

VEHICLE LOADING CRANE LEARNER WORKBOOK

TRAINER'S MARKING GUIDE WITH MODEL ANSWERS

TLILIC0024

Licence to operate a vehicle loading crane
(capacity 10 metre tonnes and above)



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National Licence
RTO-VET Learning Materials

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Language – Literacy – Numeracy (LLN) TAELLN411 Address adult language, literacy and numeracy skills



Why LLN matters?

The unit TAELLN411 Address adult language, literacy and numeracy skills describes the skills and knowledge a vocational trainer or assessor requires to identify language, literacy and numeracy (LLN) skill requirements for training in the work environment. The aim is to use resources and strategies that meet the needs of the learner group.

The LLN unit applies to individuals who teach, train, assess and develop resources.

Easy Guides training materials have been developed around LLN principles

James Tennant, Managing Director of Easy Guides Australia Pty Ltd has completed the LLN unit as well as a MA (TESOL) Masters of Arts degree in teaching speakers of other languages.

James taught as a Workplace language and literacy (WELL) teacher in industry where he gained knowledge and experience for adapting training to a wide range of learners.

James' qualifications and experience have been embedded into the Easy Guides training materials making them unique in their field.



LLN core skills – customising training

The Australian Core Skills Framework (ACSF) provides a detailed description of each of the five core skills which help people to participate effectively in our society.

The core skills are:

Learning	Reading	Writing	Oral Communication	Numeracy
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Trainers can use knowledge of the core skills of their learners to adjust their training program. For example, a learner may be high in oral communication but low in writing.

For such learners, training materials could:

- be written in simple, plain English
- use pictures and diagrams to explain concepts
- use bullet points or tables instead of long paragraphs
- explain difficult words that students might need to know.

Easy Guides has built many of these LLN learning strategies into their training materials.

Finding LLN resources



Check the Trainer's Resource CD for lots of helpful LLN information and resources to help you plan your training.

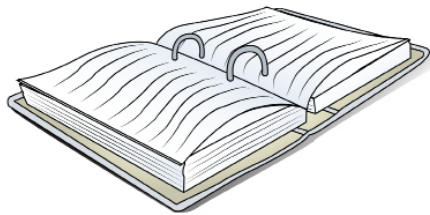


How to get the most out of this book

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.



Things to consider when learning

Repeatable competency

At Easy Guides we build repeatable competency into our learning support materials. Here's how we do it.

First, the learner gains the underpinning knowledge through theory/knowledge training tasks.

Second, the learner does a practical training exercise and a practical assessment exercise.

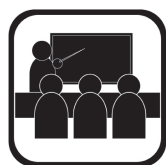
Third, the learner sits the assessment instrument (used by the RTO assessor).

The assessment gives the learner a final opportunity to demonstrate repeatable competency.

Learning styles

Learning styles are simply different ways of learning. You may notice that when you try to learn something new you have a preferred way to learn. You may prefer to listen to someone talk about the information or to read the information yourself. Or you may like to see a practical demonstration and then try it out for yourself.

Easy Guides cater for the three main learning styles:



1. Visual learners

These learners think in pictures. They learn best from diagrams, illustrations, DVDs, digital projections and handouts or a workbook. Visual learners like to take notes to help themselves remember the information.



2. Auditory learners

These learners study best through lectures, talking things through and listening to what others have to say. Written information may have very little meaning to these learners until they hear it or discuss it.



3. Tactile/kinesthetic learners

These learners study best through a hands-on approach. They become bored and distracted if they sit for too long. One way to help overcome this in the classroom is to have partner-and-group work activities rather than long periods of listening to a trainer.

Learners have different learning needs

Learners come with a wide variety of backgrounds, skills, knowledge and experience. The time and experience needed to prepare each learner can vary a lot.

As the licensed operator/trainer, it is up to you to decide what parts of these learning materials you want to use. However, you would expect beginners to cover all these learning materials.

You can use part or all of these training materials in any order. You decide on the needs of each of your learners.

Learning support materials

This Learner Workbook is part of a Start-up pack of learning materials. It supports **TLILIC0024 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)**. The pack includes both trainer and learner resources.

Here are the resources in the Vehicle Loading Crane Start-up pack.

Learner Workbook – Vehicle Loading Crane

Trainer’s Marking Guide with model answers to Learner Workbook

The Learner Workbook:

- gives you training tasks in theory and practice
- is evidence you’ve done a formal training program
- maps the learning tasks to the unit of competency.

Safety and Licence Guide – Vehicle Loading Crane

- Includes practical and knowledge training tasks
- Helps learners prepare for their final test

Safety and Licence Guide PowerPoint Presentation

- Multimedia version of the Vehicle Loading Crane Final Review Study Guide
- Suits group learning and revision

Record of Training Logbook

- Great for on-the-job training
- Provides evidence that every performance criteria in the unit has been covered
- The learner and supervising RTO use the record of training logbook to keep written record of workplace training.

Trainer’s Resource with editable resources

- Fully editable MS Word documents
- Editable course documentation
- Editable workplace forms and documents
- Editable review questions and answers
- Editable practical tasks
- Editable mapping of unit of competency.

Learning and practical tasks

If you can, have your students train with other learners. Learning is more powerful when you and your learners share ideas and experiences. Below is a brief explanation of how you can use the training tasks in this workbook. Please advise your students if they are to fill in tasks on their own at home or wait until they are in the training room with you.



Theory training tasks

These tasks help the learner understand the underpinning knowledge to safely operate a vehicle loading crane. To help them complete these tasks the learner can use the Information Book and speak to other learners and you, the licensed operator/trainer.



Thinking questions

Thinking questions train your learner to think for themselves. For example, the Information Book does not directly state the answer.



Practical training tasks

These tasks help the learner acquire the practical skills to safely operate a vehicle loading crane. The tasks use high-risk equipment or machinery. Only a licensed operator/trainer can supervise the learner's practical training tasks.



Review

At the end of each element in the workbook, the learner gets to review their training. The review gives the learner a chance to talk with classmates and you about what they learned. Sharing their learning experiences with others helps them learn.



Review questions

You'll find the review questions on the Trainer's Resource CD. Give the questions to the learner toward the end of training to determine if they understand the information they have covered. You can ask your learner to fill in these questions alone or as a group by using the matching questions in the PowerPoint quiz section.

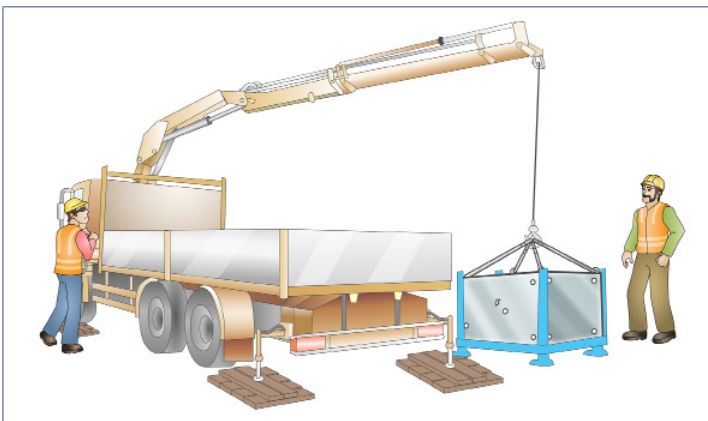
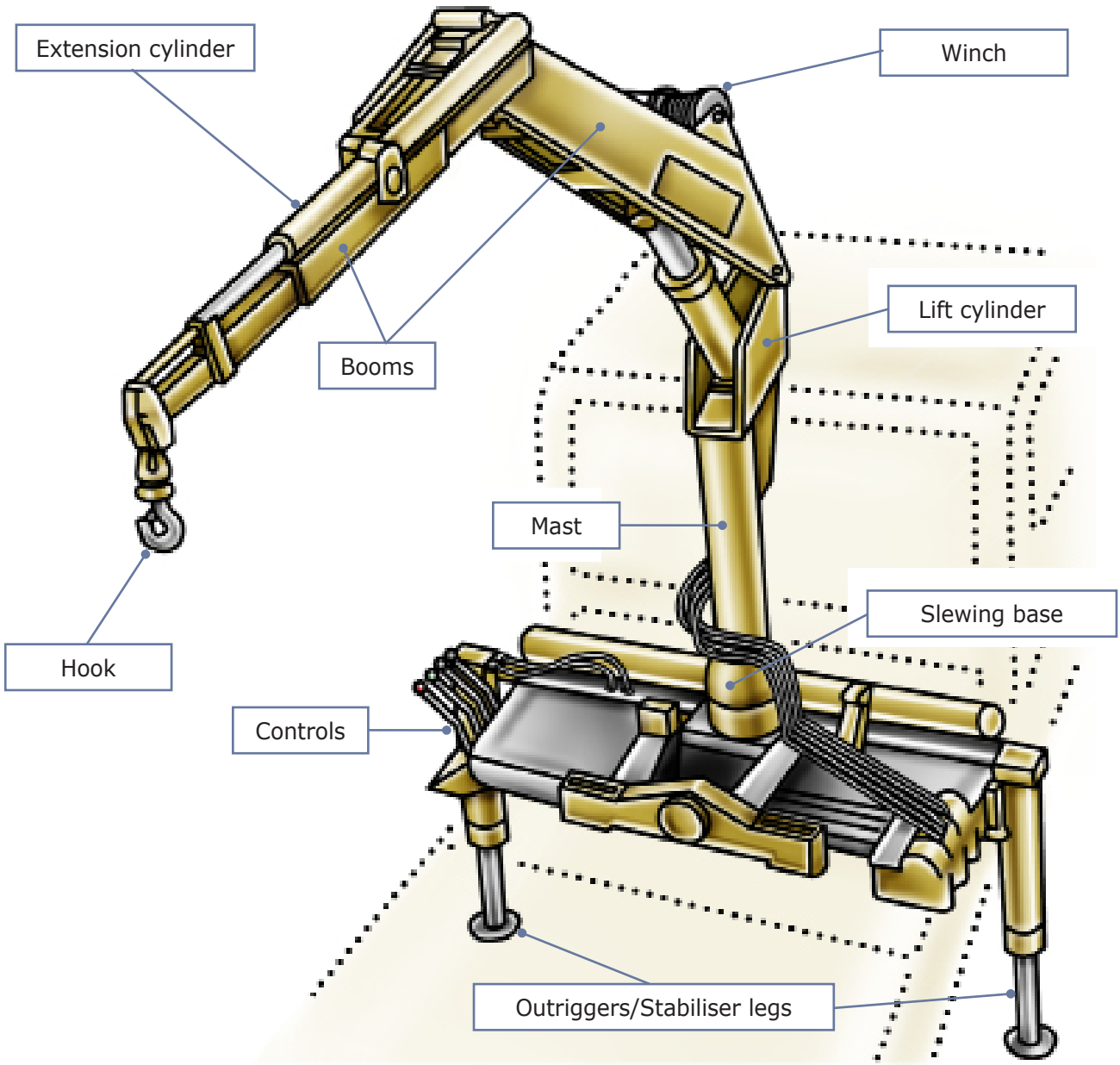


Review—practical tasks

The practical tasks handout is on the Trainer's Resource CD. There is one task for each element and the learner should do all tasks under your supervision.

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).

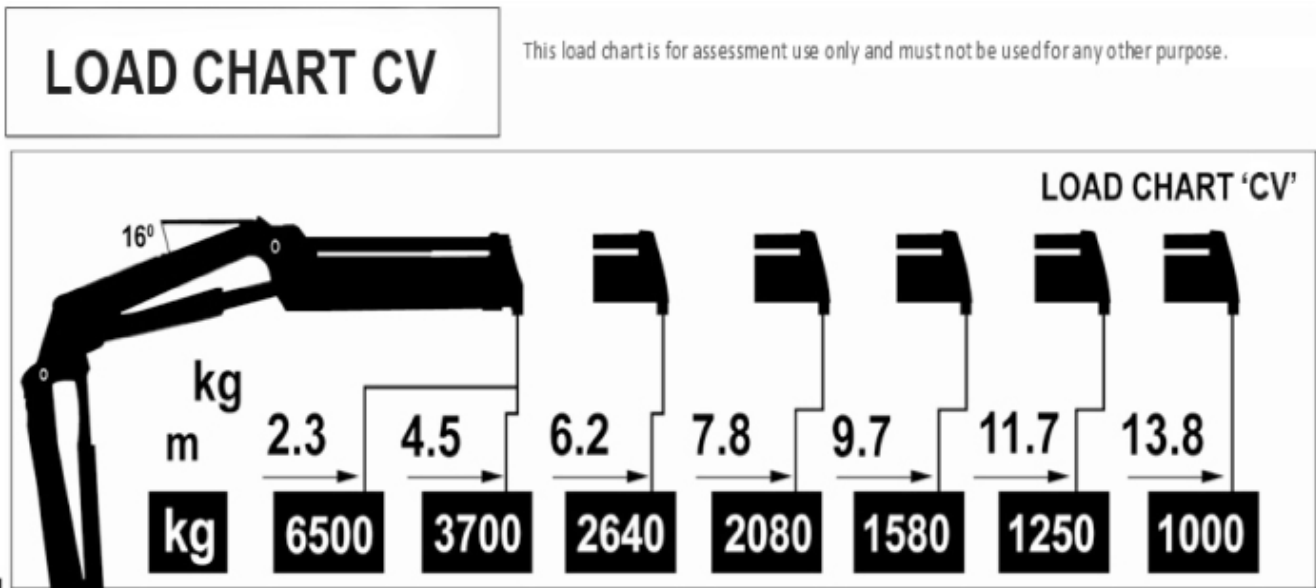


Vehicle loading crane charts (capacity 10 metre tonnes and above)

Answer these questions if you are studying the **TLILIC0002 Licence to operate a vehicle loading crane (capacity 10 metre tonnes and above)**.

If you are studying for a different licence, skip to that section.

Note: For the following crane exercises use the Calculations- CV load chart. This is located in the 'Trainer's Resource' of the Easy Guides training material. Your trainer will provide you with this crane chart.



EXAMPLE OF CALCULATIONS

Question 1

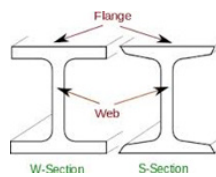
Method used to calculate the approximate weight of a steel universal beam.

You need to calculate the cubic meter of steel for the two components that make up the beam. These are the "Flange" and the "Web" (See diagram 1b)

This done by using the following formula; Width x Depth x Length (W x D x L)



(Diagram 1a)



(Diagram 1b)

Example: Top and Bottom Flanges:

- Width – 250 millimetres
- Depth – 12 millimetres
- Length – 12.5 metres

Web:

- Width – 350 millimetres
- Depth – 35 millimetres
- Length – 12.5 millimetres

Calculation:

Make sure to convert all measurements to metres because volume is measured in cubic metres (m³).

Note: Structural steel weighs 7840kg/m³.

Remember to calculate what is in the brackets first.

Continued on next page

Set Up Crane



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.

Performance Criteria: 1.2

Check ground conditions

Check the ground is okay to use the vehicle loading crane **before** you set up. Ground conditions affect the use of outriggers and the need for packing.



Theory Training Task 41

Performance Criteria: 1.2

Do you think the following **ground conditions** are **safe** to set up a vehicle loading crane or need further checking to make sure they are stable?

Circle the correct answer.

Recently flooded ground	Safe	Needs further checking
Hard compact soil	Safe	Needs further checking
Bitumen road	Safe	Needs further checking
Swamp area	Safe	Needs further checking
Soft soil	Safe	Needs further checking
Uneven ground	Safe	Needs further checking

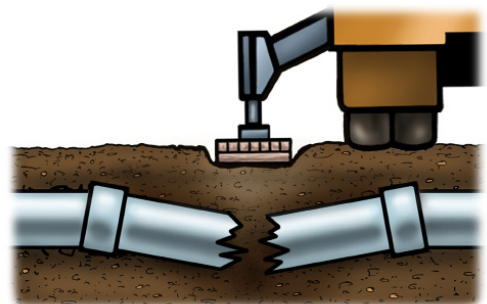


Theory Training Task 42

Performance Criteria: 3.1

What might happen if you set up the vehicle loading crane over underground services?

- The crane may sink or tip over while it is moving the load.
- The crane may damage the services.





Theory Training Task 43

Performance Criteria: 1.2

List the ways you can find out where underground services are:

Answer includes:

- Dial before you dig, phone 1100.
- Check site plans.
- Contact the water authority or local council.
- Check the nearby drains or manholes.
- Check for signs posted by service providers.

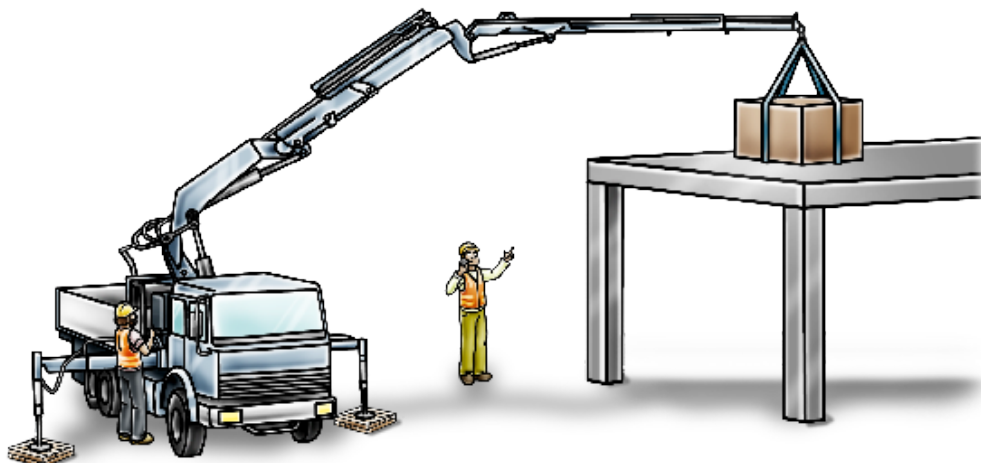


Theory Training Task 44

Performance Criteria: 1.2

List the things you need to think about when you set up a crane on a suspended floor or temporary formwork.

- The floor is strong enough to take the weight of the crane and load.
- Beware of single point loadings.
- The age of the slab.
- Whether back-propping or shoring is needed on the floors underneath.
- Written confirmation from a qualified engineer.



Performance Criteria: 1.4

Drive crane safely to the work area

Follow all procedures and guidelines when driving the vehicle loading crane to the worksite.



Theory Training Task 45

Performance Criteria: 1.4

Circle the correct answer for the following statements.

When driving a vehicle loading crane you do not have to obey road signs.

True

False

When driving a vehicle loading crane you must check for clearances below tunnels and powerlines.

True

False

When driving a vehicle loading crane outriggers/stabilisers do not have to be retracted.

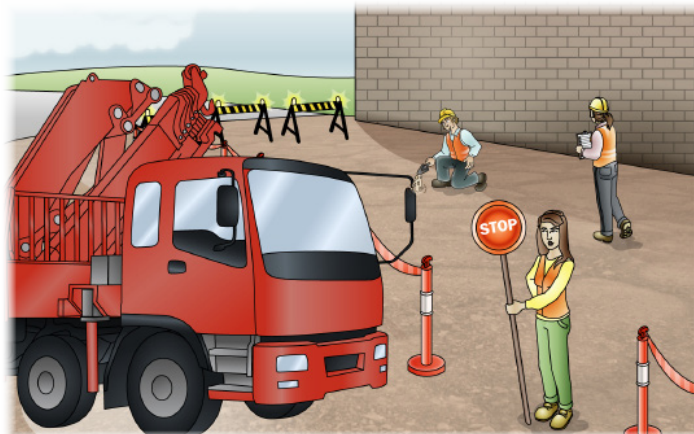
True

False

It is up to pedestrians to get out of your way when you are driving a vehicle loading crane.

True

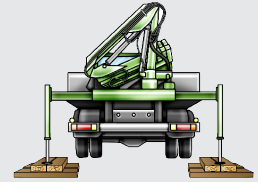
False



Performance Criteria: 1.4

Position (put) crane safely for the job

Put the vehicle loading crane where you can do the job safely and effectively.

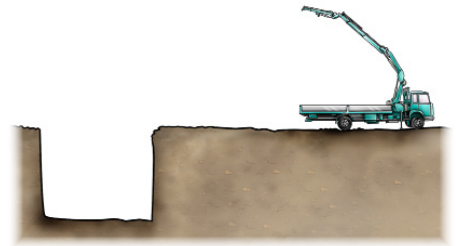


Theory Training Task 46

Performance Criteria: 1.4

a) How far away should you set up your crane from a four-metre deep trench or excavation?

- **Four metres. When the ground is soft you might need to set up further away.**



b) Circle the correct answer for the following statement.
Never lift the truck wheels off the ground.

True

False



Theory Training Task 47

Performance Criteria: 1.5

Write a number in each box to show the right order in which you **set up** a vehicle loading crane on **sloping ground**.

2

Chock the wheels

1

Put on the parking brake

3

Set up the outriggers on the lowest side to level the truck

