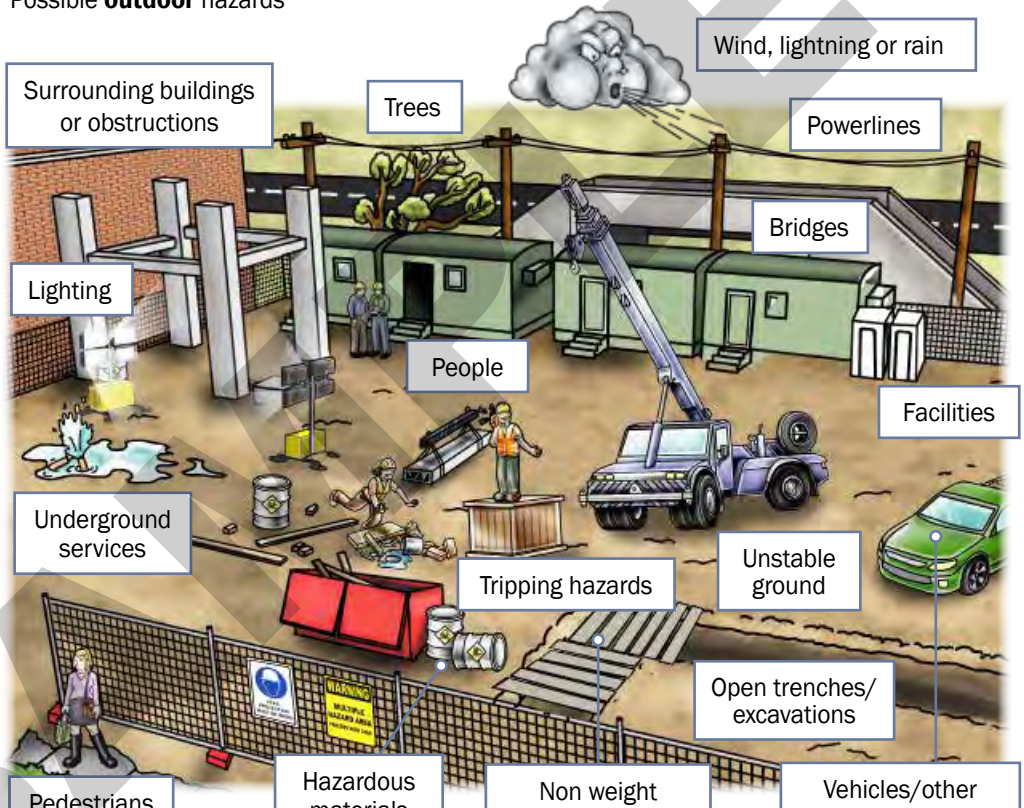
QUESTION 15

...CONTINUED FROM PREVIOUS PAGE

You have arrived on site and you are about to start using the crane. There are hazards (dangers) you might run into when using the crane.

What are some examples of hazards that you must plan for?

Possible **outdoor** hazards



QUESTION 19. Name some common items of Personal Protective Equipment (PPE)

PPE is clothing or equipment worn on the body to protect you from hazards.

PPE will not take away the risk of harm altogether, but it will helpkeep you safe.

Safety helmet or **hard hat**

Safety glasses or **goggles**

Ear muffs or **ear plugs**

Respiratory equipment
Dust mask, half face respirator or full face respirator

High visibility clothing
Safety vest, hi-vis shirt or hi-vis jumpsuit

Long sleeved shirt

Lanyard

Safety gloves
Insulated

Safety harness

Long pants

Safety shoes
Rubber soled, fully enclosed foot, may be steel capped to protect the toes

QUESTION 23. What are some ways of showing there are powerlines overhead?

Tiger tails

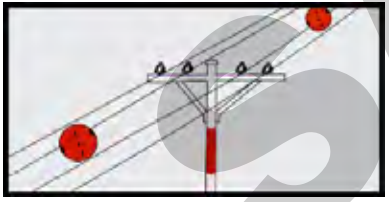
Tiger tails are **black and yellow pipes** that hang off powerlines. They are a **warning device** to make the powerlines easier to see.

Be aware that tiger tails are very different to insulated powerlines.

Tiger tails:

- **DO NOT** insulate wires
- **DO NOT** protect you from the risk of electrocution or electric shock
- **DO NOT** allow you to work closer to powerlines

Power line marker



Markers

Markers of different colors such as white and orange.

Poles

Poles with the lower section painted up to 3m above ground.

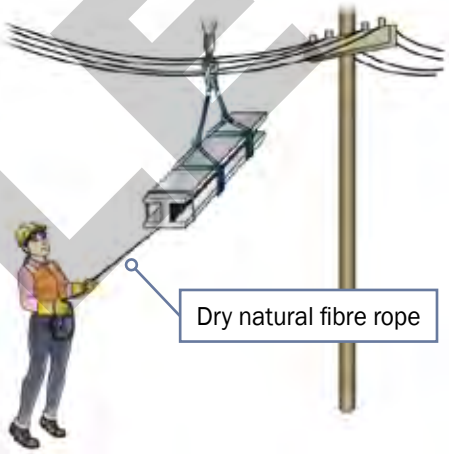
Warning / danger signs

QUESTION 25

You are working near powerlines.

What kind of tagline should you use?

You need to use a dry, non-conductive rope. Dry non-conductive rope does not conduct electricity. Keep the rope dry so that electricity cannot travel through the water in the rope.



QUESTION 26

What is the minimum diameter (thinnest) non-conductive rope you can use as a tagline?

What does it need to be made of?

It needs to be dry non-conductive rope, dry natural fibre rope or dry natural rope that is at least 16 mm thick.

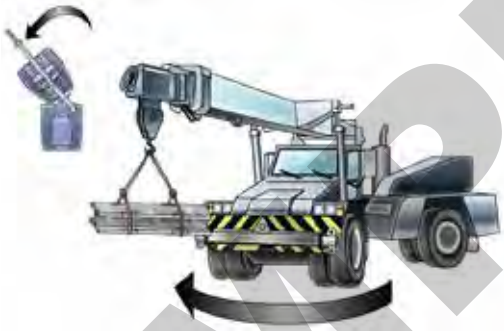
QUESTION 41

You need to plan the path for the crane and load.

What do you need to plan for?

Some things to plan for are:

Crane articulation



Keeping people out of the path. Travel as slowly as possible.

Do you need any permits?

How will you communicate with the dogger?

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QUESTION 46. Why might you need to use packing?

You **must** use packing under the outriggers. Each outrigger takes some of the weight of the crane and the load. Packing spreads that weight over a larger area. You must work out the minimum area of packing needed under each outrigger. This will keep the

Packing spreads the weight

No packing

If you **do not** use packing the outriggers could sink and the crane could tip over.

How soil types affect packing

The type of ground you are working on changes how much packing you need.

For example, if you need to set up on soft clay you will need more packing than if you are setting up on shale or rock. The three best ground types are hard rock, shale or sandstone, and compacted gravel with up to 20% sand.

PREPARE FOR WORK / TASK

Element 2

QUESTION 64. What is a lift plan?

A crane lift plan is a document that outlines the specifics of how a crane will be used on a project. This includes everything from the type of crane being used, to the weight and dimensions of the load being lifted, distances that need to be covered, and the environment in which the lifting will occur It includes:

Lift Details: Load weight, dimensions, and handling needs.

Equipment: Crane specs, capacity, and rigging.

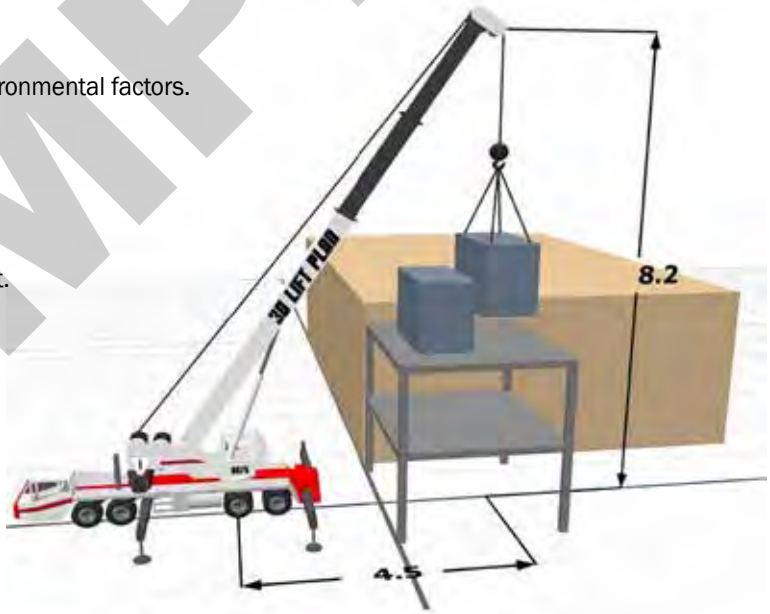
Site Conditions: Site layout, ground conditions, and environmental factors.

Personnel: Roles and responsibilities of the team.

Safety Measures: Safety procedures and precautions.

Lift Procedure: Step-by-step process for the lift.

Communication: How team members will stay in contact.



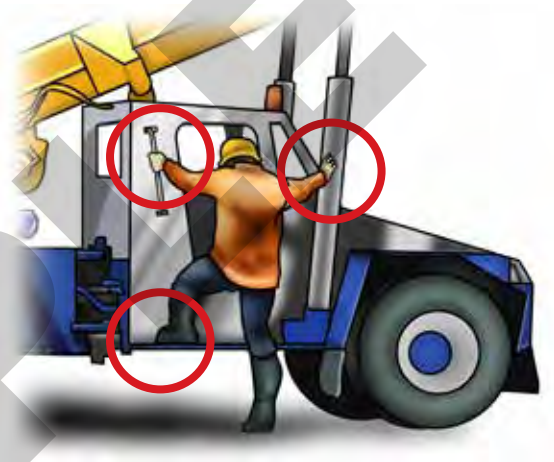
QUESTION 72

How do you climb into the crane's cabin safely?

When you are climbing into the cabin, Three (3) body parts should be touching at once (3 points of contact).

You can use two feet and one hand, or two hands and one foot.

Using three body parts at the same time will keep you stable while you are climbing in or out.

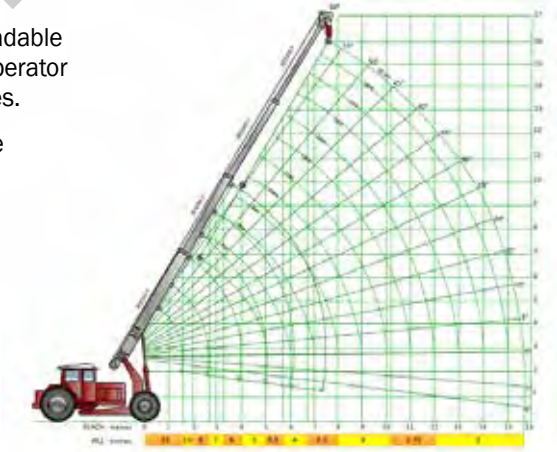


QUESTION 73

Why must all labels, signs and load charts be readable and in the correct place on the crane?

Labels, signs and load charts must be readable and in the correct place as they tell the operator about the crane's capacity and capabilities.

- Capacity is how much weight the crane can support (SWL)
- Capability is what the crane can do.

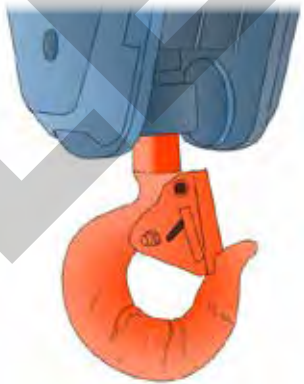


QUESTION 80

What are some defects that would make a hook unsafe to use?

Bill stretched (more than 5%)

Gouges and cuts (more than 10% wear)



Cracked or twisted hook

Has been exposed to high heat. For example 280 degrees Celsius.

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QUESTION 85

You are looking at the load chart. The chart has a thick black line near the middle.

What do the numbers **above** and **below** the line mean?

The numbers **above the line** tell you the structural strength of the crane. The numbers **below the line** tell you how stable the crane is.

CRANE LOAD CHART

Showing Rated Lifting Capacity (in tonnes) on Fully Extended Outriggers

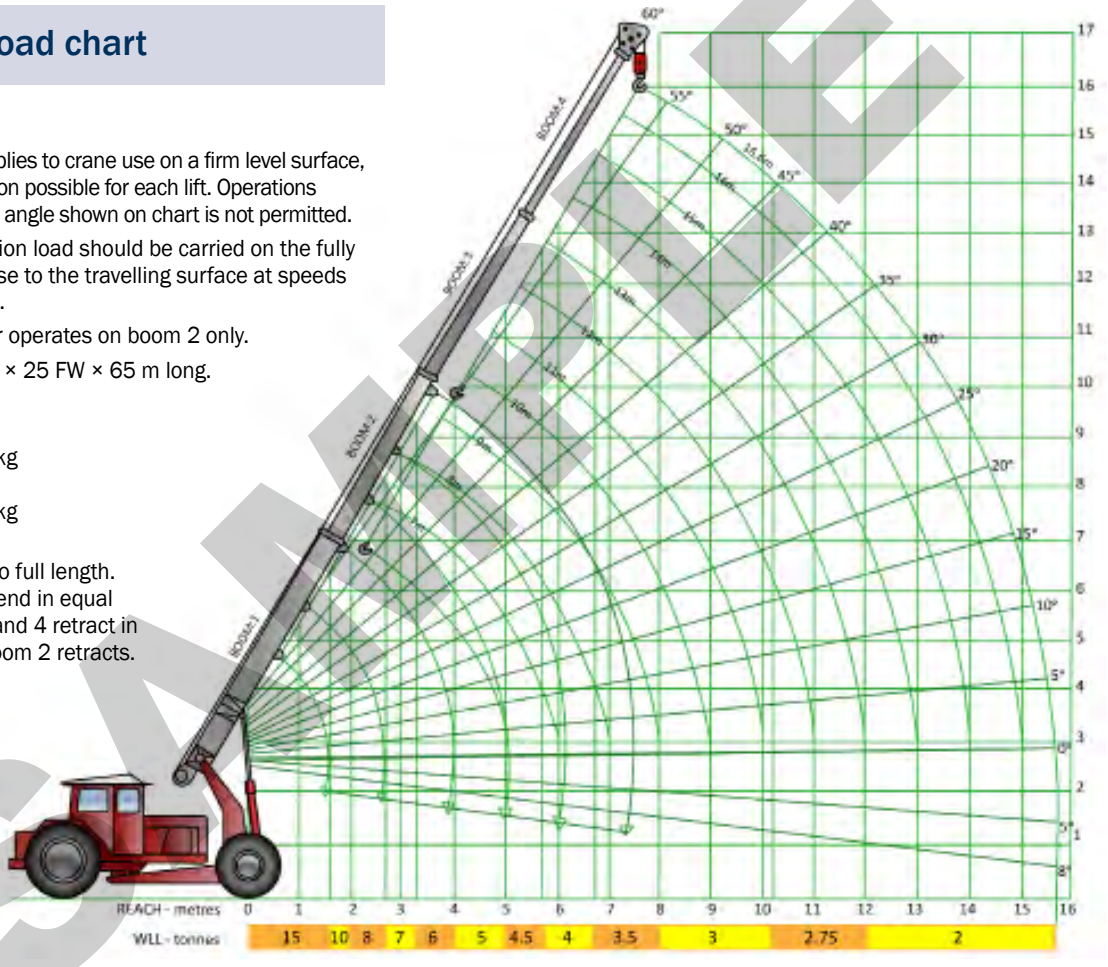
Radius	10.1m Boom		18.1m Boom		26.0m Boom	
(m)	Over Rear	Over Side	Over Rear	Over Side	Over Rear	Over Side
3.0	25.00	25.00	14.00	14.00		
3.5	21.70	21.70	13.40	13.40		
4.0	18.50	18.50	12.75	12.75		
4.5	15.50	15.50	12.15	12.15		
5.0	12.80	12.80	11.60	11.60	7.40	7.40
5.5	10.50	10.50	10.00	10.00	7.10	7.10
6.0	8.80	8.80	8.70	8.70	6.65	6.65
6.5	7.70	7.55	7.70	7.70	6.40	6.40
7.0	6.85	6.60	6.85	6.60	6.10	6.10
7.5	6.20	5.70	6.20	5.70	5.75	5.75
8.0	5.60	4.95	5.60	4.95	5.40	5.40
8.5	5.05	4.36	5.05	4.35	5.00	4.80
9.0			4.60	3.85	4.60	4.35
10.0			3.90	3.10	3.90	3.50
11.0			3.30	2.65	3.30	2.95
12.0			2.80	2.25	2.80	2.50
13.0			2.40	1.95	2.40	2.15
14.0			2.10	1.55	2.10	1.80
16.0					1.55	1.30
18.0					1.20	0.95
20.0					0.90	0.60
22.0					0.70	0.40
24.0					0.55	0.25

Structural strength **above** line

Instability **below** line

Example of a load chart

1. This load rating chart applies to crane use on a firm level surface, using largest boom section possible for each lift. Operations outside limits of reach or angle shown on chart is not permitted.
2. For lift and carry operation load should be carried on the fully retracted boom and close to the travelling surface at speeds not in excess of 3 km/h.
3. Hoist rope compensator operates on boom 2 only.
4. Rope fitted is 13 mm, 6 × 25 FW × 65 m long.
5. Hook block capacities
   2 falls – 4000 kg
   Hook block mass – 65 kg
   4 falls – 6000 kg
   Hook block mass – 85 kg
6. Boom operating mode
   Out – boom 2 extends to full length. Then boom 3 and 4 extend in equal amounts. In – boom 3 and 4 retract in equal amounts, then boom 2 retracts.
7. Tyre pressure
   Front – 690 kpa
   Rear – 220 kpa
8. Rear tyres water ballasted. Maintain correct level.



QUESTION 157

Calculate the maximum load of a sling when a 2 Leg angle sling configuration is used with the following specifications given?

Specifications

if load is 1000 kg

7m = L = Length of sling leg

5m = H = Height distance from pick point.

Formula:

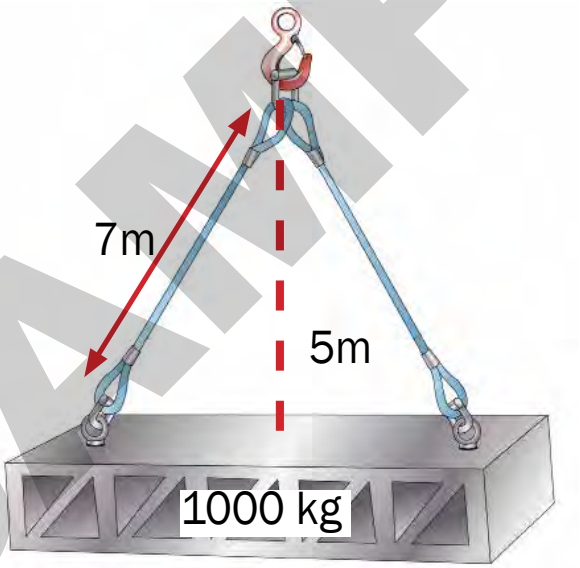
=(Load Weight / No sling Legs) x (L / H)

Calculation is:

=(1000 kg / 2) x (7/5)

=500 kg x 1.4

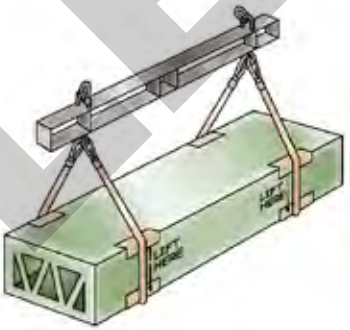
= 700 kg per sling



QUESTION 158. What are the slinging points on a load?

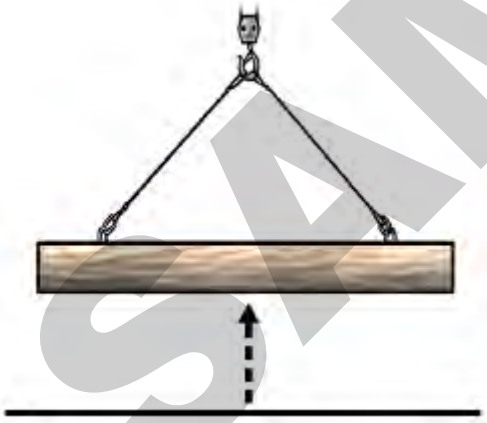
Some loads have specific areas they must be lifted by. These areas may be re-enforced to help distribute the weight evenly when it is being lifted.

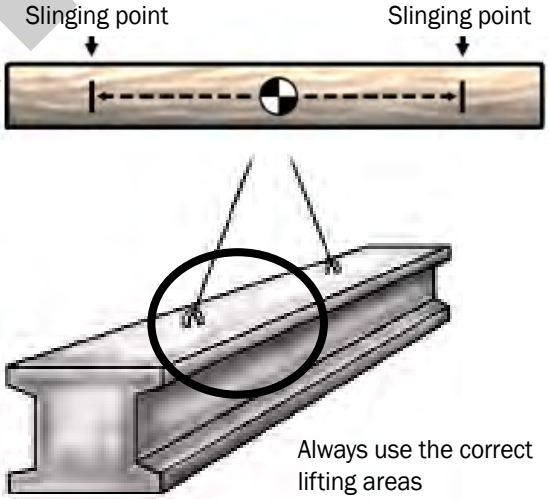
Check for manufacturer's specifications/markings on the load. If the load has set points for lifting gear they will be marked by decals (symbols) or writing.



To work out the safe lifting/sling points you can:

1. Measure the distance from the centre out to the sling points. Make sure the weight is evenly distributed.





Always use the correct lifting areas

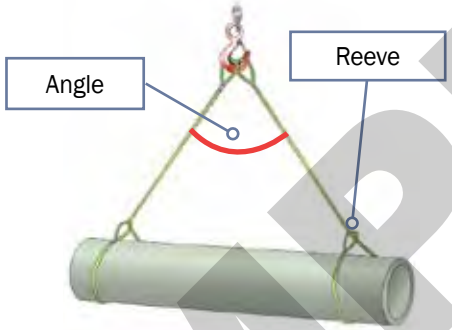
QUESTION 169

You will be using two FSWR slings to lift a load. There are factors that change the capacity and length of the slings needed to lift the load.

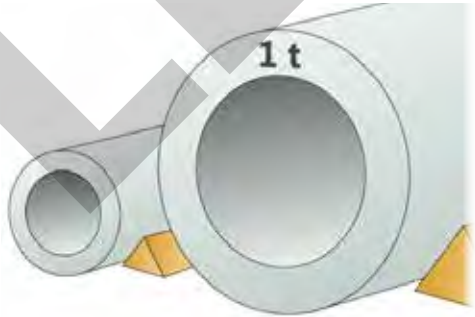
What are they?

There are several factors which affect how much you can lift:

The angle and reeve used



Size of the load



How much clearance you need for the lift

Load weight

How the load is slung.

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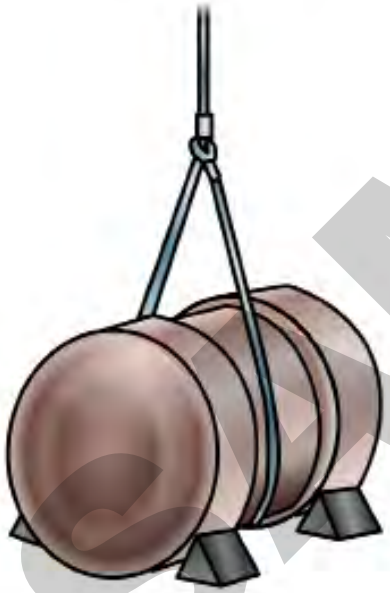
Chocks

If the load is round you may need to set up chocks to hold the load in place when you remove the lifting gear.

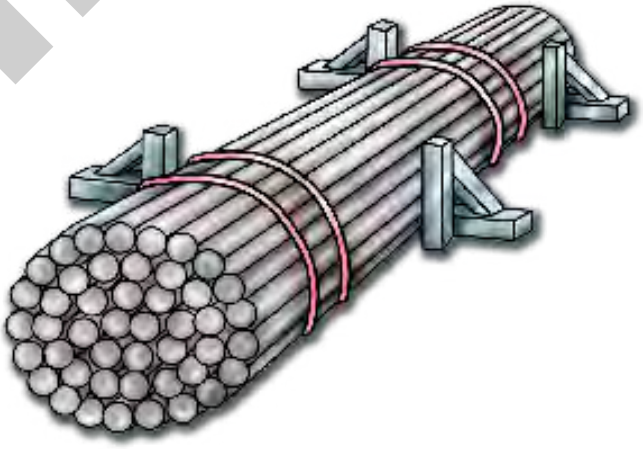


Dunnage

You may need to lay down dunnage (timber supports) to:

- protect the load,
- make it easier to attach or remove the slings,
- help stop damage to the lifting gear,

and stabilise the load..



PERFORM WORK / TASK

Element 3

QUESTION 180

What are some ways that you can make sure the crane's hook is safely positioned over the load?

Communicate with other personnel, to make sure that the hook is directly under the load.

Make sure that the chain hoist of the hook is not swinging when you place it over the load.

Make sure that the hook shank and lower hook are in line with each other.

QUESTION 194

Some of the Australian standard signals used are shown here.

What does each of these signals mean?

Hoisting raise

● ●

2 short

Hoisting lower/down

Commonly used signal (not Australian Standard)

▬

1 long

Luffing boom up

● ● ●

3 short

Luffing boom down

● ● ● ●

4 short

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QUESTION 205

You are operating a crane. One of the outriggers is sinking.

What should you do?

You should:

1. **Stop** working

2. Lower the load if safe to do so.

3. See if you can fix the problem and ask for help if you need it.

PREPARE TO DRIVE AN ARTICULATED MOBILE CRANE

Element 4

QUESTION 219

What should you do with any items on the cranes body?

You should make sure the items are safely restrained. Make sure any loose items are stored in storage areas.

6. Restrain the boom and hook to keep the boom and hook in place.

7. Bring the boom in following manufacturer's instructions..

QUESTION 221

What checks should you make before driving an articulated mobile crane on a public road?

You should any registrations and approvals needed. Follows guidelines from the crane's manufacturer.

Before driving an articulated mobile crane on the road, you typically need to check:

Vehicle Registration: Check that annual inspection and registration are up to date.

The emergency steering system (check according to manufacturer's specifications)..

Lifting gear is stowed and made secure.

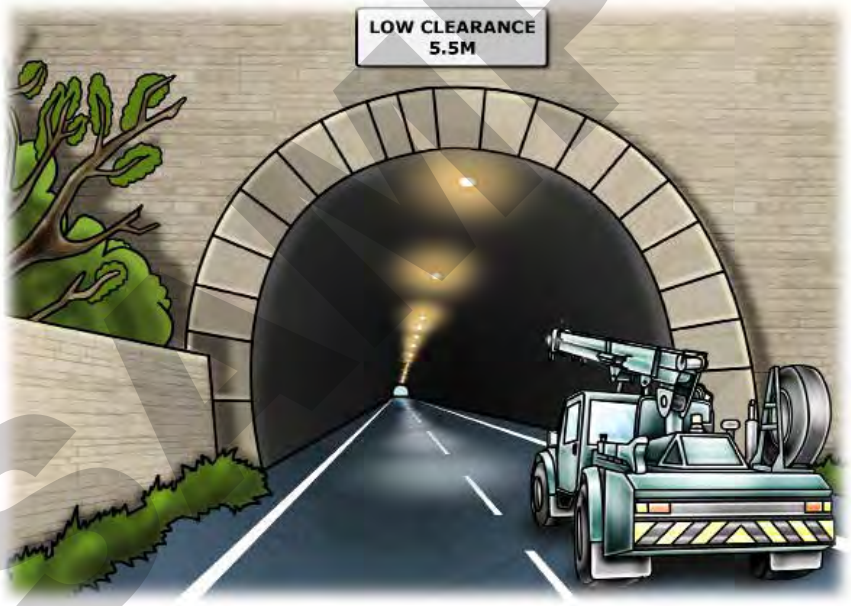
Boom and fall block are in position for road driving.

Hook is removed from the block.

Counterweights are in position or removed (according to manufacturer's specifications).

Check tyre pressure and condition.

DRIVE AN ARTICULATED MOBILE CRANE



Element 5

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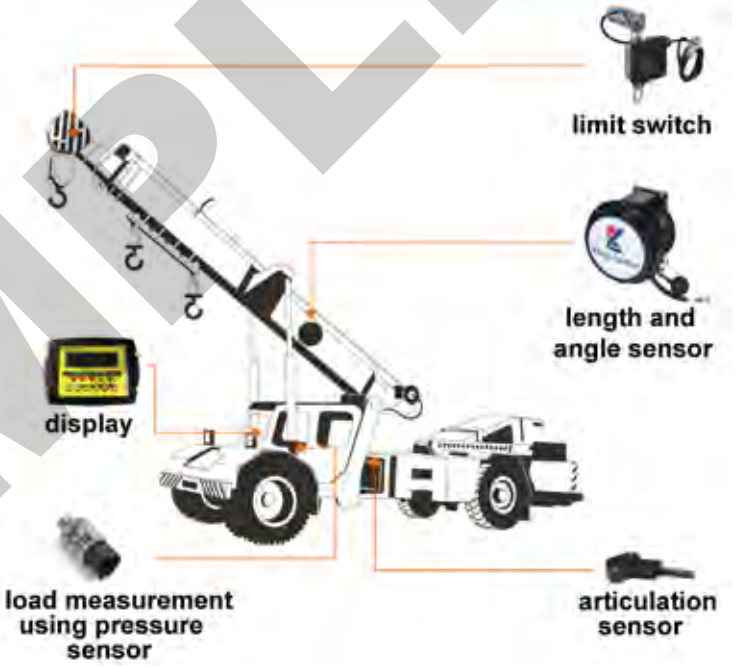
INSTRUMENTS

Load Indicator: Displays the weight of the load being lifted, ensuring it doesn't exceed the crane's rated capacity.

Boom Angle Indicator: Shows the angle of the boom relative to the ground, helping operators maintain proper lifting angles.

Leveling Indicators: Indicates whether the crane is level, crucial for safe operation, especially when extending outriggers.

Telematics System: Provides real-time data on crane performance, usage, and diagnostics, helping with maintenance and efficiency.



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QUESTION 227

How should you drive your articulated mobile crane on the road?

Drive to conditions on the road.

Keep your hand on the steering wheel.

Use lower gear.

Go slower on hills and corners

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QUESTION 227

How should you drive your articulated mobile crane on the road?

Use engine braking.

Allow for a longer braking distance.

You should start, steer, move and stop by following regulations and manufacturer's instructions.

PACK UP

Element 6

QUESTION 237

How should the crane boom/jib and other equipment be stowed and secured?

You should follow the manufacture's specifications on how to do this.

QUESTION 242

if you find a problem with the crane while you are doing post-operational checks.

What should you do?

Put a danger tag on the crane

Record the problem in the logbook

Report the problem to a supervisor

Do not use the crane until it is repaired.

QUESTION 246

Why should you secure (lock down) the crane when you shut it down?

To make sure people without permission do not use it.

Learner Workbook

(Formative assessment)

STUDENT COPY

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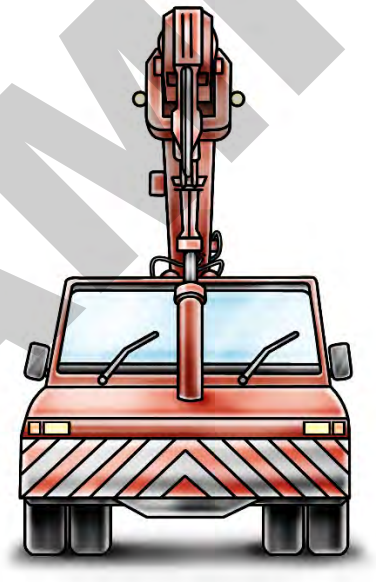
Licence to operate a non-slewing crane (greater than 3 tonnes capacity)



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Learner Name: _____

Student Number: _____ **Date:** _____

Contents

Knowledge Assessment

HIGH RISK WORK LICENSING AND THE LAW

QUESTION 1 What is duty of care?	
	

QUESTION 2 What is the PCBU's/Employer's duty of care?	
	

QUESTION 3 What is a worker's duty of care?	
	

QUESTION 7

You can be punished (penalised) for not doing high risk licence work safely. There are a number of things that a health and safety regulator (e.g. WorkSafe / WorkCover) can do.
What might the punishment be?

QUESTION 8

You have just got your High Risk Work Licence. What should you employer do BEFORE you use a non-slewing crane you are not familiar with?

PLAN WORK / TASK

QUESTION 9

What is the difference between a hazard and a risk?

QUESTION 10
What is a traffic management plan?

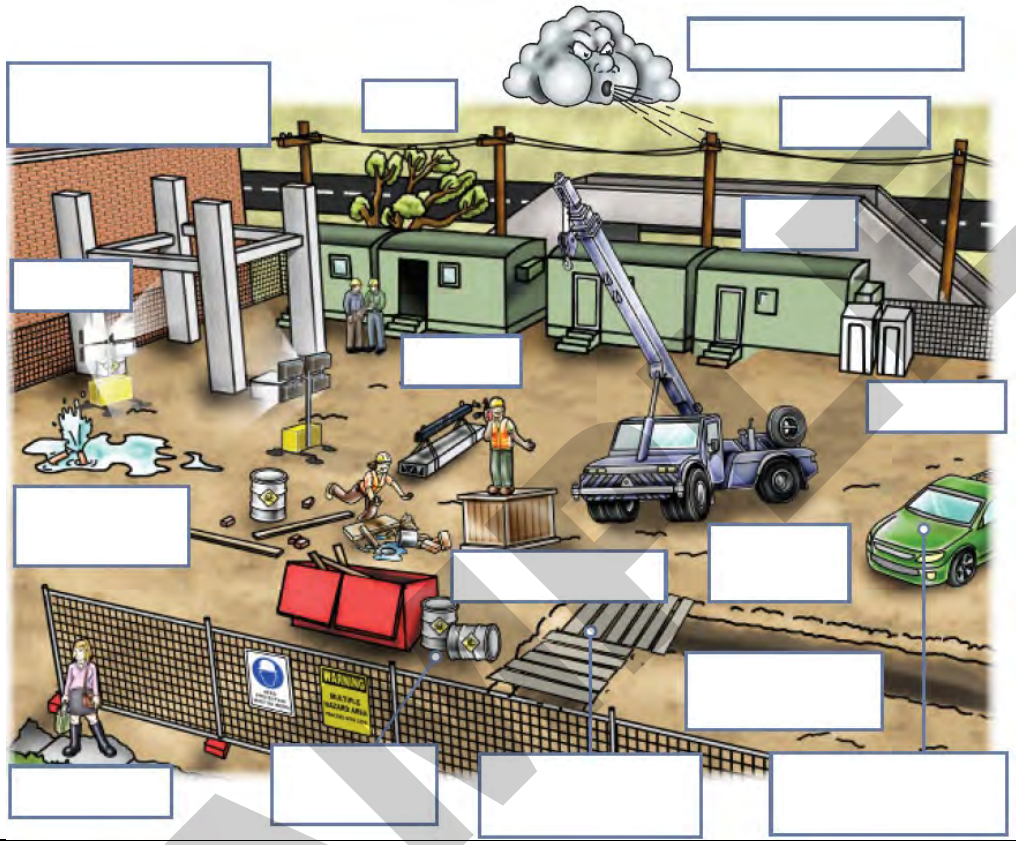
QUESTION 11
What are some common workplace hazards?

QUESTION 12
When should you apply risk control measures?

QUESTION 15

You have arrived on site and you are about to start using the crane. There are hazards (dangers) you might run into when using the crane.

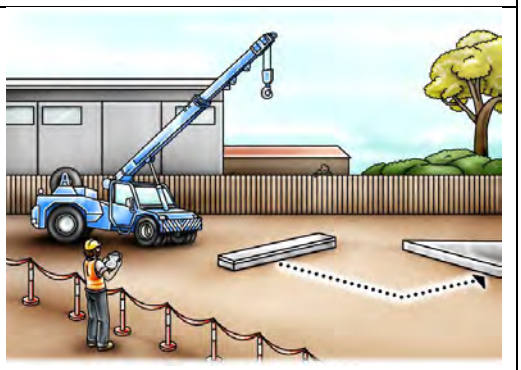
What are some examples of hazards that you must plan for?



QUESTION 16

You've already planned for site hazards.

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



QUESTION 17

Why do you need to check with local authorities before you start work?

QUESTION 18

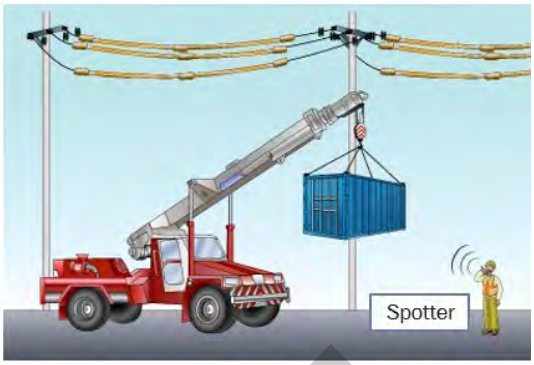
What is the Hierarchy of hazard control?

QUESTION 19. Name some common items of Personal Protective Equipment (PPE)?

QUESTION 20

You are working near powerlines. Working near powerlines is very dangerous and can kill you.

What are the minimum safe distance rules you must follow?



QUESTION 21
Who could you talk to if you need to find out the voltage of overhead powerlines?

QUESTION 22
What are some ways you can work closer to electric power lines than the minimum distances allowed?

QUESTION 23. What are some ways of showing there are powerlines overhead?

QUESTION 26

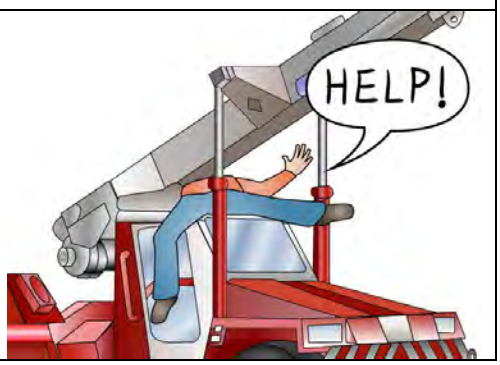
What is the minimum diameter (thinnest) non-conductive rope you can use as a tagline? What does it need to be made of?

QUESTION 27

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

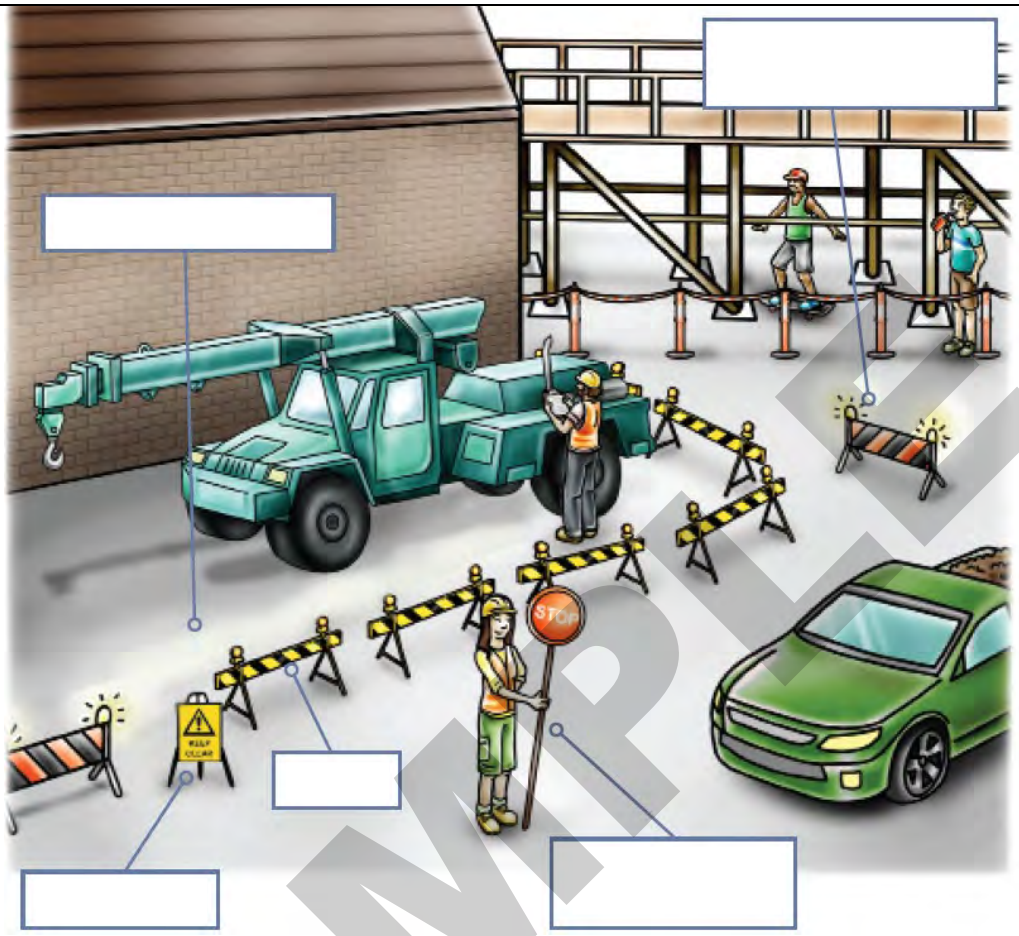
QUESTION 28

The crane operator is folding the boom so he can drive the crane.
What hazards (dangers) do you need to think about in the crane's operating radius or reach?
How can you control the hazards?



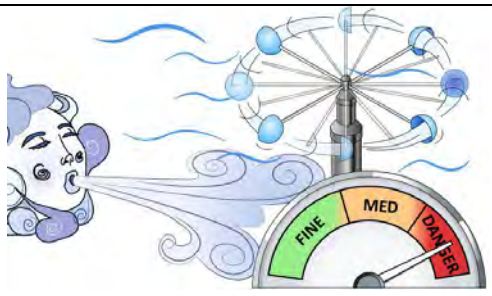
QUESTION 29

What hazard controls can you use for vehicles or plant on the job?



QUESTION 30

You are operating the crane and the wind speed increases.
What should you do?



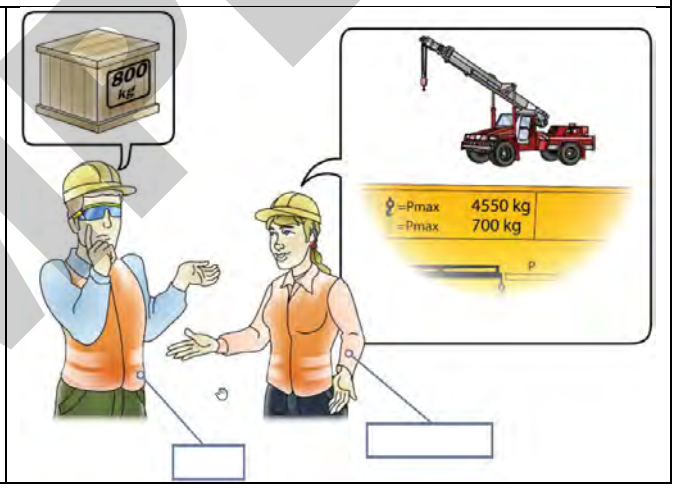
QUESTION 34
What is the mass (weight) of:

a) **100 litres of water?**
b) **1 cubic metre of timber (hardwood)?**
c) **1 cubic metre of blue metal?**

Answer may include but is not limited to:

a) 100 litres of water =
b) 1 cubic metre of hardwood timber =
c) 1 cubic metre of blue metal =

QUESTION 35
Is it the crane operator's job (responsibility) to know the weight of the load?



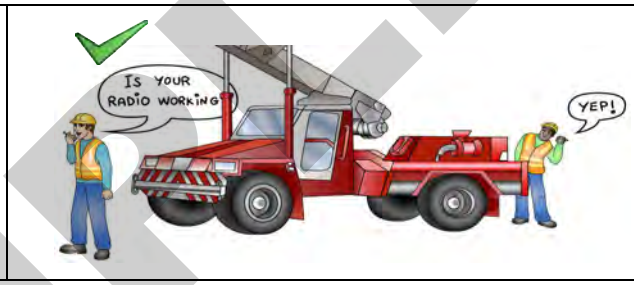
QUESTION 36. How do you know what crane to choose?

QUESTION 42

You need to mobile the crane to relocate a load.
When do you need to decide on the path you will take?

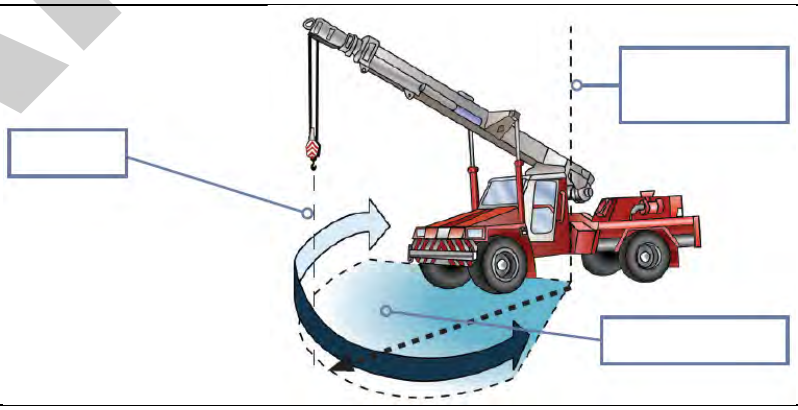
QUESTION 43

When should you test communications equipment to make sure it is functioning correctly?

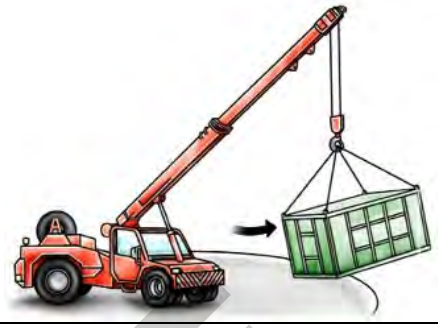


QUESTION 44

You are looking at the crane load chart. What does the operating reach or radius show?

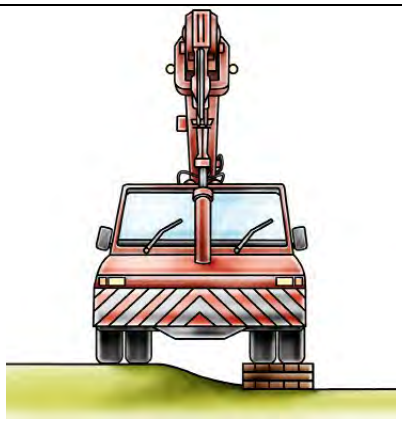


QUESTION 45
What do you need to plan for when moving a load within a crane's working radius?



QUESTION 46. Why might you need to use packing?

QUESTION 47. Why should you check for ground stability?



QUESTION 48. What are the best ground types for setting up a crane?

QUESTION 57

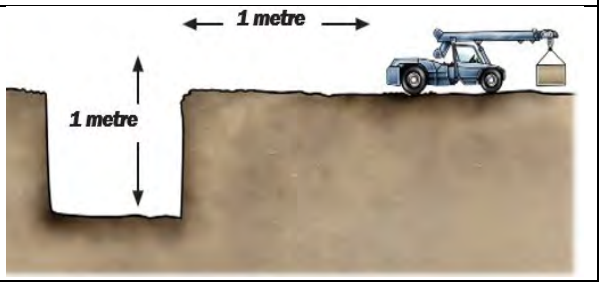
You will work in an area with soft, wet ground. The crane might sink. How can you make the crane stable?

QUESTION 58

You are setting up the crane and see that one of the wheels or outriggers is sinking. What do you have to do?

QUESTION 59

How far away from recent excavations and trenches (holes) should you set up a crane?



QUESTION 66. Why should you check the crane?

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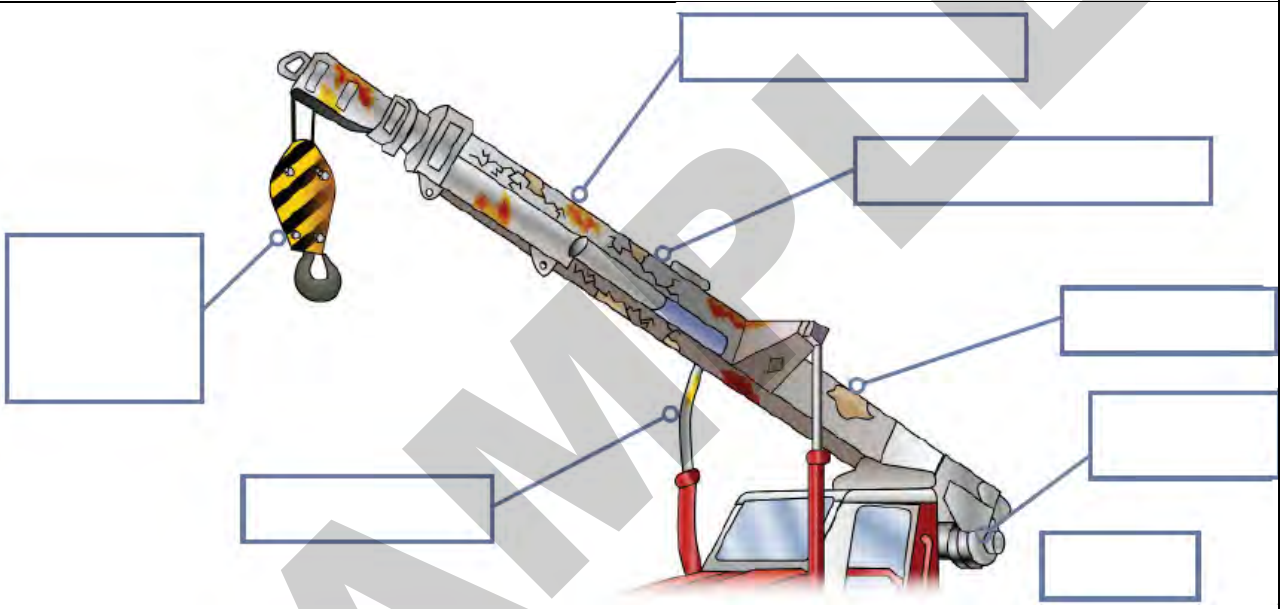
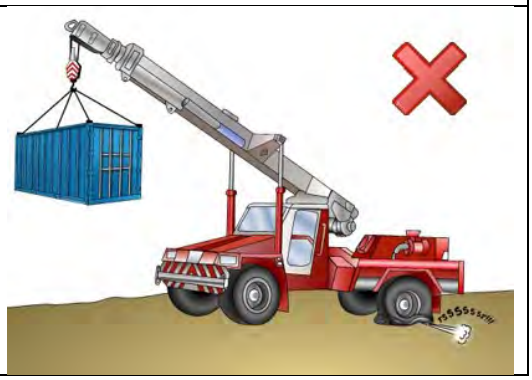
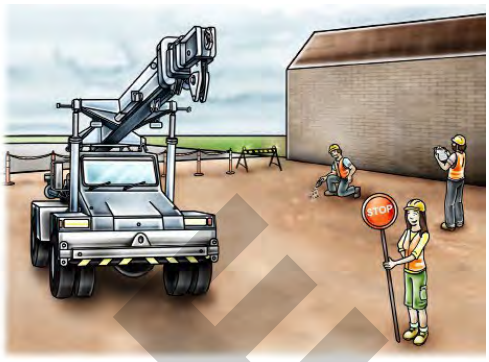
QUESTION 69
You are inspecting the crane.
What are some defects you should look for on the boom or superstructure?



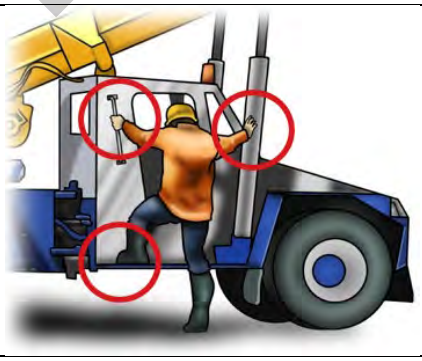
QUESTION 70
You are using a rubber tyre crane. Your crane's tyres must be at the right pressure.
Why is this important?



QUESTION 71
You have some lifting jobs to do.
What kinds of things should you think about and plan for to do the job safely?



QUESTION 72
How do you climb into the crane's cabin safely?



QUESTION 74. What fluid checks might you make on a non-slewing mobile crane?

QUESTION 75. What boom checks might you make on a non-slewing mobile crane?

QUESTION 76
Why is it important to check the crane and equipment before use? Who is responsible for the checks?

QUESTION 77
You are going to use a crane. What kinds of pre-start checks should you do first?

QUESTION 142

Can you give some examples of when the weather is a hazard?

Question 143. Is it safe to work in windy conditions?

Answer may include but is not limited to:

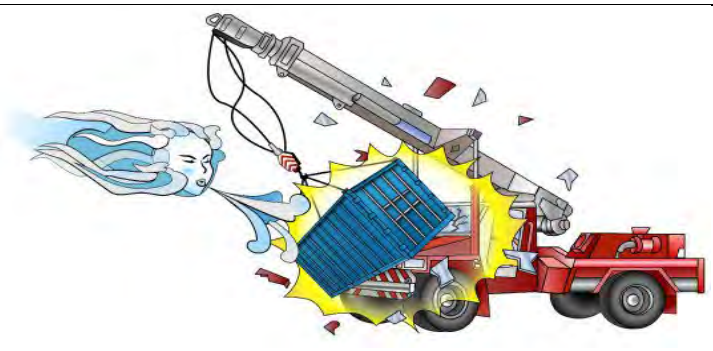
You are planning to use your crane on a job on Thursday. You check the weather forecast. Your crane is rated to a safe wind speed of 35 km/h. Is it safe to use your crane?

Answer: ……

34 km/h	38 km/h	24 km/h	19 km/h	16 km/h
Monday	Tuesday	Wednesday	Thursday	Friday
16° 9°	13° 7°	14° 8°	15° 9°	13° 6°

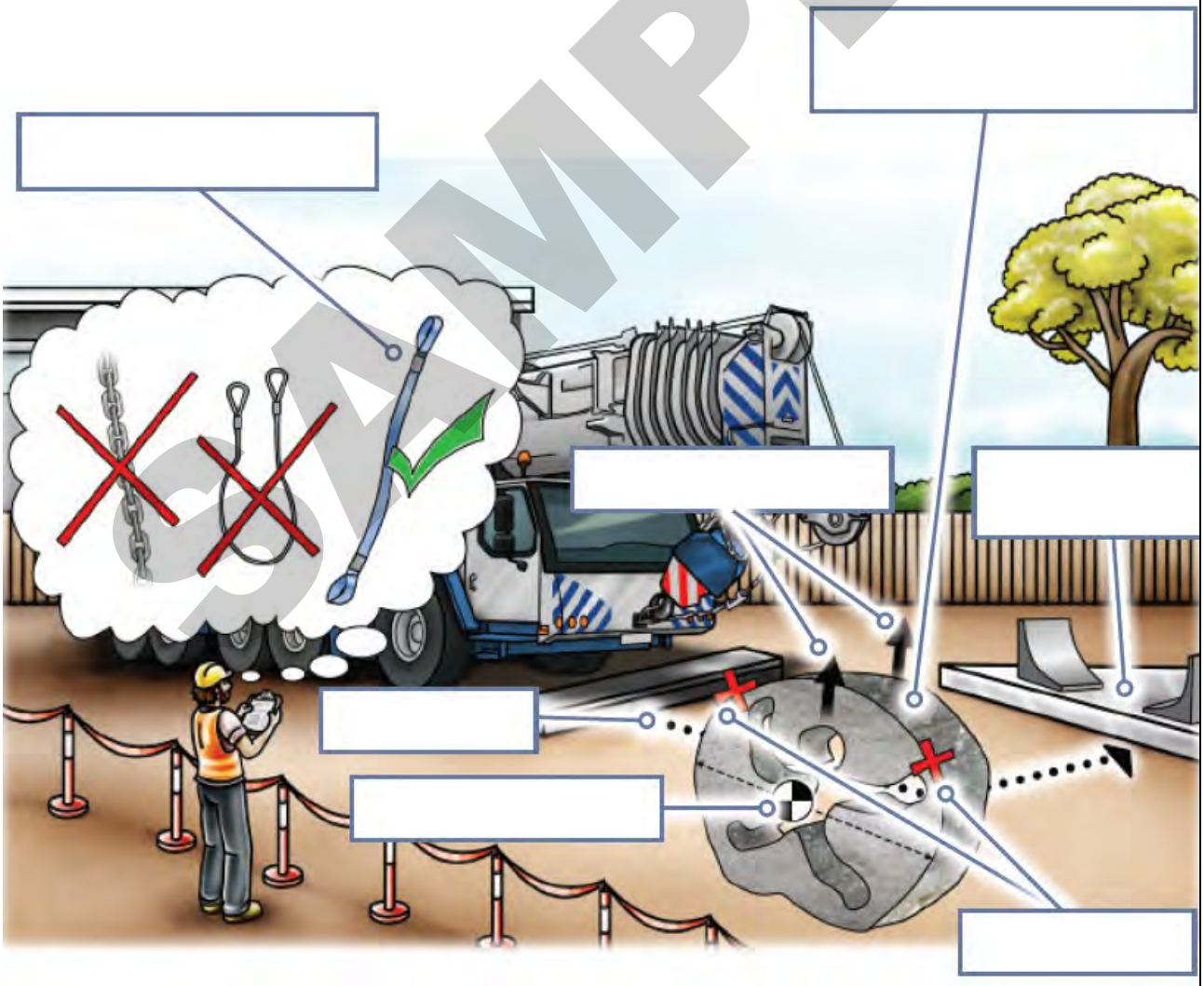
QUESTION 144

What might happen if you face the crane into the wind, and the wind is blowing towards the boom?

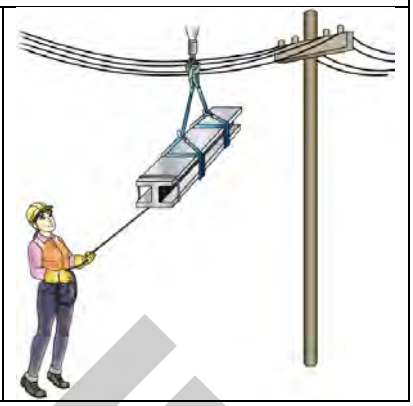


QUESTION 160
How should you lift special loads?

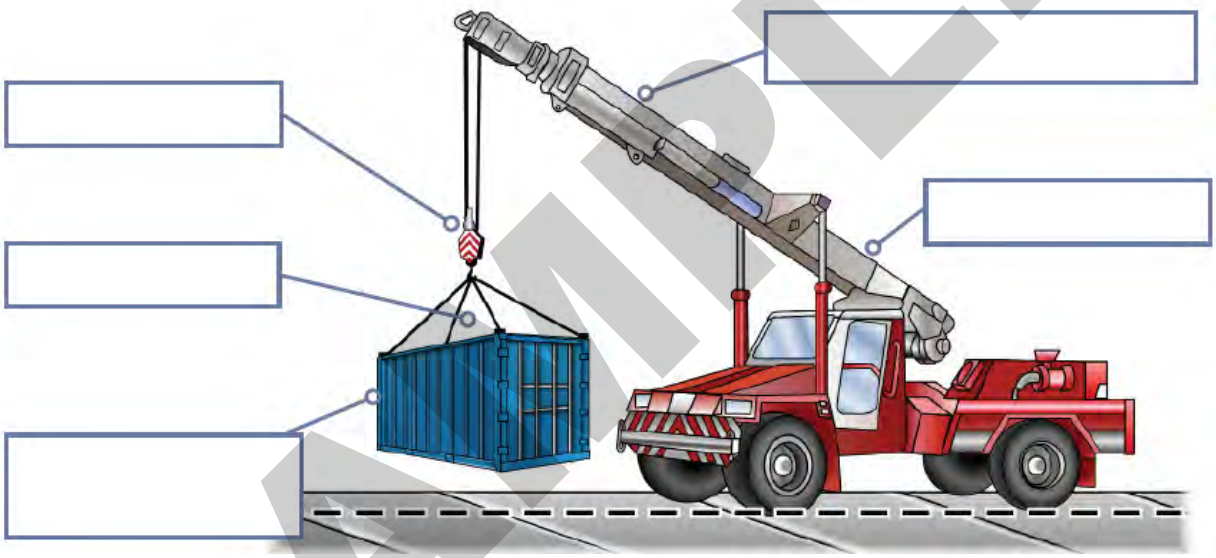
QUESTION 161
You are going to lift a special or unusual load. What should you do?



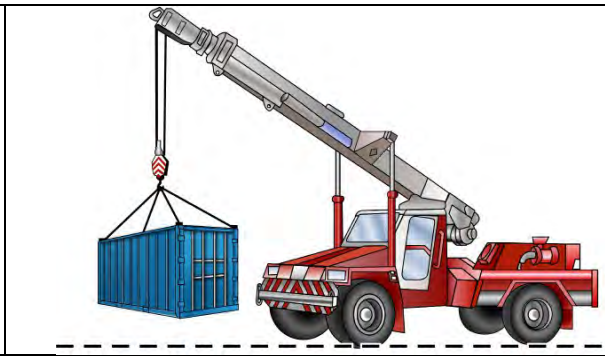
QUESTION 184. What are taglines used for?



QUESTION 185
Why is it important to do a test lift?



QUESTION 186
You are doing a test lift and you have lifted the load just off the lifting plane (ground). You find there is a problem with the lift.
What do you need to check and do?



PREPARE TO DRIVE AN ARTICULATED MOBILE CRANE

QUESTION 217
What should you do with any items on the cranes body?

QUESTION 218. What steps should you follow when shutting down a crane?

QUESTION 219
What checks should you make before driving an articulated mobile crane on a public road?

Practical Assessment 1 – PRE-START CHECKS

Student is to conduct a pre-start of crane before use.

Items needed for task:

- Non-slewing mobile crane.
- Pre-start checklist

Skill to be demonstrated	✓ Tick if demonstrated
• Apply relevant procedures that reflect legislative requirements, e.g. need the relevant high risk work licence • Comply with Commonwealth, state and territory work health and safety (WHS)/occupational health and safety (OHS) legislation and safe work procedures	
• Read and interpret relevant instructions, procedures, information and signs	
• Interpret and confirming relevant documentation for the work task and relevant area	
Complete pre-start checks, including: • visual damage or equipment faults	
• battery power level as required by manufacturer requirements	
• engine/mechanical fluid level checks as required by manufacturer requirements	
• presence of correct logbook	
• evidence of damage	
• fluid leaks	
• lights work effectively	
• locating, identifying and confirming all controls	
• mirrors and seat are adjusted appropriately	
• safety equipment checks	
• signage and labels to ensure they are visible and legible	
• checking for signs of paint separation and stressed welds indicating potential structural weakness	
• tyres and wheels for damage/wear and correct inflation (water/air)	
• updating records as required	

Start-up is in accordance with manufacturer requirements and workplace procedures	
• there are no unusual noises	
• steering, transmission and brake functions comply with operating requirements	
Complete operational checks ensuring:	
• all controls are located, identified and tested for functionality	
• all hydraulic functions are operational	
• lifting gear movements and control functions are smooth and comply with lift plan	
Hazard warning systems, safety, audible and visual warning devices are checked to ensure they are functional, including:	
• reversing beepers	
• lights	
• horns	
• rated capacity (RC) indicator alarm (where fitted)	
• anti-two block alarms (where fitted)	
• determine any defects or faults with operation of crane and reporting to relevant person/s	

The applicants' performance in Practical Assessment 1 - was deemed to be:

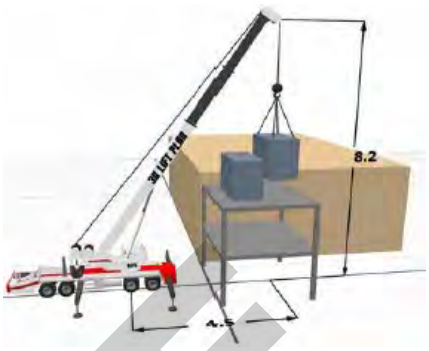
☐ Satisfactory	☐ Not yet satisfactory
Applicant signature:	**Date:**
Trainer/assessor signature:	**Date:**

Practical Assessment 2 – LIFT PLAN

Student is given a lifting task that includes lifting a load and landing it in its destination.

Items needed for task:

- Non-slewing mobile crane.
- Load.
- Slings.



Skill to be demonstrated			✓ Tick if demonstrated
First, a lifting plan is made that includes:			
Lift Details: Load weight, dimensions, and handling needs.			
Equipment: Crane specs, capacity, and rigging. Demonstrated by applying relevant mathematical calculations in conjunction with lift plan and load chart, radius requirements and relevant lifting gear to perform work/task to enable crane to be configured for load, including: • boom • fly-jib (where fitted) • line pull • travelling • type of hook • side slope derations • articulation derations			
Site Conditions: Site layout, ground conditions, and environmental factors.			
Personnel: Roles and responsibilities of the team, e.g.			
Team member	**Role**	**Responsibility**	
Team member 1			
Team member 2			
Team member 3			
Team member 4			
Safety Measures: Safety procedures and precautions e.g. Set up an exclusion zone.			

Lift Procedure: Step-by-step process for the lift.	
Communication: How team members will stay in contact.	

The applicants' performance in Practical Assessment 2 - was deemed to be:

☐ Satisfactory	☐ Not yet satisfactory
Applicant signature:	**Date:**
Trainer/assessor signature:	**Date:**

Assessment Summary – Competency Sign Off

Note: The Learner Workbook can be used as formative assessment (provide ongoing feedback). Therefore the student can use the Learner Guide and/or get help from the trainer in completing the workbook.

Knowledge questions	**Satisfactory**	**Not Satisfactory**
1. High risk licensing and the law	❑	❑
2. Plan work / task	❑	❑
3. Prepare for work / task	❑	❑
4. Perform work / task	❑	❑
5. Prepare to drive an articulated crane	❑	❑
6. Drive an articulated mobile crane	❑	❑
7. Pack up	❑	❑
Practical training tasks		
1. Pre-start checks	❑	❑
2. Lift plan	❑	❑
3. Identify and control hazards	❑	❑
4. Operate crane with a load	❑	❑
5. Operate crane without a load	❑	❑
6. Keep load stable	❑	❑
7. Communication signals	❑	❑
8. Prepare to travel on road	❑	❑

Competency:	Not Yet Competent ❑ Date_____	Competent ❑ Date_____

Feedback to be given to candidate:	
Trainer signature: _____ **Date:**	The learner has been assessed as ❑ **Not Yet competent /** ❑ **competent** in the elements and performance criteria, critical aspects for assessment, required skills and knowledge for this unit and the evidence presented is: ❑ **Authentic** ❑**Valid** ❑ **Reliable** ❑ **Current** ❑**Sufficient**

Mapping

TLILIC0040 Licence to operate a non-slewing mobile crane

(greater than 3 tonnes capacity)

The information and questions contained in the learner guide and PowerPoint presentation have been mapped to the elements, performance criteria, and knowledge evidence for the unit of competency TLILIC0040 Licence to operate a non-slewing mobile crane (greater than 3 tonnes capacity).

Elements and performance criteria

Performance Criteria	**Learner guide, PowerPoint and Learner Workbook** (Formative assessment)	**Learner Workbook – Practical tasks** (Formative assessment)
1. PLAN WORK / TASK		
1.1 **Task requirements** are **identified** from work orders or equivalent and a lift plan is confirmed with associated personnel and a **site inspection** is conducted in accordance with workplace procedures	• Question/s: 1, 2, 3, 4, 9, 12, 13, 14, 16,47, 60, 64, 65	• Practical Task/s: 4
1.2 **Work area operating surface** is confirmed to **determine** the **quality of ground suitability** for operational use of non-slewing mobile crane in accordance with workplace procedures	• Question/s: 16, 36, 46, 47, 48, 49, 50, 51, 52, 56, 57, 58, 59	• Practical Task/s: 2
1.3 Non-slewing mobile crane **rated capacity (RC)** and the lifting gear **Working Load Limit (WLL)** are **established** for the load/s and work/task requirements in **accordance with manufacturer requirements** and workplace procedures	• Question/s: 16, 33, 34, 35, 36, 37, 39, 44, 63, 131, 132, 133	• Practical Task/s: 1, 4
1.4 Appropriate **paths** for **operating the mobile crane** and **moving and placing load**/s in work area are assessed and determined in accordance with workplace procedures	• Question/s: 16, 40, 41, 42, 52	• Practical Task/s: 2

Performance Criteria	**Learner guide, PowerPoint and Learner Workbook** (Formative assessment)	**Learner Workbook – Practical tasks** (Formative assessment)
2. PREPARE FOR WORK / TASK		
2.1 Consultation with workplace personnel is established and maintained to ensure lift plan is clear and consistent with site requirements in accordance with a lift plan and workplace procedures	• Question/s: 13, 14, 64, 65, 66, 77, 100, 104, 131, 132, 134	• Practical Task/s: 2, 4
2.2 Risk control measures for hazards identified are checked for implementation in accordance with the lift plan and safe work procedures	• Question/s: 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 58, 59, 69, 70, 71, 77, 79, 80, 104, 133, 134, 135, 141, 146, 198. 199	• Practical Task/s: 3
2.3 Non-slewing mobile crane is accessed safely in accordance with manufacturer requirements and safe work procedures	• Question/s: 71, 72	• Practical Task/s: 4
2.4 Pre-start crane checks are carried out and any damage and defects are reported, recorded and appropriate action is taken in accordance with manufacturer requirements and safe work procedures	• Question/s: 66, 69, 70, 71, 74, 75, 76, 77, 78, 79, 80, 89, 96, 101, 102, 107, 116, 120, 121, 124, 125, 130, 138, 139	• Practical Task/s: 1
2.5 Mobile crane is set up correctly with any lifting gear as per the lift plan in accordance with relevant manufacturer requirements including load chart/s and safe work procedures	• Question/s: 63, 71, 73, 82, 83, 84, 85, 86, 87, 88, 89, 103, 105, 106, 108, 109, 110, 111, 112, 113, 114, 115, 130, 139, 140	• Practical Task/s: 2
2.6 Fly jib (if fitted) is set up as required in accordance with specific manufacturer requirements and safe work procedures	• Question/s: 77, 127, 128, 129, 132	• Practical Task/s: 2, 4

• pack up and crane stability, crane tipping and demolition sites • ground stability, including ground condition, recently filled trenches and slopes • insufficient lighting • obstacles or obstruction • catching load swing appropriately • other specific hazards and dangerous materials	
Overhead hazards, including: • electric lines • service pipes • fixed structures • vegetation (trees) • traffic, including pedestrians, vehicles and other plant • operations on unusual, uneven or difficult terrains • operators under instruction	Question/s: 11, 15, 21, 22, 25, 41, 207
Impact of factors affecting non-slewing mobile crane stability, including: • overloading • pick up and placement of load • unbalanced loads • articulation of crane • correct tyre pressures (inflation/condition) • side slope derations	Question/s: 70, 77, 219, 220, 224, 232
Lift-impacting factors, including: • centre of gravity	Question/s: 41, 44, 45, 58, 70, 71, 77, 84, 88, 104, 159, 160, 212, 213, 215, 218, 220

• dynamic nature of load • deflection of boom • length • radius of lift • weight • side slope derations • articulation derations of crane • tyre inflation pressures	
• Manufacturer requirements and instructions on shutting down and packing up crane	Question/s: 218, 234 to 241
Methods of making temporary connections to loads using fibre and synthetic ropes: • single sheet bend • clove hitch • rolling hitch • bowline	Question/s: 173
Mobile non-slewing crane characteristics and capabilities to allow crane configuration to suit a range of loads	Question/s: 16, 36, 37, 41, 44, 58, 62, 64, 71, 77, 82, 83, 84, 85, 86, 87, 127, 129, 159, 160, 161, 164, 167, 168, 172, 175, 179
Relevant documentation requirements and procedures for recording, reporting and maintaining workplace records and information	Question/s: 51, 66, 92, 93, 99, 102, 141, 202, 207, 240
Relevant lifting gear to perform work/task	Question/s: 83, 176, 177

Relevant national and state/territory driver licensing authority road rules, regulations, permit and licence requirements related to articulated mobile crane operation	Question/s: 6, 8, 31, 60
Relevant workplace instructions, safety information and emergency procedures	Question/s: 5, 41, 97, 131, 176, 208, 212, 218, 219, 224, 225, 237
Risk assessment management and mitigation strategies, including hierarchy of control: • elimination • substitution • isolation • engineering controls • administrative controls • personal protective equipment (PPE)	Question/s: 18
Roles and responsibilities of duty holders in accordance with legislative obligations of WHS/OHS requirements and safe work/workplace procedures	Question/s: 1 to 8, 13, 76
Selection, inspection, care, handling, application, limitations and storage of lifting equipment and gear: • chain sling (including shortener) • eyebolts • flexible steel wire rope (FSWR) sling • lifting clutches • shackles • spreader bar or lifting beam • synthetic sling	Question/s: 62, 217, 237, 238