

# RIGGING INTERMEDIATE LEARNER WORKBOOK

CPCCLRG3002

Licence to perform rigging intermediate level



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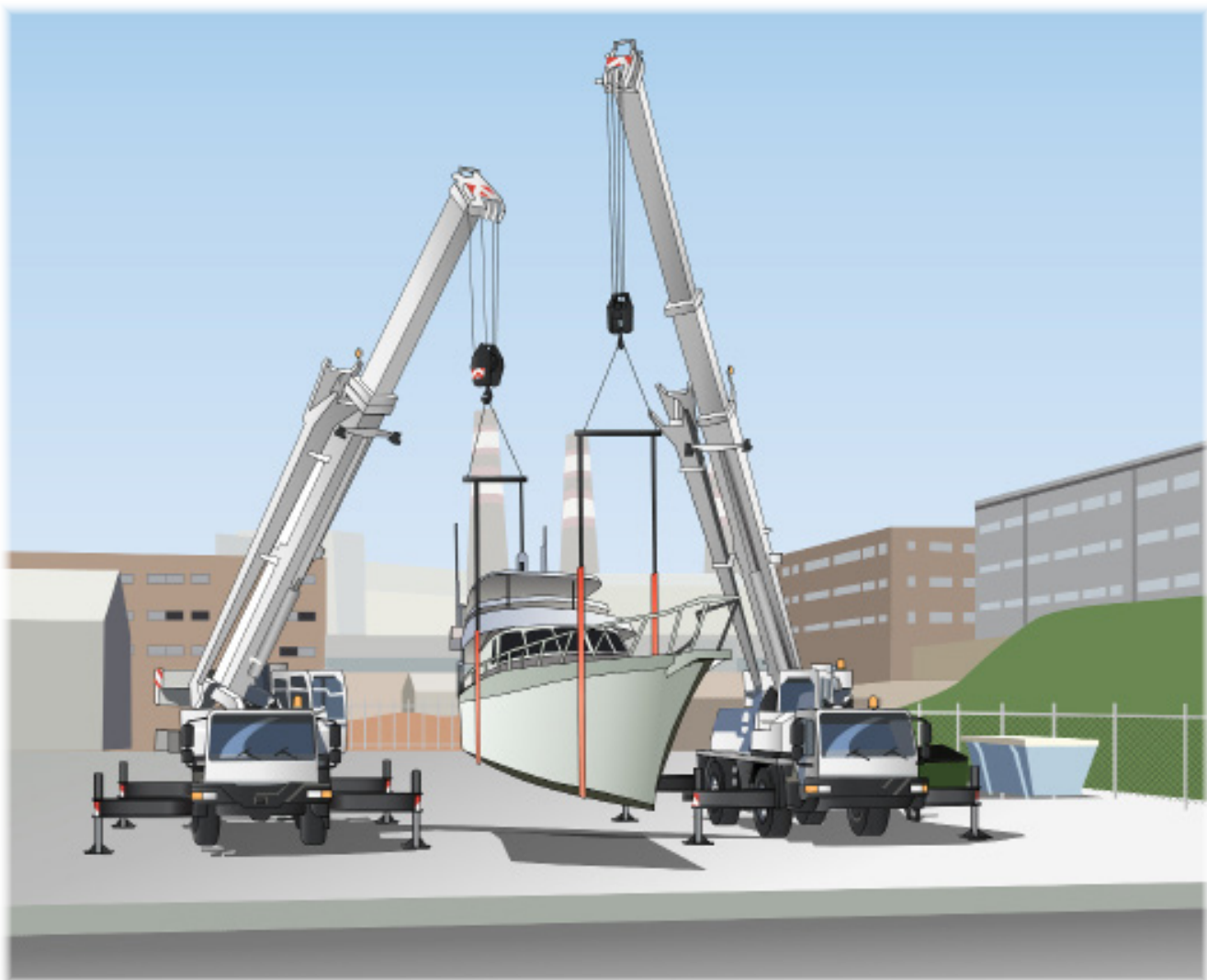
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## What is intermediate rigging?

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Intermediate rigging covers all the work done by riggers at the basic level and also includes:

- Rigging of cranes
- Rigging of conveyors
- Rigging of dredges and excavators
- Rigging tilt slabs
- Rigging associated with demolition work
- Dual crane lifts.



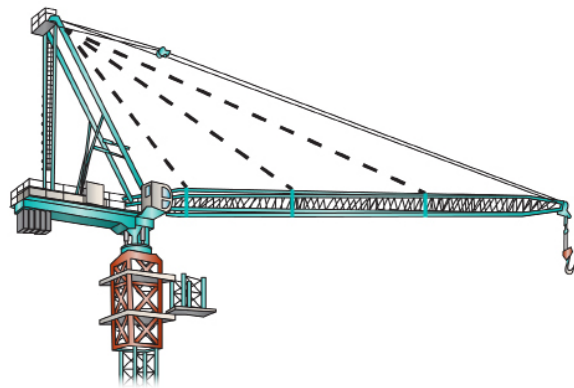
# Intermediate rigging concepts

Here are some examples of work an intermediate rigger can do:

Set up and control dual and multiple crane lifts



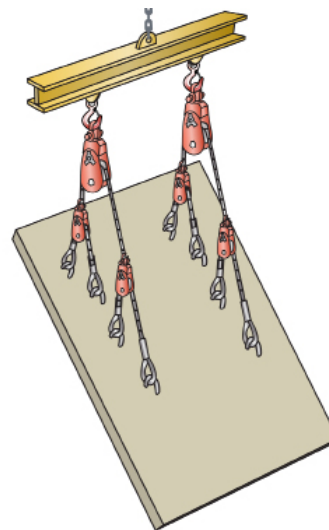
Add sections to tower cranes



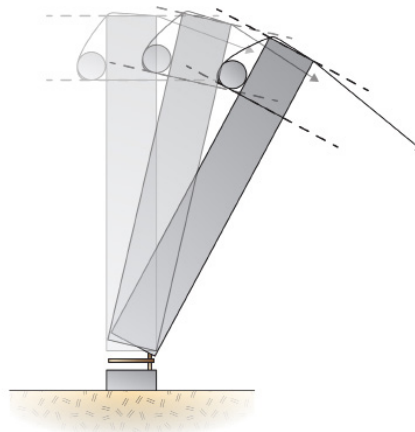
Rig mobile cranes



Set up and use load equalising gear



Conduct demolition work



# Plan Task



*This element covers performance criteria:*

- 1.1. Review task instructions, consult with relevant persons to seek clarification as required, and obtain relevant workplace information.
- 1.2. Obtain and interpret information, including safe work method statements (SWMSs), required to ensure that activities are performed in compliance with workplace-specific and safe work requirements.
- 1.3. Obtain and interpret information required to ensure that equipment inspection, use, maintenance and storage complies with manufacturer requirements.
- 1.4. Identify workplace and task-specific hazards and determine required risk controls and safety measures and equipment, including signs and barricades, personal protective equipment (PPE), and fall prevention and fall arrest equipment.
- 1.5. Identify methods of moving and placing tools, equipment and materials to minimise the risk of falling objects, to avoid inappropriate carrying on ladders and to minimise hazardous manual tasks.
- 1.6. Identify required rigging equipment and associated gear
- 1.7. Calculate loads associated with mechanical load shifting equipment and associated gear required to erect and dismantle structures and plant
- 1.8. Establish required communication methods with relevant persons



# Theory Training Task 2

Performance Criteria: 1.1

a) Name four (4) rigging tasks you cannot do as an intermediate rigger.

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# Theory Training Task 3

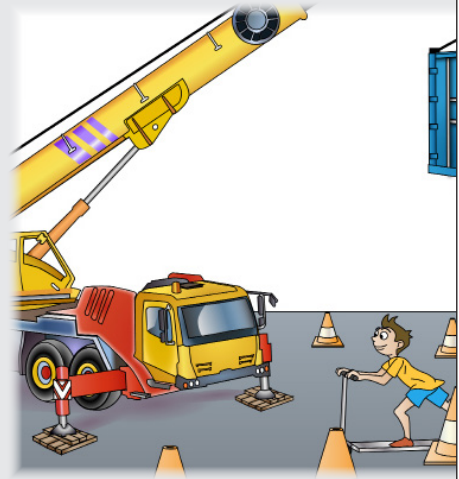
Performance Criteria: 1.4

Performance Criteria: 1.4

## Identify workplace hazards

What is a hazard? A hazard is anything that can hurt you or others while you work. The government classes rigging as high risk. By law, only a licensed person can do rigging work. The licence includes knowing what workplace hazards to look for and the causes of these hazards..

Before starting any job on a worksite, it is important you talk to appropriate people to find out about any site rules, procedures or policies that may affect the way you carry out your work.



- a) List three (3) people you may need to check with about site hazards and issues related to working on a site.

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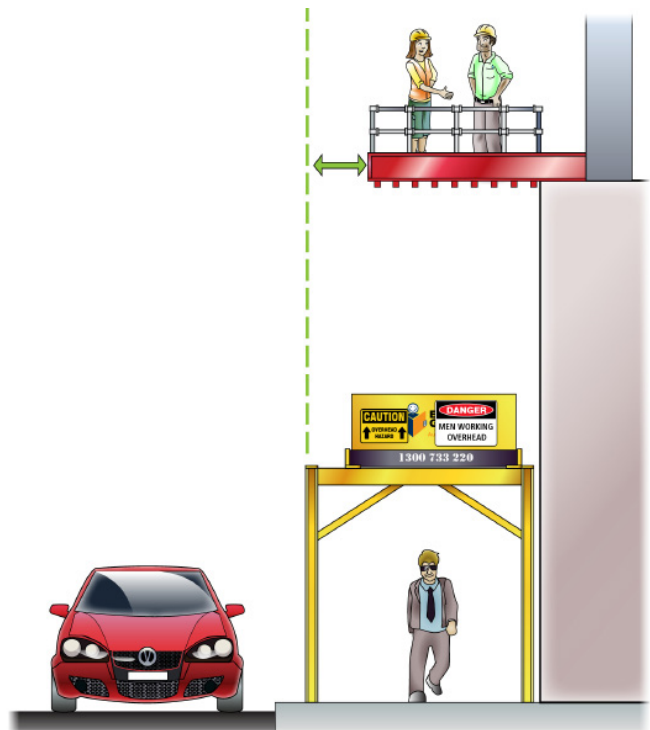
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A rigger should know what hazards to look for in the workplace and the kinds of situations that may cause them.

You should be aware of possible hazards above head height, between ground and eye level and below ground level.



# Select and Inspect Equipment



*This element covers performance criteria:*

- 2.1. Select risk controls and equipment, including prevention and fall arrest equipment, and check that it is working and fit for purpose.
- 2.2. Select and check PPE.
- 2.3. Select rigging equipment and associated gear, inspect for defects, and isolate, tag out, report and record defective items.
- 2.4. Select communication equipment and check that it is working and fit for use.





## Theory Training Task 28

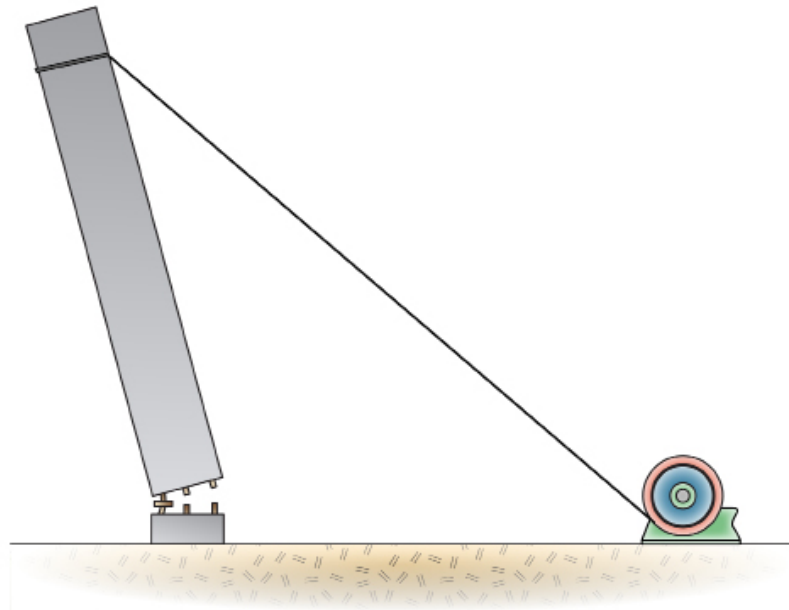
*Performance Criteria: 1.2, 1.5, 3.4, 3.6, 5.1, 5.3*

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### Felling

You have to fell an encased concrete column, the fell must be controlled by a winch and FSWR.

For example, the column is 330 mm square and 4.6 metres high.



### Calculate the following:

1. The weight of the column in tonnes.
2. What weight must the winch support?
3. The minimum horizontal distance from the demolition work to the winch, if the vertical distance from the winch to the highest part of the concrete column is 4.6 metres.
5. Calculate how close to the FSWR or chains used in the felling operation a person may stand or work.

**Show all workings for these calculations on the following pages.**



## Theory Training Task 29

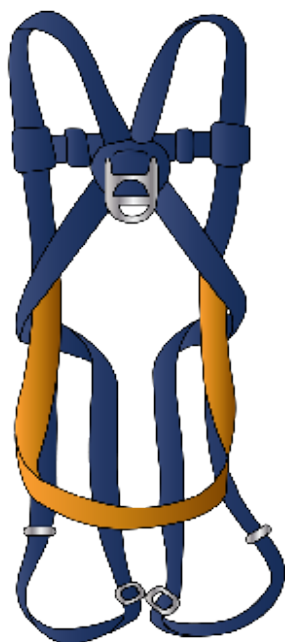
*Performance Criteria: 1.6, 2.2*

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### Work with your group.

Use the sample **Working at heights rescue plan form** on the next page plus the completed **SWMS form** from the previous Practical Training Task 2 to help you develop a **rescue plan** for the tasks you will be doing.

Use your SWMS form to make sure that all the risks that were identified for working at heights are covered in the rescue plan.



3. **Match up** the **hand** and **whistle signal** with the **instruction it gives** to others on site. Draw a line from the correct signal to the matching instruction.



Hook up



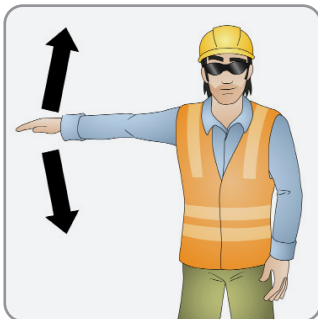
Hook down



Boom up



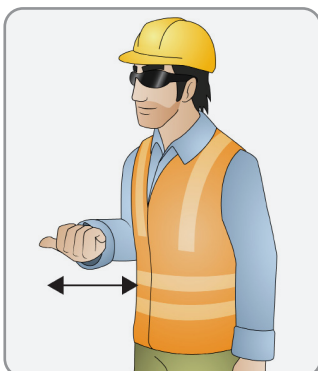
Boom down



Boom retract



Boom extend



Slew left



Slew right

# Set up Task



*This element covers performance criteria:*

- 3.1 Establish and maintain communication with relevant persons to ensure task plan and risk controls are communicated clearly, including any impact on other workplace activities
- 3.2 Ensure risk controls and safety measures and equipment have been put in place, including the fitting, adjusting and anchoring of fall protection equipment
- 3.3 Consult with relevant persons to ensure that ground and foundation have been assessed as suitable for task
- 3.4 Consult with relevant persons to ensure that the structure has been assessed as suitable for load bearing task



# Theory Training Task 42

*Performance Criteria: 3.4*

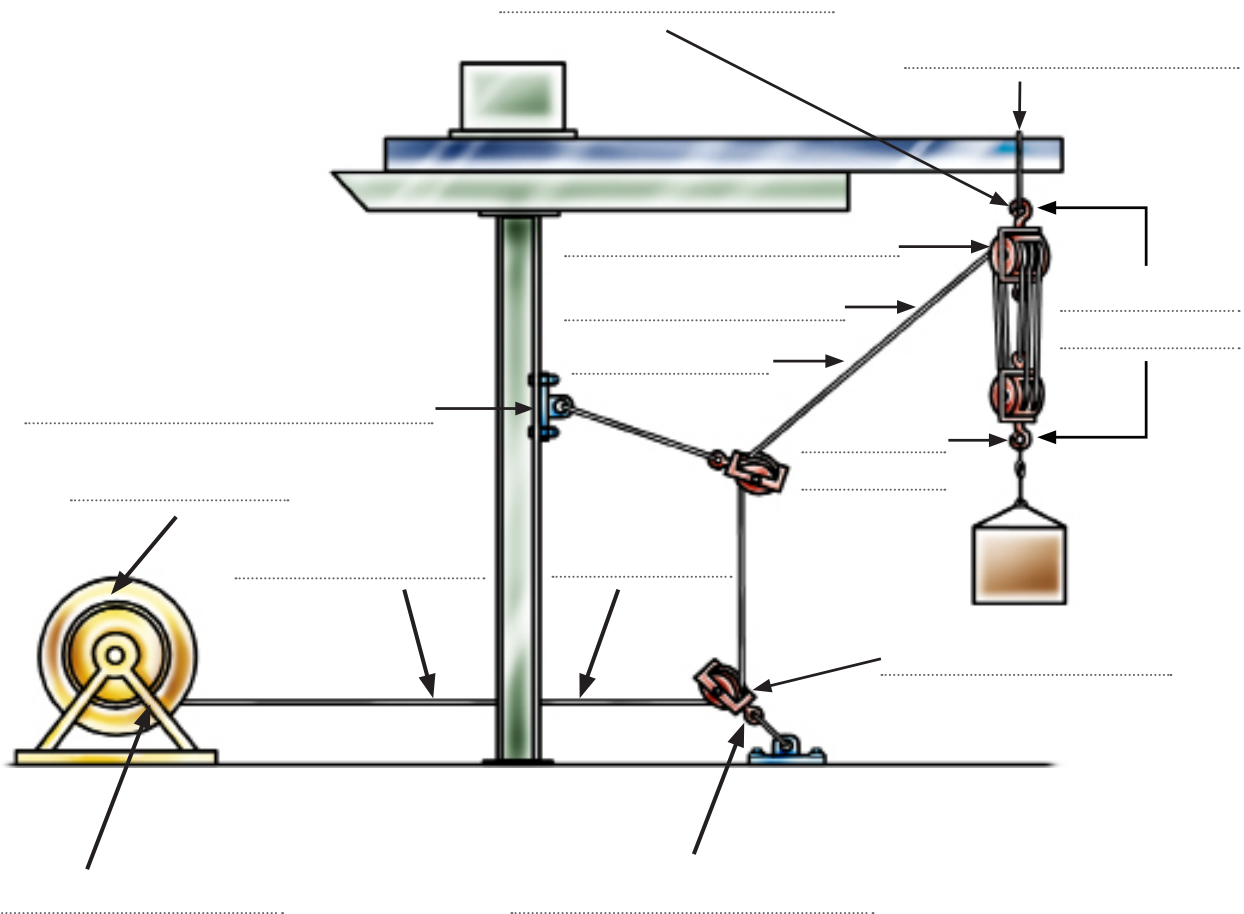
A winch is a device which enables a load to be hoisted or hauled.

A wire rope runs from the winch to the load through a number of sheaves.

This is called a **purchase**.



**Fill in** the blank labels on the winch and purchase shown below.



## To set up and use a powered winch to lift a load

You are required to set up and use a powered winch to lift a load.

An arrangement of the winch, purchase, load and needle is shown below.

You will need to **calculate** the following. Use the information provided in **Diagram 1**.

1. The distance from the winch to the lead sheave?
2. The becket load in the purchase?
3. The lead line pull?
4. Diameter of the winch wire required? (Note: use kgs.)
5. Total head sling load?
6. Counterweight required for the needle?
7. Total load on the lead sheave?

**Diagram 1**

