

Presentation Instructions

Who is this presentation for?

The trainer and learners.

What is in this Presentation?

- Course information that matches the Learner Guide content.
- Review questions and model answers.
- Slides contain summarised content, with full notes and information for the trainer, visible when the slide show is shown in "Presenter View" (see instructions on next slide).
- Use this presentation to support and reinforce the training information from the Learner Guide.

What do you need to do before you use it for the first time?

1. Rebrand the presentation.
2. Review the presentation as part of your validation process.

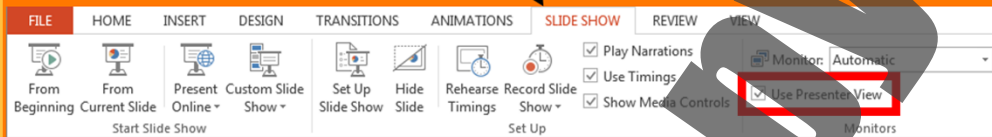
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Instructions for Viewing in Presenter View

NOTE: This view is only applicable when the computer is connected to a second screen or a data projector.

Once the second screen/projector is connected make sure that the "Use Presenter View" box is ticked.

This is found in the "SLIDE SHOW" tab as shown below.



RIIHANE30511

**OPERATE A GANTRY OR
OVERHEAD CRANE**



**TRAINING
PRESENTATION**

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Training Presentation Sections

Click on a box to go to that section.



Section 1:
Plan and Prepare for Work

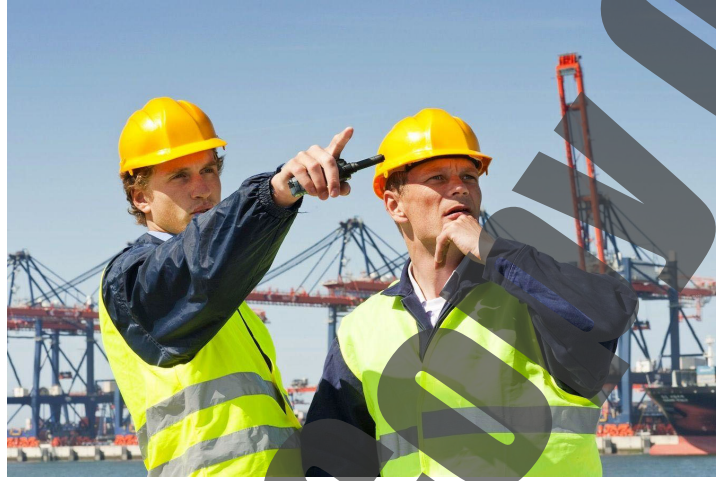


Section 2:
Check and Operate
Equipment



Section 3:
Conclude Operations

Section 1:
Plan and Prepare for Work



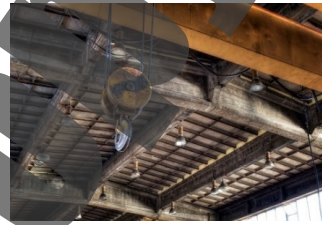
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1.1 Introduction

These training materials are based on the national unit of competency **RIIHAN305D Operate a Gantry or Overhead Crane**.

You will learn about:

- ◆ Planning and preparing for operations.
- ◆ Operating the crane to move loads.
- ◆ Carrying out maintenance.
- ◆ Cleaning up.



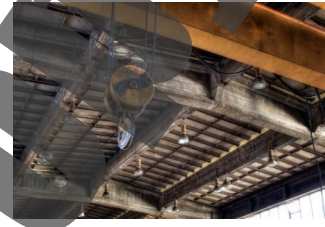
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1.1.1 National High Risk Work Licence

A National High Risk Work Licence is required to operate a bridge or gantry crane if it is:

Controlled from a permanent cabin or control station on the crane.

OR

Remotely controlled and has more than 3 powered operations.

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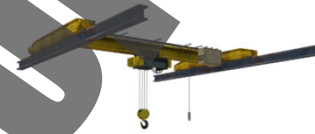
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OR

Remotely controlled and has more than 3 powered operations.

1.1.2 Overhead and Gantry Cranes

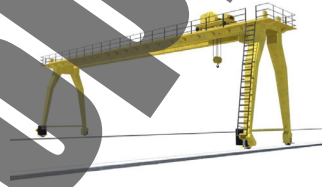
An **Overhead Crane** (also called a **bridge crane**) is a crane comprising a bridge beam mounted at each end to an end carriage, capable of travelling along elevated runways and having one or more hoisting mechanisms arranged to traverse across the bridge.



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1.1.2 Overhead and Gantry Cranes

A **Gantry Crane** is a crane comprising a bridge beam, supported at each end by legs, mounted on end carriages, capable of travelling along runways at surface or deck level, and which has a crab with one or more hoisting units arranged to travel across the bridge. Gantry cranes may have fixed runways with or without rails.



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1.1.2 Overhead and Gantry Cranes

Overhead and gantry cranes commonly include the following components:

- ◆ The hook block.
- ◆ The hoist.
- ◆ The carriage.
- ◆ The bridge.
- ◆ The runway.
- ◆ The main isolator switch.
- ◆ Safety devices.
- ◆ Remote controls.



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1.1.2 Overhead and Gantry Cranes

To make sure you know the specific details for the crane you are operating you should access the technical information. This will be found in the operator's manual or manufacturers' specifications.



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1.1.2.1 The Hook Block

The hook block is used to raise and lower the hook.

It consists of:

- ◆ Sheaves or pulley wheels.
- ◆ A hook.
- ◆ A safety latch.

Running through the pulley of the hook block is the hoist rope. The hoist rope consists of many small wires formed into a flexible and strong rope. To reduce wear on the hoist rope it should be kept lubricated.



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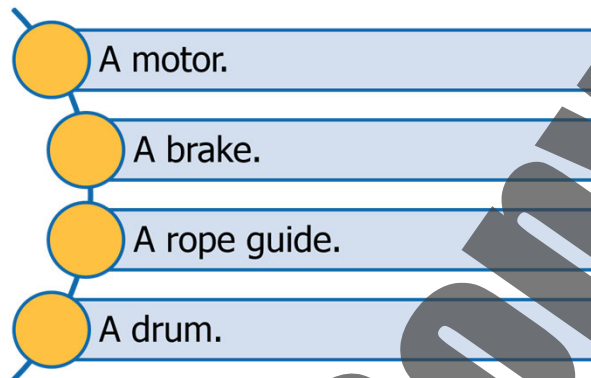
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1.1.2.2 The Hoist

The **hoist rope** is wound up and down by the **hoist**.

The hoist consists of:



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The hoist consists of:

- ◆ A motor.
- ◆ A brake.
- ◆ A rope guide.
- ◆ A drum.

1.1.2.2 The Hoist

The hoist travels on the **crane bridge**. The motor that drives the hoist from one side of the bridge to the other is called the **cross travel motor**. The **cross travel brakes** are part of the cross travel motor.

A **serial hoist** is an all in one hoist and cross travel unit. The other kind of cross travel unit is the **crab hoist** where the hoist is mounted onto a trolley with wheels. On a crab hoist, the cross travel brakes may be separate from the cross travel motor.



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1.1.2.2 The Hoist

The **hoist brake** operates when the hoist is not being raised or lowered. When you press the "raise" or "lower" button, the brake is released.

The **hoist drum** is usually grooved so that the rope does not wear quickly or become tangled.



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1.1.2.2 The Hoist

The **over-hoisting limit switch** stops the hook block from being raised too high by stopping the power. Do not use the over hoisting limit switch as a convenient method of stopping the hoisting motion. Continual over-hoisting will wear the limit switch and cause the hoist drum and rope guide to be damaged.



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1.1.2.3 The Carriage

The carriage is the main unit of the crane comprising the hook block, hoist, bridge and motors.



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RIIHANE30G1

Section 1 Review Questions

1. Do you need a High Risk Work Licence to operate a bridge or gantry crane if it has three (3) or less powered operations?



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1. Do you need a High Risk Work Licence to operate a bridge or gantry crane if it has three (3) or less powered operations?

No.



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