

# Forward Tipping Dumper

**A09**

**Technical Test – Theory**

Roles and responsibilities	1. What is the definition of, or how can a hazard be described?
	<b>A</b>
	2. What is the purpose of a risk assessment?
	<b>A</b>
	3. List SIX typical subject areas that should be covered in a site induction.
	<b>A</b>
	4. What THREE duties of the Health and Safety at Work Act must employees follow?
	<b>A</b>
	5. What does the Health and Safety at Work Act require employers to do with regards specifically to plant?
	<b>A</b>
	6. a) What is the purpose of a Method Statement and b) what is required of the operator?
	<b>A</b>
	7. Name FOUR different types or levels sanctions that can be applied to plant operators who do not comply with, or follow legislation and regulations?
	<b>A</b>
	8. Plant operators are generally regarded as 'safety-critical' workers. What does this mean?
	<b>A</b>

*continued...*

Roles and responsibilities continued	9. Name THREE ways in which an operator can minimise their impact upon the environment whilst using the machine.
	A
	10. In what situation does a hard hat not need to be worn when operating a forward tipping dumper?
	A
	11. The operator has to use a new type of dumper i.e. swivel skip that they are unfamiliar with. What do Regulations (i.e. PUWER 98) and other guidance require the operator to have?
	A
	12. What are the possible outcomes of being prosecuted for not complying with legislation and regulations?
	A
	13. What is a dumper operator's main purpose or requirement?
	A
Preparing for work	14. How can a qualification or card benefit a plant operator?
	A
	15. Name THREE ways that a plant operator can contribute in ensuring repeat business with the client or main contractor.
	A
	16. Where should the dumper's Operator's Manual be kept and why?
	A
	17. When would the skip safety strut or support be used?
	A
18. If the operator has to top-up the hydraulic oil, state TWO precautions to ensure cleanliness of the system.	
A	

*continued...*

Preparing for work continued	19. What is a possible consequence of using a tyre with a deep cut in the sidewall?
	A
	20. What is the purpose of a roll or ROPS frame?
	A
	<b>For questions 21 and 22 the Operator's Manual for the machine being used for the test MUST be available for reference by the candidate</b>
	21. Using the Operator's Manual, state the figure for tyres' operating pressure. For tracked machines, what specific checks must be made to the track belt?
	A
	22. Using the Operator's Manual, state the cold-starting procedure for the machine.
	A
	23. On articulated dumpers, steering is achieved by actuating a hydraulic ram which is controlled by turning the steering wheel. a) How does the engine supply the oil flow and b) what happens to the steering when the engine stops?
	A
	24. If checking the oil level using a dipstick, why must gloves be worn?
	A
	25. Apart from the operator, who else may need to use the machine's Operator's Manual?
A	
26. A dumper is classified by a manufacturer as a 6 tonne dumper. What does this mean?	
A	
27. Most site dumpers have the engine at the rear. State the main reason for this.	
A	
28. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.	
A	

*continued...*

Travelling and manoeuvring	29. Most forward tipping dumpers have an articulated chassis that swivels or pivots in the centre. One pivot plane or angle (looking from the top) provides the steering (articulation): what is the function of the other pivot plane or angle i.e. looking from the front (oscillation)?
	A
	30. Give FOUR reasons that may cause the dumper to tip over sideways during travel.
	A
	31. a) What is the minimum distance allowed near open trenches when travelling with a dumper and b) explain why?
	A
	32. Why must the seat belt be worn at all times?
	A
	33. If the machine is being travelled or working on the public highway, including adjacent pavements and verges, the Road Traffic Act applies. a) What type of licence and which class should the operator hold and b) what is the minimum age allowed?
	A
	34. When travelling on wet clay, what effect does this have on the dumper?
	A
	35. Manufacturers must give recommendations on how to travel a dumper up and down inclines. If this information is not known first hand, what is the general rule about travelling up and down slopes?
	A
36. How is it possible that dumpers, even when travelling on gentle gradients, are not overloaded and not being driven at excessive speed, can still tip over?	
A	
37. a) Name THREE purposes of the raised lugs on tyres and b) what can happen to a dumper if the lugs are severely worn?	
A	

*continued...*

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## Technical Test – Theory

Setting up for work	38. If setting up to work in a pedestrianised area, state THREE factors that need to be taken into account.
	A
	39. Whenever possible, who should decide the positioning of the dumper when being loaded?
	A
	40. The operator is asked to tip material into a new trench. State FIVE different requirements that must be considered or implemented before tipping commences.
	A
	41. Give TWO reasons for using a swivel skip dumper over a conventional forward tipping skip.
	A
Working tasks	42. What problems and hazards can soft ground cause to a loaded dumper?
	A
	43. Give TWO reasons why the dumper operator should have an understanding of the type of spoil being transported.
	A
Working tasks	44. When working in a confined area or space what danger can be present with an articulated dumper with regards to steering?
	A
Working tasks	45. Name: a) TWO precautions and b) TWO operating procedures that should be taken when discharging loads on the move.
	A

*continued...*

Working tasks continued	46. When working in a confined area or space, name THREE hazards that can occur.
	A
	47. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on wooden poles when tipping loads and b) explain why a distance should be kept?
	A
	48. Why do high tip dumpers need particular care when tipping?
	A
	49. Who should determine the maximum load that should be placed into the skip of the dumper?
	A
	50. State TWO requirements of using a stop block or earth bank (berm) at a trench discharging point.
	A
	51. When forward tipping a load, the centre of gravity of the machine changes. a) What effect does this have on the dumper and b) state TWO actions to avoid accidents?
	A
	52. If a load has to be tipped on a slope, what may happen if the load is tipped downhill?
	A
	53. Operators should lower the skip fully before driving away. Give TWO possible consequences if this is not carried out.
A	
54. Name THREE actions to be taken before transporting wide loads.	
A	

*continued...*

Working tasks continued	55. Name THREE problems that could occur if the skip is overloaded with a dense material.
	A
	56. What is the meaning of this hand signal (being demonstrated by the Tester)?
	A
Completing work	57. Larger dumpers use a turbo-charged engine. a) What is the normal procedure before switching off the engine after working and b) what happens if the procedure is not followed?
	A
	58. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out?
	A
Shutdown	59. When parking the machine at the end of the shift, name THREE places where the dumper should NOT be parked.
	A
	60. Why should a dumper be re-fuelled at the end of the day?
	A
	61. The operator has been asked to drive the machine onto a transporter/trailer. a) Who is responsible for the loading operations and b) state FOUR actions to be considered by the operator before loading commences.
	A

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## Technical Test – Practical

### RESOURCES

#### Required

Machine	<ul style="list-style-type: none"> <li>• Forward tipping dumper with:               <ul style="list-style-type: none"> <li>– a seatbelt and ROPS</li> <li>– hydraulic operated transmission (i.e. shuttle, hydrostatic or powershift)</li> </ul> </li> </ul>
Area	<ul style="list-style-type: none"> <li>• Ground, clear of hazards which must include:               <ul style="list-style-type: none"> <li>– rough undulating terrain</li> <li>– slope or slopes</li> <li>– a stockpile of material for loading</li> <li>– a straight run for reversing</li> <li>– trench or edge for unloading purposes</li> </ul> </li> </ul>
Other equipment	<ul style="list-style-type: none"> <li>• Machine to load the material</li> <li>• Edge protection</li> <li>• Items to create restrictions for travelling and manoeuvring</li> </ul>
Loads	<ul style="list-style-type: none"> <li>• Suitable and sufficient material for loading and discharging</li> </ul>
Notes	<ul style="list-style-type: none"> <li>• The machine selected for the test must be of at least 2 tonnes capacity, meet the specification for the required endorsement, be in serviceable condition and conform with current legislation</li> <li>• The operator's manual must be with the dumper</li> <li>• The slope must have at least an 18% (1:5.5) incline with sufficient manoeuvring room at the top, or a straight ramp with an up and down route with a flat area at the summit</li> <li>• The straight run for reversing must be at least 30 metres long</li> <li>• The trench or an edge must be at least 1 x metre deep and a minimum of 3 x the machine's width</li> <li>• Edge protection must be of substantial build to restrain a machine from inadvertently entering the trench</li> </ul>

### ACTIVITY

#### Instructions

Sequence	<ul style="list-style-type: none"> <li>• Activity 1 must be undertaken at the start of the test</li> <li>• Activity 2 may be spread over the period of the test</li> <li>• Activity 7 must be undertaken at the end of the test</li> </ul> <p>Certain activities (The test) must be completed within a given time. The specifications' section gives further information.</p>
Preparing for work	1. Complete all manufacturers' pre-start and running checks and prepare the dumper for travel
Travelling & manoeuvring (refer to specifications)	2. In a loaded and unloaded state: <ul style="list-style-type: none"> <li>– travel up and down the slope</li> <li>– stop and start on the slope in the up direction</li> <li>– stop and start on the slope in the down direction</li> <li>– pass through a chicane executing full right- and left-hand turns in a forward and reverse direction (unloaded only)</li> <li>– travel over rough terrain</li> <li>– reverse (loaded only) in a straight line for a minimum of 30 metres and pass through a restriction at the end of the run</li> </ul>
Setting up for work	3. Position the dumper for loading
Working tasks (refer to specifications)	4. Receive a load 5. Discharge the load into the edge or excavation
Completing work	6. Clean out the skip fully
Shutting down	7. Park the dumper and carry out shut-down and securing procedures
Notes	<ul style="list-style-type: none"> <li>• If the machine is hot, checks unable to be carried out (i.e. coolant) may be assessed by the Tester using verbal questions</li> </ul>

#### Activity measurements

Travelling and reversing restriction	<ul style="list-style-type: none"> <li>• 500 mm</li> </ul>
Discharging	<ul style="list-style-type: none"> <li>• Minimum of 3 times (activity 5)</li> </ul>
Test timings	<ul style="list-style-type: none"> <li>• The test must be completed within 1 hour and 15 minutes</li> </ul>

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## Technical Test – Practical

<b>Basic details</b>	Test ref.	Candidate name
	Tester name	Candidate ref.
	Tester ref.	Date of test
	Endorsement A <input type="checkbox"/> Endorsement B <input type="checkbox"/>	Start time of test
	Make and model	Duration

<b>MANDATORY</b>		Correctly carried out during the test?	Y / N
Preparing	1 All pre-start and running checks (or responses to relevant questions)		
Travelling	2 Dumper set for travel		
	3 Seat belt worn		
	4 Restrictions cleared		
	5 Encountered hazards cleared		
	6 Full control maintained when ascending and descending slopes		
	7 No opposite movement of intended direction when restarting on slopes		
Setting up	8 Travel direction on slopes		
	9 Straight line kept for loaded reversing activity		
Working	10 Allocated area checked and clear of hazards prior to being loaded		
	11 Safe place selected during loading		
	12 Appropriate speed used when approaching discharge point		
	13 Edge protection applied or checked and used prior to discharging load		
	14 Parking brake applied and neutral selected before discharging loads		
Completing	15 Vehicle marginally reversed after discharging to clear body		
	16 Skip fully lowered before leaving discharging point		
Shutdown	17 Skip cleaned of material		
Other	18 All shut down and securing procedures		
	19 Legislation, manufacturers' and health and safety requirements complied with		
	20 Activities (test) completed within the given time		
<b>All of these items must be awarded</b>		Achieved / Not achieved	

<b>FAULTS</b>		Candidate incorrectly carried out the following:		
		Fault	Mark	Penalty
Travelling	1 Dumper mounting and dismounting		1	
	2 Full observation before moving and reversing		3	
	3 Full observation whilst travelling		2	
	4 Engaging transmission drive smoothly from rest		1	
	5 Matching travel speed to the ground type and conditions		2	
	6 Matching gear ratios to ground speed		1	
Working	7 Dumper positioning for loading		2	
	8 Dumper positioning square to the discharge edge prior to discharging		2	
	9 Skip fully empty after discharging		2	
	10 Smooth use of steering and braking controls		1	
<b>Not exceeded 8 penalties</b>		Total penalties		
				Achieved / Not achieved

