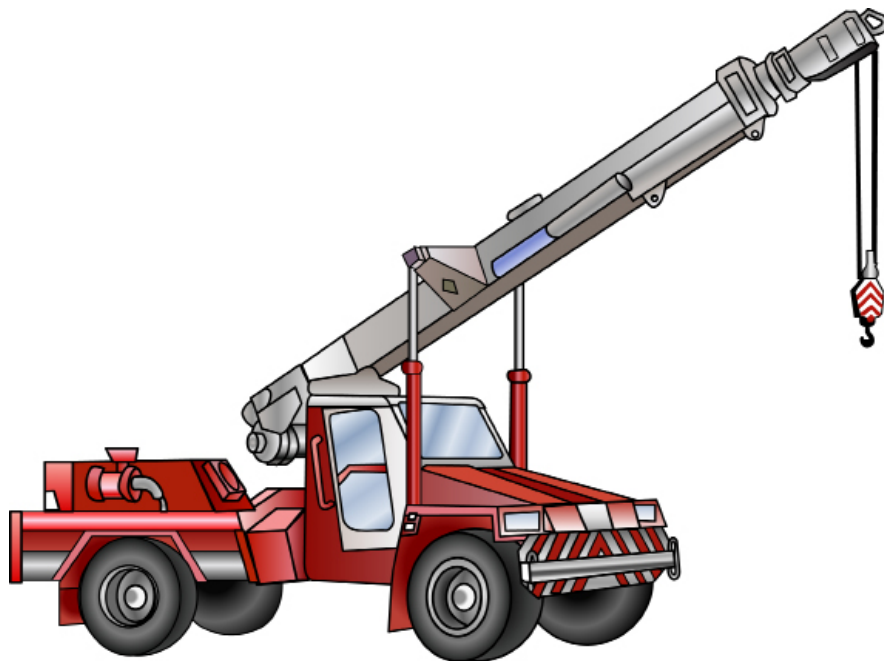# NON-SLEWING MOBILE CRANE LEARNER WORKBOOK

TRAINER'S MARKING GUIDE

TLILIC0018
Licence to operate a non-slewing mobile crane
(greater than 3 tonnes capacity)

Contents

How to get the most out of this book

As a trainer you know there are many ways a learner can find information to complete the training tasks in these learning materials. Below are some examples.

Licensed trainer:

- Can check your workbook answers
- Share knowledge and experience
- Demonstrate and check practical training activities.
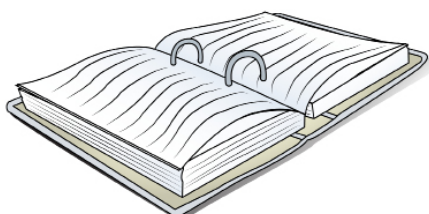
Information book:

- Find information to help do training tasks

Other learners:

- Share knowledge
- Demonstrate skills
- Group training exercises.

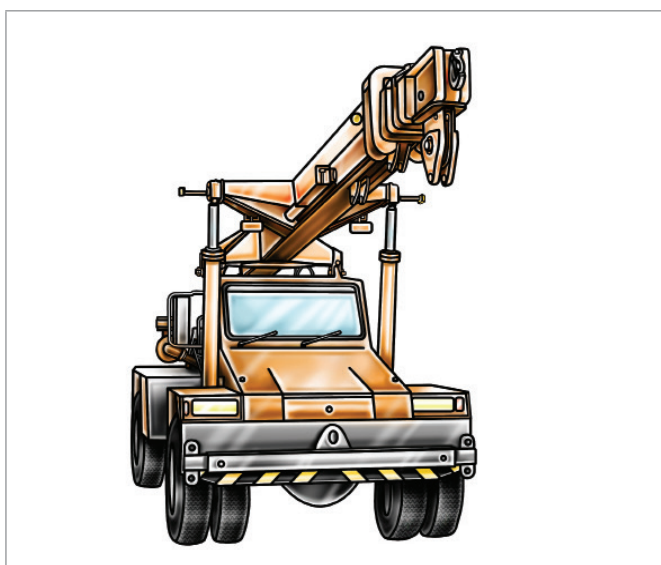Other resources:

- The internet
- User manuals
- WorkSafe.

Learner's own experience:

- On-the-job experience
- Other training.

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.

Boom extensions

Head sheave

SWL marking

Anti-two-block switch

Main boom

Running rope

Rope winch drum

Hook or slinging points

Hook block

Engine air intake

Hook

SWL for hook block

Engine cover

Lift cylinder

Spreader bar in transport position

Counter weight

Front wheel

Articulation point and steering cylinders

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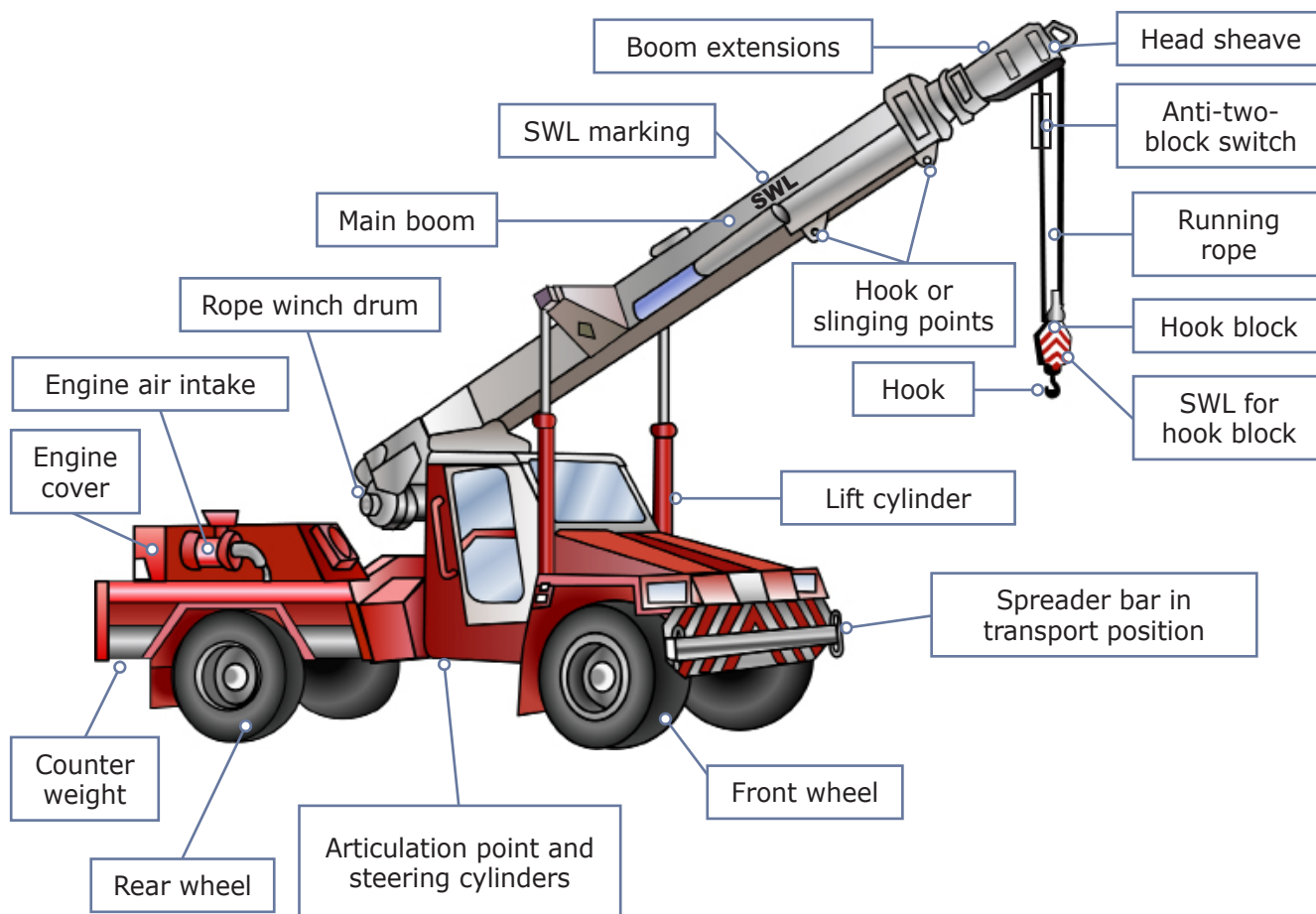
In some states a telescopic handler is classed as a non-slewing crane

Prepare for Hazards

Trainers please note:
The answers in this book are in no way conclusive and are to be used as a guide only. Use your own knowledge and experience to correct the variation of answers that may be given by learners.

Theory Training Task 1

Performance Criteria: 1.5, 2.2

Identify (know) workplace hazards. A hazard is anything that can harm you or others while you work. You need to identify (know) workplace hazards before you start work. Look for hazards. Look above you, look around you and check the ground below you.

a) Give examples of hazards you should look for before you begin work

Answers may include but not limited to:

Above head height
- powerlines and overhead service lines
- trees
- buildings
- other obstructions

Ground level to eye level
- other equipment
- machinery/plant
- people and pedestrians
- things in the path of travel
- environmental conditions
- surrounding structures
- facilities
- dangerous materials
- other obstructions
- insufficient lighting

Ground level (and below)
- stable/level surface
- spills or wet surfaces
- debris and rubbish
- trenches or recently filled trenches
- unstable ground
- underground services
- surface is strong enough to support the weight of any equipment/materials

b) Tick any of these hazards you may have come across in past or present workplaces.

Trainers: encourage your learners to place a tick beside hazards they have seen in their past or present places of employment.

Theory Training Task 2

Performance Criteria: 1.5, 2.1, 2.2

a) **Circle** all the hazards you can find in the picture below.

b) Can you explain why the people in this picture might be a hazard if you were to operate a non-slewing mobile crane nearby?

<u>They could get in the way of the non-slewing mobile crane which could cause</u>

<u>accident or injury to themselves or the non-slewing mobile crane operator.</u>

c) Can you think of ways to make sure these people do not get in the way of the non-slewing mobile crane?

- <u>Use barricades/fencing to keep people out of the work area.</u>
- <u>Use signs to warn people.</u>
- <u>Use someone to direct people clear of the work area.</u>

Communicate Clearly

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Theory Training Task 10

Performance Criteria: 1.7, 3.7

How should you and the dogger communicate when you can see each other? Circle the correct answer.

Hand signals

Whistle

Two-way radio

Theory Training Task 11

Performance Criteria: 1.7

a) Name the communication equipment you should test before you start work to see if it functions.

The two-way radio and whistle.

b) What should you do if the equipment doesn't work?

- _Change it for working equipment._
- _Follow site procedures for tagging out faulty equipment._
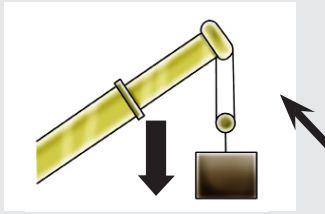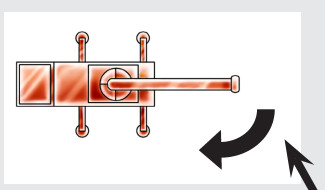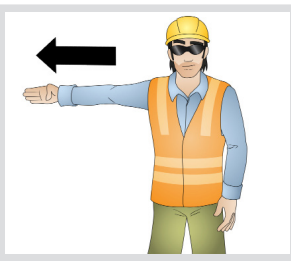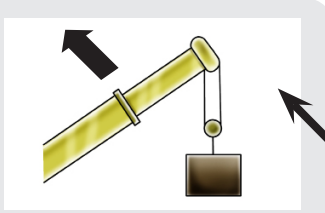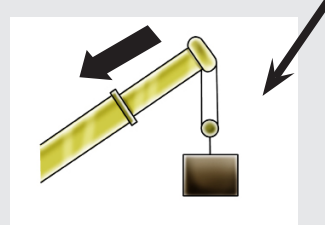
Match the crane boom motion on the left with the correct hand or whistle signals on the right.

Hoisting down

Stop

Slewing right

Travel and transverse
Indicate the direction you want the crane to go

Luffing boom up

Telescoping boom retract. Jib-trolley in.

1 long

1 long, 2 short

Check the Crane

Trainers please note:
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Do visual checks

Before you start working, there are important crane safety checks you need to do first. Start with the visual check. Look around the crane for obvious problems such as leaks and damage.

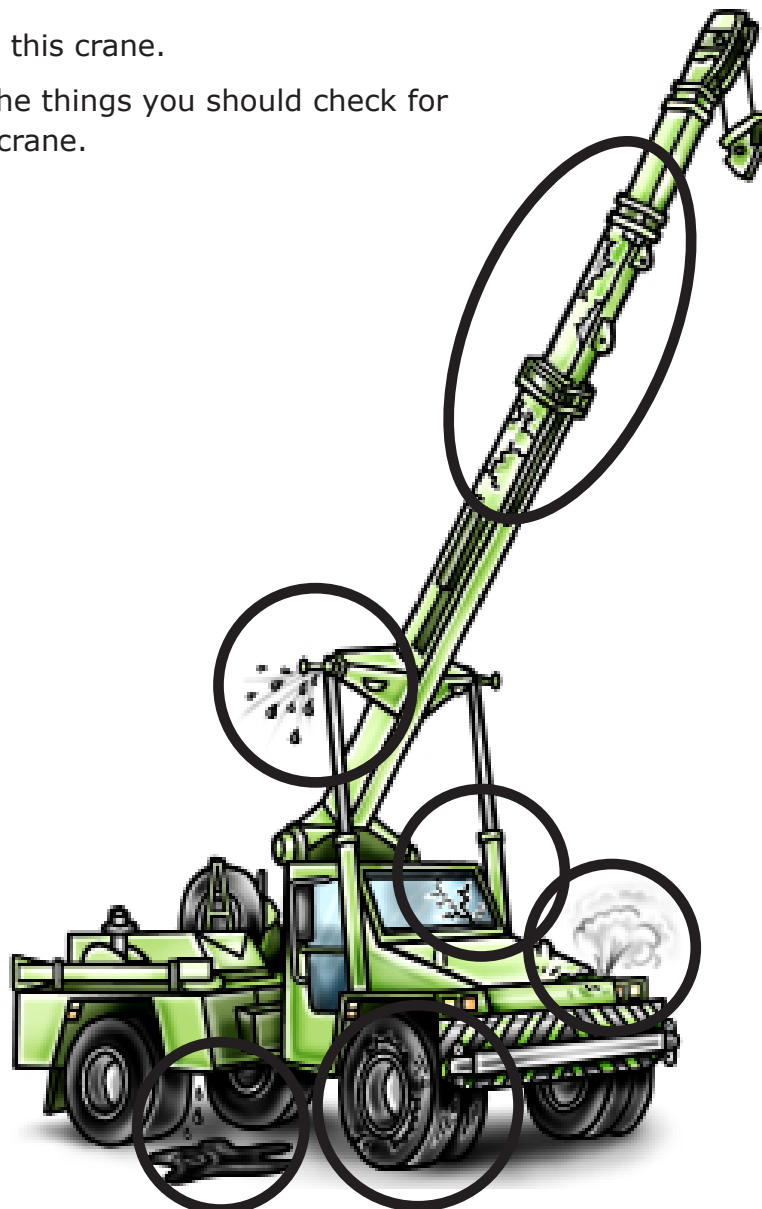# Theory Training Task 13
Performance Criteria: 2.4

Look at this crane.

Circle the things you should check for on the crane.

Plan the Lift

Trainers please note:
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only. Use your own knowledge and experience to correct the variation of answers
that may be given by learners.

Find out the weight of the load

You are planning the lift. Find out or estimate the weight and size of the load you are going to lift.

350kg

Theory Training Task 25

Performance Criteria: 1.3, 2.1

Give some examples of how you find the weight of an unmarked load.

Answer may include:

You can find the weight of an unmarked load by:

- **The weighbridge certificate, consignment note or other paperwork.**
- **The load itself or its packaging.**
- **Work out the weight of a load yourself.**
- **Weighing the load.**

Theory Training Task 26

Performance Criteria: 1.3

a) You will lift a steel universal beam. The dimensions are:

- Weight of structural steel = 7840 kg per cubic metre

  1 mm = 0.001 m

- Flanges (top and bottom)

  - Length = 12 m

  - Width = 250 mm

  - Thickness = 15 mm

  - Flange = L × W × D × 2 × weight of structural steel

- Web

  - Length = 12 m

  - Width = 275 mm

  - Thickness = 40 mm

  - Web= L × W × D × weight of structural steel

What is the total weight of the steel universal beam in kilograms?

Flange = 12 m × 0.25 m × 0.015 m × 2 × 7840 kg

Flange = 705.6 kg

Web = 12 m × 0.275 m × 0.04 m × 7840 kg

Web = 1034.88 kg

Total weight = 705.6 kg + 1034.88 kg

Total weight = 1740.48 kg

Total weight = 1740.5 kg

Flange

Web