

**CONSTRUCTION**  
Training Group

# **LEARNER GUIDE**

## **Telescopic Materials Handler (TMH)**

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# ASSESSOR GUIDELINES – GENERAL

## 1. Introduction

### 1.1 Scope

These general guidelines apply to all the assessment instruments for the certificates of competency prescribed by the *National Guidelines for Occupational Health and Safety Competency Standards for the Operation of Load shifting Equipment and Other Types of Specified Equipment*.

Assessors should also be familiar with the publication *Assessment Guidelines for National Occupational Health and Safety Certification Standards for Users and Operators of Industrial Equipment*.

### 1.2 Additional Guidelines

Guidelines which provide additional specific information to certificate assessors are also included in each assessment instrument. Included, where appropriate, are specific instructions on the usefulness of training records (such as logbooks) and other certificates with overlapping competencies.

### 1.3 Evidence of Competence

Evidence of competence is established in a number of ways. The methods used in the following instruments involve:

- Assessment of practical performance
- Written and/or oral answers to questions on underpinning knowledge.

## 2. Preparing for the Assessment

### 2.1 Study the instruments

You need to read the assessment instruments and specific instructions carefully before beginning an assessment.

### 2.2 Confirm Appointments

Prior to an assessment, you need to confirm the date, time and location of the assessment with the applicant and any other relevant people.

### 2.3 Equipment Availability

The availability of equipment, materials and a suitable working area must be organised and confirmed, prior to the assessment.

### 2.4 Workplace Factors

Because procedures vary greatly between workplaces, it is important for assessors to plan their approaches to meet the requirements of the individual workplace.

Make sure you take the timeframe into account when planning the assessment and also make the applicant aware of any time limits.

### 2.5 Selecting Questions

Questions for the written/oral assessment should be randomly selected, either by hand or using the computer system, if applicable.

## 3. Conducting the Assessment

### 3.1 Provide an Explanation

Begin by explaining clearly to the applicant what is required of them. Check that the applicant has provided (or has been provided with) the necessary tools and equipment.

### 3.2 Practical Performance

Complete the practical performance checklist, as the applicant works through the required tasks. Wherever possible, this should be done in a normal working environment.

Do not ask the applicant questions while he/she is performing a task, as this can be distracting, and may affect the time taken to complete the assessment.

If, at any time, the applicant is endangering themselves or others, stop the assessment immediately. This indicates that the applicant is not yet competent and may require further training, before being reassessed.

Assessments should also be stopped, if equipment or property is likely to be damaged.

### 3.3 Knowledge

The knowledge assessment covers both oral and written exercises. The model answers provided with the knowledge assessment instruments are not necessarily exhaustive. Use your own judgement when scoring alternative answers.

### 3.4 Recording Responses

Each item and question on the assessment form you use is accompanied by a box. Assessors must complete every box as follows:



CORRECT PERFORMANCE/  
ANSWER



NOT YET ACHIEVED



NOT APPLICABLE

If a box is marked incorrectly, cross out the mistake, mark the correct response alongside, and initial the change.

## 4. Determining Competencies

### 4.1 Assessment Summary

A specific assessment summary is given for each certificate class. This is to be filled in and signed by the assessor and counter signed by the applicant.

The duplicate is given to the applicant. The original with digital identification photo is sent to the certifying authority by the assessor. The triplicate remains with the assessor.

### 4.2 Competency Requirements

In order for you to deem an applicant competent, he or she must have completed each section of the assessment to the standard required. You should note any time constraints when arriving at your decision.

The standard required for each instrument is specified in the specific guidelines and/or on the summary page at the end of each instrument.

### 4.3 Additional Comments

Where an applicant fails to meet the standard of competence, you should add a written comment on the Assessment Summary, which briefly explains the problem.

Advice to the applicant, on the appropriate remedial action should also be included. This will also assist the certificate assessor, in the event that the applicant undergoes future reassessment.

Likewise, if an applicant demonstrates outstanding or remarkable performance, this should be noted.

### 4.4 Further Investigation

As a certificate assessor, it is your role to determine whether or not an applicant has achieved the standard necessary for the certifying Authority to be able to grant an equipment operator HSO qualification card.

Whenever you are unsure of the applicant's performance or knowledge, ask additional questions, and obtain additional evidence, before making your final decision.

# **National Guidelines for OHS Competency Standards**

## **Telescopic Materials Handler**

### **PART ONE**

### **PERFORMANCE ASSESSMENT**

# Assessor Guidelines – Specific (Performance Assessment)

1. The assessment requires the operator to check the equipment, plan the work and to safely and competently operate, the equipment.

The assessment is performed in ten sections:

**1.1** Conduct routine pre-operational check of Telescopic Materials Handler, equipment and the security of attachments.

**1.2** Inspect the site, plan the work and select and fit appropriate attachments.

**1.3** Conduct pre-operational and post start up checks.

**1.4** Drive the Telescopic Materials Handler to the work area.

**1.5** Use the Telescopic Materials Handler in the crane mode.

**1.6** Demonstrate the correct operating techniques for different attachments.

**1.7** Pickup material in the bucket.

**1.8** Shut down equipment and secure site.

## 2. Prior Learning and Experience

**2.1** An applicant who holds a front-end loader/backhoe, front-end loader, and forklift or excavator certificate does not require assessment in sections 2, 3 and 4.

**2.2** Applicant who produces satisfactory documentary evidence (such as a logbook) which establishes 50 days experience in Telescopic Materials Handler Operations specifically covering competencies tested in assessment sections 2,3 and 4 does not require assessment in those sections.

**3. The performance assessment can be conducted at any location which has**

- Sufficient clear space to operate the machine

- Ground suitable for leveling and shifting materials.

## 4. Equipment and resources required:

- Telescopic Materials Handler and equipment
- A wire rope sling, chain sling, shackle and a fibre rope tag line.
- Suitable loads to sling (such as a bundle of timber and a concrete pipe)
- Suitable site on which to use the Telescopic Materials Handler and equipment to demonstrate the correct operating techniques for different attachments, use the Telescopic Materials Handler in the crane mode and to load or simulate loading of a truck.

**5. Unless other arrangements are agreed to by the assessor, it will be the responsibility of the applicant, applicant's employer or trainer to provide the required equipment and resources.**

## 6. To be assessed an applicant must wear:

- Safety helmet (where required)
- Appropriate footwear
- Other protective clothing and equipment as appropriate.

**7. The performance of each applicant is to be recorded on the assessor's checklist.**

## 8. Safety of personnel:

When an applicant is working dangerously, recklessly or without the necessary co-ordination, the assessor must direct the applicant to cease work and terminate those parts of the assessment immediately.

**9. The items in the shaded boxes are of critical importance. Failure to get any of these correct means that competency has not been achieved and the applicant must be failed.**

**10. The applicant's competence in each unit is to be summarised for both performance and knowledge on the**

summary sheet. Competence is achieved for a unit when the required number of boxes for the unit has been ticked or marked 'NA'.

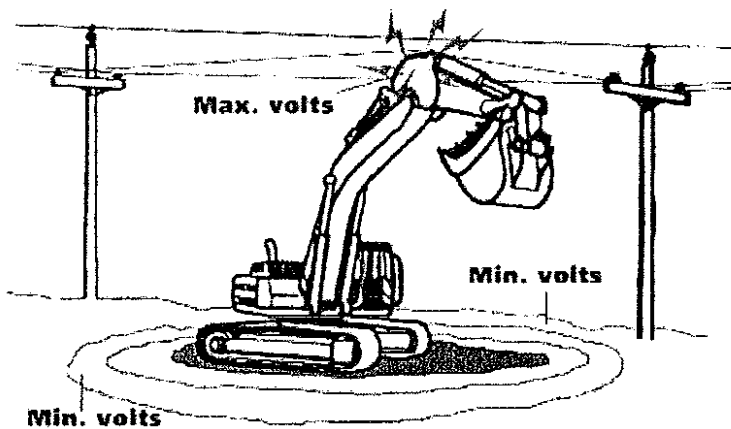
Overall competence is achieved when competence in all units has been assessed

11. Where an applicant is assessed as 'not yet competent' he/she must be informed of the reason(s) in order to gain further appropriate training.

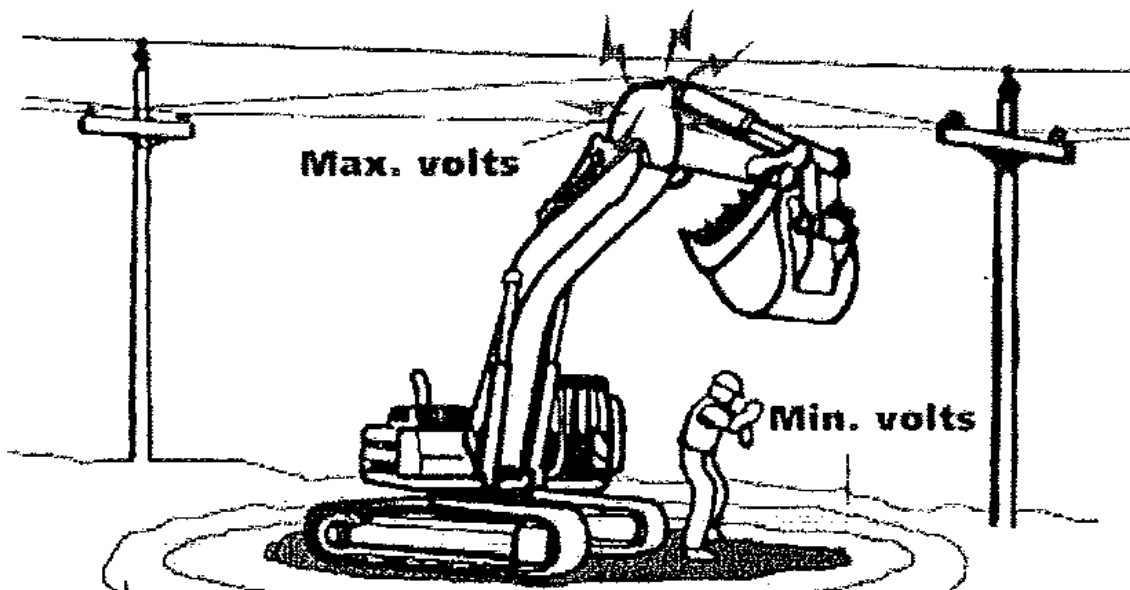
12. The full performance assessment can take up to 1 hour and 15 minutes.

13. The general assessment requirements are set out in Assessor's guidelines – general

Diagram 1:



*If anything touches a high-voltage power line or if a power line falls to the ground, electricity will flow to the ground, energising the tree or equipment and anything in contact with it. The surrounding ground may be extremely hazardous. The voltage gradually decreases from the point of contact until it reaches zero. The safe distance shown here—10 metres — is for line voltages up to and including 66 kV (66 000 V).*

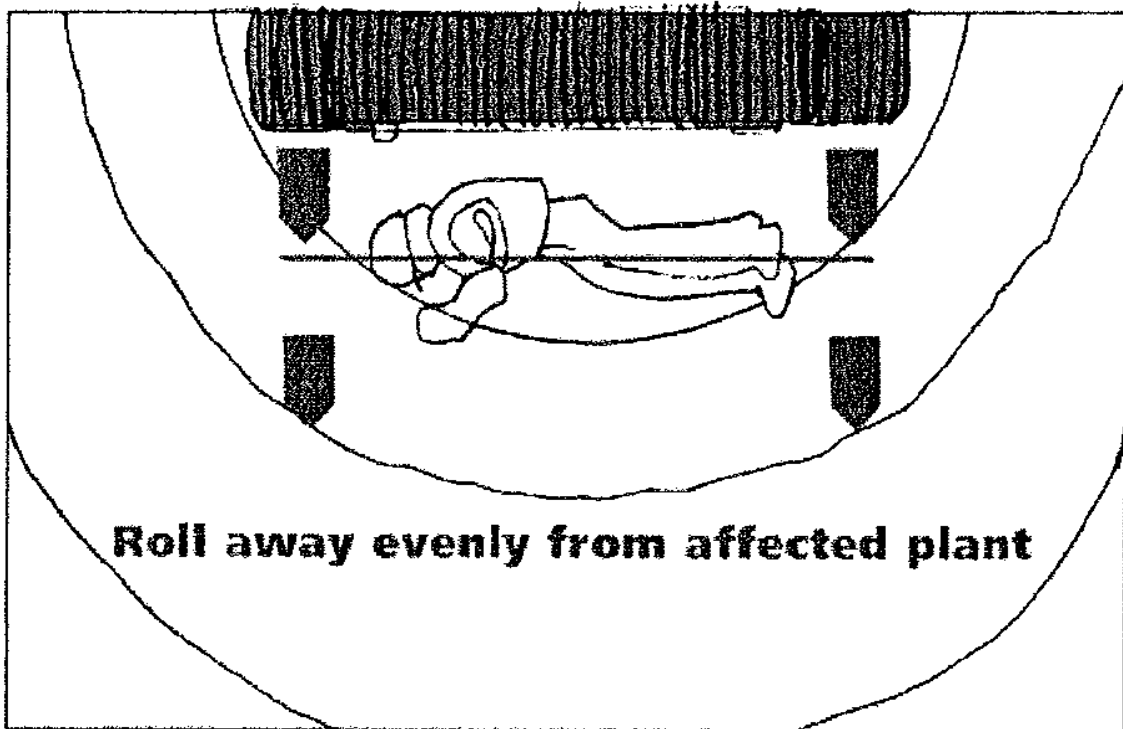
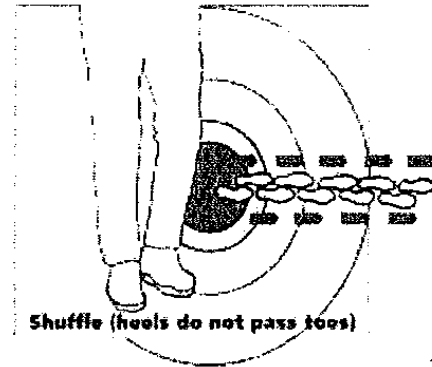
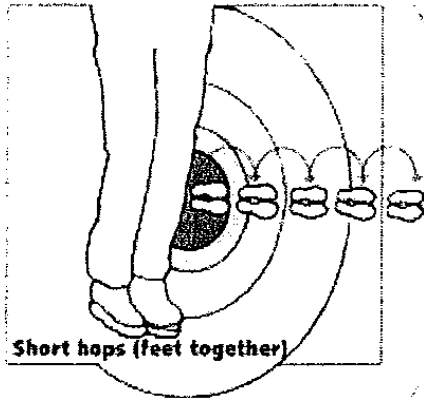


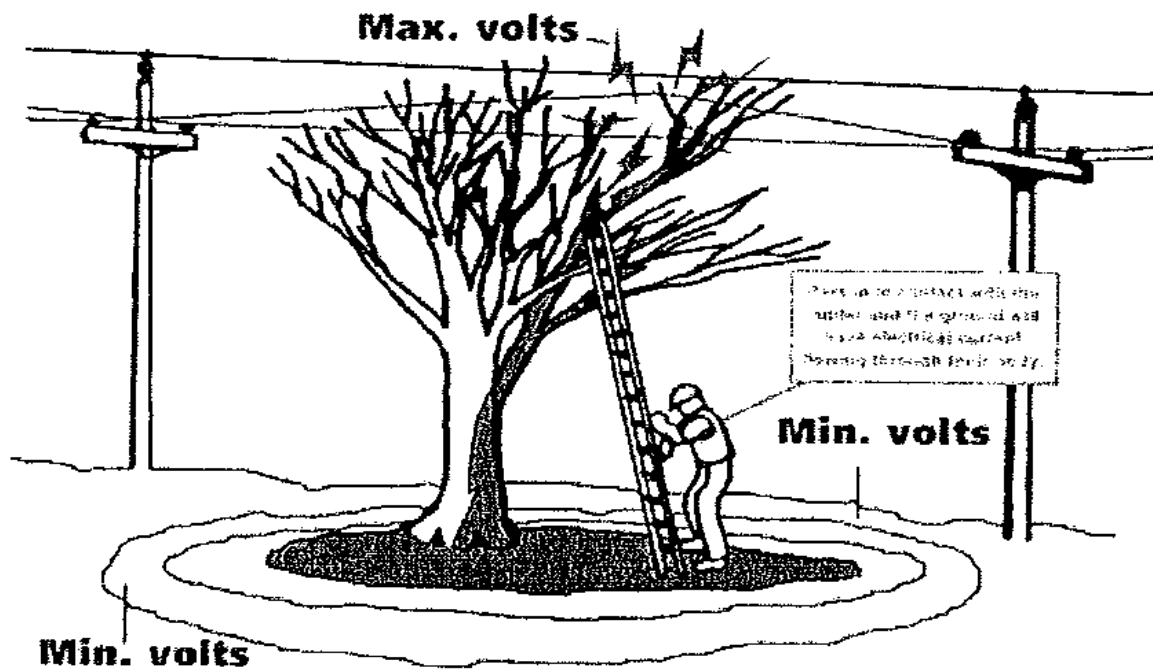
### **Step potential**

Step potential is the voltage difference between two places that are a step apart on energised ground. For example, if you are standing on energised ground, there could be a significant difference in voltage between where one foot and the other are placed, and an electric current could flow up one leg and down the other.

*Step potential. If your feet are spread apart on energised ground, electricity can flow through your body from the area of higher voltage to the area of lower voltage.*

If your feet are close together and touching, you are fairly safe. Since there is almost no voltage difference between the places your feet stand, there is little reason for electricity to seek a path through your body.





### ***Touch potential***

Touch potential is another danger that comes from the difference in voltage. It occurs when you touch something that is energised while standing on the lower voltage ground. For example, if some equipment is in contact with a power line, it will be energised to the same voltage as the power line; the surrounding ground will be energised to a lower voltage. If you touch the energised equipment or tree at the same time as you touch the ground with your feet, electricity will flow through your body from the higher voltage equipment to the lower voltage ground.

*Touch potential: Trees and equipment become energised when they contact a power line. Electricity can flow through a worker who touches the energised tree or equipment, often causing serious injury or death.*

Currents greater than 75 mA can cause ventricular fibrillation (rapid, ineffective heartbeat) and will cause death in a few minutes.

# Conduct Routine Checks:

## 1. Routine checks on vehicle/equipment:

Tyre condition and inflation, condition of wheels.

Checks liquid levels:

- ☐ Fuel
- ☐ Hydraulic oil
- ☐ Engine oil
- ☐ Coolant
- ☐ Battery

Checks structure for defects:

- ☐ Damaged or broken parts
- ☐ Loose nuts, bolts

Checks attachments for defects:

- ☐ Damage
- ☐ Purpose built attachment for cracks or wear
- ☐ Hoses, fittings, hydraulic rams for oil leaks
- ☐ Grease holes and grease pins
- ☐ Connections for missing pins or keepers

Checks other equipment for defects:

- ☐ Wire Slings
- ☐ Chain slings
- ☐ Shackles
- ☐ Other gear
- ☒ Checks attachments for security

## Plan Work and Check Equipment

### 2. Inspects site and plans work

#### Identify Hazards

- ☐ Power lines
- ☐ Phone lines
- ☐ Service drains
- ☐ Obstructions

Access and path of movement is indicated

- ☐ To work area
- ☐ For work

Fits appropriate equipment

- ☐ Suitable tools used
- ☐ Secures catches
- ☐ Correct procedure adopted
- ☐ Works safely

## Operational Checks

3. Conducts pre-operational and post start-up checks in accordance with manufacturer's specifications/operating manual.

- ☐ Mounts correctly
- ☐ Adjusts seat
- ☐ In neutral
- ☐ Warning device
- ☐ Engine start
- ☐ Gauges
- ☐ Warm-up allowed
- ☐ Boom and attachment movement
- ☐ Clear for travel
- ☐ Foot brake
- ☐ Holding brake
- ☐ Steering

## 4. Drives Unit:

### 2.1 Drives to the work area

- ☒ Ensures travel direction clear
- ☒ Travels at safe speed
- ☐ Raises attachments smoothly
- ☐ Selects appropriate route
- ☐ Raises stabilizing legs (where applicable)

**5. Operates machine as a crane**

- ☐ Checks sling attachment point
- ☐ Establishes weight of load
- ☐ Load not more than SWL for the operation
- ☐ Selects appropriate slings and gear
- ☐ Positions attachment to connect load
- ☐ Supervises correct slinging of the load
- ☐ Ensures tag line connected (if required)
- ☐ Trial lifts load
- ☒ Moves load to hand signals
- ☒ Moves load safely
- ☒ Lowers load to a designated location

**6. Demonstrate the correct operating techniques for different attachments**

- ☐ Attachment at correct level and angle
- ☐ Uses sufficient revs and speed
- ☐ Avoids excessive wheel spin
- ☐ Crows attachment to fill or hold
- ☒ Ensures direction of travel is clear
- ☐ Travels with attachment low
- ☒ Operates at an acceptable and safe speed
- ☐ Minimises spillage or load from shifting
- ☐ Uses appropriate path of travel
- ☐ Approaches trench, truck, rack or other correctly
- ☒ Smoothly raises and places or empties load
- ☐ Repositions attachment ready for reload
- ☐ Maintains a level working surface

**7. Picks up and moves material with the attachment**

- ☐ Picks up material
- ☐ Carries material

**General performance of sections 4, 5, 6, 7, and 8**

- ☐ Equipment suitable for the work
- ☐ Machine suitable for ground conditions
- ☒ Competently shifts material
- ☒ Equipment operated at a safe speed
- ☒ Signals are interpreted and observed
- ☐ Loads placed to ensure stability
- ☐ Loads placed to avoid causing hazard

**8. Shuts down equipment and secures site:**

Shuts down equipment and secures site  
*Parks equipment –*

- ☒ Attachments lowered to ground
- ☐ Machine parked in a suitable area
- ☐ Cutting edge of bucket on ground (where applicable)

*Shuts down equipment –*

- ☐ Neutralises controls
- ☒ Applies holding brake
- ☐ Idles to stop, locks ignition
- ☐ Moves controls to release pressure
- ☒ Applies safety lock (where applicable)

*Post operational check –*

- ☐ Minor servicing
- ☐ Checks and reports any damage

*Avoids Hazards –*

- ☒ Parks away from danger areas
- ☐ Removes keys
- ☐ Locks Cabin (if applicable)

# **National Guidelines for OHS Competency Standards**

## **Telescopic Materials Handler**

### **ORAL/WRITTEN ASSESSMENT**

# Assessor Guidelines – Specific (Knowledge Assessment)

1. Knowledge assessment for Telescopic Materials Handler is divided into three units and seventeen sections.

2. To satisfy the requirements for competency the applicant must correctly answer (either in writing or orally) the specified number of questions in each of the following sections:

1.1 Conduct routine checks

1.1.1 (Select 4)

1.1.2 (Select 1)

1.2 Plan work

1.2.1 (Select 2)

1.2.2 (Select 3)

1.2.3 (Select 1)

1.2.4 (Select 1)

1.2.5 (Select 1)

1.3 Check controls and equipment

1.3.1 (Select 1)

1.3.2 (Select 1)

2.1 Shift Load

2.1.1 (Select 1)

2.1.2 (Select 5)

2.1.3 (Select 2)

2.1.5 (Select 1)

2.1.7 (Select 2)

3.1 Shut down equipment

3.1.1 (Select 1)

3.1.3 (Select 1)

3.2 Secure site

3.2.1 (Select 1)

3. Prior learning and experience:

An applicant who holds a front-end loader/backhoe, front-end loader, forklift, or excavator certificate and who answers questions for performance criteria 1.1.1., 2.1.2 and 2.1.5 satisfactorily is not required to complete the rest of the assessment.

4. The full knowledge assessment of twenty-nine (29) questions can take up to 30 minutes.

5. The items in the shaded boxes are of critical importance. Failing to get any of these correct means that competency has not been achieved and the applicant must fail.

6. The applicant's competence in each unit is to be summarised for both performance and knowledge on the summary sheet. Competence is achieved for a unit when the required number of boxes for that unit has been ticked or marked 'NA'.

Overall competence is achieved when competence in all units has been assessed.

**CONDUCT ROUTINE CHECKS:**

**Performance criteria 1.1.1**

1. What precautions must be taken when inspecting under a raised attachment?

*Provision provided to prevent attachment descending*

☐

2. When should slings be inspected?

*Prior to their use (AS1666)*

☐

3. What % wear in a shackle would cause it to be discarded?

*10% wear.*

☐

4. Is it permissible to join a chain sling with a bolt?

*No.*

☐

**Performance criteria 1.1.2**

5. What must be done to a lowered bucket before travelling?

*Raise the bucket and secure it*

☐

**PLAN WORK:**

**Performance criteria 1.2.1**

6. In built-up areas what checks should be made before excavating?

*Check for power, telephone, gas or drainage lines, etc*

☐

7. If you accidentally damage an underground electrical cable who would you immediately contact to render the power supply safe?

*The electrical supply company*

☐

**Performance criteria 1.2.2**

8. What shall be provided to prevent a person falling into a trench?

*Barricades or guardrails or fencing.*

☐

9. What is the danger of loading a truck across a sloping surface?

*The machine turning over*

☐

10. In doubtful soil, what depth trench is required to be shored before it is entered?

*Trenches over 1.5m deep*

☐

**Performance criteria 1.2.4**

11. What government license do you require to drive load shifting equipment over 4.5 tonne within the gazetted road reserve boundaries?

*The appropriate heavy vehicle license.*

☐

**Performance criteria 1.2.5**

12. What two main items should be provided on load shifting equipment to prevent the operator from being pinned by an overturned machine?

*Roll over protection*

☐

**CHECK CONTROLS AND EQUIPMENT**

**Performance criteria 1.3.1**

13. What action would you take if you noticed a bulge form in a hydraulic hose?

*Repair the hose before the machine is used.*

☐

**Performance criteria 1.3.2**

14. What action would you take with damage and defects found on the machine?

*Report the damage and defects to the authorised person and refrain from operating if a danger exists.*

☐

**SHIFT LOAD**

### Performance criteria 2.1.1

15. Do Telescopic Material Handlers have an attachment that is permissible to hoist a person with?

*Yes. Elevated work platforms.*

☐

### SWL of Slings

21. What is the SWL of a 12mm diameter wire rope?

$$12 \times 12 \times 8 = 1152\text{kg}$$

☐

### Performance criteria 2.1.2 Load Charts

16. What effect would soft or uneven ground have on the load that you would hoist and carry with the telescopic materials handler?

*It would reduce the load that could be safely carried.*

☐

17. From the telescopic materials handler in cab load chart, what is the SWL to be hoisted at a radius of 3.0 metres and at a hook height of 3.0 metres?

*Assessor to calculate answer from the in cab load chart*

☐

### Performance criteria 2.1.3

22. What is the danger of extending the boom with a load, when the telescopic materials handler is not level?

*The machine could over turn*

☐

23. Before reversing a machine what precaution should be taken?

*Ensure the direction of travel is clear*

☐

### Performance criteria 2.1.5

24. Applicant to state the meaning of the hand signal for "hoisting lower" demonstrated by the assessor.

*Hoisting lower.*

☐

25. Applicant to state the meaning of the hand signal for "hoisting raise" demonstrated by the assessor.

*Hoisting raise.*

☐

26. Applicant to state the meaning for the hand signal "stop" demonstrated by the assessor

*Stop*

☐

### Performance criteria 2.1.7

27. What action would you take if a hydraulic hose sprung a leak while the boom was raised?

*Lower boom and have repairs carried out*

☐

28. How would you dismantle a machine that contacted live powerlines, which

### Weight of materials

18. What is the approximate weight of a cubic metre of concrete?

*2.4 tonnes*

☐

### Load Factors

19. What effect does a choker hitch around a square load have on the SWL for the sling?

*Reduces the SWL by 50%*

☐

### Rule of Thumb formulae

20. State the rule of thumb formula used to calculate the SWL or wire rope.

*Diameter in mm squared x 8 = SWL in kgs*

☐



could not be released or the power turned off?

*Jump clear ensuring contact with the ground and machine is not at the same time.*

☐

### **SHUT DOWN EQUIPMENT**

#### **Performance criteria 3.1.1**

29. Name three areas where you would not park the telescopic materials handler.

*Access ways, near overhangs, refuelling sites, tidal or flood areas, adjacent to an excavation*

☐

30. When leaving the Telescopic Materials Handler, what should be done with all hydraulically raised attachments?

*Attachments lowered and pressure removed from hydraulic lines.*

☐

#### **Performance criteria 3.1.3**

31. What post-operational checks should be carried out on the telescopic materials handler, to prepare it ready to be re-operated?

*Check the structure and equipment for defects and wear and the oil, fuel and water levels*

☐

### **SECURE SITE**

#### **Performance criteria 3.2.1**

32. What shall be provided when a Telescopic Materials Handler has to be parked on or protrudes onto an access way?

*Barricades, lights and signs*

☐

Unit	Form of assessment	Total number of boxes in the assessment	Number of boxes given or NA	Number of boxes required to meet standard	Were all critical boxes given or NA?		Assessment standard requirements achieved *		
1	Performance	40		36	Yes	No	Yes	No	
	Knowledge	15		9	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA
2	Performance	38		34	Yes	No	Yes	No	
	Knowledge	11		9	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA
3	Performance	13		11	Yes	No	Yes	No	
	Knowledge	3		3	Yes	No	Yes	No	
	Assessment completed within time allowed						Yes	No	NA

\*Performance standard = Number of items required to meet standard (including all critical boxes)

Knowledge standard = Number of questions required to meet standard (including all critical boxes)

### Summary

Candidate is:

☐

COMPETENT

Date: \_\_\_\_\_

☐

NOT YET COMPETENT

Name of Assessor: \_\_\_\_\_ Signature: \_\_\_\_\_

Name of Candidate \_\_\_\_\_ Signature: \_\_\_\_\_

Comments/feedback:

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