

Crawler-Tractor/Dozer

A34

Technical Test – Theory

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

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| 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 crawler-tractor/dozer? |
| | A |
| | 11. The operator has to use a new dozer 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 if being prosecuted (by judicial bodies) for not complying with legislation and regulations? |
| | A |
| | 13. How can a qualification or card benefit a plant operator? |
| | A |
| Preparing for work | 14. Name THREE ways that a plant operator can contribute in ensuring repeat business with the client or main contractor. |
| | A |
| | 15. Where should the dozer's Operator's Manual be kept and why? |
| | A |
| | 16. If the operator has to top-up the hydraulic oil, state TWO precautions to ensure cleanliness of the system. |
| | A |
| | For questions 17 and 18 the Operator's Manual for the machine being used for the test MUST be available for reference by the candidate |
| | 17. Using the Operator's Manual, state the figure for setting track tension. |
| A | |
| 18. Using the Operator's Manual, state the cold-starting procedure for the machine. | |
| A | |

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Preparing for work continued

19. a) What is the purpose of the track guard or guards and b) where would it/they be located?

A

20. What is the purpose of a roll or ROPS frame?

A

21. If checking the oil level using a dipstick, why must gloves be worn?

A

22. List FIVE checks that should be made to the tracks and running gear.

A

23. a) How do low ground pressure units differ from standard type dozers and b) where would they be used?

A

24. Apart from the operator, who else may need to use the machine's Operator's Manual?

A

25. a) What is the function of 'Grousers' or 'Cleats' as found on track pads and b) what is the result if excessively worn?

A

26. During work, the engine starts to overheat. Explain the danger if someone tries to remove the radiator or expansion tank cap.

A

27. How does a PAT blade work?

A

28. What is the difference between a tilting blade and an angle blade?

A

Track
mark

30. Why do dozers have an undercarriage suspension system?

A

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| Travelling and manoeuvring | 31. Why must the seat belt be worn, even with the cab door closed? |
| | A |
| Setting up for work | 32. Name TWO types of equipment used to ensure that excavation levels, measurements and positions are to the required specification. |
| | A |
| | 33. Before removing a blade: a) how should the blade be positioned (in relation to the ground) before removing the final pin and b) why? |
| | A |
| | 34. Cable avoidance tools (CATs) can detect a variety of buried services. What type of material do they have limitations in locating? |
| | A |
| | 35. a) What is meant by blade capacity and b) how is it determined? |
| | A |
| | 36. If setting up to excavate a slot in a confined area, name TWO things that should be taken into account before starting. |
| | A |
| | 37. What particular and specific hazards can affect the stability of the machine when working on old industrial (Brownfield) sites? |
| A | |
| 38. If setting up to work next to a pedestrianised area, state THREE factors that need to be taken into account. | |
| A | |
| 39. The operator is asked to cut a new trench. State FIVE different requirements that must be considered or implemented before work commences. | |
| A | |

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| Setting up for work continued | 40. What THREE things should be checked out before carrying out embankment work? |
| | A |
| | 41. What problem may occur if the wearing plates on the blade are at the maximum wear limit? |
| | A |
| | 42. a) What is the recommended minimum distance to be kept away from overhead power lines mounted on wooden poles when setting up the machine and b) explain why a distance should be kept. |
| A | |
| Working tasks | 43. If a trench has a depth of 2.0 metres: a) what is the minimum distance to maintain from the edge of the trench when travelling and b) explain why. |
| | A |
| | 44. Why should different soils be segregated during excavating? |
| | A |
| | 45. When working on a diagonal side hill cut, how should the blade be angled? |
| | A |
| | 46. Why is it poor practice to reverse the dozer at high speed? |
| | A |
| | 47. Why is 'back-blading' (using the back of the blade to drag material) not considered good practice? |
| | A |
| 48. Give TWO reasons why the operator should have an understanding of the type of material being dozed. | |
| A | |
| 49. What hazards might arise whilst filling in an excavation with soil? | |
| A | |
| 50. If fitted, what function can the float on the blade allow? | |
| A | |

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| Working tasks continued | 51. Give TWO reasons why, wherever possible, operators should excavate ground in layers. |
| | A |
| | 52. If a yellow coloured marker tape is unearthed during excavating, which two types of services could this indicate? |
| | A |
| | 53. What is the nearest distance allowed to gas pipes when excavating with the machine? |
| | A |
| | 54. a) What effect on dozer operations does making too deep a cut have and b) what effect does making too shallow a cut have? |
| | A |
| | 55. Wherever possible, why should the dozer be aligned before making the next pass or cut? |
| | A |
| Shutdown | 56. When backfilling trenches, why should the blade be feathered before reaching the trench? |
| | A |
| | 57. Describe TWO actions to be taken for an open trench at the end of a working day. |
| | A |
| Shutdown | 58. Before leaving the cab for a rest break, after parking and switching off the machine, what final action must be carried out? |
| | A |
| | 59. When parking the machine at the end of the shift, name THREE places where the machine should NOT be parked. |
| Shutdown | A |
| | 60. How can tracks be prevented from becoming frozen to the ground during cold weather? |
| Shutdown | A |

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| Shutdown continued | 61. Many dozers have 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 |
| | 62. 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 |
| | 63. If the operator has loaded the machine onto a transporter/trailer on behalf of a driver, what checks must be carried out before they leave the cab? |
| | A |
| | 64. Why should a dozer be re-fuelled at the end of the day? |
| | A |

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Technical Test – Practical

RESOURCES

Required

| | |
|-----------------|---|
| Machine | <ul style="list-style-type: none"> • Crawler Dozer fitted with a standard, tilting blade |
| Area | <ul style="list-style-type: none"> • Ground, clear of hazards which must include: <ul style="list-style-type: none"> – level area for excavating – embankment – rough terrain – slope or slopes |
| Other equipment | <ul style="list-style-type: none"> • Items to create restrictions for manoeuvring • Laser equipped measuring equipment to ensure trench specifications are met |
| Notes | <ul style="list-style-type: none"> • The machine selected for the test must be in serviceable condition and conform with current legislation • The operator's manual must be with the dozer • 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 • The nominated area must be safe to allow excavations up to 2 metres deep and 30 metres long • The embankment must be at least 30 metres in length |

ACTIVITY

Instructions

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| Sequence | <ul style="list-style-type: none"> • Activity 1 must be undertaken at the start of the test • Activities 2, 4 and 5 can be undertaken at any time during the test • Activity 7 must be undertaken at the end of the test <p>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 dozer for travel |
| Travelling & manoeuvring (refer to specifications) | 2 Travel to the work area and: <ul style="list-style-type: none"> – travel up and down the slope – pass through a restriction – travel over rough terrain |
| Setting up for work | 3 Prepare and set the dozer for the relevant work |
| Working tasks (refer to specifications) | 4 Produce a straight trench to the specified dimensions and form a stockpile 5 Side cast material from the embankment to the specified dimensions 6 Reinststate the work area back to the original state |
| Shutting down | 7 Park the dozer and carry out shut-down and securing procedures |
| Notes | <ul style="list-style-type: none"> • If the machine is hot, checks unable to be carried out (i.e. coolant) may be assessed by the Tester using verbal questions |

Activity measurements

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|---------------------|---|
| Travel restrictions | <ul style="list-style-type: none"> • 800 mm |
| Trench depth | <ul style="list-style-type: none"> • 1.0 metre ± 35 mm and straight within ± 60 mm |
| Trench length | <ul style="list-style-type: none"> • Level area – minimum of 10 metres in length |
| Embankment | <ul style="list-style-type: none"> • 1 x blade width for a minimum length of 30 metres |
| Test timings | <ul style="list-style-type: none"> • The test must be completed within 2 hours and 45 minutes |

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Technical Test – Practical

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| Basic details | Test ref. | Candidate name |
| | Tester name | Candidate ref. |
| | Tester ref. | Date of test |
| | Make and model | Start time of test |
| | | Duration |

MANDATORY

| | | Correctly carried out during the test? | Y / N |
|---|----|--|-------------------------|
| Preparing | 1 | All pre-start and running checks (or responses to relevant questions) | |
| | 2 | Dozer set for travel | |
| Travelling | 3 | Restrictions and hazards cleared | |
| | 4 | Control maintained when ascending and descending inclines | |
| Setting up | 5 | Allocated area checked and clear of hazards prior to excavating | |
| Working | 6 | Full blade loads maintained (except for finishing work) | |
| | 7 | Depth of cut controlled | |
| | 8 | Trench conformed to the stated sizes and tolerances | |
| | 9 | Embankment trimmed to specification | |
| | 10 | Short cycles of work maintained | |
| | 11 | Blade lowered and adjusted smoothly during work | |
| | 12 | Material feathered out after the cut | |
| Shutdown | 13 | Excavated area reinstated back to the original contours | |
| | 14 | All shutdown and securing procedures | |
| Other | 15 | Legislation, manufacturers' and health and safety requirements complied with | |
| | 16 | Test completed within the given time | |
| All of these items must be awarded | | | Achieved / Not achieved |

FAULTS

| | | Candidate incorrectly carried out the following: | Fault | Mark | Penalty |
|---------------------------------|----|--|-----------------|------|-------------------------|
| Travelling | 1 | Dozer mounting and dismounting | | 1 | |
| | 2 | Full observation before moving and reversing | | 3 | |
| | 3 | Full observation whilst travelling and reversing | | 2 | |
| | 4 | Travel speed matched to the ground type and conditions | | 1 | |
| Working | 5 | Control of throttle and gear selection | | 2 | |
| | 6 | Tight turns avoided when travelling | | 1 | |
| | 7 | Site and set for excavating | | 2 | |
| | 8 | Trench excavated in layers | | 2 | |
| | 9 | Back-blading with the blade | | 2 | |
| | 10 | Single stockpile formed at end of trench | | 2 | |
| | 11 | Overrunning after dumping load | | 2 | |
| | 12 | Smooth use of steering and hydraulic controls | | 1 | |
| | 13 | Sequence of using steering/hydraulic controls | | 1 | |
| Not exceeded 8 penalties | | | Total penalties | | |
| | | | | | Achieved / Not achieved |

