



NEBOSH National Diploma in Occupational Health & Safety

UNIT NDC

WORKPLACE AND WORK EQUIPMENT SAFETY

ELEMENT C7: WORK EQUIPMENT (MOBILE, LIFTING AND ACCESS)

SAMPLE MATERIAL

(Material correct Autumn 2013)



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Mobile Work Equipment: Hazards and Control Measures

Key Information

- Mobile work equipment is any work equipment which carries out work while it is travelling or which travels between different locations where it is used to carry out work.
- It can be self-propelled, towed, attached, pedestrian-controlled or remotely-controlled.
- A common type of mobile work equipment is the lift truck. Types of lift trucks include counter-balance, reach, rough terrain, telescopic materials handlers, side loading trucks and pedestrian controlled trucks.
- Lift truck hazards are associated with:
 - The truck.
 - The operator.
 - The operation.
- To ensure the safety of mobile work equipment the following issues need to be addressed:
 - Rollover.
 - Overturning.
 - Suitability for carrying passengers.
 - Unauthorised start-up.
 - Safe operating station/platform.
 - Overrun of speed.
 - Contact with wheels and tracks.
 - Falls of objects.
 - Moving parts/drive shafts/power take-offs.
 - Over-heating.
- The hazards associated with the energising of mobile work equipment may be electrical in connection with battery charging, fire and explosion from LPG and exhaust fumes and hot surfaces from diesel engines.
- Lateral and longitudinal instability of mobile work equipment and loss of control of vehicles.
- The key control measures for the use of mobile work equipment are set out in the **Provision and Use of Work Equipment Regulations 1998** Approved Code of Practice and Guidance but also include the need for safe layout of areas where mobile equipment is used and the protection of pedestrians.
- Where lift trucks are used on working platforms specific safeguards concerning the design, construction and attachment of the platform are necessary.
- The **Provision and Use of Work Equipment Regulations 1998** Approved Code of Practice and Guidance specifies a range of control measures for the use of mobile work equipment which includes:
 - Roll-over protection.
 - Falling objects protection.
 - Speed control system.
 - Guards and barriers and restraining systems.
 - Means of fire fighting.
 - Vision aids.
- Training of lift truck operators should include:
 - Basic training.
 - Specific job training.
 - Familiarisation training.



Element C7: Work Equipment (Mobile, Lifting and Access)

Mobile Work Equipment: Hazards



Jargon Buster

Mobile work equipment

Mobile work equipment is any work equipment which carries out work while it is travelling or which travels between different locations where it is used to carry out work.

Applications of Different Types of Mobile Work Equipment

For the purposes of **PUWER** (Part III), mobile work equipment is any work equipment which carries out work while it is travelling or which travels between different locations where it is used to carry out work. Such equipment would normally be moved on wheels, tracks, rollers or skids. Mobile work equipment may be:

- **Self-Propelled**

Self-propelled mobile work equipment is work equipment which is propelled by its own motor or mechanism. The motor or mechanism may be powered by energy generated on the mobile work equipment itself, for example by an internal combustion engine, or through connection to a remote power source, such as an electric cable, electric induction or hydraulic line.

- **Towed**

Towed mobile work equipment includes work equipment such as towed machines and trailers which are primarily self-supporting or, for example, their own wheels. They may have moving parts which:

- are powered by the vehicle (e.g. power-lawnmower).
- have an integral power source (e.g. a powered crop sprayer).
- have no moving parts and function as a result of the movement of the mobile work equipment (e.g. a plough or trailer).

- **Attached**

Attachments are work equipment which may be mounted on self-propelled mobile work equipment to alter its characteristics. For example, a load rotator fitted to a fork-lift truck will alter its load-handling capabilities and may alter its safety characteristics, such as stability. Attachments are not considered to be mobile work equipment in their own right but if they can affect the safety of the self-propelled mobile work equipment when they are attached, they are considered to be part of the self-propelled work equipment. Attachments may be non-powered, powered by an independent power source

or powered by the self-propelled work equipment to which they are attached.

- **Pedestrian-Controlled**

Pedestrian-controlled work equipment, such as a lawnmower, is not likely to be covered by the Regulations in Part III of **PUWER**, irrespective of whether some functions are powered or not.



Pedestrian Controlled Lifting Equipment

- **Remotely-Controlled**

For the purposes of **PUWER**, remote-controlled mobile work equipment is operated by controls which are not physically connected to it such as radio control.

Types of Lift Truck

The transport of materials is an essential feature of many workplace operations and the lift truck provides industry with a versatile materials handling vehicle. In addition to the traditional use of trucks to lift, move and re-stack palletised loads, trucks may be fitted with a variety of attachments including drum-handling equipment, bale clamps, working platforms, skips, fork extensions and lighting appliances, all of which increase the versatility of the vehicle.

The following are the most commonly used types of lift truck:

- **Counterbalance**

The mass of a counterbalanced lift truck acts as a counterweight so that the load can be lifted and moved without the truck tipping. However, the truck can be tipped over if overloaded, if the load is incorrectly placed on the forks, or if the truck is travelling across an incline or an uneven surface. Instability is increased if the truck travels with the forks raised rather than lowered.



Counterbalance LPG Powered Lift Truck

- **Reach**

When the forks are extended, the reach truck behaves in a similar manner to the counterbalance truck. It is less likely to tip over when the forks are in, as the load is within the wheelbase of the truck, which increases stability. When the load is elevated and the mast tilted back there is a significant risk of overturning. This risk increases if the load is high and the truck is operating on an uneven surface.

- **Rough Terrain**

These are designed to operate on uneven surfaces such as those encountered on construction sites. However, care is needed on rough ground as bouncing can cause loss of control. The trucks should not be used for lifting to high levels unless the ground is reasonably level and consolidated and the truck is clear of excavations and walls. Unless specially designed, they should not be used for stacking on inclines.

- **Telescopic Materials Handlers**

These trucks operate up to a height of 20 metres. They work in narrow aisles, but can also move outside the aisles. They must operate on high grades of flooring because of the lift height. Some have the operator at ground level, others have a rising cab. They can access the stacks on either side of the aisle by using a mast which turns to left or right (multi-directional).

- **Side Loading Trucks**

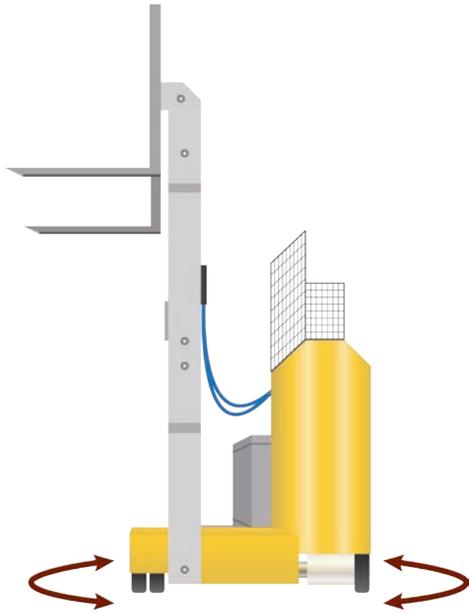
This is a form of forklift truck commonly found in timber yards. It is a type of reach truck used to carry long lengths of timber.

- **Pedestrian Controlled Trucks**

These are operated by a pedestrian via a control handle. Operators should always face the direction of travel and not walk backwards nor directly in front of the control handle, which should act as a 'dead man' handle' upon release by the pedestrian in the event of an emergency.



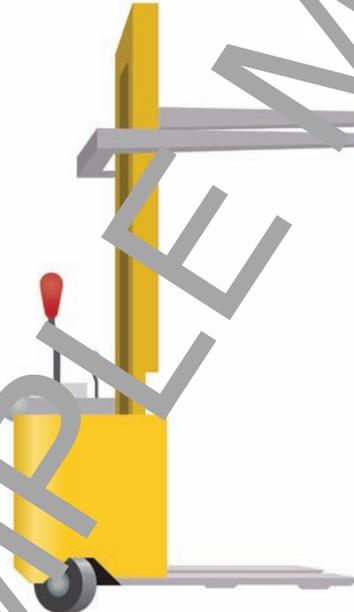
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Four-directional truck



Pedestrian counterbalanced truck



Pedestrian pallet stacker



Reach truck



Side loading truck

Types of Lift Truck

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Agricultural Tractors

Agricultural tractors are used for pulling machinery or trailers for activities such as ploughing, tilling, discing, harrowing, planting, and similar tasks.

Works Vehicles

Works vehicles include any vehicles that are used in a work setting such as forklift trucks, compact dumpers, tractors or mobile cranes. They can also include cars, vans and large goods vehicles when these are operating off the public highway.



Works Vehicle

Hazards Associated with Mobile Work Equipment

There are a range of general hazards associated with mobile work equipment but it is useful to start with a common workplace example – the lift truck, which provides some specific examples of workplace concerns.

Lift truck hazards are associated with the:

- **Truck**

For electrically operated trucks, there is the danger of production of hydrogen gas whilst charging the batteries, as well as the manual handling implications of changing them. For gas (LPG) operated lift trucks, there is a fire and explosion risk, particularly during the changing of cylinders. Hazards arise from poor maintenance of brakes, steering, tyres, lights, etc., and emission of substances whilst being used, i.e. exhaust gases.

- **Operator**

Driving too fast and cornering at speed can cause the vehicle to overturn or lose its load.

- **Operation**

Lift trucks are often used in areas where there is a possibility of pedestrian movement. Impact with people as well as with structures such as walls and racking is a constant hazard. Overloading of lift trucks can lead to loss of control in steering and braking, and unevenly or improperly loaded lift trucks can become unstable. Driving over unsuitable ground can cause the load to shift or fall off.

Mobile work equipment in general, presents the following range of hazards:

- **Rollover**

Under certain conditions there may be a risk of rollover of mobile work equipment whilst it is travelling, e.g. a moving dumper truck on a construction site or an agricultural tractor manoeuvring on a slope. This can involve rollover onto its side or end (i.e. through 90 degrees) or turn over completely (i.e. through 180 degrees or more). The risk will depend on:

- The nature of the mobile work equipment and any attachments or accessories fitted to it.
- The effects of any work being carried out on or by the mobile work equipment.
- The conditions in which it is used.

Other factors include:

- Uneven surfaces.
- Variable or slippery ground conditions.
- Excessive gradients.
- Inappropriate speeds.
- Incorrect tyre pressures.
- Sudden changes in direction.
- Inertia transmitted to the mobile work equipment by attachments used with it.

Measures that can be taken to stabilise mobile work equipment and reduce the risk of roll-over include:

- Fitting appropriate counterbalance weights.
- Increasing its track width by fitting additional or wider wheels.
- Locking moveable parts which could otherwise create instability by moving around when the mobile work equipment is travelling.

- **Overtipping**

The vertical mast of a fork-lift truck (FLT) will prevent an FLT overturning by more than 90 degrees, provided it has sufficient strength and dimensions for this purpose. It will also protect seated operators from being crushed between the FLT and the ground in the event of rollover. However if risk assessment shows that an FLT with a seated ride-on operator can rollover in use and there is a risk of the operator leaving the operating position and being crushed between the FLT and the ground, a restraining system, such as a seat belt, will be required. To be



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effective, the restraining system should prevent operators or others carried from falling out or being trapped by the FLT or its protective structure in the event of rollover.



Topic Focus

The factors affecting the likelihood of an agricultural tractor overturning:

- Gradient.
- Direction of travel.
- Uneven or soft ground.
- Stability of attachments.
- Wheel width.
- Tyre pressure or condition.
- Speed on cornering.
- Seizure of power take-off shaft.

- **Suitability For Carrying Passengers**

Mobile work equipment can present a hazard to persons being carried and therefore should be designed to prevent people falling from it and to allow them to stabilise themselves while it is travelling. Operator positions with seats or work platforms will usually provide a secure place where drivers and other people can travel on.

Seats provide security for:

- Drivers who need to be seated when operating mobile work equipment (e.g. the seat on a site dumper).
- People who need to be seated while being transported by the mobile work equipment (e.g. bench seats in mine locomotive man-riding carriages).
- People who are involved in on-board work activities which are best carried out in a seated position.

Properly designed and constructed cabs, operators' stations and work platforms can prevent people from falling from mobile work equipment when it is travelling. They should be provided with suitable side, front and rear barriers or guard rails, and can be fully enclosed or may be open to the environment.

Under exceptional circumstances, mobile work equipment not specifically designed for this purpose will be used to carry people, e.g. trailers used to carry farm workers during harvest time. Under these circumstances the mobile work equipment must have features to prevent people falling from it and to allow them to stabilise themselves while it is travelling, e.g.

sides of appropriate height, secure hand-holds and means to safely mount and dismount.

- **Unauthorised Start-Up**

Mobile work equipment can be prone to operation by unauthorised or trained persons. This can be prevented by ensuring that the starter key or device is issued or made accessible only to authorised people. This means that access to starter keys and starting devices, such as removable dumper starting handles, should be controlled.



Keys should be Controlled

- **Overrun of Speed**

If mobile work equipment suddenly speeds up, sudden movements could put the people being carried at risk. If speed is not controlled, mobile work equipment may become unstable, particularly on cornering or on gradients across which it needs to travel.

If work needs to be carried out during the journey then speeds should be adjusted or limited, as necessary. When carrying people, mobile work equipment should be driven within safe speed limits to minimise any risk to persons being carried.

- **Contact with Wheels and Tracks, and Falling Objects**

Operators and other workers travelling on mobile work equipment may be at risk from the wheels or tracks of the equipment, falling out of the equipment and from unexpected movement while it is in motion or stopping.

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Mobile work Equipment on Tracks

There may also be risks associated with the environment and the place in which the mobile work equipment is used such as falling objects, low roofs and the surfaces on which it operates.

- **Moving Parts/Drive Shafts/Power Take-Offs**

The power output of mobile work equipment may be sufficient to cause damage to the connected work equipment which could lead to risk, e.g. seizure of the drive shaft could cause the ejection of parts.

Jargon Buster

Drive shaft

A drive shaft is a device which conveys the power from the mobile work equipment to any work equipment connected to it. In agriculture these devices are known as power take-off shafts.

Seizure

Seizure refers to stalling of the drive shaft as a result of the operating mechanism of any accessory or anything connected to it becoming incapable of movement due to blockage or some other reason.

Regulation 30 of **PUWER** (Drive shafts) states that:

*Where the **seizure** of the **drive shaft** between mobile work equipment and its accessories or anything towed is likely to involve a risk to safety every employer shall –*

(a) ensure that the work equipment has a means of preventing such seizure; or

(b) where such seizure cannot be avoided, take every possible measure to avoid an adverse effect on the safety of an employee.

Control measures should be taken, such as:

- Slip clutches on the power input connection of the connected work equipment to protect it from damage.
- Guards to protect people from ejection risks in the event of equipment break-up.

- **Safe Operating Station/Platform**

We have already noted the risks associated with people falling from mobile work equipment, falling objects and contact with wheels or tracks. Consequently it is important to provide a safe operating station or platform on which the drivers and other people can travel.

- **Over-Heating**

Regulation 12 of **PUWER** (Protection against specified hazards) specifically refers to the risk of work equipment catching fire or overheating and this is a hazard of mobile work equipment also. Overheating or fire due to friction from bearings running hot, electric motors burning out, thermostats failing, or cooling system failures are all risks that might arise during the use of mobile work equipment and we will note later that there is a specific requirement to provide fire-fighting appliances such as appropriate extinguishers and fire blankets on the equipment.

Energising of Mobile Work Equipment - Hazards

For **electrically** operated mobile work equipment there is the danger of production of hydrogen gas whilst charging the batteries, as well as the manual handling implications of changing them.

For gas (**LPG**) operated mobile work equipment, there is a fire and explosion risk, particularly during the changing of cylinders.

For **diesel** operated mobile work equipment there is the risk of inhalation of exhaust gases, particularly carbon monoxide, which can accumulate inside closed and inadequately ventilated structures. Hot surfaces on the diesel engine can also constitute a source of ignition if operated in flammable atmospheres.

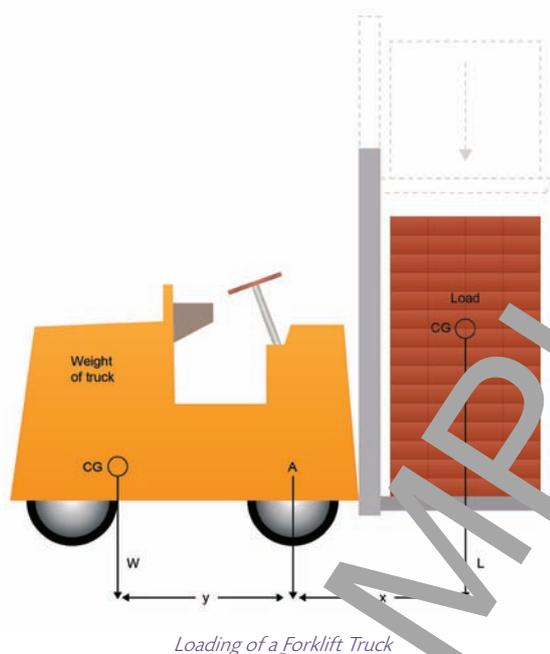


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Lateral and Longitudinal Instability and Loss of Control of Vehicles

Instability is one of the major problems involved in the safe use of vehicles. There are three main ways in which a vehicle may become unstable:

- **Longitudinal instability** is where a vehicle tips over the front or the back. An example is when a tractor's front wheels lift due to the weight applied by an attached trailer.
- **Lateral instability** is where a vehicle will tip over onto its side. An example is when a lorry is blown over in a high wind or a loaded forklift tips while driving across a slope.
- **Loss of control** occurs when the wheels lose grip on a road surface. Examples include skidding on an icy road. Note that loss of control does not require the vehicle to overturn.

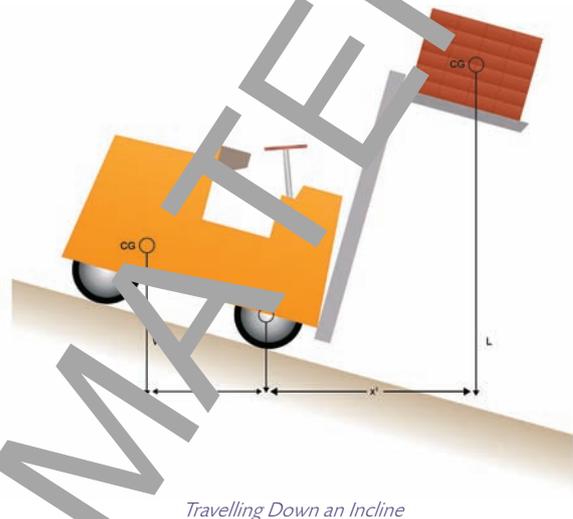


Longitudinal Instability

The figure shows the loading on a forklift truck. The weight of the truck is " W " and is effective through a point on the forklift called the "centre of gravity" (CG). It is at a distance " y " from the front wheels, so the effective force applied by the weight of the forklift anti-clockwise around the front wheels is " $W.y$ ". The load also produces a force around the front wheels, but this time clockwise one of " $L.x$ ". The anti-clockwise force keeps the rear wheels on the ground and the clockwise force tries to lift the rear wheels. So for the forklift to remain stable " $W.y$ " must exceed " $L.x$ ". When the load increases, i.e. L increases, then the clockwise force increases. If this becomes greater than " $W.y$ " then the forklift will turn clockwise, the rear wheels will lift and the forklift will overturn forwards until such time as it is stopped by the load falling off or the front coming

into contact with the ground (one of the reasons for keeping the forks low).

When travelling down an incline the weight of the forklift, " W " and the weight of the load " L " will remain vertical (pulled towards the centre of the earth) as shown in the figure that follows.



In this case the distance from the front wheel to the centre of gravity " y " is slightly reduced, reducing the force which will produce stability. The distance " x " has increased, due to the slope. The load is shown elevated to demonstrate the effect of raising the load (consider its distance with the load at the bottom). The overturning clockwise force is therefore increased and the stabilising moment is decreased. So a forklift may be stable when moving a load on the level but the effect of the slope is to cause the forklift to overturn.

Lateral Instability

The effect of the raised load when moving across a slope is shown in the following figure. In this case, overturning will occur when the load, acting outside of the lower wheel as shown, creates a moment greater than that created by the weight of the forklift.



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A similar effect to that of a slope may be created in the workplace if the ground over which the forklift is moving is uneven or potholed. This causes the front wheel to 'dip' giving the effect of a slope. (Note that the forklift is the most critical of vehicles, as the small solid wheels at the front have no suspension to help alleviate the problem.)

Not all vehicle movements are either straight up or down or straight across a slope. Consideration must be given to the problems when moving at some angle to a slope. One of the most common forms of transport across slopes is a tractor in agricultural use. (Tractors have small wheels at the front and large wheels at the rear, with the centre of gravity acting closer to the rear wheels.)

Loss of Control

Forces acting downwards are the weight of the vehicle and the weight of any load carried. This increases the resistance of the vehicle to skidding as it increases the force on the road-wheel interface, effectively increasing friction, which acts to keep the vehicle from moving outwards.

Forces acting outward include any horizontal loading, such as pressure against the vehicle from wind and the centrifugal effect when going round a corner. (This has the effect of 'pushing' the vehicle outwards.) Also to be taken into account is the forward motion of the vehicle, and conversely the braking effect, in the direction of travel.

For control to be lost, there must be an imbalance of forces at the road-wheel interface. If the forces are balanced positively, i.e. if the frictional forces are greater than those forces acting on the vehicle, there is no loss of control will occur. When the forces become negative, friction will not hold the vehicle and there is a loss of control.

The balance can change quickly. For example, when a tyre comes into contact with oil on the road, the friction reduces as the oil acts as a lubricant. This loss of friction causes the forces to change balance and the car skids, a loss of control situation.

Mobile Work Equipment: Control Measures

The key control measures for the use of mobile work equipment are set out in the **PUWER** Approved Code of Practice and Guidance and considered later in this section.

As well as these issues which relate to the equipment itself we also need to consider the safe layout of areas where mobile equipment is used and also the protection of pedestrians. Control measures include:

Use of one-way systems.

- Installing signs and signals.
- Clearly designating pedestrian routes.
- Routes of adequate width.
- Setting up barriers, pedestrian crossings and 'give way' markings.
- Placing mirrors in low visibility locations.
- Ensuring adequate, glare-free lighting in pedestrian areas.
- Enforcing speed limits.
- Banning mobile phones and personal stereos for pedestrians to avoid unnecessary distractions.

Use of Lift Trucks to Move People

Certain lift trucks, such as counterbalance and reach trucks, are sometimes used to lift people on a working platform which itself is incapable of movement independent of the truck. The platforms are used to provide temporary places of work. Some platforms are used to transfer materials or people from one level to another. Other platforms, known as jib or boom type working platforms, are mounted either on the forks or on the carriage on which the forks traverse. They have jibs which can be independently moved, extended telescopically or rotated.

The use of a lift truck as a working platform can provide a safer means of access to heights than, for example, a ladder. However, if a truck is to be used as a working platform for approximately 25% of its working life, it is recommended that a specifically designed mobile platform or similar is used in preference, where this is practicable.

Where lift trucks are used as working platforms, the following safeguards are necessary:

- The platform should be made of suitable material, soundly constructed, of adequate strength and properly maintained. It should be securely attached to the lift truck.
- The weight of the platform plus its load must not exceed one-half the capacity of the truck. The platform should be marked with means of identification and the maximum allowable load.
- The dimensions of the platform should be as small as possible but still compatible with the number of people it is designed to carry. No more than two passengers should be carried.
- Platform edges should be guarded by a top rail which is 900-1,100mm from the platform floor and by toeboards which are at least 100mm deep. An intermediate rail should be fixed midway between the top rail and toeboards. Total enclosure of the gap to the top rail may be achieved by wire mesh.



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- Any gateway in the enclosure should automatically return to the closed and fastened position.
- The floor of the platform should be even and non-slip.
- All trapping, crushing or shearing points must be guarded. Where overhead hazards, such as roof trusses, exist, protection is necessary to prevent potential crushing injuries to passengers.
- The platform should be painted a conspicuous colour and display a notice, visible to the truck driver, which states that the parking brake should be on and the transmission in neutral before the platform is elevated.
- Before a truck is used for the first time as a working platform, the manufacturer or supplier should be requested to confirm whether the truck is suitable for such use.
- It is preferable that the raising and lowering of the platform is controlled by the person on the platform. The controls should be of the 'dead man's handle' type. Emergency control may be appropriate at ground level.

During use, the following precautions are necessary:

- Warning cones or signs should be located around the truck.
- People should not lean out of the truck.
- All people involved in the operation must be trained.
- Trucks should only be used on firm, level surface.
- Where controls are at ground level, the driver must stay in attendance for the duration of the operation.

Other Attachments Used on Lift Trucks

A variety of types of material handling attachments are available for lift trucks. Some examples are given below:

- **Sideshifter** - allows the operator to move the forks and backrest laterally. This allows easy placement of a load without having to reposition the truck.
- **Rotator** - allows the forks to be rotated.
- **Fork positioner** - allows the forks to move together or apart.
- **Roll and barrel clamp attachment** - squeezes the item to be moved and is used for handling barrels, kegs, or paper rolls.
- **Pole attachment** - used instead of forks to lift carpet rolls.
- **Drum handler attachment** - a spring loaded jaw that grips the top lip edge of a drum for transport.
- **Person basket** - a lift platform that slides onto the forks for hoisting workers.



Clamp Attachment on a Lift Truck

Importance of Operator Protection, etc.

The **POWER** Approved Code of Practice and Guidance specifies a range of control measures for the use of mobile work equipment which includes:

- **Falling Objects Protection**

People carried on mobile work equipment are at risk of injury from objects falling on them while it is in use, a falling object protective structure (FOPS) should be provided. This may be achieved by a suitably strong safety cab or protective cage which provides adequate protection in the working environment in which the mobile equipment is used

- **Speed Control Systems (Stopping and Emergency Braking)**

All self-propelled mobile work equipment should have brakes to enable it to slow down, stop in a safe distance, park safely and be operated safely on the gradients on which it will be used. Where there are significant risks associated with failure of the main braking device, a secondary braking system is required. The secondary braking system may operate automatically through spring applied brakes or through a dual circuit system on the service brakes. It may also be operated through the parking brake system or other controls which are easily accessible to the driver.

- **Guards and Barriers**

If there is a risk of contact with the wheels or tracks of mobile equipment when it is travelling, there should be means to separate persons from those wheels or tracks. This can be achieved by either positioning cabs, operator stations or work platforms to prevent the wheels and tracks being reached, or providing suitable barriers, such as guard rails or fenders.



Contact with the Wheels of Mobile Equipment!

- **Restraining Systems**

If there is a risk of persons being injured through contact with mobile work equipment or being flung from it if it comes to a sudden stop or moves unexpectedly, there may be a need for a restraining system. This depends on the risks to workers operating and riding on the mobile work equipment and the practicability of fitting and using such restraints. Restraining systems can be full-body seat belts, lap belts or purpose-designed restraining systems. The need for protection against risks for rolling over and overturning may also need to be taken into account.

- **Means of Fire Fighting**

In the event of fire in self-propelled work equipment or any load handled by it, it might not be easy for operators to escape. In those circumstances, fire-fighting appliances such as appropriate extinguishers and fire blankets should be carried on the equipment. For self-propelled work equipment that is used on the public highways carrying a dangerous load, it may be necessary to carry suitable fire extinguishers.

- **Vision Aids**

When mobile work equipment is about to move, or while it is travelling on the way, the driver's direct field of vision may be inadequate to ensure safety. Under those circumstances, visibility aids should be provided so that operators can see anyone who may be at risk when any control is operated. If direct vision is impaired, then mirrors, or more sophisticated visual or sensing facilities such as closed-circuit television (CCTV) may be necessary.

Examples of devices which can aid the driver's vision include:

- Plane, angled and curved mirrors.
- Fresnel lenses (used as magnifiers when a thin, light lens is needed).
- CCTV systems.

The risk assessment for the mobile work equipment should aid selection of these devices by considering the best way to improve driver visibility.

Requirements for the Training of Lift Truck Operators

Operator training should include three stages:

- **Basic Training**

This includes the basic skills and knowledge required for safe operation of the type of lift truck and attachments which the driver will use. This should be training off-the-job.

- **Specific Job Training**

This should cover knowledge of the workplace, any special requirements of the work to be undertaken and the use of specific attachments. Again it should be training off-the-job and is often combined or integrated with basic training. The training should include controls of the lift truck to be used; routine inspection of the truck, which should be carried out by the operator; use of the truck in various locations such as gangways, loading bays, slopes, rough terrain; problems of working in poor weather; site rules such as one-way systems, speed limits, work near overhead lines, excavations; work to be undertaken such as loading particular vehicles and using working platforms on forks.

- **Familiarisation Training**

This is training on-the-job where the driver operates the truck using the skills learned, under close supervision and under normal working conditions.



Lift Truck Training



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More..

Further information and guidance on lift trucks can be obtained from the following HSE publications:

INDG457 Use lift trucks safely: Advice for operators, which covers operating, people, loads and slopes and is available at:

<http://www.hse.gov.uk/pubns/indg457.pdf>.

L117 Reach operated lift trucks: Operator training and safe use: Approved Code of Practice and guidance, which includes information on legal requirements, operator training, lift-truck features, safe use, how to protect pedestrians and guidance on maintenance and thorough examination and is available at:

<http://www.hse.gov.uk/pubns/priced/l117.pdf>.

INDG462 Lift-truck training: Advice for employers, which explains who should be trained, who to consult, training content, authorisation and assessment, refresher and conversion training, record keeping and how to choose an instructor and is available at:

<http://www.hse.gov.uk/pubns/indg462.pdf>.



Revision Questions

1. Identify the three main headings under which forklift truck hazards are placed. Give two examples for each.
2. Explain what is meant by 'lateral instability'.
3. List five factors that may affect forklift truck stability.
4. What precautions should be taken when a lift truck is being used as a working platform?

(Suggested Answers are at the end of Unit C.)