



# **PLANT OPERATORS**

## **SAFETY**

## **AWARENESS**

## **TRAINING**

### **Instructors Notes**

**12. Safe Use of Rough Terrain  
Forklift/Telescopic Handlers**

## **12. SAFE USE OF ROUGH TERRAIN FORKLIFTS/TELESCOPIC HANDLERS**

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**OBJECTIVES** - At the end of the training module.

The trainee should be able to:

1. State the procedures, action and precautions to be taken for the safe use of Rough Terrain Forklifts/Telescopic Handlers on construction sites
2. Recognise unsafe practices.

### **Legislation**

1. Health and Safety at Work Act 1974.
2. The Construction (Lifting Operations) Regulations 1961.
3. The Construction (General Provisions) Regulations 1961.
4. The Construction (Working Places) Regulations 1961.

### **References**

1. HS (G) Lift Trucks (Safety in Working with Lift Trucks) HSE 1979.
2. NFBTE Booklet: Safe Use of Rough Terrain Forklifts on Construction Sites.
3. Plant Operators Safety Awareness - Study Notes, Module 12 - Safe Use of Rough Terrain Forklifts/Telescopic Handlers.

## **INTRODUCTION**

### **Accidents with Lift Trucks**

Forklift trucks are very useful for moving new materials and goods in many industries, but they also feature prominently in work site accidents

Between 1986 and 1991, 112 people were killed in accidents involving lift trucks, and *of the estimated 20,000* reportable injuries occurring each year in transport at work, *about one third* involve lift trucks

### **Rough Terrain Forklifts**

Special skills are needed to operate rough terrain forklifts correctly

Requires greater skill than the conventional factory truck because of:

Wider variety of materials handled

Ground over which transported

### **Types of Load**

Largest quantities of materials handled are:

- Bricks and Blocks

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Other material handled includes:

Tiles  
 Timber  
 Joinery  
 Doors  
 Roof Trusses  
 Scaffolding Tubes

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Packaged Loads i.e.

Banded, palletised, shrinkwrapped, can be handled easily

More problems in handling unstrapped or loose materials, which require special consideration

In addition the weight of some materials e.g. bricks and blocks, can vary considerably if they have been exposed to rain for long periods

### Site Conditions

Best possible should always be provided

Achieved by good planning e.g. Sewers, main services, roads completed before work starts on building foundations

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Site can be levelled so creating best conditions of forklift movement

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Completed site roads can be used by machine, thus keeping travel on uneven terrain to minimum

### Travel on Uneven Terrain/Gradients

Drivers of FLT's must be fully aware of hazards and safe methods of travel with particular loads - to achieve maximum stability at all times.

- Position of forks approximately 300 mm above ground level. Tilted backwards so that load is seated against heel of forks
- Potholes, trenches and other excavation where backfilled, should be *consolidated*
- Open excavations clearly marked - where machine used in conjunction with excavation (e.g. fitted with loader bucket attachment) stop blocks must be used
- Access ways should be sufficiently wide to ensure safe passage for machine and load
- Travel speed should suit conditions to limit possibility of load movement when braking and turning
- If operators view restricted - guidance given by a signaller

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### Travel on Steep Gradients

If the machine is **loaded** the operator should *always drive forward* when *travelling up* steep gradients (i.e. load leading), and *drive in reverse* when *travelling down* (i.e. load trailing)

If the machine is *unloaded* always *drive in reverse up a gradient with counterweights leading*, and *drive forward when travelling down with the counterweight trailing*

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### Off Loading Lorries

All material used on a construction site arrives on some form of road transport. It is important that a firm level area is designated as the unloading point. This area should be quite separate from the materials storage area, with sufficient space to allow forklift access to both sides of lorry, for unloading.

A *signaller*, usually the lorry driver, should guide the forklift operator in the unloading, with particular attention to:

- Sequence of unloading - for example the vehicle would be dangerously out of balance if all the material were to be removed from one side of platform
- The instability of loads, e.g. cylindrical items, become insecure when chains/ropes are removed
- Avoid fouling adjacent loads, e.g. with fork tips protruding past the load being removed.
- Where lorries need to be loaded and off loaded "off site" and there is a possible risk to public or other road users, then warning cones, barriers etc., should be erected to prevent access
- Ensuring the load is secure on the forks before lifting it clear of the vehicle: raising the load clear of the vehicle platform, reversing away from the vehicle, lowering the load to a safe distance above ground level before transporting it to the storage area.

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### Storage of Materials

Safe and efficient handling of materials by the rough terrain fork lift demands proper storage methods and areas.

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Storage areas should preferably utilise ground areas of permanent construction. At the very least the surface should be made all weather, with hard core or other similar material

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Many of the items for storage are capable of multi stacking, saving valuable space; where multi stacking is intended it is essential that the area is as level as possible, and capable of supporting the intended loads in all weathers.

Points to bear in mind:

- A load must be able to support the load/s above it
- The height of the stack should not exceed 3 times the base dimension of the load
- Load separators, suitably placed, should be used as required
- Chocks or restraints should be provided for cylindrical materials

### Handling Awkward Loads

Loads of irregular shape, for scaffold tubes, roof trusses, timber, etc. demand extra precautions in their handling and movement by forklifts:

- They must be lifted and positioned on the forks at their centres of gravity

If this is not readily apparent, trial loading should be carried out until the point of balance is verified

- The items should be tied together to form an integral load
- The load should be positioned against the heel of the forks, and tightly secured in place
- A signaller should be employed as needed to ensure that the load remains stable throughout the transit

### Overhead Cables

On construction sites where overhead cables are located (or where they are likely to be installed) the clearance margin requirements of the Electricity Generating Board, and the appropriate Statutory requirements (e.g. Goal posts) *must* be observed at all times.

### Loading-Out Towers

Are used principally to accommodate loads which are heavier than the permissible loading acceptable by scaffolds.

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### Loading Out Towers (cont'd)

They are erected adjacent, *but not fixed* to a normal scaffold. If free standing it is *essential* that they are erected on a solid base.

To avoid risk of unintentional overloading they should have a notice displayed in a prominent position stating the maximum permitted weight and load distribution. (These towers are often tied into the building or structure independently of the scaffolding)

Care should be taken to ensure that:

- The area round the foot of the tower is level, compacted
- Clear and uncluttered so that unloading operations can be carried out in safety
- Guard-rails and toe boards are fitted. (These may be removed for loading purposes, provided they are replaced immediately after the loads are placed on the towers)

### Machine Operators

Whatever system of maintenance is employed on individual construction sites, the operator is responsible for ensuring that the forklift truck is in a *safe condition for work*:

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This will include checking such items as:

- Tyre condition and pressures
- Brakes and steering
- Lights, mirrors and windows
- Audible warning signal
- Fuel ,water and oil for levels and leaks
- Batteries charged and free from leaks
- Operation of hydraulic systems and check for leaks

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*In addition* to ensuring the machine is in a safe condition for work, the operator must take the following personal precautions:

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- Wear the appropriate item of clothing and equipment for personal protect e.g. safety helmet, ear defenders. (The wearing of safety footwear is advised)
- Drive/operate at a safe speed consistent with the site conditions
- Be alert to presence of site personnel, the general public and other vehicles/machines
- Take particular care when starting and moving off from parked position
- Ensure the forklift is made safe before leaving the machine unattended:
  - Engine stopped and starter system isolated
  - Gears disengaged
  - Brakes applied
  - On level ground
  - Forks tilted forwards and resting on the ground. (Telescopic handler boom fully retracted).
- Never carry passengers

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- Climb in and out of the machine using steps and hand holds provided
- Be aware of potential site hazards *before* operating the machine
- Never allow unauthorised persons to use the machine
- Never operate the machine controls from outside the cab
- Always use the recommended locking devices
- Employ good working practices and procedures, as follows:
  - *Never* attempt to lift loads beyond the rated capacity of the forklift
  - With a centre pivot chassis *never* raise a load unless the machine is positioned with wheels in line.
  - *Never* raise a load while travelling.
  - *Never* raise the load while machine is standing on uneven ground.
  - Always lift the load with the forks (carriage) slightly tilted back.
  - Ensure that the forks are correctly spaced for the load.
  - Ensure that the forks are completely under the load and that the load is well heeled.
  - Travel with the load at the lowest possible level and the forks (carriage) tilted back.
  - Avoid sudden stops and turns by driving with care
  - Ensure attendant labour *never* stands under an elevated load.
  - Travel the Telescopic Handler with boom fully retracted, except at creep speeds.
  - Always ensure the load is stable and secure, that no loose items can fall from the load.
  - Where a signaller is necessary to ensure safe movement, ensure compliance with the recognised signals.

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