

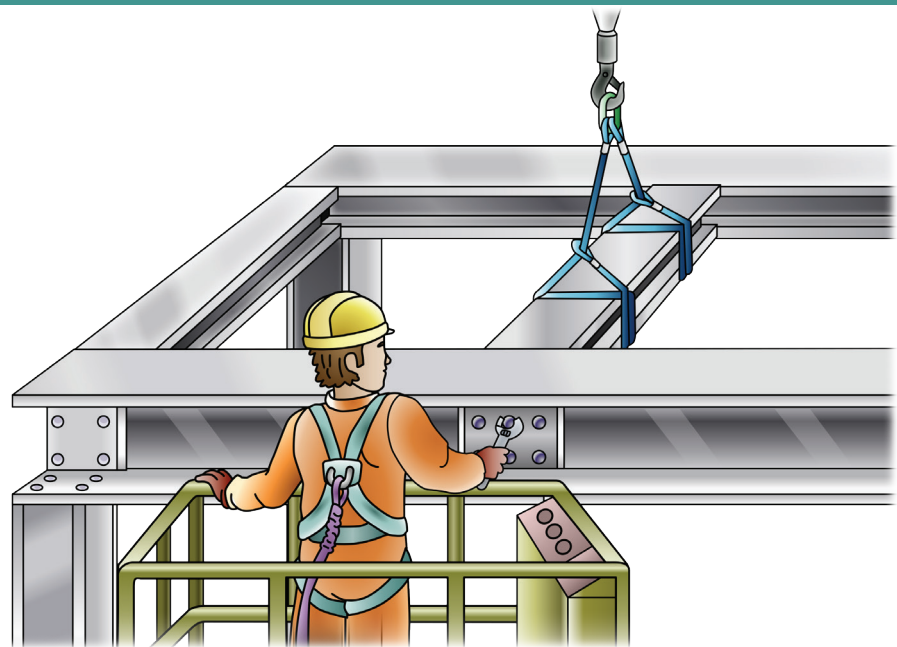
RIGGING BASIC

LEARNER WORKBOOK



CPCCLRG3001

Licence to perform rigging basic level



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Learner name:

Student number:

Date:

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Plan Job



This element covers performance criteria:

- 1.1 Task to be undertaken is assessed.
- 1.2 Potential workplace hazards are identified.
- 1.3 Hazard control measures are identified consistent with appropriate standards to ensure the safety of personnel and equipment.
- 1.4 Site information is obtained.
- 1.5 All forces and loads associated with erecting and dismantling structures and associated plant are considered in consultation with appropriate personnel.
- 1.6 Rigging equipment and associated equipment are identified in consultation with appropriate personnel according to procedures and site information.
- 1.7 Safety equipment is identified.
- 1.8 Appropriate communication methods are identified with associated personnel.



Theory Training Task 2

Performance Criteria: 1.1

First, look at the picture and then plan your job. Your job is to get the crane operator to lift the load from the ground to the suspended floor.

Find out where the job is. To do this task you need to:

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Performance Criteria: 1.2

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.



Theory Training Task 3

Performance Criteria: 1.2

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

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2)

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3)

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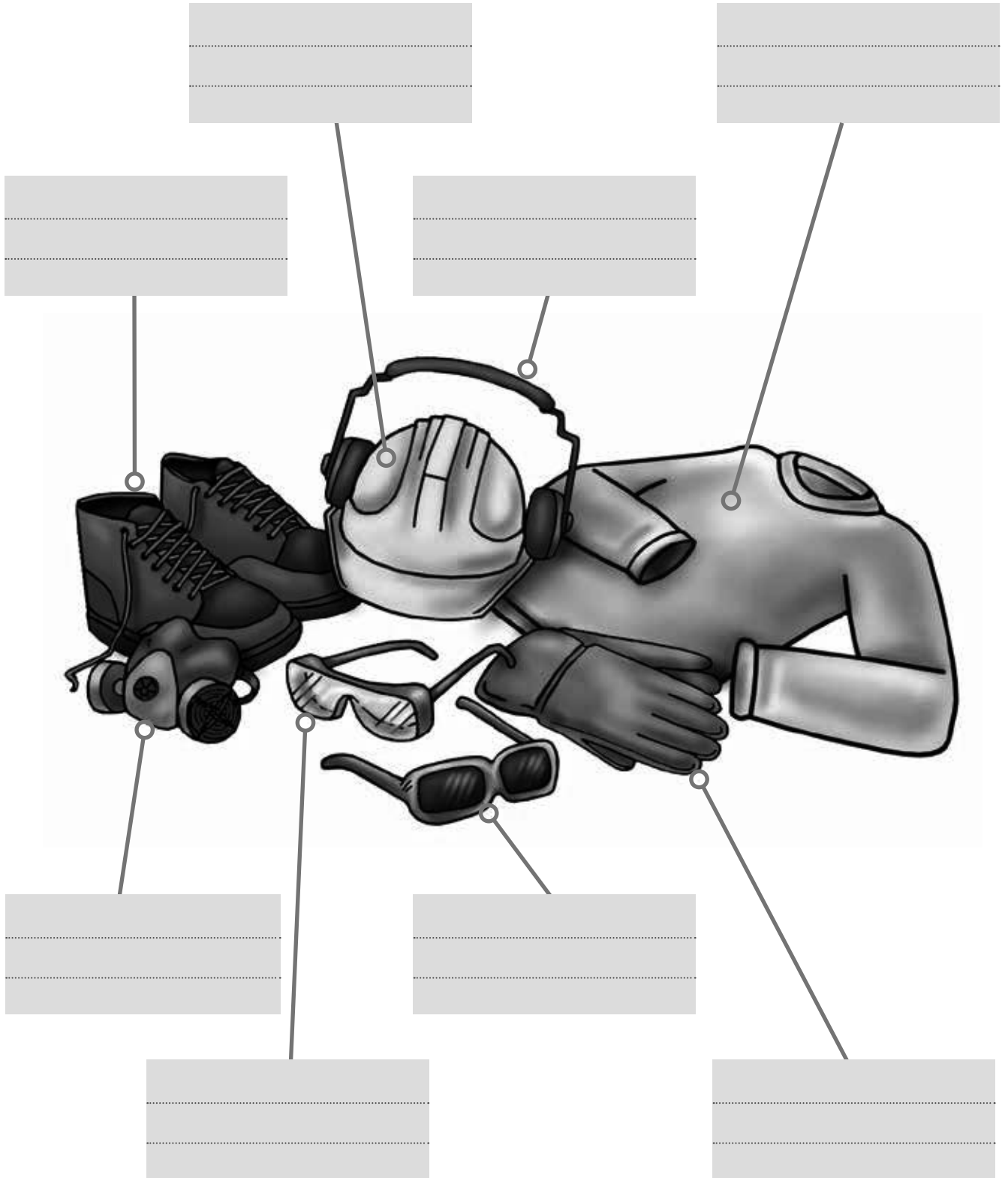




Theory Training Task 12

Performance Criteria: 1.3

Label the personal protective equipment (PPE) shown below.





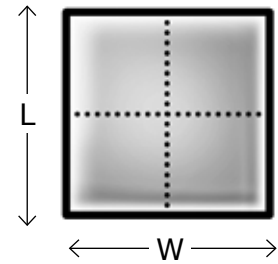
Theory Training Task 18

Performance Criteria: 1.4

Calculate the area of a square. A square is flat. The area is how much space the square covers.

Formula: $A^2 = L \times W$

L = length W = width A = area (m²)



a) Calculate the area of a square:

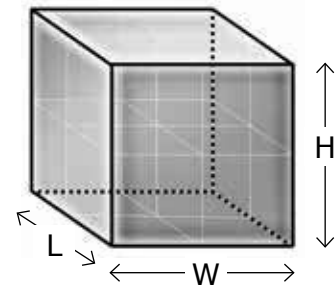
L = 9.5 cm W = 9.5 cm

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Calculate the volume of a cube. A cube is a 3D box. Volume is how much space is inside the cube.

Formula: $V^3 = L \times W \times H$

L = length W = width H = height



b) Calculate the volume of a cube with these measurements:

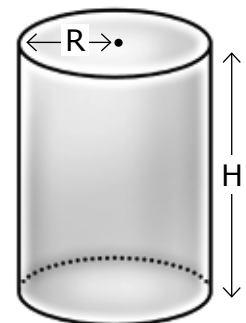
L = 6.2 cm W = 6.2 cm H = 6.2 cm

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Calculate the volume of a cylinder. A cylinder is a 3D pipe. Volume is how much space is inside the cylinder.

Formula: $V^3 = \pi \times R \times R \times L$

$\pi = 3.14$ R = radius L = length $V^3 =$ volume



c) Calculate the volume of a cylinder with these measurements:

R = 1.6 m L = 5 m

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Performance Criteria: 1.7

Safety equipment

Use safety equipment to stay safe while you are doing the rigging work, especially when working at heights.

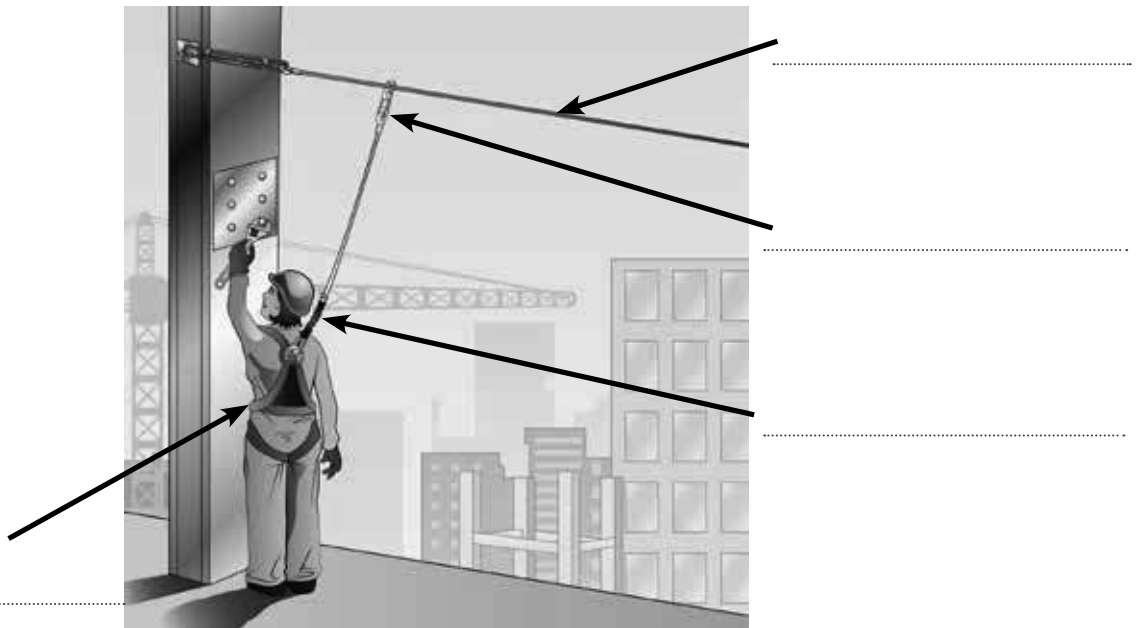


Theory Training Task 25

Performance Criteria: 1.7

It is important that you are familiar with the correct safety equipment used when performing rigging work, especially when working at heights.

a) Label the safety equipment in the following picture.



b) What other safety equipment might a rigger need to do their work?

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Select and Inspect Equipment



This element covers performance criteria:

- 2.1 Rigging equipment and associated equipment are selected and inspected according to procedures and the appropriate standard
- 2.2 Safety equipment is selected and inspected according to procedures
- 2.3 All defective rigging equipment, associated equipment and safety equipment is isolated, reported and recorded according to procedures
- 2.4 Communication equipment is selected and inspected for serviceability (where applicable).



Theory Training Task 29

Performance Criteria: 2.1

There are several 'rule of thumb' formulas for working out the working load limit (WLL) of slings.

The formula for working out the WLL of FSWR (flexible steel wire rope) is:

$$WLL \text{ (kgs)} = \text{Diameter}^2 \text{ (mm)} \times 8$$

a) What is the WLL of a FSWR with a diameter of 25 mm? Show all calculations.

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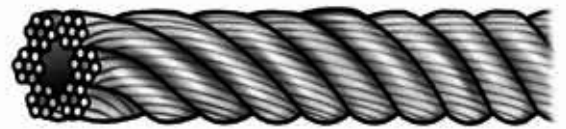
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b) The formula for working out the WLL of Grade T (80) chain is:

$$WLL \text{ (kgs)} = \text{Diameter}^2 \text{ (mm)} \times 32$$

What is the WLL of a Grade T (80) chain with a diameter of 12 mm? Show all calculations.

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c) The formula for working out the WLL of fibre rope is:

$$WLL \text{ (kgs)} = \text{Diameter}^2 \text{ (mm)}$$

What is the WLL of a fibre rope with a diameter of 35 mm? Show all calculations.

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Erect Structures and Plant



This element covers performance criteria:

- 4.1 Structures and associated plant are erected according to procedures and site information
- 4.2 Stability of structures and associated plant is maintained during erection according to procedures
- 4.3 Work is conducted safely at heights including safe and effective use of safety equipment
- 4.4 Appropriate communication methods and communication equipment, are used to co-ordinate the tasks
- 4.5 Associated plant and rigging equipment is used according to procedures and the appropriate standard
- 4.6 Temporary guys, ties, propping and shoring, including flexible steel wire rope and tubing, are connected where required
- 4.7 Associated equipment is used in a safe and appropriate manner
- 4.8 The completed task is inspected according to the appropriate standard
- 4.9 Excess materials are removed from the work area (where applicable).

Performance Criteria: 4.3

Work Safely at Height

Make sure you are anchored correctly while working at heights.



Theory Training Task 62

Performance Criteria: 4.3

a) What is the pendulum effect?

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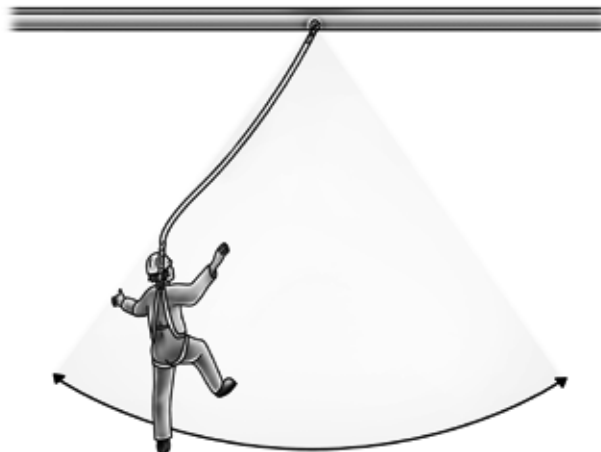
b) What hazards are created by the pendulum effect?

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Theory Training Task 65

Performance Criteria: 4.4

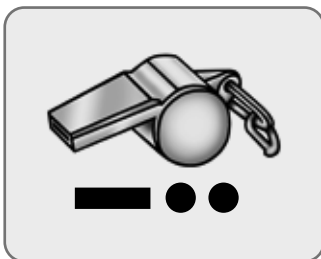
Draw a line from the crane boom motion in the centre with the hand or whistle signal.



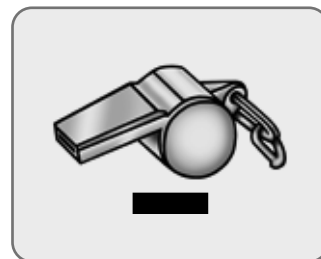
Hoisting down



Stop



Slewing right



Travel and traverse



Luffing boom up



Telescoping boom retract

Performance Criteria: 4.7

Work with associated equipment

Always use associated equipment (slings, ropes, chains and other lifting gear). Follow the manufacturer’s instructions.



Theory Training Task 68

Performance Criteria: 4.7

Which task should you do first? (Circle the correct answer.)



Choose the lifting gear



Assess the load

Performance Criteria: 4.8

Check the rigging work

Once you finish your rigging work you need to check it against a number of things.



Theory Training Task 69

Performance Criteria: 4.8

Name three (3) things you could check the work against to make sure that the completed task has been done to the appropriate standard.

- 1)
- 2)
- 3)

Practical Training Task 5

Element 4—Erect Structures and Plant

Performance criteria 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9

Erect Structures and Plant

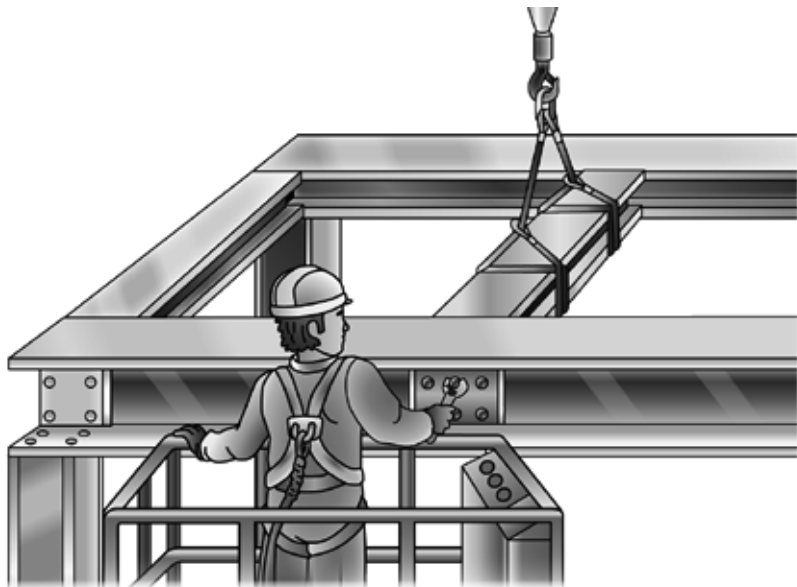
Learners: You **must** do this task under the **control of a licensed operator**.

Please wait for your trainer to advise you before trying the task.

In Practical Task Three, you planned to set up a steel portal frame. You will now erect the steel portal frame.

First, your trainer will take you to an area where you will erect the steel portal frame.

Second, your trainer will choose the panels for you to erect the steel portal frame.



When you erect the steel portal frame, make sure you:

- Carry out rigging work. This means you do all rigging work in line with workplace procedures, user manuals and site information.
- Keep structures and plant stable. This means you use guying, lashing and bracing to keep structures stable while you are putting them up.
- Work safely at height. This means you make sure you anchor yourself correctly when working at heights.
- Use appropriate communication methods and equipment. This means you must give crane operators clear verbal, hand and whistle signals when you direct crane movements.
- Use associated plant and equipment according to procedures. This means you make sure someone has trained you to use the plant and rigging equipment the way the maker designed it.

Dismantle Structures and Plant



This element covers performance criteria:

- 5.1 Structures and associated plant are dismantled according to procedures and the appropriate standard
- 5.2 Work is conducted safely at heights including safe and effective use of safety equipment
- 5.3 Stability of structures and associated plant is maintained during dismantling according to procedures
- 5.4 Rigging equipment, associated equipment, safety equipment and associated plant are inspected for damage and defects
- 5.5 All defective rigging equipment, associated equipment, associated plant and safety equipment is isolated, reported and recorded according to procedures
- 5.6 Rigging equipment and associated equipment is stored according to procedures and the appropriate standard
- 5.7 Hazard prevention/control measures are removed (where applicable).

Performance Criteria: 5.1

Dismantle structures and associated plant

Always check the maker’s instruction when you dismantle (meaning take apart) any structures and associated plant. Make sure you pack up and store the parts properly.



Theory Training Task 71

Performance Criteria: 5.1

Who should you talk to before you dismantle structures or equipment?

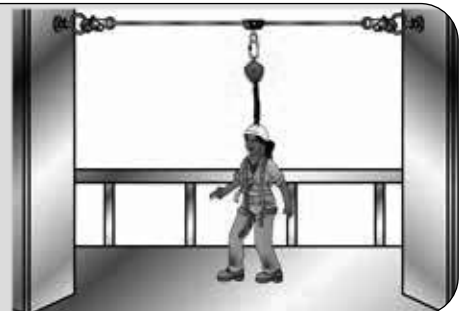
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Performance Criteria: 5.2

Working safely at heights

To work safely at heights you should do a number of things.



Theory Training Task 72

Performance Criteria: 5.2

What are two (2) things that you can do to stay safe while you are dismantling structures and equipment at heights?

1)

2)

Performance Criteria: 5.7

Remove hazard control measures

When you finish your rigging work you need to remove any hazard controls.



Theory Training Task 76

Performance Criteria: 5.7

What should you do with hazard control measures such as barriers, signs or safety nets when they are no longer needed?

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Theory Training Task 77

Performance Criteria: 5.7

What should you do with the work area after you have finished your rigging work?

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Practical Training Task 6

Element 5—Dismantle Structures and Plant

Performance criteria 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7

Dismantle Structures and Plant

Learners: You **must** do this task under the **control of a licensed operator**.

Please wait for your trainer to advise you before trying the task.

In Training Task Four, you erected a steel portal frame. You will now dismantle (meaning take apart) the steel portal frame.

First, your trainer will take you to an area where you will dismantle the steel portal frame.



When you dismantle the steel portal frame, make sure you:

- Dismantle structures and associated plant. This means you always check the user manual when you take apart any structures and associated plant. Make sure you pack up and store the parts properly.
- Safely conduct work at heights. This means you wear safety gear, anchor your lanyard, and use clear words and hand signals with other workers.
- Maintain structural stability during dismantling. This means you keep the structure or plant stable while you take it apart.
- Inspect equipment after use. This means you check the rigging equipment and associated plant and equipment after you finish using it.
- Report and record any defective equipment. This means if you find faulty equipment you tag, remove, record and report it.
- Store equipment. This means you store all equipment safely to avoid damage.
- Remove hazard control measures. This means that when you finish your rigging work, you need to put away any hazard controls such as barriers or bollards and take down any signs.

Your trainer will check how you dismantled the steel portal frame. After you finish, the licensed operator/trainer will then sign and date the box below.

Element 5: Competent **Not yet competent**

Signature (licensed operator/trainer) Date