C204

COURSE OBJECTIVES

Course Objectives for C204

Forward tipping dumper: wheeled

It is envisaged that by the end of this course of training the learner will be able to answer questions on and perform the following:

- The hazards of working in the construction industry, and their responsibilities as a forward tipping dumper operator
- Identify and extract information from the manufacturer's handbook/operator's manual, and other information sources including digital
- Locate and identify the major components, signs and decals, and all controls of the forward tipping dumper and explain their functions
- Conduct all pre-operational checks in accordance with manufacturers and legislative requirements
- Identify and maintain personal protective equipment (PPE) and appropriate safety control equipment for forward tipping dumper use
- Safely get on and off the forward tipping dumper
- Prepare the dumper for movement – site and public highway travel
- Travel and manoeuvre the dumper safely across varying terrain and inclines
- Manoeuvre in areas of restricted space
- Conduct all necessary safety checks at the loading and discharging areas
- Position to receive loads
- Ensure load integrity and security
- Transfer loads to different locations
- Discharge loads
- Explain environmental considerations of machine use
- Explain loading/unloading procedures for machine transportation
- Carry out all end of work and shut down procedures

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LEARNING OUTCOMES

The hazards of working in the construction industry, and their responsibilities as a forward tipping dumper operator	• Why the industry has many hazards and why safe working practices must be adopted and maintained • Why personal health and safety is not just physical injury and can include the effects of noise, and vibration all of which lead to lost time, lost income, expense for the employer, fines, custodial sentences etc.• Health & Safety at Work Act 1974, Provision and Use of Work Equipment Regulations (PUWER), Management of Health and Safety of Work (MHSW) Regulations, Construction (Design & Management) Regulations (CDM), Vibration at Work Regulations, Road Traffic Act, HSG144, and HSG47 etc. in accordance with risk assessments, method statements, codes of practice and other relevant legislation, regulations, and industry good practice • operators' moral, legal, and environmental obligations • reporting structures, the importance of good communication on site (colleagues, management, and other workers on site) • past incidences involving relevant plant and pedestrians • working with other related roles e.g. marshallers, supervisors, other plant operatives, other occupations
Identify and extract information from the manufacturer's handbook/operator's manual, and other information sources including digital	• Use of the operator's manual for the forward tipping dumper during the practical elements of training to identify key preparation, operational and safety aspects of the machine • types of information sources including machine control systems
Locate and identify the major components, signs and decals, and all controls of the forward tipping dumper and explain their functions	• The purpose of principal components, the basic construction, controls, and terminology • How correct and sympathetic use of the controls can ensure efficiency and safety of the machine and help prolong machine life by reducing wear and tear • Purposes of Roll Over Protection Systems (ROPS) and Falling Objects Protection Systems (FOPS) and other protection systems • Types and use of traction aids

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LEARNING OUTCOMES

Conduct all pre-operational checks in accordance with manufacturers and legislative requirements	• Complete all pre-start and running checks before any activity takes place including visual checks for damage, functionality, and effectiveness • All componentry systems fully functional including mechanical, hydraulic, pneumatic, electrical and electronic etc. • Replenish fuels, fluids and lubricants and undertake grease-based lubrication activities • Manufacturers periodic checks and operator level maintenance requirements • Defect reporting requirements • Carry out routine adjustments • Safety systems functions including emergency stop • health and safety requirements when undertaking basic maintenance activities including Personal Protection Equipment (PPE) • Check condition and function of seatbelt and any other restraining equipment • Check condition and function of any lighting and warning systems • Requirements for dealing with fluid spills including prevention and clean-up methods
Identify and maintain personal protective equipment (PPE) and appropriate safety control equipment for forward tipping dumper use	• What safety control equipment / PPE should be worn/used for machine operations and include the following: suitable safety footwear, ear defenders, face / eye protection, dust mask, suitable gloves, overalls, hard hat, respiratory protective equipment (RPE), protective clothing etc. • Appropriate use of local exhaust ventilation (LEV), i.e. in confined spaces • Why weather conditions, including heat and cold, can determine what PPE is worn when using specific machine and the personal effects of incorrect equipment
Safely get on and off the forward tipping dumper	• Working at height requirements • Safe use of all hand holds and steps • Facing the machine when getting on and off the dumper for operational and maintenance purposes • Effects of continually getting on and off the dumper e.g. fatigue, increased risk of falling etc. • Safe areas to get on / off the dumper e.g. ground location, other vehicle movements etc. • Procedures for accessing the dumper when carrying out adjustment and maintenance activities

LEARNING OUTCOMES

Prepare the dumper for movement – site and public highway travel	• Use of seatbelts and other restraining equipment • Adjustment of seating position and mirrors • Steering and braking systems checks • Types of visibility aids and what factors can affect clear, all-round vision • Where and why effective vision is extremely important • How and where issues can arise when vision is limited during operation • Warning beacons and other safety systems/lights are operable • Legislative requirements for road travel e.g. licencing for travelling on the public highway • Carrying of passengers/non-authorised personnel
Travel and manoeuvre the dumper safely across varying terrain and inclines	• Travelling over various types of terrain, replicating typical site-type surfaces, in a loaded and unloaded state • How travel speeds and gear selection affect the dumper working efficiency, stability, safety, and emissions • Issues which can occur if departing from designated haul routes • Types of underground services and the effects of travelling loaded machines near to/over services • Effects of travelling close to edges, embankments, and trenches • Travelling on inclines in a loaded and unloaded state • How uncompacted surfaces affect stability • Working on stockpiles, and non-compacted surfaces, authorisation, and requirements • Changes of centre of gravity when in loaded and unloaded state and when on inclines • Procedures in the event of machine roll over
Manoeuvre in areas of restricted space	• Precautions to be taken when manoeuvring in areas of restricted space • Visual checks of the area for hazards and how to determine if safe to proceed • Check dumper size relevant to working area, including working height, width, and steering angle • Lighting requirements and issues that may occur due to poor light conditions • Communication requirements with marshallers

LEARNING OUTCOMES

Conduct all necessary safety checks at the loading and discharging areas	• Safety checks that must be carried out to ensure the loading area and discharging area are clear of hazards • Actions required for emergency situations • Loading and discharge area segregation from other activities • Sufficient manoeuvring area • Ground conditions to support dumper and load weight and maintains dumper stability • Communication requirements and methods with loading operator • Working in hours of darkness and lighting requirements
Position to receive loads	• Gearing and travel speed selection when approaching loading position • Why the machine should not be driven towards the raised bucket of a loading excavator • Various types of loading equipment, e.g. conveyers, hoppers etc. and characteristics of each • Why ground conditions and level ground are important for loading purposes • Procedures to be followed to ensure no unintentional movement of the machine during loading • Machine isolation requirements • Factors that ensure operative personal safety during the loading process including designated safe areas • Factors that may allow the operator to stay seated if within an appropriate-cabbed machine
Ensure load integrity and security	• How different material properties will affect the weight/volume of materials to be carried • Causes of overloading • What can and cannot be carried in the skip • What the manufacturers requirements are for transporting loads and load height • How to ensure that the skip is not overloaded • How an overloaded skip or offset load can affect stability and safety • Factors with loads that project beyond the skip • What is meant by maximum utilisation of the machine to transport loads • Why load integrity is important to safe operations

LEARNING OUTCOMES

Transfer loads to different locations	• Factors that affect safe and effective transportation of loads • Prior confirmation on where each load needs to be transported to • Haul - road protocols between loaded and unladen machines
Discharge loads	• Typical hazards within a discharge area and reasons for exclusion zones • What checks need to be carried out at the discharge area • Typical hazards of discharging loads into trenches including over edges, to include overrun prevention, substantial edge protection and ground stability • Ground conditions to prevent instability • Vision requirements to avoid overrun • Factors that can affect machine stability when raising a loaded skip including stuck loads • Procedures for discharging loads including preventing unintentional machine movement • Requirements for side-discharge or elevating skip types • Procedures for ensuring full discharge of the skip and clearing the discharge area • How to form stockpiles
Explain environmental considerations of machine use	• Health and social reasons to reduce machine emissions • Government industry zero emission initiatives • What 'tailpipe' emissions are caused by compression ignition (CI) diesel engines during internal combustion • Air quality and the component gases of air • How engine emissions, including particulate matter affect air quality and the effects on human and environmental wellbeing • Measures to reduce emissions during operations including alternative / low emission fuels, fuel treatments and particulate filtration systems etc. • Efficient use of the machine and when and how minimising engine use can aid air quality and fuel savings • Eco-friendly oils, fluids and lubricants • Fuel-saving techniques for specific item of plant • Appropriate disposal of waste • Spillage procedures

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LEARNING OUTCOMES

Explain loading / unloading procedures for machine transportation	• Procedures for preparing the dumper for loading onto a transporter • Traction and surface preparation requirements • Understanding of agreed methods of communication between the plant operator and others • Working at height requirements when driving onto or off a transporter bed
Carry out all end of work and shut down procedures	• Types of safe locations, areas, and ground / terrain types where dumpers may be parked and should not be parked • Reasons for ensuring safe parking and for ensuring unintentional movement • Carrying out parking, shut down and isolation requirements according to manufacturer's instructions • Reasons for dumper isolation including security and non-authorised use by others • Ensure the load has been fully discharged and the skip is empty • use of anti-vandalism equipment

**The learning outcomes listed should not be considered in isolation and may be added to in order to accurately reflect the learner's duties and working environment*