

Stephen wood training services ltd

Rear Tipping Dump Truck



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General Safety Information for Technical Test

Health and Safety At Work act 1974 – designed to protect people and the environment from work place activities. It places certain duties and responsibilities on employers, employees, self- e m p l o y e d people, designers and manufactures.

- **Employer’s responsibilities** - must ensure workplaces under their control are safe and free from hazards. Ensure the safety of employees, self-employed, visitors, trespassers and the general public who could be affected by the work. Everything they provide for use, tools, plant and equipment must be fit for purpose, safe to use and the personnel trained to use it
 - **Employee’s responsibilities-** must take care of themselves and others who may be affected by their acts or omissions. Co-operate with their employer. Do not tamper with or interfere with or misuse anything provided for safety
 - **Failure to comply with legislation-** could result in loss of you job and all the financial implications that can bring bit it could also result in prosecution. The severity of the breach of legislation and any accidents or incidents related would dictate what type of court proceedings you could face. If you have fulfilled your legal requirements and can provide proof of this in court, then you would likely be found Not Guilty but If you were found guilty you could face a prison sentence or a substantial fine
- To fully understand the above Act specific training and guidance is required

Method Statement- detailed description of how to carry out a job safely and efficiently. All involved in the work must be briefed on its contents. Workers must follow the Method Statement unless they feel it is not suitable then they should stop and report it and have the method statement amended. Competent people must only amend Method Statement

Risk Assessment- is a legal requirement before work starts. It is a detailed assessment of the risk involved in doing and job and provides information on how to reduce the risk level down to an acceptable level.

Hazards- this is anything, which can cause harm to people plant or equipment.

- **Excavations or Trenches** – risk of collapse. The minimum distance to keep away from open excavations is at least the depth of the trench i.e. if its 2m deep you stay 2m back



- **Working at height-** any place you can fall from and be injured is considered working at height. The top of a mound, climbing into or out of a machine. Standing by the edge of an excavation
- **Slopes-** wherever possible the weight always faces up hill i.e. empty dumper skips face downhill and loaded skips face uphill. Extreme care should be taken if working across a slope. Avoid turning on slopes if possible

- **Overhead Cables-** the minimum distance to be maintained from overhead cable mounted on wooden poles is 9m from the greatest reach of the machine and 15m from cables on metal pylons. Electricity can arc or jump a gap.
- **Confined Spaces-** anywhere there is restriction on operating area can be considered confined space. There is a greater risk of accident or damage. The minimum distance that should be maintained between a fixed obstacle and the machine is 600mm (this is deemed to be the smallest distance a person can go through without being injured). If this distance can't be maintained, then the area should be fenced off and signs erected.
Fumes, dust, noise, lack of visibility and insufficient room to maneuver are all hazards associated with confined areas
- **Plant Operations** – are regarded as “safety Critical Operations” because of the potential risk of an accident. Plant operators can cause harm to themselves or other people if they carry out an unsafe act.
- **Pedestrian areas-** care should be taken when operating in pedestrian areas. A safe route for pedestrians should be provided with suitable signage and lighting. Enough room for material storage and vehicle movements is required. Noise, dust and fume levels should be reduced where possible. Required permits, method statements and risk assessments should be in place.

PUWER – Provision And Use Of Work Equipment Regs

This is an amendment to a European regulation. It deals with the use of plant and equipment and has specific requirements including

- **Restraint Systems-** seat belts must be worn at all times to prevent injury in the event of the vehicle overturning
- **ROPS (Roll over Protection Structure)** -prevent injury in the event of the vehicle overturning
- **FOPS- (Falling Object Protection Structure)** prevents injury from falling debris. If fitted to a vehicle then you do not need to wear the hard hat inside
- **Training and Instruction-** you must receive adequate instruction and training on any equipment before you can operate it
- **Fit for Purpose-** work equipment must be fit for purpose and safe to use
- **Information- Operators Manuals** and other information relating to the safe use of equipment must be with the equipment. This is to allow operators to check and gain necessary information To fully understand PUWER specific training and guidance is required

Environmental Issues-

- **Refueling-** should only be done in a designated area. Clean containers and funnels should be used. Any spillage should be cleared up using suitable equipment. Waste should be disposed off in designated bins.
- **Condensation-** the machine should be refuelled at the end of the shift to prevent condensation building up in the tank as the machine cools down

- **Reducing Environmental Damage-** operate safely, operate efficiently, Tip materials in designated places, don't mix materials. Switch off when not in use. Don't overfill when refueling, check tyre pressures, report leaks or damage, clear up spillage, dispose of waste in designated bins. Follow method statements and COSHH assessments
- **Designated Routes-** should be adhered too. This will avoid damaging unspoilt ground, or completed work, or unnecessary contact with other plant or people

Articulated Dump truck-



- **Used to transport materials around site. Can travel over a variety of different terrains**
- **Articulated Steering-** most Rear Tipping Dump trucks have articulated steering, a kingpin joins the front and the rear of the dumper in the middle. A hydraulic ram or rams activated by turning the steering wheel turns the Dump Truck. The engine supplies the hydraulic oil to the ram by pump. If the engine is switched off the steering becomes very stiff. The kingpin also allows the dumper to oscillate this helps maintain traction by allowing all 4 wheels to remain on the ground when travelling on rough terrain, Articulated steering can be awkward in tight areas or if tight to structures because of its design. When you turn the steering wheel the front and the back go one way and the middle goes the opposite way, this could cause you to hit obstacles close by. If tight to an obstacle, then you must not over steer or you will hit it. Another danger is the crush zone formed between the two halves when you apply a full lock, never allow anyone to stand on the step or between the two halves of the dumper when the engine is running

Pre Use Inspections-

- Plant should be checked according to the manufacture's specifications. The checks should be recorded in the defect book or daily check sheet. Any defects should be reported
- Suitable PPE (gloves) should be worn when carrying out the prestart checks to prevent skin disease and contaminating the controls
- Engine oil, hydraulic oil, transmission oil, coolant, Brake fluid, tyres and the condition of the dumper should be checked



(Checks will vary depending on make and model always read the operators manual)

- If topping up with oil always do so in the designated area, use clean funnels and jugs or containers and clean around filler cap to prevent dirt entering the system
- Most dumpers are fitted with a radiator to keep the engine cool. This is a pressurized system which pumps water around the engine keeping temperature down. Do not open a hot radiator or filler cap as the hot liquid inside will be released under pressure and could scald or burn
- If operator maintenance or servicing requires the operator to work beneath the raised skip, then the skip safety strut must be used to prevent the skip falling down and crushing the operator



Plant Stability - •

Travelling or Operating the machine affects the stability. Overloading the machine, travelling across slopes, carrying uneven loads, turning at speed, poor tyre pressure, too close to excavations can all lead to instability and possible overturning.

- **Centre of Gravity-** is the point of balance of a load or of the machine. The higher a load is lifted the higher the centre of gravity of the machine goes. This can affect the stability of the machine. As the load moves forward (i.e. as a Tele-handler booms out or a dumper tips the load) the centre of gravity moves forward this could cause the machine to tip up if the machine is over loaded or not operated on suitable ground.

- **Tyres-** tyre condition can affect stability. The lugs or tread on a tyre provide grip assist steering and help with braking. Worn or bald tyres can cause skidding or sliding, make it difficult to steer and are more susceptible to puncture. A damaged tyre could burst which would result in a loss of control and a possible accident

Loading the Dump Truck -

- **Position the Dump Truck where the machine driver indicates (under bucket) ensuring that it is on level ground**
- **Stop on signal of one horn blast and apply handbrake**
- **Never allow loading over cab**
- **Do not allow the machine Driver to overload the Dump Truck**
- **Stay inside the cab during loading**
- **Excavator Loading**
- **Do not overload.**



What You Need To Know About The Load -

- The weight of the material to prevent overloading
- Is the material contaminated- ensuring you wear correct PPE
- Type of material- ensuring you tip onto the correct stockpile
- Is it liquid- might slosh around when moving and affect stability
- Is it sharp edged- spillage might cause tyre damage
- Loose or dusty might require eye protection or respiratory protection

Travelling with a Load -

- Check all around the dumper is clear before mounting
- Mount the dumper and fit seat belt (**Seat belt** will secure operator to the seat and reduce potential injury in the event of overturning)
- Start the Dump truck
- Engage gear
- Sound horn to warn others in area
- Look all around to ensure its clear then release handbrake and move off
- Travel at a speed suitable for the load and the conditions
- Never overload the dumper **Overloading** can affect your vision, cause spillage, tyre damage, and put strain on the dumpers hydraulic when tipping, and cause structural damage

Operating on a Slope -

- **Avoid driving across a slope as there is an increased risk of overturning**

- **Avoid tipping downhill- the centre of gravity moves forward as tipping begins and this could cause the dumper to tip**

Discharging the Load into a Trench-

- Make sure tipping area is firm and level.
- Always use a stop block or bund. **Stop Blocks** – provide a physical barrier to help prevent the dumper rolling into the trench when tipping. They also help the operator to see where the edge of the excavation is



- Use a banks man if available.
- Use low gear when reversing to tip point
- Handbrake on and out of gear
- Ensure there is no one in the trench
- Ensure any services are propped and secure
- Ensure the side of the trench can support the dumper
- Ensure it is the correct material
- Raise body to full extent.
- Pull forwards till load clear of body.
- Handbrake / Neutral.
- Lower body fully before pulling away.

Tipping over an edge



- Ensure a bund is in place to prevent running over edge.
- Reverse to bund slowly.
- Handbrake / Neutral.
- Raise body fully.
- Pull forward until load clear.
- Lower body.

Tipping With a Tailgate -



- When fitted with tailgate tip the same but be aware that certain loads can foul tailgate-causing instability (l a r g e rock or tree stumps etc.) •

Parking The Dump truck -

- Park on level ground
- Do not block entrances or exits
- Do not park on soft or wet ground
- Do not block pedestrian routes
- Do not leave on stockpiles or close to trenches
- Handbrake on and out of gear
- Allow engine to idle for 1-2 minutes before switching off to allow turbo to slow down.
- Failure to do this could damage the turbo
- Remove key and isolate to prevent unauthorized use

Travelling the Machine on the Public Highway

- Machine must be clean
- Taxed and insured
- Tyres, brakes and lights meeting road legal standards
- Number plate
- Operator must hold the correct Full UK Driving license category B, and be over 18 for dumpers up to 7.5 t and be over 21 for dumpers over 7.5 t

Transporting the Machine -

- The transporter driver is responsible for the loading operations
- A level area with sufficient room to manoeuvre should be selected
- No overhead obstructions
- The machine should be clean
- The transporter should be suitable and in good condition
- The ramps should be adjusted to suit the machine

- The operator's manual should be consulted to find the loading procedures
- A banks man should be used
- The area should be free of people and other plant