ACCREDITED EARTHMOVING TRAINING

RIIMPO321D Conduct Civil Construction Wheeled Front End Loader Operations

Name: _____ **Location:** _____ **Date:** _____

OPERATOR ASSESSMENTS

This assessment is designed for use on all makes and models of Front End Loader/Backhoe. It contains both knowledge and practical components which when combined will be used to determine competence of the operator for the operation of the plant. This assessment contains elements that are based on the units of competency RIIMPO321D Conduct civil construction wheeled front end loader operations, in partial completion of RII30813 Certificate III in Civil Construction Plant Operations.

This assessment must be used in conjunction with the Plant Risk Assessment, Manufacturers Operation & Maintenance Manual and any Organisational Procedures.

OPERATOR ASSESSMENT BRIEF

This assessment will be used for all operators and will consist of an oral/written knowledge assessment and a practical assessment that may be conducted in various operating tasks the plant will be involved in on the work site. It focuses on providing Assessments that enables competence to be demonstrated in the workplace. This competency meets the needs of industry, Quality Assurance and WHS requirements. If an Operator requires assistance in completing this assessment let the Assessor know as soon as is practicable.

ASSESSOR NOTES

This assessment will be used for all operators and sub-contractors and must be conducted in various operating tasks the plant will be involved in on the project. Operators are to be assessed in the course of their normal duties. A number of sessions may be required for the Operator to address all elements of the unit of competence incorporated into the assessment.

Underpinning knowledge should be determined after mapping Operator oral/written responses against model answers provided which assist to clearly define expected standards on the project and determine a final competency outcome. All assessor comments should be recorded at the time of assessment in the comment section of the assessment.

The assessor should indicate competency for each unit by marking clearly as Competent or Not Yet Competent on the assessment summary. Any training needs identified during the assessment should be noted on the Training request form and submitted to the Training unit for action.

If the Assessor utilises the services of a Subject Matter Expert, then they should countersign in the section allocated in the Assessment Summary.
Any comments, feedback or criticism from the candidate is to be documented.

ACKNOWLEDGEMENT

I acknowledge that this competency based assessment focuses on providing an evaluation that enables capability to be demonstrated on a specific plant.

Name of Operator: _____**Signature**: _____**Date: __/___/____**

KNOWLEDGE ASSESSMENT

1. Plan and prepare for front end loader operations

1.1 Access, interpret and apply front end loader operations documentation and ensure the work activity is compliant

1. What is the relevant WHS legislation?
(a) WHS Act 2011
(b) WHS Regulation 2011
(c) All answers are correct

2. Health and safety responsibilities are defined in
(a) The WHS Act 2011
(b) The WHS Regulation 2011
(c) Approved Codes of Practice
(d) All answers are correct

3. Who is responsible for ensuring safe work practices are established and followed on a construction site?
(a) The principal contractor or site Controller
(b) The WorkCover inspector
(c) The site safety officer and/or union delegate
(d) The site HS committee

4. What instructions are you required to read, interpret and sign before work?

_____

5. What is a safe work method statement (SWMS)?

_____

_____

6. What is the meaning of the following safety sign?

(white on blue background)
(a) Pedestrian access allowed
(b) Hearing Protection must be worn
(c) Footwear cleaning station
(d) Emergency exit

7. Which of the following signs indicates the location of the emergency exit?

(a)  (black on yellow background)

(b) 

(white on green background)

(c)  (white on blue background)

(d) 

(black text and red circle on white background)

1.2 Obtain, read, interpret, clarify and confirm work requirements

8. What would you be required to obtain from the relevant authority to operate a front end loader in a hazardous working area?

_____

1.3 Identify and address risks, hazards and environmental issues and implement control measures

9. What underground services would you check for before starting to excavate?

_____

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

_____

11. Name six hazards that must be checked on the work site before operating the front end loader?

_____

12. What is the minimum distance any part of the front end loader is allowed to operate from:
a) Distribution powerlines
b) High voltage transmission lines
NOTE: Assessors must ensure that the applicant is aware of State Authority regulations.

_____

13. What precautions should you take when cutting a trench across a footpath?

_____

14. A front end loader is conducting operations (see photo).Identify five (5) hazards involved in this job**.**

---------- ❑
---------- ❑
---------- ❑
---------- ❑

15. If using a front end loader to lay pipes in a trench, what precautions should be taken?

_____

16. What precautions would you take if a person were in a trench while you are lowering pipes into the trench?

_____

17. Name five (5) site hazard checks that you would make of the work area?

_____

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

_____

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

_____

20. What must be provided and maintained on the exhaust of an internal combustion engine when operated in a confined space?

_____

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

_____

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

_____

1.4 Select and wear personal protective equipment appropriate for work activities

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

_____

24. When should an operator wear a safety helmet?

_____

25. What is the minimum type of footwear that an operator should wear to operate loadshifting equipment?

_____

1.5 Obtain, identify and implement traffic management signage requirements

26. How would you know where to place traffic control signs?

_____

27. Where would you find the Traffic Control Plans (TCP's)?

_____

1.6 Select, and check for faults, equipment and/or attachments for work activities

28. Name two types of buckets used on a front-end loader?

_____

29. Name four operations that may be performed by a 4 in 1 bucket?

_____

1.7 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency

30. What would you do if you came across a dangerous situation?

_____

31. What are three things you would tell the ambulance?

_____

32. How would you be notified of an emergency?
a) Air horn
b) Siren
c) Alarm
d) Radio transmission
e) All answers are correct

33. If you are injured at work you should
(a) notify your employer
(b) seek first aid if required
(c) seek medical attention if required
(d) All answers are correct

2. Operate front end loader

2.1 Carry out pre-start, start-up, park, shutdown and secure equipment procedures

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

_____

35. Name three defects to look for when inspecting the hydraulic system.

_____

36. When should slings be inspected?

_____

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

_____

38. How would you know when the machine that you are operating should be serviced?

_____

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

_____

40. What percentage of broken wires within a rope lay or eight diameters of a wire rope sling would cause it to be discarded?

_____

41. List six defects that would condemn a flexible steel wire rope (FSWR) from safe use?

_____

42. List six defects that would condemn a lifting chain and hook from safe use?

_____

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

_____

44. How do you fill machine tyres with water ballast?

_____

45. What defects would you look for when carrying out the external check on the bucket of a front end loader?

_____

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

_____

47. When would you check the front end loader transmission fluid?

_____

48. What effect would a hydraulic leak in the quick hitch line have on the security of the bucket on an front end loader?

_____

49. What would you do if a strand were broken in a flexible steel wire sling?

_____

50. What must be done to a lowered bucket before travelling on a road?

_____

51. What must be provided on a front end loader before it is used as a crane?

_____

52. If a single wire in a sling was broken could you use the sling?
Explain your answer.

_____

2.2 Coordinate activities with others at the site prior to commencement of, and during, the work activity

53. How would you know the access and path of movement is to work area for loads?

_____

54. How would you know the front end loader was suitable for ground conditions?

_____

2.3 Continually monitor hazards and risks, and ensure safety of self, other personnel, plant and equipment

55. When a danger exists on a site what should be posted or erected to warn people of the danger?

_____

56. What action would you take if you noticed a bulge form in one of the machines hydraulic hoses?

_____

57. When should the operator carry out tests, checks and inspections on the front end loader that is to be operated?

_____

58. Describe how you would safely mount/dismount a front end loader.

_____

59. Where can the start-up/shut down procedures for each front end loader be found?

_____

60. Before performing the work with a front end loader, what should you do if you have not used the machine before?

_____

61. On mounting the front end loader what should you do before attempting to start the engine?

_____

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

_____

63. What should be referred to for the correct start up and shut down procedure for the equipment?

_____

64. Before moving off what should be done with grounded attachments?

_____

65. Before reversing a front end loader, what action should you take?

_____

66. Your front end loader has run out of diesel, you refill the tank but the motor will not start. What could be the possible cause?

_____

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

_____

2.4 Drive and operate front end loader, and modify the operating technique to meet changing work conditions

68. Under what conditions can a passenger ride on a machine with the operator?

_____

69. How do you calculate the cubic capacity of the bucket of a front end loader?

_____

70. When travelling on a sloping surface which is the safest route of travel?

_____

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

_____

72. What hazards would you check for on a travel route before moving the front end loader to perform work?

_____

73. To travel down or up a steep incline would you change gears on the incline or select the appropriate gear before travelling on the incline?

_____

74. What documentation would you be required to obtain from an authorised person to operate an front end loader in a hazardous working area?

_____

75. On a construction site who would you contact to confirm the job requirements for the work to be performed with the front end loader?

_____

76. How do you select the appropriate bucket to perform the excavation work?

_____

3. Lift, carry and place materials

3.1 Conduct communication practices associated with transportation and lifting of materials

77. Name three methods of communication?

_____

3.2 Establish weight of load and ensure it is within safe operational limits of the machine

78. Why are you not allowed to hoist persons with the bucket of a front end loader?

_____

79. Why are you not allowed to attach slings to the teeth of the front end loader bucket?

_____

80. You are required to operate a front end loader on soft and uneven ground. What effect would this have on the load you could raise and carry with the front end loader?

_____

81. How would you establish the load that can be safely lifted by a front end loader?

_____

82. What must be provided on a front end loader to attach slings so that the front end loader may be used as a crane?

_____

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

_____

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

_____

85. Of topsoil or clay which is harder to push and spread?

_____

3.3 Select, attach and use slings and lifting gear in accordance with safe working load requirements

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

_____

87. A four legged bridle sling arrangement is attached to a rigid load. How many and which sling legs would be assumed to support the load?

_____

88. What effect does a choker hitch around a round load have on the SWL for a wire rope sling?

_____

89. State the rule of thumb formula to calculate the SWL of wire rope.

_____

90. State the rule of thumb formula to calculate the diameter of the wire rope sling required to lift a specified load?

_____

91. State the rule of thumb formula to calculate the SWL of a grade 80 lifting chain?

_____

92. State the formula for calculating the WLL of grade 30 to grade 75 lifting chain?

_____

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

_____

94. What is the diameter of a single leg wire rope sling that is required to hoist a 2048 kg load?

_____

95. What is the SWL of a flexible steel wire rope (FSWR) 16mm in diameter?

_____

96. When a sling is reeved around a square load how is the WLL/SWL altered?

_____

97. What is the SWL of an 8mm diameter flexible steel wire rope (FSWR)?

_____

98. What is the SWL of a 12mm mild steel chain?

_____

99. What is the SWL of a 7.1mm diameter 80-grade chain?

_____

3.4 Position machinery and ensure stability and locate to effectively shift materials according to job specifications

100. List three precautions that must be considered when dumping material into a truck using a front end loader?

_____

101. How high must the bucket be kept above the ground when driving forward?

_____

102. The load you are going to lift is likely to swing, how would you prevent this from happening?

_____

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

_____

104. When loading trucks using a front end loader, where should the truck driver and other observers be?

_____

105. What is the minimum diameter size tag line that can be used to control loads?

_____

106. What are the dangers of driving your front end loader close to the edge of an excavation?

_____

107. How would you dismount a machine that contacted live power lines, which could not be released, or the power turned off?

_____

108. If the slings shifted on a load been hoisted, what action would you take?

_____

109. The front end loader you are operating overheats and needs to be checked for coolant level. What precautions would you take prior to removing the radiator cap and topping up the coolant?

_____

110. If you are operating a front end loader and it makes contact with powerlines what should you do?

_____

3.5 Shift load safely and effectively

3.6 Move load using hand/audible/communication signals

111. What is the hand signal for STOP?

_____

112. What is the whistle for STOP?

_____

4. Select, remove and fit attachments

4.1 Select attachment for the task

113. What bucket would you chose to excavate to lay pipes?

_____

114. What bucket would you select to tidy up a work site?

_____

115. What attachment would you select to break up concrete?

_____

4.2 Remove and fit attachment according to manufacturer's manual and site requirements

116. How would you know the requirements of a specific quick hitch for a front end loader?

_____

4.3 Test attachment and ensure correct fitting and operation

117. How would test the bucket is fitted correctly?

_____

4.4 Use attachment in accordance with recommendations and design limits

118. Where would you find the capabilities of an attachment?

_____

4.5 Remove, clean and store attachments in designated location

119. Where would you store front end loader buckets in a suburban area over night?

_____

5. Relocate the front end loader

5.1 Prepare front end loader for relocation

120. What must be lowered before travelling?

_____

121. What shall be provided when a front end loader has to be parked on float/low-loader?

_____

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

_____

5.2 Move front end loader safely between worksites, observing relevant codes and traffic management requirements

123. What would you check for before moving a front end loader between sites on a float?

_____

5.3 Load and unload machine from float/trailer

124. Where would you find the tie down requirements for a front end loader on a float?

_____

6. Carry out machine operator maintenance

6.1 Prepare machine for maintenance

125. Name three areas where you would not park the front end loader.

_____

126. When leaving the front end loader what should be done with all hydraulically raised attachments?

_____

127. What type of surface is the ideal type to park a front end loader on?

_____

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

_____

129. Describe the correct way to park a front end loader.

_____

130. What shall be provided when a front end loader has to be parked on or protrudes on to an access way?

_____

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

_____

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

_____

133. List six things that must be done when parking the machine?

_____

_____

_____

6.2 Conduct inspection and fault finding

134. What post-operational checks of a front end loader should the operator carry out?

_____

6.3 Carry out scheduled maintenance tasks

135. Where are the front end loader servicing requirements to be found?

_____

6.4 Process written maintenance records

136. What are some of the maintenance records that must be kept as a requirement of front end loader operations?

_____

7. Conduct housekeeping activities

7.1 Clear work area and dispose of or recycle materials

137. Where would you dispose of unwanted materials?

_____

7.2 Process records

138. What are some of the records that must be kept as a requirement of front end loader operations?

_____

KNOWLEDGE ASSESSMENT SUMMARY

Element	Result (Comp/NYC)
1. Plan and Prepare for work	
2. Conduct Pre-operational checks	
3. Operate front end loader	
4. Lift, carry and place materials	
5. Select, remove and fit attachments	
6. Relocate the front end loader	
7. Carry out machine operator maintenance	
8. Clean up	

Operator Declaration: I declare that the information contained above in the assessment summary is accurate and is a true reflection of the underpinning knowledge and practical assessment I undertook. I am aware that it is an offence under any WHS legislation to provide false, misleading or incomplete information.

Name of Operator: _____**Signature**: _____**Date: __/___/____**

Assessor Declaration: I the person conducting the assessment declare that the above mentioned applicant undertook the appropriate underpinning knowledge and practical assessment in accordance with this assessment instrument. The information recorded above is a true reflection of this applicant's assessment. I am aware that it is an offence under any WHS legislation to provide false, misleading or incomplete information on this assessment summary.

Name of Assessor: _____**Signature**: _____**Date: ___/___/____**

Comments/Feedback (Assessor to make additional comments in support of assessment results)

_____

_____

_____

Subject Matter Expert:

Name: _____ Signature:_____Date: ___/___/____

FRONT END LOADER ASSESSMENT

ANSWERS

1. C. All answers are correct.

2. D. All answers are correct

3. A. The principal contractor or site controller

4. SWIMS [safe work method statement] and pre-start

5. Details the hazards and control measures to be applied to a high risk task

6. B. Hearing protection must be worn

7. B. Exit – White on green background

8. The required safe or hazardous work permits

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

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

11.
- ❒ Uneven/unstable ground,
- ❒ Personnel
- ❒ Powerlines,
- ❒ Trees,
- ❒ Overhead service lines,
- ❒ Bridges,
- ❒ Surrounding buildings, structures
- ❒ Obstructions,
- ❒ Other equipment,
- ❒ Dangerous materials,
- ❒ Underground services (gas, electricity, sewerage, water, communication lines)
- ❒ Recently filled trenches.

12. (a) At least 2 metres from distribution powerlines
    (b) At least 6 metres from high voltage transmission lines

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

13. Check council plans and maps and dig slowly

14. * loose material
    * other plant
    * trees
    * soft/boggy ground
    * other personnel
    * embankment

15. Attach slings to an approved lifting lug, make sure weight of pipe is within machine's SWL and don't place loader where trench could collapse

16. Ensure that the trench is shored and the person is standing well clear of either end of the pipes been lowered

17.
    - ❒ Uneven/unstable ground,
    - ❒ Personnel
    - ❒ Powerlines,
    - ❒ Trees,
    - ❒ Overhead service lines,
    - ❒ Bridges,
    - ❒ Surrounding buildings, structures
    - ❒ Obstructions,
    - ❒ Other equipment,
    - ❒ Dangerous materials,
    - ❒ Underground services (gas, electricity, sewerage, water, communication lines)
    - ❒ Recently filled trenches

18. Exhaust fumes given off by an internal combustion engine in an enclosed space can kill.

19. The `enclosed space' must be adequately ventilated.

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

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

22. Barricades, guardrails or fencing

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

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

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

26. Outlined in the Traffic Control Plans

27. RTA TCAWS Manual version 4.0 June 2010 or state equivalent

28. General purpose and 4 in 1

29. Clamshelling, loading scraping, dozing

30. Report it

31. Name of company, full address, symptoms or signs of the injured

32. E, all answers are correct

33. D, all answers are correct

34. Chocks, Blocks or safety bars must be used to prevent the bucket from falling.

35.
    - ❒ Oil leaks.
    - ❒ Loose connections.
    - ❒ Splits, fractures or bulges in hoses.
    - ❒ Bent piston rod.
    - ❒ Damaged rams

36. Prior to and after their use. (ASI666.1).

37. 10%

38. By the machine's service log or hour metre

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

40. 10% of the wires

41.
- ❒ One broken wire immediately below or above a terminal or end fitting.
- ❒ Abrasion and core collapse.
- ❒ Corrosion.
- ❒ Kinks and fractures.
- ❒ Crushed and jammed strands.
- ❒ Birdcaging.
- ❒ Damaged splices.
- ❒ 10% of broken wires in 8 diameter of rope.
- ❒ Stretched.
- ❒ Affected by heat

42.
- ❒ 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

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

44. Wheel jacked up with the valve at the top of the wheel, fill with water to the manufacturer's specifications, add antifreeze if required and then add air pressure.

45. Worn or missing teeth or a worn cutting edge and other damage to the actual bucket and bucket pivot pins and keeper plates.

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

47. When the transmission is cold and after the transmissions hot or in-accordance with manufacturer's specifications

48. The quick hitch could release allowing the bucket/attachment to drop off

49. Discard it and it should never be used

50. Raise to a safe travel height

51. An approved lifting lug and SWL marking

52. Yes. You can use a wire rope provided that no more than 10% of the wires are broken in a length 8 times the diameter of the rope, unless the broken wire is immediately below or above a terminal or end fitting, then it cannot be used.

53. VMP's - Vehicle movement plans

54. Check ground conditions prior to undertaking work

55. Warning signs, barricades, fences, guardrails

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

57. Daily before use.

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

59. In the appropriate manufacturer's manual.

60. Read the operator's manual to familiarise 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.

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

62. Adjust seat until comfortable, adjust mirror (if applicable) and secure safety belt.

63. Always refer to the manufacturer's manual for the correct procedure.

64. Low to the ground and tilted back to provide maximum vision for travel.

65. 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.

66. Air in the fuel system and it needs to have the air bled from the system

67. Tag out the machine, put it out of service and report the damage or defects to the authorised person/supervisor

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

69. Length x Width x Height divided by 2 [L x W x H divided x 2]

70. Straight up or down the slope

71. Lowest possible gear

72.
    - ❒ Personnel
    - ❒ Hidden holes,
    - ❒ Drop offs,
    - ❒ Embankments,
    - ❒ Overhead obstructions,
    - ❒ Underground services,
    - ❒ Overhead power lines
    - ❒ Telephone lines
    - ❒ Other obstructions that could be dangerous.

73. Select low gear before proceeding down the slope

74. The required safe work permits

75. The site supervisor

76. The size of excavation and type of material to be excavated

77. Radio, hand signals, verbal, radio

78. The manufacturer did not design the machine to hoist persons and it is against all safe operating procedures

79. You may break off the teeth, which may cause the load to fall which may injure or kill someone or damage the load. It is also against regulations to sling loads from the bucket of a loader without fitting the approved lift connection.

80. It would reduce the load that could be raised and safely carried.

81. By the load plate on the loader or by the manufacturer's recommendations

82. A manufacturer’s approved lifting lug with the SWL marked on the machine.

83.
    - ❒ By calculating the weight
    - ❒ delivery dockets
    - ❒ weighbridge certificate
    - ❒ weight marked on the item

84. 2.4 tonne

85. Clay

86. The SWL is reduced by half

87. Two legs of the sling which are diagonally opposite

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

89. Diameter in mm squared x 8 = SWL in kg

90. Square root of the load in kg divided by 8

91. Diameter in mm squared x 32 = SWL in kg or Diameter in mm squared x 80 x 0.4 = SWL in kg

92. Diameter in mm squared x grade of chain x 0.3 = SWL in kg

93. 12 x 12 x 8 = 1152kg

94. Square root of the load in kg divided by 8
    = Square root of 2048/8 = 256
    = Square root of 256 = 15.858mm
    = 16mm diameter sling required. [rounded up to nearest full number from 15.858mm]

95. 16 x 16 x 8 = 2048kg

96. Reduces the sling's WLL/SWL by 50%.

97. 8 x 8 x 8 = 512kg

98. 12 x 12 x 30 x 0.3 = 1296kg

99. 7.1 x 7.1 x 32 = 1613.12kg

100.
- ❒ The truck must be correctly positioned,
- ❒ No load must pass over the cabin of the truck,
- ❒ A layer of soil must be laid first to take the impact if large rocks are to be loaded

101. Only high enough to provide ground clearance at all times.

102. Attach a tag line

103. Look over both shoulders to ensure the path of travel is clear. Sound the horn twice before moving unless there is a reversing alarm fitted. Whilst moving continue to look in the direction of travel

104. Within view of the operator and outside the working radius

105. 16mm

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

107. Jump well clear, making sure that you do not make contact with the ground and machine at the same time

108. Carefully lower the load and have the slings re-positioned and secured

109. 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

110.

- ❒ Stay calm, remain in seat, warn other to keep away 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

111. Raised hand palm facing forward

112. One short blast

113. Excavation bucket [tooth bucket]

114. Mud bucket or cleaning up bucket

115. Hydraulic hammer

116. By referring to the quick hitch manufacturer's manual

117. By crowding [rotating] the bucket in and out

118. By referring to attachment's manufacturer's manual

119. Larger bucket resting on top of other buckets to prevent theft

120. All hydraulically raised attachments

121. Dogs and chains

122. To prevent unauthorised use

123. Route of travel, low trees, bridge clearance, obstructions, dogs and chains, park brake on

124. In the operator's manual and sometimes on the stickers fixed to the machine

125.

- ❒ Access ways,
- ❒ Near overhangs,
- ❒ Refuelling sites,
- ❒ Tidal or flood areas,
- ❒ Adjacent to an excavation.

126.

- ❒ Attachments lowered,
- ❒ Cutting edge flat on ground
- ❒ Lever placed in float position
- ❒ Pressure removed from hydraulic lines

127. A firm level surface

128. The excavation could collapse causing the front-end loader to over turn or to fall into the Excavation

129.

- ❒ Attachments lowered,
- ❒ Cutting edge flat on ground
- ❒ Lever placed in float position
- ❒ Pressure removed from hydraulic lines

130. Barricades, fencing, signs, lights,

131. To prevent unauthorised movement

132. Barricades, fencing, signs, lights

133.

- ❒ 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 the bucket with cutting edge on ground.
- ❒ Engine is stopped in accordance with manufacturer's manual (idle engine before turning off).
- ❒ Secure parking brake, leave controls in park position or in neutral.
- ❒ Remove the keys.
- ❒ Secured the machine against unauthorised movement.

134.

- ❒ Look under and around the loader for leaks or defects. Check the structure and equipment for defects and wear
- ❒ Check the oil, fuel and water level when the machine is cool.

135. Service log or manufacturer's manual

136. Fuel logs, service intervals, any previous maintenance, any current defects

137. Skip bins, tip site

138. Service books