

VEHICLE LOADING CRANE

SAFETY AND LICENCE GUIDE

Training support material for:

TLILIC0024

**Licence to operate a
vehicle loading crane**

(capacity 10 metre tonnes and above)



Produced by:



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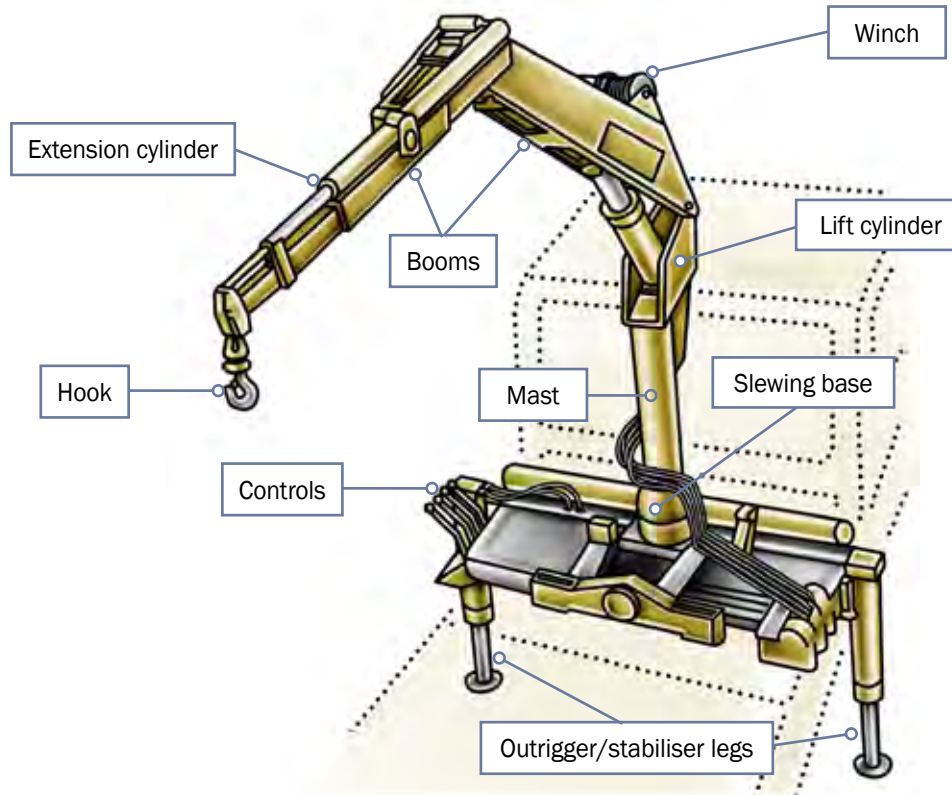
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INTRODUCTION TO VEHICLE LOADING CRANE



What is a vehicle loading crane?

A vehicle loading crane is a crane which is mounted to a vehicle for loading and unloading. Vehicle loading cranes have hydraulic booms with power supplied from the vehicles engine through a PTO (power take off).



PLAN WORK

Element 1



What is a lift plan?

A lift plan is a document that outlines the size of a load, weight, dimensions, center of gravity, resources needed for lift, sling equipment list and a hazard risk assessment. The following is a sample template of a lift plan.

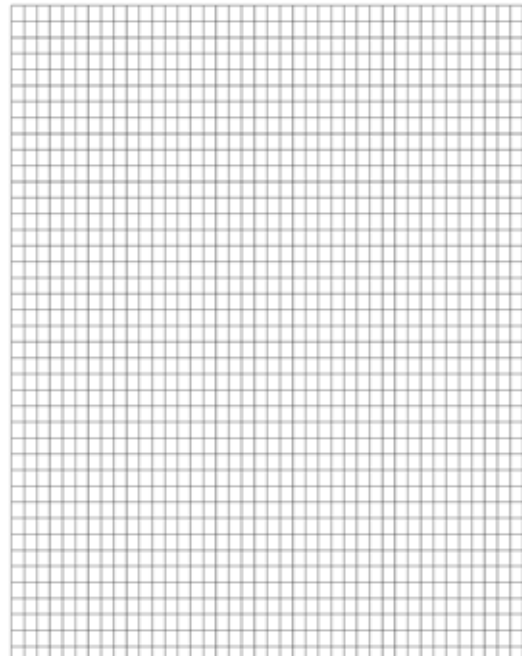
Lift Plan

1. Project Details:		Version No:										
Candidate Name:		Site Pick up address:										
Operator Contact Details / Supervisor		Site Drop off Address:										
Crane make / model		Crane ID										
Lift 1 Description												
Lift 2 Description												
Lift 3 Description												
Lift 4 Description												
Item Details	Lift 1			Lift 2			Lift 3			Lift 4		
Weight of Load	Kg			Kg			Kg			Kg		
Weight of rigging	Kg			Kg			Kg			Kg		
Weight of hooks	Kg			Kg			Kg			Kg		
Additional Weight	Kg			Kg			Kg			Kg		
Total*	Kg			Kg			Kg			Kg		
Boom Length	M			M			M			M		
Boom sequence												
Line pull	Tonne / kg			Tonne / kg			Tonne / kg			Tonne / kg		
Parts of line	M			M			M			M		
Hook block WLL	Tonne / kg			Tonne / kg			Tonne / kg			Tonne / kg		
Pick up radius	M			M			M			M		
Set down radius	M			M			M			M		
Max radius	M			M			M			M		
RC at Max radius	Kg			Kg			Kg			Kg		
Communication Method	H	ZWR	W	H	ZWR	W	H	ZWR	W	H	ZWR	W
* Operator to Calculate / Sling Calculation												
2. Equipment for load lift / sling												
Dogger/Assessor Initial												
3.* Sling Calculation Notes:												
4.^ Risk Controls: See additional note template.												

5.^ Sketch

For one of your lifts you will need to sketch the environment and any obstacles present.

- Sketch one load and show the following:
1. Crane standing position
 2. Stabiliser location
 3. Load location
 4. Show distances and load movement-direction
 5. Any obstacles



Crane lift plans are essentially overviews of safety risks that may occur and precautions that will be taken when completing the haul.

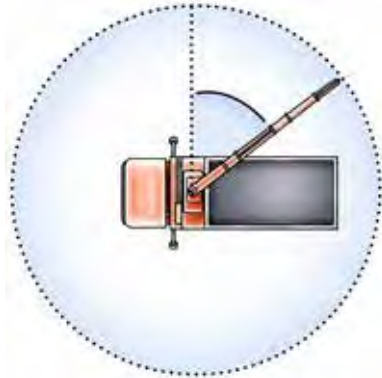
Crane lift plans look at the size and weight of the haul as well as how far items are being moved and what sort of environment they are moving in.

QUESTION 2

You have some lifting jobs to do.

What should you think about and plan for?

Boom safe working radius



Things that might get in your way



How you will get in (access) and out (egress) of the work area



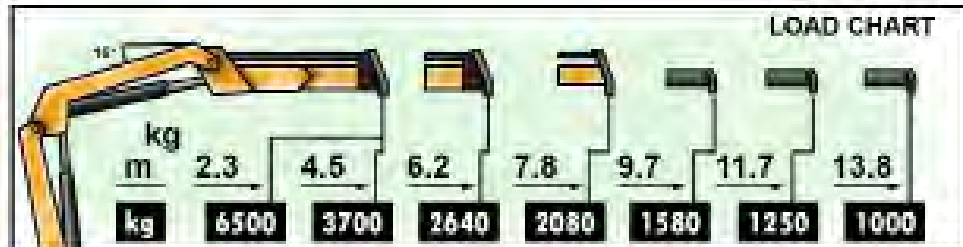
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QUESTION 2**...CONTINUED FROM PREVIOUS PAGE**

You have some lifting jobs to do.

What kinds of things should you think about and plan for?

The load weight and size. Capacity of the crane.

**Boom deflection.**

How do you compensate for boom deflection?

The crane operator can then release the load by lowering the boom/jib slightly to compensate for any boom deflection. The boom will spring up when the load is released as the deflection releases from the boom. Make sure there is a safe distance from any obstructions before releasing the load.

Calculating the weight of a load

It may be necessary to calculate the weight of a load yourself.
On the next pages are two examples of calculating loads.



It may be necessary to calculate the weight of the load. For example, $20 \text{ kg} \times 10 \text{ bags} = 200 \text{ kg}$

Do not forget to **add** the weight of the pallet that is 15 kg. For example, $200 \text{ kg} + 15 \text{ kg} = 215 \text{ kg}$

Example – Weight of a steel beam



Job:

Lift 6 × steel beams

Specifications:

Beam weight = 100 kg per metre

Beam length = 5 metres

Work out the weight of 1 beam: $100 \text{ kg} \times 5 \text{ metres} = 500 \text{ kg}$ per beam

Multiply the weight of 1 beam × 6 beams: $500 \text{ kg} \times 6 \text{ beams} = 3000 \text{ kg}$ (3 tonne)

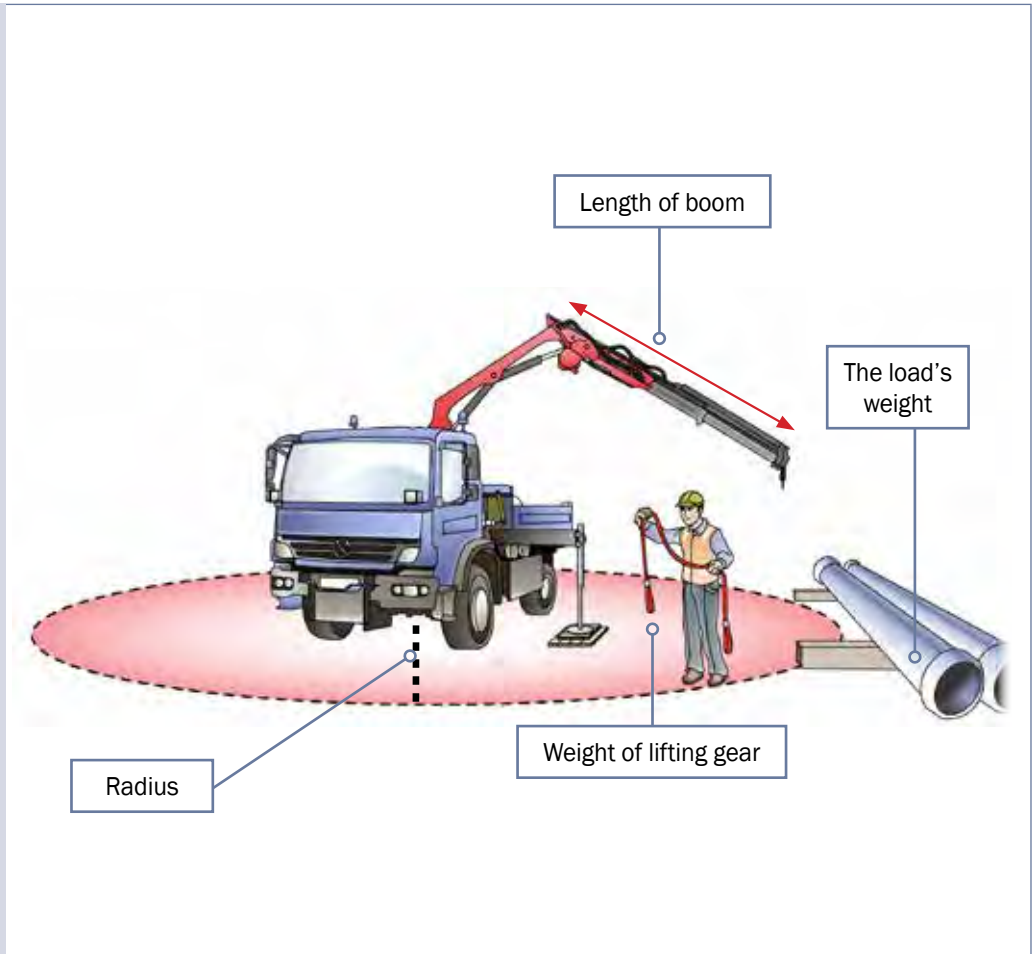
PREPARE FOR WORK / TASK

Element 2



QUESTION 76

What kinds of data do you need to enter into the crane's computer before using the crane?



Inspect the destination is setup to receive a load

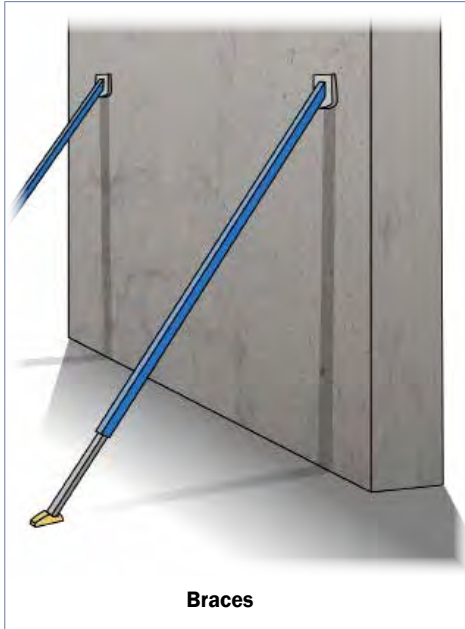
When lifting equipment and gear is being prepared for safe use, you also need to inspect the destination area is ready to receive load

For example;

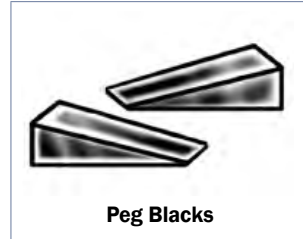
- Work blocks,
- Peg blocks,
- Braces ready for concrete slabs.



Preparing to move a concrete slab into place



Braces



Peg Blocks



Blocks