

CONSTRUCTION
Training Group

LEARNER GUIDE

Wheel Tractor Safety WTS

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ASSESSOR GUIDELINES – GENERAL

1. INTRODUCTION

1.1 Scope

These general guidelines for assessment are based on that prescribed by the *National Guidelines for Occupational Health and Safety Competency Standards for the Operation of Load shifting Equipment and Other Types of Specific Equipment*. [NOHSC: 7019]

Assessors should also be familiar with the publication *Assessment guidelines for National Occupational Health and Safety Certification Standard for users and operators of industrial equipment*. [NOHSC:1006]

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 organized and confirmed, prior to the assessment.

2.4 Workplace Factors

Because procedures and processes 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 oral/written assessment determines the applicant's underpinning knowledge. The model answers provided with the oral/written assessment instruments are not necessarily exhaustive. Use your own judgment when scoring alternative answers.

3.4 Recording Responses

A box accompanies each item and question on the assessment forms you use. 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.

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. In the case of a re-assessment, the assessor can decide to apply the whole or only that part of the assessment not yet achieved.

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

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PERFORMANCE ASSESSMENT

Assessor Guidelines – Specific (Performance Assessment)

ASSESSMENT INSTRUMENT – SPECIATIONS

The performance assessment covers the following Loadshift elements:

1.1, 1.2, 1.3, 2.1, 3.1 & 3.2

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

The Assessment is performed in six sections:

- 1.1 Conduct routine pre-operational check on Wheel Tractor/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 to the work area.
 - 1.5 Operate Wheel Tractor
 - 1.6 Shut down the equipment and secure the site
2. Prior Learning and experience
 - 2.1 An applicant who holds a front-end loader/backhoe, excavator, dragline or dozer certificate does not require assessment in sections 2, 3 and 4.

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

- Sufficient clear space to operate the machine
- Ground suitable for excavating

4. Equipment and Resources Required:

- Wheel Tractor and attachments
- Suitable site on which to use the Wheel Tractor and attachments to shift and level soil.

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

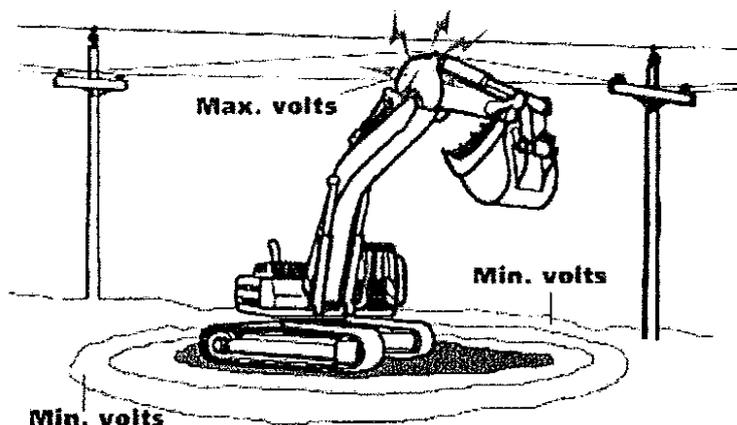
6. To be assessed, an applicant must wear:

- Safety helmet (where required)
- Appropriate footwear
- Other protective clothing and equipment as appropriate
- Long hair tied back/in bun/under hat

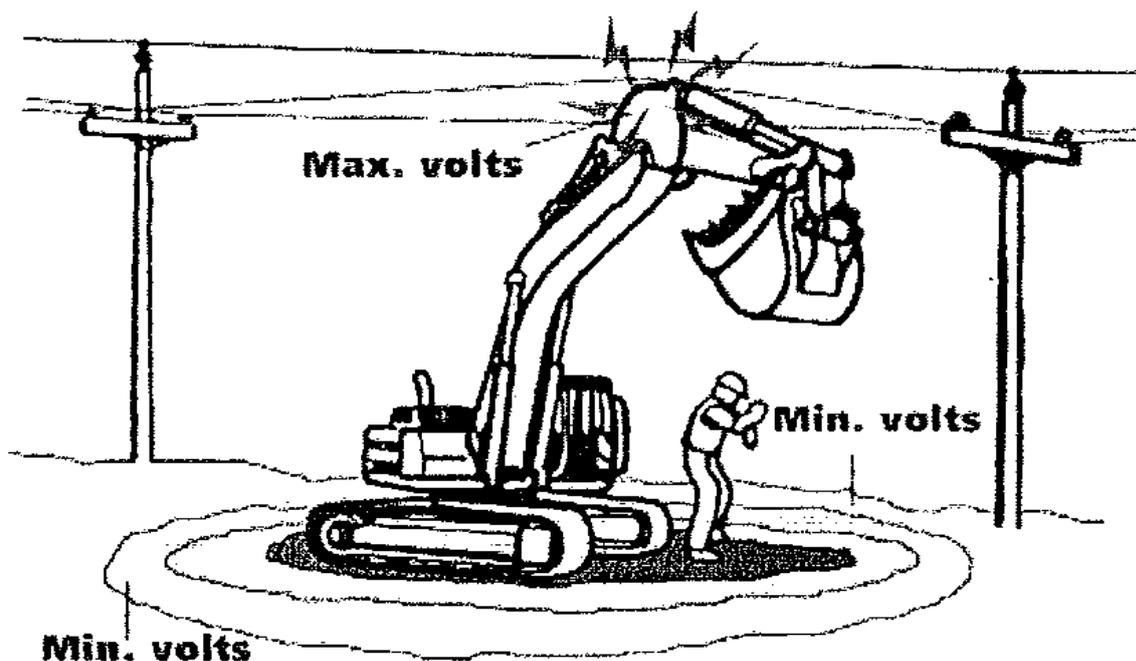
7. The performance of each applicant is to be recorded to the assessor's checklist.
 8. Safety of personnel:
When an applicant is working dangerously, recklessly or without the necessary co-ordination, the assessor must direct the applicant to cease work and terminate those parts of the assessment immediately.
 9. The applicant must undertake all performance criteria. An assessor must use his/her discretion in assessing competence under each criteria. The elements under each criteria must be marked with the appropriate tick, cross or n/a to indicate an applicant's
 10. Where a performance element cannot be performed the assessor can stimulate or ask a question. The response must be recorded.
 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
 13. The general assessment requirements are set out in the Assessor Guidelines-General
 14. Competence is achieved for a unit when the required number of shaded boxes for that unit has been ticked
- Overall competence is achieved when competence in all units has been achieved.

Assessor Note: All performance criteria marked with a shaded box are compulsory/critical. To determine a person's competence under each performance criteria, a prescribed number of elements are required to be demonstrated/answered under those criteria. The applicant must achieve the minimum specified number or more, of the performance elements to achieve competence for those criteria. To record the applicants competence for the criteria a tick must be placed in the shaded box.

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).

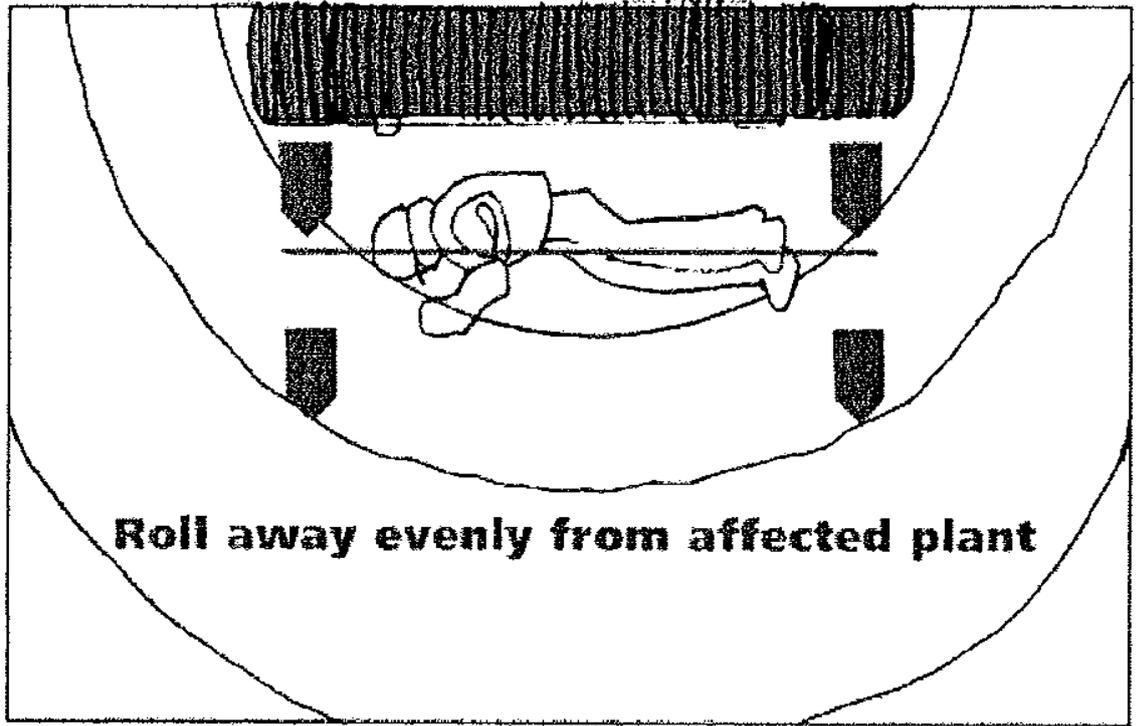


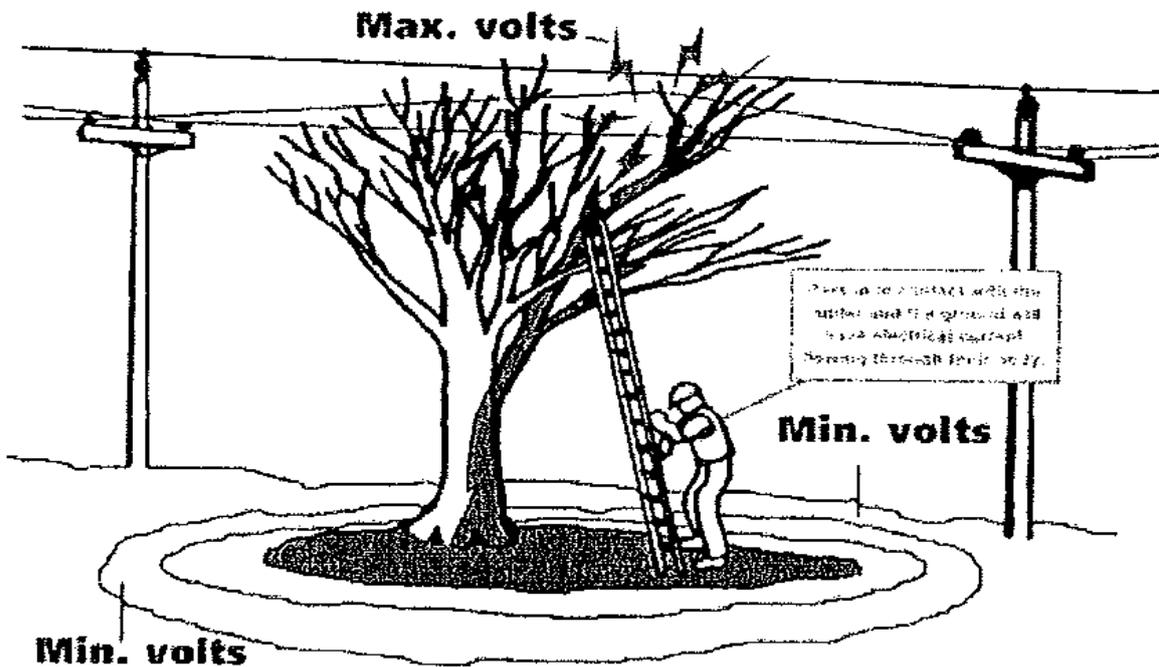
Step potential

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.

**UNIT 1: CONDUCT ROUTINE CHECKS:
Performance Criteria 1.1.1. and 1.1.2**

**1. Conducts routine checks on wheel tractor
(at least 9 including the 3 shaded box
elements checked)**

- complete walk around machine
- underneath for any oil or water leaks
- tyre / wheel condition and inflation
- fuel
- hydraulic oil level
- vent hydraulic tank (releases pressure if applicable)
- transmission oil
- engine oil
- brake fluid (where applicable)
- power steering (where applicable)
- battery security, water level and cleanliness
- coolant
- air tank drained (where applicable)
- air pre-cleaner
- air filter indicator
- warning signs
- safety guards, covers

2. Visual check of structure / attachment for defects – (checks at least 8 elements including the 4 shaded boxes)

- attachments for condition and security
- damaged or broken parts
- fall on protective structure (FOPS)
- roll-over protective structure (ROPS)
- loose nuts, bolts and couplings
- hoses, fittings, hydraulic rams for oil leaks
- connections for missing pins or keeper/plates
- grease fittings and grease pins
- Cabin cleanliness
- Seat & seat belt condition
- Access steps & grab rail condition

**3. Checks other equipment for defects
(checks for at least 4 defects including 2 shaded boxes)**

- three point linkage
- tow hitch
- chain slings
- shackles
- power take off coupling

**PLAN WORK AND CHECK EQUIPMENT:
Performance Criteria 1.2.1, 1.2.3 and 1.2.5**

4. Inspects site and plans work: All hazards are identified where applicable (identifies at least 8 hazards including 5 shaded boxes)

- power lines
- trees
- overhead service lines
- bridges
- surrounding buildings
- obstructions
- other equipment in area
- workers in area
- dangerous materials
- underground services
- recently filled trenches
- soft and sloping edges
- inclines/declines

5. Appropriate access and path of movement is shown -(identifies at least 2 elements)

- to work area
- for the equipment being moved
- traffic control considered

6. Appropriate equipment for the task is selected- (identifies the 2 elements)

- Attachments suitable for work
- Wheel tractor suitable for ground conditions

Performance Criteria 1.3.1

7. Conducts pre-operational and start up checks in accordance with manufacturer's specifications /operating manual. (Identifies at least 13 including 5 shaded box checks)

- windows clean
- mounts correctly
- adjusts seat
- fastens seat belt (if applicable)
- gear in neutral
- park brake on
- starts engine
- warning device
- gauges
- turn signals (if applicable)
- stop/tail lights (if applicable)
- head lights (if applicable)
- warm up allowed
- attachment movement
- clear for travel
- foot brake, moving forward & reverse
- holding brake, moving forward & reverse
- steering

UNIT 2: SHIFT LOAD: Performance Criteria 2.1.1 and 2.1.3

8. Drives to the work area: (at least 4 elements including 3 shaded boxes considered)

- raises attachments smoothly
- ensures travel direction clear
- selects appropriate route
- travels at safe speed
- tows at safe traveling height (if applicable)

Performance Criteria 2.1.1, 2.1.3, 2.1.4, 2.1.5, 2.1.6

9. Operates wheel tractor: Fits and uses various wheel tractor attachments and towed equipment (at least 14 elements including 7 shaded boxes performed)

- Safely fits TPL attachments
- uses sufficient revs and speed
- avoids excessive wheel spin
- fits PTO shaft safely
- couples towed equipment safely
- to point below axle centre
- competently operates attachments
- equipment operated at a safe speed
- ensures direction of travel clear
- travels with attachments secured
- minimizes spillage and ground damage
- uses appropriate path of travel
- approaches trench or plant correctly and safely
- smoothly raises and lowers equipment
- Re-positions wheel tractor ready for next cycle
- maintains clean and tidy working surface
- signals are interpreted and observed
- equipment towed to ensure stability
- attachments placed to avoid causing hazard

10. Identify all of the following signals.

- stop - hand
- boom up - hand
- boom down - hand
- travel - hand

UNIT 3: SHUT DOWN EQUIPMENT AND SECURE SITE:

Performance Criteria 3.1.1, 3.1.2 and 3.2.1

11. Shuts down equipment and secures site: (demonstrates at least 8 elements including 5 with shaded box)

- parks and shuts down equipment
- machine parked in suitable area
- attachments lowered to ground
- neutralizes controls
- applies holding brake
- idles to stop, locks ignition
- moves controls to release pressure
- applies safety lock (where applicable)
- parks away from danger areas
- removes keys

National Guidelines for OHS Competency Standards

Wheel Tractor Safety

PART 2

ORAL/WRITTEN ASSESSMENT

Assessor Guidelines – Specific (Oral/Written Assessment)

ASSESSMENT INSTRUMENT – SPECIATIONS

The oral/written assessment covers the following Load shift elements:

1.1, 1.2, 1.3, 2.1, 3.1 & 3.2

1. Oral/Written assessment for Wheel Tractor is divided into three units and nineteen sections (performance criteria 1.1.1, 1.1.2 etc).

2. To satisfy the requirements for competency the applicant must correctly answer (either in writing or orally) all critical questions as indicated by a shaded box and a minimum of 75% of the non-critical questions from each unit

Assessor Note: The assessment summary specifies the appropriate number of non-critical questions to be achieved.

Unit 1.0

1.1 Conduct Routine Checks

- 1.1.1 (select 10) including 5 shaded boxes
- 1.1.2 (select 3) including 1 shaded box

1.2 Plan Work

- 1.2.1 (select 10) including 5 shaded boxes
- 1.2.2 (select 5) including 2 shaded boxes
- 1.2.3 (select 2)
- 1.2.4 (select 1)
- 1.2.5 (select 3) including 2 shaded boxes

1.3 Check Controls and Equipment

- 1.3.1 (select 9) including 4 shaded boxes
- 1.3.2 (select 1)

Unit 2.0

2.1 Shift Load

- 2.1.1 (select 2) including 1 shaded box
- 2.1.2 (select 10) including 3 shaded boxes
- 2.1.3 (select 4) including 2 shaded boxes

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- 2.1.4 (select 1)
- 2.1.5 (select 3)
- 2.1.6 (select 1)
- 2.1.7 (select 3) including 1 shaded box

Unit 3.0

3.1 Shut Down Equipment

- 3.1.1 (select 3) including 2 shaded boxes
- 3.1.3 (select 1)

3.2 Secure Site

- 3.2.1 (select 2) including 1 shaded box

3. **Prior Learning and Experience:** An applicant who holds a front-end loader, skid steer loader, excavator, dragline or dozer certificate who answers questions for performance criteria 1.1.1, 2.1.2, 2.1.5 satisfactorily is not required to complete the rest of the assessment.
4. The full oral/written assessment of eighty questions can take up to 2 hrs to complete.
5. The items indicated by a shaded box are of critical importance. Failing to get any of these correct means that competency has not been achieved.
6. Competence is achieved for a unit when the required number of boxes for that unit have been ticked or marked correct.

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

**UNIT 1: CONDUCT ROUTINE CHECKS:
Performance criteria 1.1.1 (select 10
including 5 with a shaded box)**

1. What precautions must be taken when inspecting under attachments?

Machine is disabled and chocks, blocks or safety bars must be used to prevent the attachment from falling.

2. Name three defects to look for in the hydraulic system.

Oil leaks. Loose connections. Splits, fractures or bulges in hoses. Bent piston rod. Damaged rams.

3. When should slings be inspected?

Prior to and after their use.

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

10% wear.

5. Briefly describe how you would check the air pressure of water filled tyres.

Check with the valve at the top of the wheel or when using a glycerin gauge, the wheel can be in any position.

6. Why are you not permitted to join a chain sling with a bolt?

Because the bolt is not an approved joining method and does not have a load rating.

7. Why tow with a chain not a wire rope?

Chains don't whip like cables when break.

8. What safety precautions should be taken when checking the tyre pressure or inflating/deflating a tyre fitted to the wheel that has a split safety-locking ring?

Use a gauge with a chuck and inflate the tyre in a cage (if available) or by standing to the side. Do not stand in front of the wheel.

9. How would you know that the tyres on a wheel tractor are water ballasted?

There would be a warning riveted or screwed to the wheel tractor near the driving station. Also when valve is at lowest point water would appear when checking the tyre pressure.

10. List five items of personal safety and protective equipment required

Safety Glasses, Earmuffs, Safety helmet where applicable, Safety Goggles, Safety Vest, Safety Boots, First Aid kit.

11. List six defects that would cause a tow chain and hook to be condemned?

Cracks in links. Over 10% wear. Over 10% elongation. Over 5% wear or stretch in throat of hook. Over 10% wear in bite hook. Twisted or damaged links. Rust marks. Chain had been affected by heat. Spot-welded links. Stretched or locked links. Knotted

12. Describe how you would fill the tyres on a wheel tractor with water ballast?

Wheel jacked up with the valve at the top of the wheel, fill with water to the manufacture's specifications, add anti-freeze if required and then add air pressure.

13. What defects would you look for when carrying out the external check on the three point linkage

Worn or missing sockets and other damage to the linkage and pivot pins.

14. What defects would you look for on the hydraulic rams and hydraulic pressure hoses?

Leaks from seals, split or fractured hoses, and bent or damaged rams.

15. When would you check the transmission fluid in a wheel tractor?

In-accordance with manufacture's specifications.

16. What happens when you add ballast to the tyres of a wheel tractor?

Increases the weight and the stability of the wheel tractor and provides better traction as the tread is embedded.

17. What would condemn a tow pin from being used? Explain your answer.

Obvious signs of excessive wear, cracks, welds, bent.

18. What would you do if a tow pin safety clip was missing?

Get one before towing.

Performance criteria 1.1.2 (select 3 including 1 with a shaded box)

19. What would you look for to make sure that a quick hitch attachment is securely attached to the wheel tractor?

Place it on the ground and apply a little down pressure on it.

20. What must you do if the SWL tag is missing from a chain sling?

Check for the grade markings, if grade markings are not clear calculate for mild steel. Then return to manufacturer for re-tagging.

21. What would you look for on the attachment pins to ensure they will not fall out?

Make sure that all pins and keeper plates are not worn and that the keeper plates and safety pins or clips are not damaged or missing.

22. What action would you take if during the routine check you found excessive wear in connections that made the wheel tractor dangerous to operate?

Inform supervisor, tag equipment and refrain from operating the wheel tractor until repairs were carried out.

PLAN WORK: Performance criteria 1.2.1 (select 10 including 5 with a shaded box)

23. What underground services would you check for before excavating?

Check for power, telephone, gas, water, sewer, drainage, fibre-optic cable lines.

24. Who should be contacted in order to find out the location of underground services?

The site supervisor who will contact the supply authorities or council for maps of the site.

25. Name two methods that should be used to prevent a cave in of a trench or excavation?

Shoring, battering.

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

Supervisor who would contact the electrical supply authority.

27. Name six possible hazards that may be found on a work site that you must check for before operating the wheel tractor?

Uneven/unstable ground. Personnel. Power lines. Trees. Overhead service lines. Bridges. Surrounding buildings, structures. Obstructions. Other equipment. Dangerous materials. Underground services (gas, electricity, sewerage, water, communication lines). Recently filled trenches.

28. If you are operating a wheel tractor and it makes contact with power lines what should you do?

- Stay calm, remain in seat, and warn others to keep away, try to break contact by lowering bucket (if applicable), try and get someone to switch off the power, don't climb down off the machine. - If you think the machine could catch fire or if you are alone -jump well clear of the machine, don't make contact with the ground and the machine at the same time, if you have contacted underground power be aware the area around could be electrified. - Remain near to the machine to warn others to keep clear, have someone notify the site manager/supervisor who should report immediately to the appropriate authority.

29. What is the minimum distance any part of a wheel tractor is allowed to operate from:

a) Distribution power lines b) High voltage transmission lines (a) At least 6.4 metres from distribution power lines (b) At least 10 metres from high voltage transmission lines

NOTE: Assessors must ensure that the applicant is aware of Statutory Authority regulations.

30. Why is it dangerous to drive along the high side of a trench?

The trench could cave in and cause the wheel tractor to overturn.

31. Name five (5) checks that you would make of the work area for site hazards?

Hidden holes. Drop off. Embankments. Overhead obstructions. Underground services. Overhead power lines. Telephone lines. Other obstructions that could be dangerous.

32. What is the danger of using a wheel tractor on uneven soft or sloping ground?

The machine could overturn.

33. What is the danger of starting and running an internal combustion engine in an enclosed space?

Exhaust fumes in an enclosed space can kill.

34. What action must be taken before starting up and whilst operating a combustion engine in an enclosed space?

The 'enclosed space' must be adequately ventilated.

35. Why is it important to keep the machine floor plates free from oil, grease and tools?

To prevent the foot plates from becoming slippery and causing operator to slip when mounting or dismounting. To prevent the tools from fouling controls

36. What must be provided and maintained on the exhaust of an internal combustion engine operated in a confined space such as a shaft or tunnel?

An approved exhaust control unit, catalytic converter (scrubber).

Performance criteria 1.2.2 (select 5 including 2 with a shaded box)

37. What must be provided to prevent a person falling into a trench?

Barricades or guardrails or fencing.

38. When should hearing protection (ear muffs) be worn?

When the noise level could contribute to the loss of hearing.

39. When should an operator wear a safety helmet?

When there is a possibility that the person could be struck on the head.

40. When would you be required to shore an excavation?

Excavations over 1.5m deep.

41. What is the minimum type of footwear that an operator should wear to operate a wheel tractor.

Footwear that encloses the foot and has a non-slip sole.

42. What must be provided for a passenger to ride on a machine with the operator?

A special seat and seat belt must be provided within the confines of the machine for the passenger.

43. Explain what feathering the controls of the wheel tractor means.

Operate controls with very small movements.

Performance criteria 1.2.3 (select both shaded boxes)

44. Which is the preferred direction of travel, on a sloping surface?

Directly up or down the sloping surface.

45. What gear should be selected to travel down a steep sloping surface?

The lowest possible gear.

Performance criteria 1.2.4 (select 1)

46. What documentation would you be required to obtain from the Relevant Authority to operate the wheel tractor in a hazardous working area?

The required safe work permits.

47. List five things required to drive a wheel tractor legally on a public road?

Must be registered roadworthy in safe operating condition machine must comply with OH&S regulations Operator must be trained/licensed to operate machine.

Performance criteria 1.2.5 (select 3 including 2 with a shaded box)

48. What should be provided on a wheel tractor to prevent the operator from been pinned by an overturned machine?

Roll over protection equipment. (ROPS) and seat belt.

49. When a wheel tractor is used in a demolition process what must be provided on the machine to protect the operator?

A falling object protective structure. (FOPS)

50. Name five types of grass/vegetation cutting attachments that can be used on a wheel tractor?

Long reach, Flail, Slasher, Multi disc, Scrub cutting

51. What is the greatest potential safety hazard, and why, when using a slasher?

Slasher has ability to eject large objects at high speed.

CHECK CONTROLS AND EQUIPMENT:

Performance Criteria 1.3.1 (select 9 including 4 with a shaded box)

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

Stop operating, tag the machine and make sure the hose is replaced before the machine is used.

53. When should the operator complete tests, checks and inspections on a wheel tractor that is to be operated?

Daily before use.

54. Describe how to safely mount/dismount a wheel tractor.

Facing the machine use the grab rail or hand rail and steps to mount/dismount the machine (Three points of contact)

55. Where can the start up procedures and shut down procedures for each wheel tractor be found?

In the manufacturer's manual.

56. Before performing any work with a wheel tractor what should you do if you have not used the machine before?

Read the operator's manual to familiarize yourself with the machine (e.g. controls and decal information). Seek training and supervision from your employer if you consider you cannot competently operate the equipment.

57. On mounting the wheel tractor what should you do before attempting to start the engine?

Make sure controls are in neutral or park and park brake is on.

58. Once sitting in the operator's seat and before driving off, what should you do for safety and comfort?

Adjust seat, adjust mirrors (if applicable) and secure safety belt.

59. Before moving off where should the attachments be positioned and why would you place it in this position?

Low to the ground to provide maximum vision for travel.

60. Name the important items that should be tested after moving off.

The foot brake and steering.

61. For travel whilst towing why should the tow point be as low as possible to the ground?

To prevent wheel tractor rearing up.

62. Before reversing a wheel tractor what action should you take?

Look over both shoulders to ensure the path of travel is clear and sound horn twice before moving unless there is a reversing alarm fitted. Continue to look in direction of travel

63. Your wheel tractor has run out of diesel, you refill the tank but the motor will not start. What could be the possible cause?

Air in the fuel system and it needs bleeding.

Performance criteria 1.3.2 (select 1)

64. What action would you take if you found damage or a defect on the wheel tractor?

Tag the machine, put it out of service and report the damage or defects to the authorized person.

65. Name the three general types of permit that could be needed when traveling with attachments &/or towing.

Over dimension, Excess mass, Combination of above.

UNIT 2. SHIFT LOAD: Performance criteria 2.1.1 (select 2 including 1 with a shaded box)

66. Name nine things to take into account when floating a wheel tractor?

Times of travel, Routes, Escort operating guidelines, Escort requirements of statutory bodies, Speed limits, Warning signs, Flags, flashing lights, Use of headlights, Clearances.

67. What is another name for "load binders"?

Dog.

68. When transporting a wheel tractor on a float should the exhaust be covered?

Yes if fitted with turbo.

Performance criteria 2.1.2 (select 10 including 3 with a shaded box)

69. You are required to operate a wheel tractor on soft and uneven ground. What effect would this have on the wheel tractors capacity for work?

It would reduce the capacity of the wheel tractor.

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

The SWL is reduced by half.

71. List five general safety rules that must be observed?

Prepare and train for emergencies, Wear protective clothing, Keep children away, Operators trained for the job, Be aware effect of tiredness.

72. How would you determine the maximum size of roller the wheel tractor can tow?

From the manufacturer's recommendations in the wheel tractor's manual

73. Of topsoil or clay, which is more cohesive and harder to excavate, push and spread?

Clay.

74. State the rule of thumb formula to calculate the SWL of flexible steel wire rope (FSWR).

Diameter in mm squared x 8 = WLL in kg

75. What is the formula for determining the SWL of a grade 80 chain?

**Diameter in mm squared x 32 = WLL in kg
or Diameter in mm squared x 80 x 0.4 = WLL in kg.**

76. What is the SWL of a 12mm diameter, mild steel chain?

12 x 12 x 30 x 0.3 = 1296kg

77. What effect does reeving or using a choker hitch around a large water pipe have on the SWL of the sling?

It reduces the WLL/SWL by 25%. The sling will only be safe to lift 75% of its rated capacity.

78. List two ways that you would assess the weight of a load to be moved?

By calculating the weight, delivery docket, weighbridge certificate, weight marked on the item.

79. When a sling is reeved around a square load how is the SWL altered?

Reduces the SWL by 50%.

80. What is the approximate weight of cubic metre of concrete?

2.4 tonnes.

Performance criteria 2.1.3 (select 4 including 2 with a shaded box)

81. When filling a trench using a wheel tractor with back blade what direction should you approach the trench?

Square on with the trench (i.e.: form a T with the trench).

82. Where a wheel tractor has two pedals for independent rear brakes what must be done to these pedals before the wheel tractor is driven on a road?

The pedals must be connected together.

83. What device is fitted to the rear brakes of a wheel tractor that assist with maneuvering?

Dual brake pedals, a separate brake pedal for each rear wheel.

84. What could happen if you drive the wheel tractor to close to a trench?

Trench could cave in &/or wheel tractor fall in trench.

85. How are vehicles/machines stopped from coming too close to an excavation?

By using barricades and warning signs.

86. What are the dangers of driving your wheel tractor across a slope?

Roll over.

Performance criteria 2.1.4 (select 1)

87. You have to travel a wheel tractor, which is fitted with very large balloon type tyres on a road. What are the dangers?

At speed, wheel bounce will develop making it more difficult to control the wheel tractor. Front tyre pressures should be lowered before traveling on the road.

Performance criteria 2.1.5 (select 3)

88. Interpret the following Signal



Stop.

89. Interpret the following Signal



Boom up.

90. Interpret the following Signal



Boom down.

91. Interpret the following Signal



Travel and traverse.

Performance criteria 2.1.6 (Select 1)

92. What must be provided on a wheel tractor when using large TPL attachments?

Front counter weight sufficient for weight of attachment.

93. Why do power take off shafts have guards?

So people don't get caught in them.

Performance criteria 2.1.7 (select 3 including 1 with a shaded box)

94. What precautions would you take when removing a PTO shaft?

Wheel tractor is off and cover end of PTO shaft to protect spline

95. The wheel tractor you are operating overheats and coolant level requires checking. What precautions would you take prior to removing the radiator cap and topping up the coolant?

Allow the machine to cool down, loosen radiator cap to release pressure using a cloth to protect from hot water burns then remove the radiator cap slowly. Top up using manufacturer's recommended coolant.

96. When disconnecting the battery which lead do you disconnect first?

Negative.

97. Why shouldn't trailers be attached to the TPL?

Not designed for towing and can result in tow point above axle center resulting in rearing of wheel tractor.

UNIT 3. SHUT DOWN EQUIPMENT: Performance criteria 3.1.1 (select 3 including 2 with shaded boxes))

98. Name three areas where you would not park the wheel tractor.

Access ways, Near overhangs, Refueling sites, Tidal or flood areas, Adjacent to an excavation.

99. When leaving the wheel tractor what should be done with all hydraulically raised attachments?

Where applicable: Attachments lowered, Cutting edge flat on ground, Lever placed in float position, Pressure removed from hydraulic lines.

100. What type of surface is the ideal type to park a wheel tractor on?

A firm level surface.

101. What is the danger of parking near an excavation?

The weight of the wheel tractor could cause the excavation to cave in particularly if the ground is effected by rain.

Performance criteria 3.1.3 (select 1)

102. What post-operational checks should the operator carry out on the wheel tractor to prepare it for the next operator?

Look under and around the wheel tractor for leaks or defects. Check the structure and equipment for defects and wear.

SECURE SITE: Performance criteria 3.2.1 (select 2 including 1 with shaded box))

103. For what reason should the key be removed from the ignition of the machine?

To prevent unauthorized movement.

104. Before leaving the site what must be provided to restrict access to the site?

Barricades or fences.

105. List eight things that must be done to ensure safe parking of a wheel tractor?

Park clear of access ways overhangs and fuelling site. Park clear of excavations and trenches. Park clear of fire hazards. Park clear of entrances, exits. Parked clear of fire-fighting and electrical equipment. Park clear of tidal and flood areas. Park on a firm level ground or if on an incline facing slope. Lower attachments to ground. Engine is stopped in accordance with manufacturer's manual. Secure parking brake, leave controls in park position or in neutral. Remove the keys.

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 *		
					Yes	No	Yes	No	
1	Performance	21		25	Yes	No	Yes	No	
	Knowledge	21		23	Yes	No	Yes	No	
	Assessment completed within time allowed							Yes	No
2	Performance	14		8	Yes	No	Yes	No	
	Knowledge	8		16	Yes	No	Yes	No	
	Assessment completed within time allowed							Yes	No
3	Performance	5		3	Yes	No	Yes	No	
	Knowledge	4		2	Yes	No	Yes	No	
	Assessment completed within time allowed							Yes	No

*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**
 NOT YET COMPETENT

Date: _____

Name of Assessor: _____ Signature: _____

Name of Candidate _____ Signature: _____

Comments/feedback:
