Work at Height Whilst Loading and Unloading Transport

CPA Best Practice Guide

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Working in Partnership

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1.0 Introduction

Every year around 2000 injuries to people falling from vehicles are reported under RIDDOR. Working at height during the loading and unloading of transport vehicles in the construction plant industry presents a series of challenges in addition to those experienced by the general transport industry. In particular, a significant amount of loading and unloading will take place on construction sites where it is often more difficult to use the purpose made gantries and loading docks that are commonplace in the retail and commercial distribution sectors. However, wherever work at height is required during the loading and unloading of any transport vehicle it should be carried out by trained personnel, following careful planning which includes adequate assessment of the risks. This document provides guidance on the issues involved.

Health and Safety legislation requires that safe systems of work are in place for all work activities and the particular references for the requirement to provide safe access, egress and a means of safe rescue are:-

- Health and Safety at Work etc. Act 1974.
- Work at Height Regulations (WAHR) 2005.
- Provision and Use of Work Equipment Regulations (PUWER) 1998.
- The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998.
- The Construction (Design and Management) (CDM) Regulations 2007.
- The Management of Health and Safety at Work Regulations 1999.

2.0 Definitions

2.1 work at height (from the Work at Height Regulations)

"work at height" means -

(a) work in any place, including a place at or below ground level;

(b) obtaining access to or egress from such place while at work, except by a staircase in a permanent workplace,

where, if measures required by these Regulations were not taken, a person could fall a distance liable to cause personal injury

2.2 personal fall protection system

a system to be used by an individual in the workplace to prevent and/or to arrest falls from a height.

2.2.1 fall arrest system

a personal fall protection system which uses a body holding device (harness) connected to a reliable anchor to arrest and restrict a fall so as to prevent the collision of the user with the ground or structure whilst limiting the forces on the body

2.2.2 work restraint system

a personal protective system which uses a body holding device (harness) connected to a reliable anchor to prevent a person from reaching zones where the risk of a fall exists

2.2.3 work positioning system

a personal fall protection system which normally includes a body holding device (harness) connected to reliable anchor to support the user in tension or suspension in such a way that a fall is prevented or restricted

2.3 mobile elevating work platform (MEWP)

mobile machine which consists as a minimum of a work platform with controls, an extending structure and a chassis; that is intended for work at height

2.4 collective measures

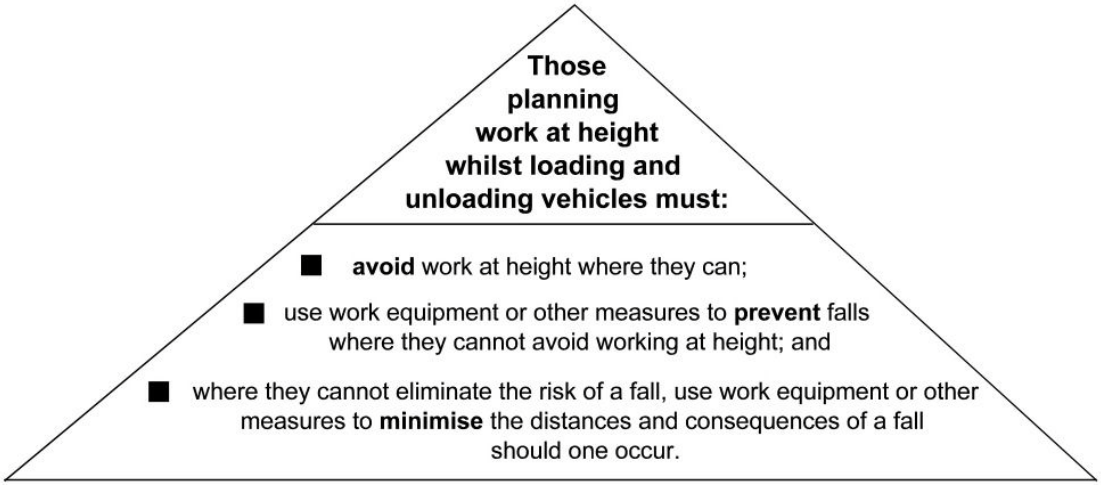
measures which collectively protect one or more people from falling (e.g. guard rails) or mitigate the effects of a fall (e.g. airbags or nets)

2.5 personal measures

measures which protect an individual from falling or mitigate the effects of a fall (e.g. personal work restraint or fall arrest systems)

3.0 Hierarchy For Work at Height

The Work at Height Regulations 2005 set out a hierarchy of fall protection measures to be taken when planning work at height



- Avoid work at height wherever possible and actively seek solutions;
- If this is not possible, use “collective” means of prevention such as guardrails;
- If this is not possible, use “personal” means of prevention such as work restraint;
- If this is not possible, use “collective means of protection such as air bags;
- If this is not possible, use a personal fall protection system such as a work positioning system or fall arrest system.
- Additionally provide training and instruction or take other measures to prevent any person falling a distance liable to cause personal injury.

As a primary aim, all tasks associated with work at height whilst loading and unloading transport should be reviewed to see if they can be fully or partially completed at ground level.

By utilising sliding lifting points running in channels attached to the sides of the container all attachment and detachment of the lifting slings can be carried out from ground level, eliminating the need to work at height

Example of Eliminating the Need for Work at Height

If it is not possible to avoid all work at height, collective or personal fall protection measures may need to be implemented. See **Section 7.0.**

NOTE: The above hierarchy is based on addressing the specific hazard of falls from height. When putting in place measures to address this hazard, other hazards such as the potential for crush injuries between a load and guard rails must also be considered.

4.0 Circumstances Requiring Work at Height

The following table summarises the main activities and locations requiring both access and work at height. .

Activity	Person Working at Height	Location
Attachment of lifting accessories to tall component prior to lifting	Slinger/Signaller	Access to parts of the component above ground level without edge protection to attach lifting accessories.
Attachment of lifting accessories to items on vehicle deck	Slinger/Signaller	Access to vehicle body and load to attach and remove lifting accessories.
Driving plant on and off carrying vehicle	Driver	Access to vehicle body and item of plant to drive plant on and off vehicle body.
Fitting and removal of load securing devices	Driver	Access to vehicle body and load to fit and remove load securing devices.
Access to brake lines etc.	Driver	Suitable access to rear or tractor unit to fit/remove airlines etc.

5.0 Responsibility for Planning of Work at Height and Provision of Rescue Resources

The primary duty for ensuring that work at height, whilst loading and unloading vehicles, is effectively planned and that there are adequate resources for carrying out rescue of persons from height, rests with the organisation in control of the premises on which the vehicle is located at any time. In the case of a construction site this will be the Principal Contractor, as defined by the *Construction (Design and Management) Regulations 2007*. The Principal Contractor has a responsibility to assess and approve the method of work, and monitor that the work is carried out in accordance with the method statement.

Location	**Responsibility for Planning Work at Height**
Construction Sites	Principal Contractor
Industrial Premises	Person in control of the site
Retail Premises	Person in control of the site
Airports, Docks and Railways	Person in control of the site
Petrochemical Plants	Person in control of the site

In practice:-

- Arrangements for work at height during loading and unloading of vehicles in a plant owner's yard will be made by the plant owner;
- As arrangements for work at height during loading and unloading of vehicles on a construction site, are the responsibility of the Principal Contractor they may well devise suitable arrangements in consultation with the plant owner;
- Where arrangements for work at height during loading and unloading of vehicles on a construction site are made by the Principal Contractor, the plant owner should carry out their own review to ensure that these arrangements are adequate.

NOTE: It is vital that there is effective communication between all parties involved.

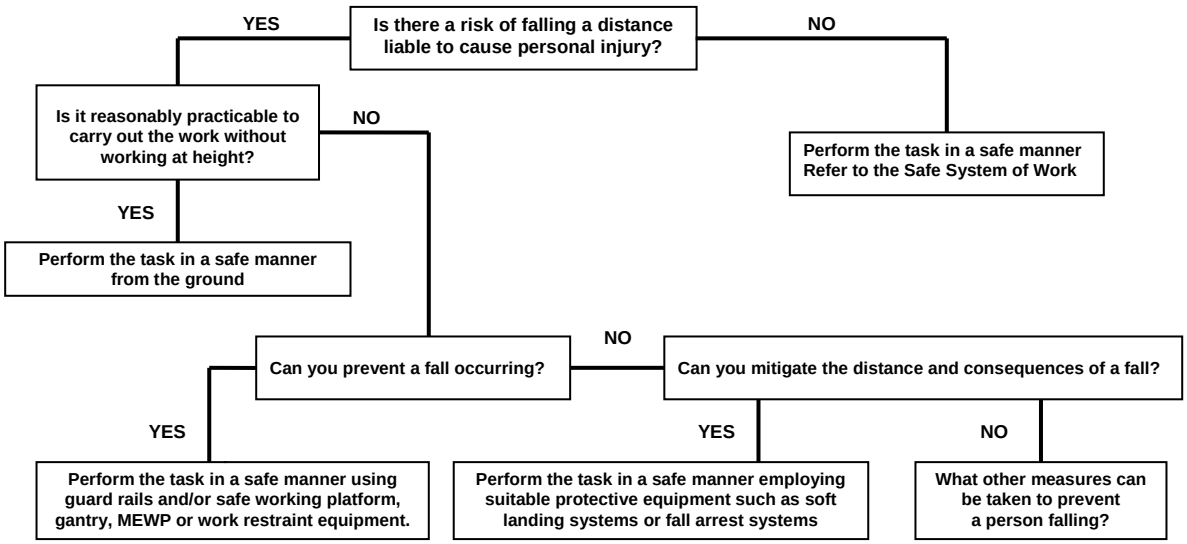
6.0 Planning

In carrying out both work at height and rescue from height, as with all activities in the workplace, employers must ensure that a safe system of work is in place. Planning is a vital part of establishing the safe system of work and will involve the following stages relating directly to work at height (See **Sections 3.0** and **4.0**):-

- Identify the task to be undertaken and by whom;
- Identify the hazards associated with the task;
- Carry out a risk assessment;
- Identify control measures;
- Select appropriate equipment;
- Develop the method to be used;
- Record the outcome of the planning in a Method Statement (See **Section 10**);
- Communicate the plan to all persons likely to be involved and affected by the work;
- Review the plan whenever circumstances change and at appropriate intervals;
- Make arrangements to monitor the tasks.

The control measures identified should include arrangements for training of personnel and the provision, inspection and maintenance of both PPE and rescue equipment. It is preferable for construction sites to install collective protection for use by all vehicles making deliveries to and collections from site, rather than relying on individual suppliers to make their own arrangements, which will inevitably be less effective.

It is important to ensure that the control measures identified do not increase the overall risk in their implementation. It may be that the risks involved in providing collective protection will outweigh the reduction of risk to the user due to the short exposure time involved in carrying out a single loading or unloading operation. If however multiple loading or unloading operations are envisaged, the increased risk of falls from height due to longer exposure periods may well justify the installation risks of collective protection. An interesting example of a way of looking at overall risks is given at **Annex 6**.



Flow Chart for Safe Work at Height on Vehicles

7.0 Guidance for Work at Height

The Work at Height Regulations 2005 set out a hierarchy of fall protection measures to be taken when planning work at height

- Avoid work at height wherever possible and actively seek solutions;
- If this is not possible, use “collective” means of prevention such as guardrails;
- If this is not possible, use “personal” means of prevention such as work restraint;
- If this is not possible, use “collective means of protection such as air bags;
- If this is not possible, use a personal fall protection system such as a work positioning system or fall arrest system.
- Additionally provide training and instruction or take other measures to prevent any person falling a distance liable to cause personal injury.

Examples of the Elimination of Work at Height by Carrying out a Task at Ground Level

7.1 Elimination of work at height

As a primary aim, all tasks associated with work at height whilst loading or unloading transport should be reviewed to see if they can be fully or partially completed at ground level. Where work at height cannot be eliminated the following hierarchy should be employed.

7.2 Collective fall prevention measures

Permanent collective measures such as guard rails are becoming more common on vehicles used for transporting plant and components and are frequently fitted to specialist carriers used for the transport of crane ballast and on the swan neck of low loader trailers.

When purchasing new vehicles, consideration should be given to the collective measures provided by the manufacturer as part of the purchase evaluation process. Manufacturers should be strongly encouraged to incorporate collective measures into new designs of vehicle to enable loading and unloading to be carried out safely, with a minimal need for the use of personal fall protection systems.

Other collective measures that can be employed include the use of other equipment such as access gantries, tower scaffolds and MEWPs. Care needs to be taken, particularly in the case of MEWPs to ensure that the operation is adequately planned and that operators both adequately trained and familiarised with the specific model of MEWP to be used.

There are a number of proprietary collective fall protection systems on the market. These should be carefully evaluated to ensure that they are appropriate and effective solutions for the particular issues associated with working at height on transport vehicles.

Detailed guidance on the safe use of MEWPs is given in:-

- BS8460:2005 – *Safe use of MEWPs – Code of practice*
- HSE Information Sheet CIS 58 - *The selection and management of mobile elevating work platforms*

Examples of Collective Fall Prevention

7.3 Personal Fall Prevention

Collective fall prevention is often difficult to provide when accessing vehicle decks and tall components during loading and unloading. Therefore some of the work will be carried out using personal fall prevention equipment such as work restraint systems.

Moving Work Restraint System for Tanker Top Access

Work restraint systems are designed to prevent personnel from reaching an unprotected edge and falling. By definition they restrain the wearer by restricting movement and may be of limited value when working on a vehicle deck or load.

7.4 Collective Fall Protection

There are a number of proprietary collective fall protection systems, such as nets or airbags on the market. These should be carefully evaluated to ensure that they are appropriate and effective solutions for the particular issues associated with working at height on transport vehicles.

Examples of Proprietary Fall Protection Systems

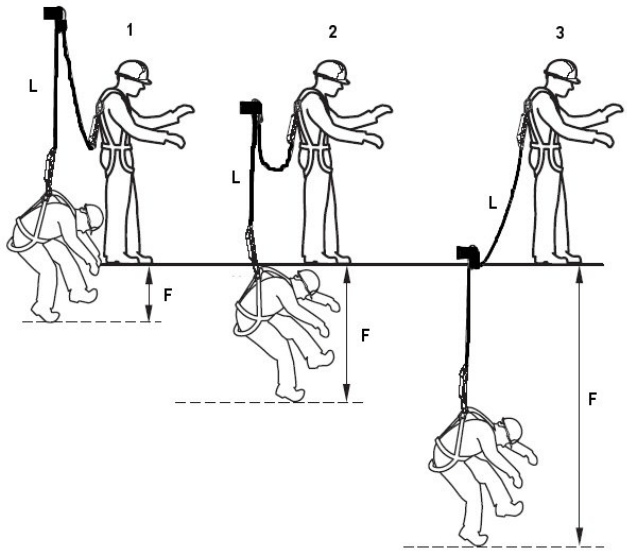
7.5 Personal Fall Protection

If it is not possible or appropriate to use collective or personal fall prevention or collective fall protection systems, personal fall protection should be used to mitigate the effects of any fall. This will generally be by the use of personal fall arrest systems.

Fall Arrest Harness and Retractable Lanyard

Fall arrest systems will reduce the consequences of a fall where the wearer is working outside a protected edge, such as the confines of any guardrails. A two lanyard system will allow movement around a structure. When fall arrest systems are used, a vital part of the planning process is consideration of arrangements for the rescue of persons suspended in the fall arrest system after a fall as suspension trauma can occur if a person has only been suspended at height for a short period of time, particularly if they are motionless. (See **Section 9.1**)

When using fall arrest systems it is important that the anchor point is as high as possible to ensure that the “fall factor” which provides an indication of the length and severity of a fall is kept as low as possible. The fall factor is calculated by dividing the free fall distance by the length of lanyard available to arrest the fall (before any energy absorbing device has been deployed).

	1	Anchor point above user’s head
		L = 1.5 m lanyard
		Free fall distance F = 0.5m
		Fall Factor = F/L = 0.3
	2	Anchor point at shoulder level
		L = 1.5 m lanyard
		Free fall distance F = 1.5m
		Fall Factor = F/L = 1.0
	3	Anchor point at foot level
		L = 1.5 m lanyard
		Free fall distance F = 3.0m
		Fall Factor = F/L = 2

Examples of Fall Factors

It is also important that the anchor point is vertically above the wearer to ensure that there is sufficient height for the fall to be arrested before the wearer contacts the ground and to avoid any “pendulum effect”.

Example of Poor Practice

Reducing fall factors is vital where personnel using fall arrest systems are working at low heights above the ground, as is often the case with transport vehicles. ***If an anchor point is level with the feet of the wearer the minimum free space required above the ground with a 1.5m energy absorbing lanyard is 5.75m, according to Table F1 of BS 8437.*** Systems such as that shown below can provide anchor points of adequate height when working on high loads.

Example of a Portable Horizontal Safety Line System

Further information on “fall factors” is given in Clause 9.1.3.1 of BS 8437:2005, *Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.*

7.6 Anchor points

All personal fall protection systems require connection to an anchor point. It is essential that all anchor points have an adequate margin of strength and stability to withstand the dynamic and static forces that could be applied to them in service. Anchor points for fall arrest systems will require a greater capacity than those for work restraint or work positioning systems. Manufacturers should be consulted on the designation of suitable & sufficient anchor points.

Single person anchor points for fall arrest systems should be designed to resist a minimum static force of 12kN. This includes a safety factor of two to allow for the dynamic and static forces that could be applied to them in service. If two or more users are to be connected to the same anchor the minimum static strength of the anchor should be increased to 24kN for two person use and 26kN for three person use. (See Clause 16.2.3 of BS 8437:2005, *Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace).*

Example of a Swinging Arm Fall Arrest Anchor Point

Specifications for the installation and testing of anchors are given in:-
BS 7883:2005*, Code of practice for application and use of anchor devices conforming to BS EN 795.*

Where personal fall protection systems are required vehicle manufacturers should be encouraged to provide and designate suitable & sufficient anchor points to which lanyards etc. can be fastened.

With all types of personal fall protection equipment it is essential that the following points are considered during planning for work at height:-

- Correct equipment for the application is selected;
- Personnel are trained and assessed as competent in the correct adjustment, use, care and recorded checking of fall protection equipment;
- Suitable anchor points are identified*;*

- Arrangements are made for the inspection and maintenance of the equipment.

Some basic advice on the selection of personal fall protection systems is given in **Annex 2.**

Additional detailed guidance is given in BS 8437:2005, *Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.*

7.7 Ladders

The basic configuration of vehicles used for transporting plant and components means that it may not be possible to provide means of access to parts of the vehicle with collective fall protection, particularly when the vehicle is being loaded or unloaded on site, rather than in a depot. Consequently fixed and portable ladders are often used.

The view of the Health and Safety Executive is that ladders should only be used for low-risk, short-duration work. Short duration is defined as *"in one position for a maximum of 15 to 30 minutes".* HSE also state that "*When climbing or working from a ladder, three points of contact should be maintained. (Three points of contact means both feet and one hand in contact with the ladder or stepladder.)"*

Where portable ladders are used they should be of sound construction, with a broad base and fixed to provide effective restraint against slipping. Research has shown that "footing" of ladders by a second person is of limited value.

If personnel are transferring from a standard ladder to the vehicle deck there must be sufficient projection of the ladder (at least three rungs) beyond the landing level to provide adequate handholds during transfer unless a handrail is povided.

Suitable Ladder with Handrail

Attachment Point

Ladders that are carried on vehicles to provide access during loading and unloading must be stored securely to ensure that they do not become dislodged and fall off during transit.

Personnel using ladders must be adequately trained in the selection, use and pre-use checking of ladders. See **Section 13.**

Additional guidance is given in the following HSE publications:-

- *INDG402 - Safe use of ladders and stepladders: An employers' guide*
- *INDG403 - A toolbox talk on leaning ladder and stepladder safety*
- *INDG405 - Top tips for ladder safety(Pocket Card)*

and on the HSE Falls from height Microsite at www.hse.gov.uk/falls/index.htm

7.8 Access Ramps

On plant carrying vehicle fitted with access ramps, such as Beaver Tails, Brimecs and Low Loaders, it is often possible to provide infilling to the space between the ramps which in turn provide an access way to the vehicle deck which is at least 0.9m from an unprotected edge on both sides

Example of Ramp Infilling

8.0 Circumstances Requiring Rescue From Height on Vehicles Whilst Loading and Unloading

The following table summarises the activities during which persons may require rescue from height, the persons who may require rescue and the types of emergency that may necessitate the need for rescue. The need for a rescue plan will depend on a number of factors such as:

- The distance a person is likely to fall
- The height at which a person may be suspended
- The difficulty of accessing and rescuing an injured/suspended person

In many situations, encountered during the loading and unloading of vehicles, such as the loading and unloading of wheeled plant, the heights involved will be relatively low, enabling rescue to be carried out swiftly without the need for special equipment and trained personnel. In such a case, once a risk assessment has been carried out, all that will be required is a generic rescue plan identifying any hazards and detailing the measures to be taken.

Activity	Person Requiring Rescue	Type of Emergency
Attachment or removal of lifting accessories from a load or component	Slinger/Signaller	Suspension from fall protection system
		Injury
		Medical crisis
Attachment or removal of load restraining equipment from a load or component	Slinger/Signaller	Suspension from fall protection system
		Injury
		Medical crisis

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9.0 Guidance for Rescue From Height on Transport Vehicles

Section 8.0 identifies the activities where rescue from height may be required. Typical methods and items for consideration in the planning for each of these situations are as follows:-

9.1 Recovery from suspension during loading or unloading

If the work at height during loading or unloading only involves low level working it may be adequate to utilise other members of the loading team to support the suspended person. This must however be carefully evaluated at the planning stage taking into account the potential height of the suspended person above the rescuers and the number and physique of the rescuers.

Where rescue by other members of the loading team is not practicable, other means must be employed. This could include:-

- A system provided by the Principal Contractor
- A MEWP
- A telehandler with a non-integrated platform
- A crane with a man riding cage
- A proprietary rescue system.

In planning for rescue from height, reliance should not be placed on the use of the Emergency services without first consulting those services

Suspension in a harness for a period of time (often as little a ten minutes) without moving may give rise to "suspension trauma" which leads to pooling of blood in the veins of the lower limbs. This can cause disturbance to the circulatory system leading to damage of the vital organs. When rescuing a suspended person care must be taken to avoid moving them into a horizontal position as this can cause a massive flow of venous blood to the heart, which cannot cope, and this can cause potentially fatal cardiac abnormalities.

Additional information on suspension trauma is given in Annex D of BS 8437:2005*, Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.*

9.2 Injury or Medical Crisis

In this situation the injured person should be lowered to a suitable position where first aid can be administered in accordance with the site emergency plan.

10.0 Method Statements

The outcome of the planning process for both work at height and rescue from height on vehicles whilst loading and unloading should be recorded in a method statement, which should be specific for the type of vehicle and load. Generic risk assessments and method statements may not be sufficient for all situations as risks and measures to control those risks will vary from location to location. If generic risk assessments are used they must be reviewed for each project.

10.1 Work at height

Details of the planning for work at height recorded in a method statement should include:-

- Details of working procedures
- Configuration of the equipment for different types of access;
- Details of any personal fall protection equipment to be used;
- Identification of anchor points on the vehicle or load structure;
- Limitation of the plan for adverse weather such as high winds;
- Where work at height involves the use of lifting equipment, the lifting operations must be planned, supervised and carried out in accordance with the requirements of LOLER and the BS 7121 series - *Code of practice for the safe use of cranes*.

10.2 Rescue from height

Details of the rescue plan should be recorded in a method statement which should be specific for each type of vehicle and load. The plan should include:-

- Details of the rescue equipment to be used;
- Configuration of the equipment for different types of rescue;
- Identification of anchor points on the vehicle and or load for each type of planned rescue;
- Limitation of the plan for adverse weather such as high winds;
- The need for trained rescue personnel.

The method statement should be used to train and brief persons who will be working at height and involved in the rescue plan.

11.0 Training of Personnel

All personnel working at height, whilst loading and unloading vehicles, will require training in safe working techniques and the correct use of personal fall protection systems. This training should include assessment of competence.

Additional training is required for personnel carrying out the rescue of persons.

11.1 Safe working at height training

It is essential that all personnel working at height whilst loading and unloading vehicles are trained and assessed as competent to work safely at height. This training will cover:-

- Safe working practices, including those set out in the manufacturer's manual;
- Selection and use of personal fall protection equipment;
- Pre-use inspection of personal fall protection equipment;
- Safe working practices for "special" activities such as work at height combined with the use of lorry loader cranes for delivery and collection of items such as construction hoists and mast climbing work platforms.

Initial training on the selection and use of personal fall protection equipment should be carried out by the supplier of the fall protection system to be used or by in-house trainers who have been trained and assessed by the system supplier. Training in safe working practices should be carried out by suitably qualified trainers who are familiar with the tasks to be undertaken. Trainees should be assessed for competence by carrying out loading and unloading tasks on a typical vehicle.

Refresher training should be carried out at appropriate intervals, followed by assessment of competence by carrying out loading and unloading tasks at height on a typical vehicle.

It is important that trainees are not exposed to additional risk whilst carrying out tasks during training. Before beginning training the training organisation should carry out a thorough risk assessment and put in place any necessary control measures such as a back up secondary safety rope.

11.2 Training to carry out rescue from height

It is essential that all rescue from height whilst loading and unloading vehicles is carried out by adequately trained personnel, who should be available on site at all times when rescue may be required.

Initial training should be carried out by the supplier of the system to be used or by in-house trainers who have been trained and assessed by the system supplier. Trainees should be assessed for competence by carrying out a simulated rescue on site.

It is recommended that refresher training is carried out at 6 monthly intervals, followed by assessment of competence by carrying out a simulated rescue.

It is important that trainees are not exposed to additional risk during any simulated rescue carried out during training. Before beginning training the training organisation should carry out a thorough risk assessment and put in place any necessary control measures such as a back-up secondary safety rope.

Additional guidance on training is given in:-

- BS 8454:2006 - *Code of practice for delivery of training and education for work at height and rescue.*
- OC 282/31 – *Rope evacuation from mechanical handling equipment.*
  (HSE Operational Circular available on http://www.hse.gov.uk/lau/lacs/20-3.htm)

12.0 Inspection and Maintenance of Personal Fall Protection and Rescue Equipment

All equipment used for personal fall protection and the rescue of persons from height must have a pre-use check (visual and tactile inspection) before each use. The check should be carried out in accordance with the manufacturer's instructions. Damaged equipment should be taken out of service immediately. The checks should include any tensioned horizontal safety lines.

In addition to pre-use checks, equipment should be subjected to detailed inspections (thorough examination) by a competent person before first use and at intervals not exceeding six months, and after circumstances liable to jeopardize safety have occurred. Damaged equipment should be taken out of service immediately.

BS 8437 also recommends that interim inspections of personal fall protection equipment are carried out, in addition to the pre-use checks and the detailed inspections, at intervals determined by the risk assessment carried out at the beginning of the job. In determining what is a suitable interval, factors such as whether items are subject to high levels of wear and tear or contamination should be considered. Certain items of personal fall protection equipment for rescue purposes may be supplied by the manufacturer in sealed transparent packaging. Provided that the seal is not broken, these items do not require interim inspections, however after a specified period (often three years) they must be returned to the manufacturer for inspection and resealing.

Both the detailed inspections and the interim inspections should be recorded.

Equipment should be kept clean and dry and should be properly stored. Wet equipment should be thoroughly dried before storage. Equipment should not be altered or repaired, unless this has been authorized by the manufacturer.

The frequency of detailed inspection should be reviewed by a competent person to take account of storage conditions and any damage found at pre-use and detailed inspections.

Employers should make adequate provision to ensure that employees are following the above requirements.

Inspection Type	Maximum Interval
Pre-use	Before each use
Interim	By risk assessment
Detailed	Before first use Six months (normal use)

NOTE: Where personal fall protection and rescue equipment is used in arduous conditions the maximum interval should be less than six months and should be set by the competent person taking into account the conditions of use

Additional guidance is given in:-

- BS 8437:2005, *Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace*
- INDG 367 – *Inspecting fall arrest equipment made from webbing or rope.*
  (HSE free leaflet available on http://www.hse.gov.uk/pubns/indg367.pdf)

13.0 Inspection and Maintenance of Access, Egress and Other Equipment

All areas used for access and egress on vehicles, such as steps, ladders and walkways, should be checked by the user before use to ensure that they are secure, undamaged and well maintained, as mud and other agents may cause slips and trips. Any defects found must be immediately reported to the user's supervisor. These areas should also be included in maintenance inspections. Equipment used for access, egress or work at height on vehicles must have a pre-use check (visual inspection) before each use. The check should be carried out in accordance with the manufacturer's instructions. Damaged equipment should be taken out of service immediately and the defects reported to the user's supervisor.

In addition to pre-use checks, equipment should be subjected to detailed inspections by a competent person before first use and at intervals not exceeding six months (or three months where the equipment is used in arduous conditions), and after circumstances liable to jeopardize safety have occurred. Damaged equipment should be taken out of service immediately and the removal from service recorded.

Additional guidance is given in HSE Research Report 437 - *The underlying causes of falls from vehicles associated with slip and trip hazards on steps and floors*

14.0 Lone Working

Lone working should be avoided at wherever possible by suitable liaison with the person in control of the site to ensure that site personnel are always in attendance. If fall arrest systems are to be used, the requirement for a rescue plan to be in place will preclude lone working under any circumstances.

The planning process for work at height on transport vehicles should take into account the particular hazards of lone working. If lone working is unavoidable it is essential that suitable measures are in place to minimise risks to the lone worker. These might include:-

- Call in arrangements;
- Notification to a remote supervisor of entry and exit to premises;
- Provision of alarm and tracking systems.

Additional advice on lone working is given in the HSE publication INDG 73 - *Working alone in safety*

Annex 1 - Personal Fall Protection and Rescue System Manufacturers

Company	Address	Website	Telephone
Capital Safety	Capital Safety Group (Northern Europe) Ltd Unit 7 Christleton Court, Manor Park Runcorn Cheshire WA7 1ST	www.csgne.co.uk	01928 571324
Heightec	Heightec Ltd LDBP Mintbridge Road Kendal Cumbria LA9 6NH	www.heightec.com	01539 728866
Heightworks	Heightworks Ltd 11 Rydal Close Hednesford Staffordshire WS12 4RP	www.heightworks.com	07812 206265
RidgeGear	Nelson Street Leek Staffordshire ST13 6BB	www.ridgegear.com	01538 392616
Spanset	SpanSet (UK) Limited Telford Way MIDDLEWICH Cheshire CW10 0HX	www.spanset.co.uk	01606 737494
Total Access	Total Access (UK) Ltd Unit 5 Raleigh Hall Industrial Estate Eccleshall Staffordshire ST21 6JL	www.totalaccess.co.uk	01785 850333
Tag Height Safety	TAG Ltd Waterside Mill Greenfield OL3 7NH	www.tagsafety.com	01457 878640

Personal fall protection and rescue equipment should be CE Marked and comply with the relevant standards listed in **Annex 9 - Bibliography**

Annex 2 – Selection of Personal Fall Protection Equipment

1. Harnesses

Harnesses should be of the full body type with front and/or rear lanyard attachment points. There are a large number of basic harnesses on the market which meet the requirements of the European Standard, BS EN 361:2002, but are neither durable nor comfortable for extended wear. Harnesses must always be worn and adjusted correctly to minimise injury to the wearer in the event of a fall.

2. Fall Arrest Lanyards

Fall arrest lanyards are normally 2m long with a karabiner to attach to the harness and either a karabiner or scaffold hook at the other end to connect to the anchor point. All static fall arrest lanyards must incorporate an energy absorber to reduce deceleration and hence impact force on the wearer.

3. Double Lanyards

Double Lanyards enable the wearer to move around a structure ensuring that one leg of the lanyard is attached to a suitable anchor point at all times (the other leg must not be attached to back to the harness unless it is fitted with a special parking point that will pull away in the event of a fall). It is essential that double lanyards only have ONE shock absorber. If two single lanyards are used and are both attached at the time of a fall the body of the falling person will be subjected to a magnitude of deceleration that is likely to cause very significant injury. Some personal fall protection equipment suppliers provide “parking points” on the harness webbing to keep the unattached lanyard out of the way.

4. Retractable Type Fall Arrester (Inertia Reels)

Retractable type fall arresters are effective at preventing falls and minimising falling distance. They must however be anchored overhead and must not be used at angles greater than that specified by the manufacturer, (typically 30° to the vertical). Care should be taken to ensure that the retractable webbing/rope does not pass over sharp edges that may cause tears and failure.

Retractable type fall arresters are increasingly being used to provide fall protection by attaching to the hook of a mobile crane positioned vertically above the wearer. In this case the inertia reel should be attached to the crane hook by use of a soft sling to keep the inertia reel well below the hook and clear of lifting slings etc. **The line connecting the inertia reel to the harness should be kept as near vertical as possible at all times to minimise the pendulum effect in the event of a fall.**

Some retractable type fall arresters incorporate an integral means of rescue, which can be used by a rescuer to raise or lower an incapacitated person to a position of safety.

5. Horizontal Safety Lines

A number of temporary horizontal safety line systems are available. These consist of a line which can be temporarily installed between suitable anchor points and tensioned using a tensioning device. Certain proprietary systems incorporate an integral tension indicator. Common systems available can have line lengths up to 20m and can be used as an anchor point for work restraint for up to two persons or as a fall arrest anchor for one person. Following installation the line should be labelled with information as to the maximum number of people that may be anchored to it in fall arrest or work restraint modes. Horizontal safety lines should only be installed following an engineering assessment of the location and the structure to which they will be attached.

6. Work Restraint

For work restraint a full body harness should be used with fixed or an adjustable lanyard which must always be adjusted so that the wearer cannot reach a position where they can fall. Various designs of adjustable work restraint lanyards are available including one which is colour coded to encourage the wearer to keep it as short as possible.

Additional guidance on selection of personal fall protection systems is given in:-

- BS 8437:2005 - *Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace*

Annex 3 – Example of Typical Risk Assessment for Flat Trailers

RISK ASSESSMENT – Loading and Unloading Trailers on site

Completed by: A Walker/E Glover **Date 05/12/07**

Persons at Risk:- Erectors, Slingers, Other site personnel, Members of the public.

Hazard	Effect	Control Measures	Residual Risk
Working at Height whilst loading and unloading trailers	Fall from height	Only HTC, MAN Wolff Crane trained competent operatives, holding slinger signallers qualifications are to load and unload crane sections from trailers. Before the erector slinger signallers unloads or loads a trailer he will review the risk assessment as per HTC procedure taking into consideration the characteristics of the load and site conditions. The assessment will determine how the slinging is to be carried out **(see Trailer Slinging Hierarchy of Control)**. Wherever possible crane parts will be slung from the ground. Only HTC authorised slinging techniques, approved by manufacturer, will be used.	Low
Access and Egress on to and from the trailer	Operatives slipping, falling, striking load or the ground	Only competent operatives to climb on and off trailers, locally to the required slinging position using a suitable secured ladder to gain access to the trailer. Operatives must clean mud from their boots before climbing and maintain three points of contact. Operatives once on the trailer should remain within the confines of the section. If working outside of the confines of the crane parts operatives must be secured by means of work position / restraint lanyard. Operatives to identify and beware of any holes in the surface of the trailer prior to accessing the trailer. **(see Trailer Slinging Hierarchy of Control)**	Low
Working on trailer surface at Height	Fall from height from trailer	As above	Low
Unexpected movement of the trailer while unloading	Loss of balance and falling, striking load or the ground	The lorry engine must be turned off and the Handbrake applied. The trailer must be parked on level ground where reasonably practicable.	Low
Egress from trailer	Over exposure to jumping causing shocking to leg joints	Operatives are prohibited from jumping from a trailer to dismount. Slinger Signallers shall climb down using designated access and egress routes.	Low
Standing receiving loads when loading	Trapping between loads or load and trailer head board.	Operatives are not to position themselves between loads or loads and vehicle head board. Where ever practicable landing of loads is to be carried out from the ground using tag lines.	Low
Falling objects/Load striking persons	Trapping/Crushing	Only HTC recognized slinging techniques, approved by manufacturer, will be used. Only competent CPCS qualified Slingers to carry out slinging of loads. The loading /unloading area is to be segregated by the Main contractor using suitable measures prior to loading or unloading. Only authorized personnel are allowed into the exclusion zone.	Low

Further Control Measures

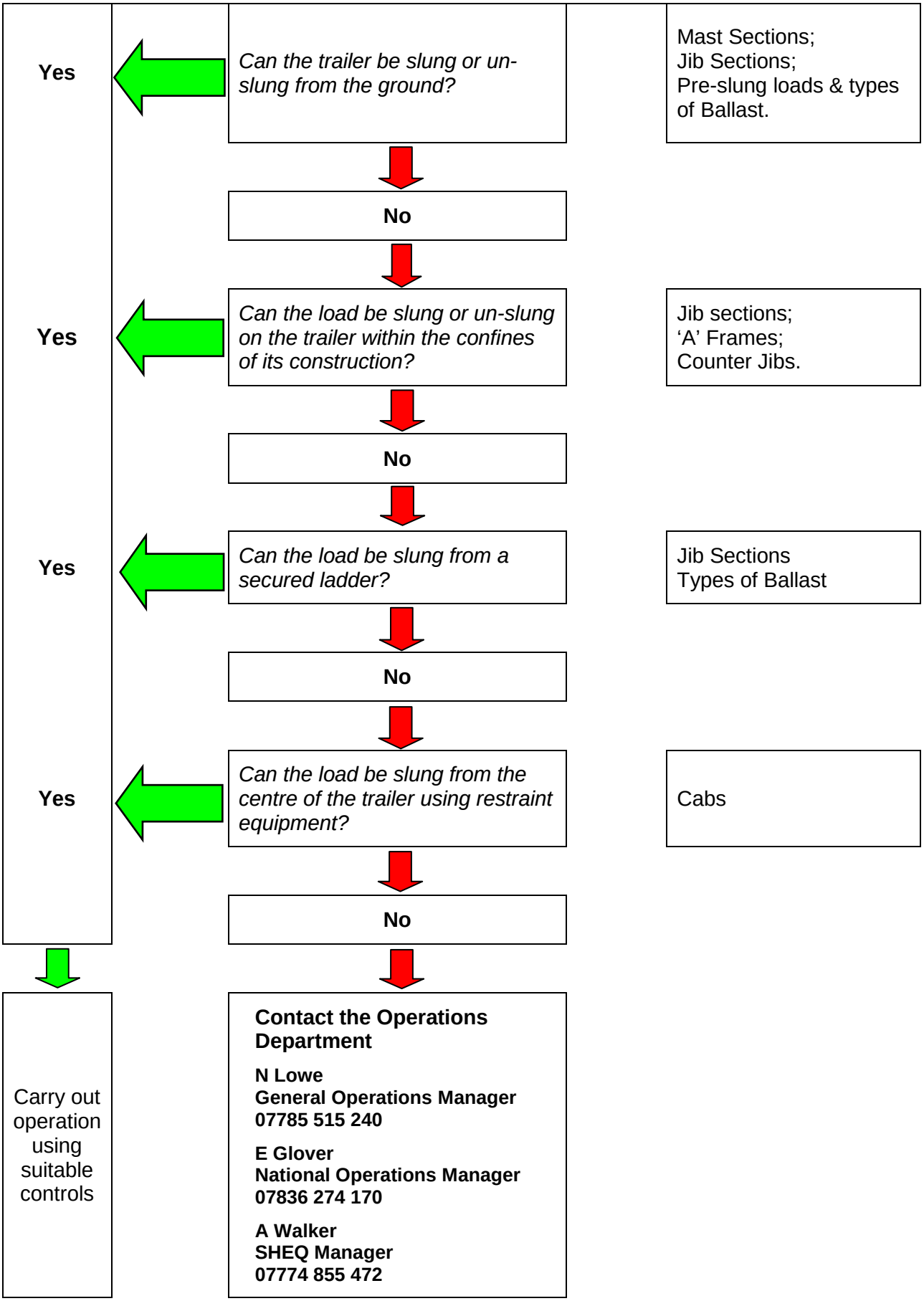
List in the sections below the details of any hazard identified that requires further control measures to ensure that risk is reduced to as low as is reasonably practicable

Hazard	Action required	Who	Due date	Completion date
Load striking personnel	Exclusion Zone to be in place and enforced	Client	Date of Operation	
Falling Hand tools or equipment	As above	Client	Date of Operation	

Controls considered by HTC when carrying out this risk assessment

Considered controls	Risk	Other comments
Rails and scaffolding around trailer (Fall Protection)	Poor access and egress. Trapping between load and rail. Cosmetic rather than a practical workable control because of height.	Excessive control for short duration temporary works on sites with limited space and poor ground conditions. Hand rails prevent operatives from landing other loads from the ground such as mast and jib sections. This is unworkable, so they are not used because of short duration operation.
Harness and Fall Arrest equipment	No suitable anchorage points for deployment length of fall arrest and risk of entanglement	Reduced movement on loads and entanglement, these are not used because of short duration operation.
Inertia reels attached to crane hook block	The hook block movement can lock the inertia reel pulling the user from the trailer, creating a pendulum effect striking the trailer or its load due to the close proximity. Risk of line being cut on edges of sections.	Inertia reels are not a suitable control as they introduce hazards into the operation. (I.e. Human error/weather and increase the possibility of operatives being dragged from the trailer and injured due to the pendulum effect. See schedule 5 Part 4 Working at Height Regs. 2005).
Nets/Air Bags around trailer	Poor access and egress.	Nets/Air Bags prevent operatives from landing other loads such as mast and jib sections. This becomes unworkable and introduces further hazards. Limited use so not used because of duration of operation.
Use of low loader trailers		Low loaders used where loads permit. Limited number of low loaders in the UK.
Reducing height of loaded stacked sections	Increase in transport resulting in an increase in environmental pollution and costs	Trailer load heights are kept to a minimum where possible. The reduction of the height of the load does not eliminate the hazard but does reduce it. The effort, environmental implications and cost is disproportionate to the low exposure for the operation.

Trailer Slinging Hierarchy



Risk Matrix

Severity	
Major	Causing fatalities to one or more persons
High	Injuries causing permanent disabilities (loss of limb/sight)
Medium	Injuries causing temporary disabilities (fractures)
Low	Significant injuries. (sprains, bruises and lacerations)
Minor	Minor injuries (grazes, scratches) No lost time.
Likelihood	
Almost Certain	Absence of any controls. 100% certainty of accident.
High	Serious failures in controls. This hazard plus other factors will cause an accident.
Medium	Controls are insufficient or substandard. Accident may occur.
Low	Situation controlled. Personnel have to behave safely but are well trained.
Improbable	Situation well controlled. Accident could only occur under freak conditions

Risk = Severity x Likelihood

Likelihood	**Severity**				
	Major	***High***	***Medium***	***Low***	***Minor***
Almost certain	25	20	15	10	5
High	20	16	12	8	4
Medium	15	12	9	6	3
Low	10	8	6	4	2
Improbable	5	4	3	2	1

Risk Rating

Score	**1 – 9**	**10 – 15**	**16 - 25**
Rating	***Low***	***Medium***	***High***

Annex 4 - Example of a Typical Risk Assessment for Ramped Plant Carrying Vehicles

Location	Generic	***Assessor***	C.Wraith QHSE Manager	***Date of Assessment***	06/04/09
Task	Loading and Unloading of vehicles			***Reference Number***	GWARA 06

STEP 1 - What are the hazards?	***STEP 2 – Who is at risk?***	***STEP 3 – Control measures required?***	***STEP 4 – Control Measures By?***
Fall from vehicle	LGV Driver Staff Members Third Parties Property	• Do not stand near edge of vehicle body • Wear appropriate footwear • Secure machines from ground level	LGV Driver Location Manager or Site Management
Ejection from machine cage		• Safety harness with suitable lanyard to be worn.	
Machine over run		• Winch to be used to assist machine movement in conjunction with Load/unload Code of Practice • Ensure ramps are in good order. • Load/unload on stable level ground.	
Trapping and crushing of persons		• Persons not to stand between machines. • Only trained authorised personnel to carry out task.	
Overturn of machine		• Ensure ramps are in good order. • Load/unload on stable level ground.	
Slips and trips		• Ensure vehicle bed is clear of chains/straps. • Ensure vehicle bed is clean & in good condition. • Secure machines from ground level. • Wear appropriate footwear	
Contact with other machines		• Sufficient visibility • Appropriate load and unload training to have been carried out.	

STEP 5 – Review date	**01.04.10**	Where significant change occurs in the workplace the risk assessment should be checked and amended where necessary. Otherwise review the assessment annually to make sure the workplace is still safe and not deteriorating Consider any new developments available, which could further reduce the risk of harm?
LAS Safe System of Work N^{o}	SSoW06	Which refers to the above task is based on this risk assessment and should be reviewed at the same time as this assessment

Annex 5 – Example of Typical Method Statement

Method Statement for Loading/Unloading Square Alimak Type Hoist Mast Sections and Cage

1. Lifting Equipment Selection

The preferred choices for equipment to lift the load are:-

- Mobile Crane
- Tower Crane
- Lorry loader
- Forklift (lifting with slings)

2. Loading Plan

Having selected the lifting equipment a loading plan should be formulated to determine where the hoist cage will sit on the bed of the lorry and how much room will be left for mast sections.

3. Loading the Hoist Cage

The hoist cage is then loaded onto the lorry. The slinger/signaller will then access the cage and remove the slings using the internal ladder and roof trapdoor.

4. Loading the Mast Sections

The mast sections will be bolted together to form rows of between two to eight sections, depending on the length of lorry bed available. This has the benefit of making loading easier, providing a degree of edge protection for the slinger/signaller and making the load more stable during transport. Bolting adjacent sections will be carried out using two bolts in diagonal corners on each joint.

The slinger/signaller will climb onto the lorry bed using an access ladder attached to the side rave and will guide the lengths of mast onto the bed. The first section will be positioned at one edge of the bed and the second at the opposite edge. The slinger/signaller will then stand inside the second length to allow the third length of mast to be placed in between the first two.

The slinger/signaller will be at reduced risk of falling when standing inside the mast sections whilst removing the lifting slings from the sections.

The second layer of mast lengths are loaded in a similar manner, with the slinger/signaller standing inside the lower layer of sections. This process will be repeated until the stack of mast sections is four high. During the process the slinger/signaller will stand inside the lower layer of mast sections, on the braces. When the last row is positioned the slinger/signaller will need to stand inside the top layer. Once the last length has been loaded, the slinger/signaller from his position in the top layer will assist the vehicle driver to secure the load. Once this has been completed a ladder will be placed against the load and secured to allow the slinger/signaller to descend safely to the ground.

Annex 6 – Example of the Effects of Overall Risk when Considering Control Measures

A load consisting of a passenger/goods hoist, mast sections and ancillary items needed to be transported to site. In the past this has been carried out by using all the available space on a truck as shown in Figure 1.

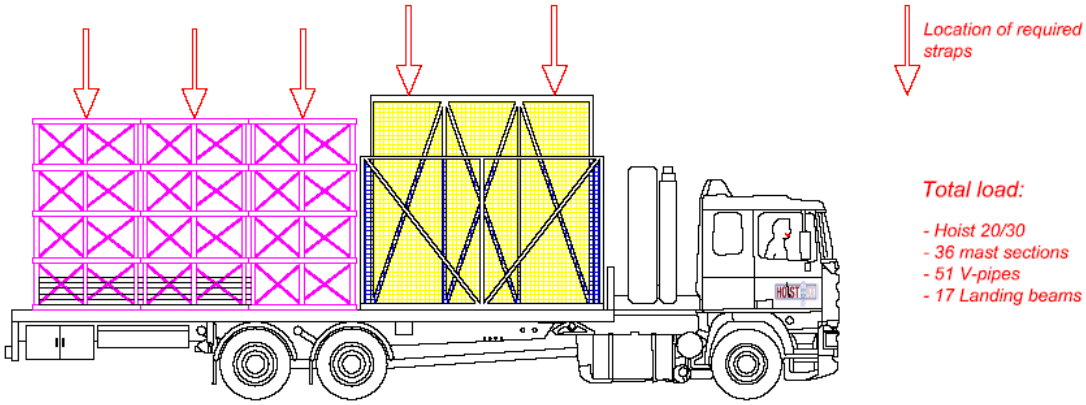


Figure 1.

Concerns over the risk of falling working at height whilst loading/unloading the components led to the hoist components being split over two vehicles to lower the overall height of the load and provide better access as in Figure 2.

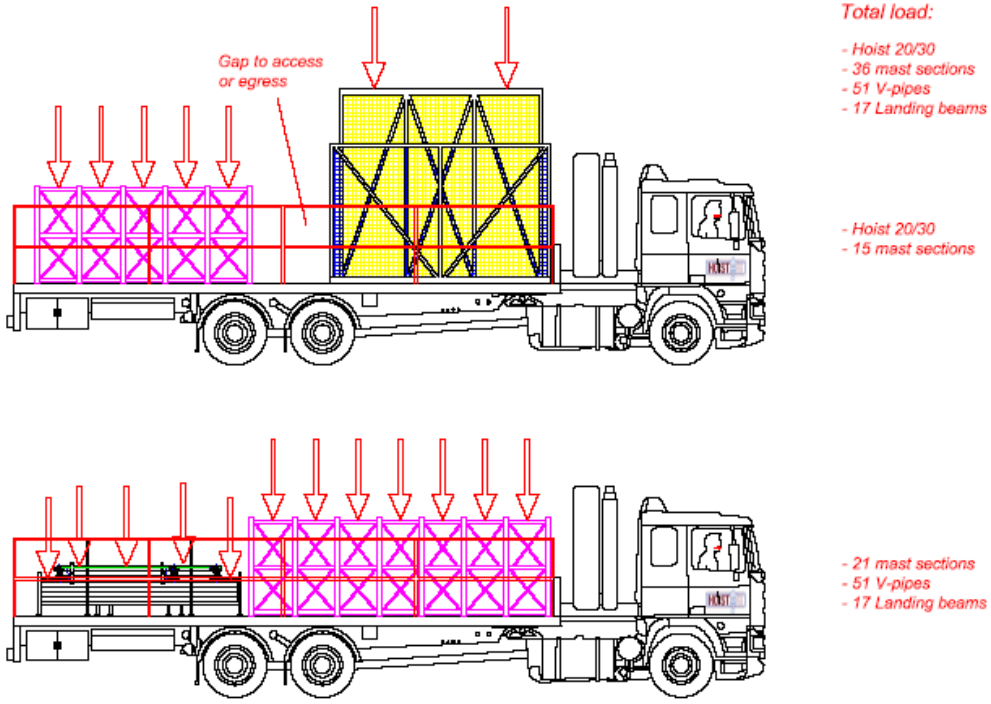


Figure 2.

Unfortunately this required an additional road journey with the consequent increase in cost and pollution. If the risk of both falls from height and road accidents are examined, the HSE statistics for 2001/02 indicate a rate of death and serious injury from falls from height from vehicles of 39 per 100,000 workers, whilst Department of Transport statistics for 2002 indicate a rate of fatal and serious accidents on all roads of 59 per 100,000 of population.

This shows that measures to reduce the risk of one activity may well increase the overall risk of injury to the individual involved.

HSE

Health and Safety Executive

Balfour Beatty and Billingtons join forces for safer sites

Reducing falls from vehicles case study 6

This case study is part of a series, which give examples of good practice to reduce injuries due to falls from vehicles through sensible management of health and safety risks in the workplace.

The challenge

When Balfour Beatty Ltd and steelwork subcontractor Billingtons were working together on the demolition and rebuilding of York College they needed to make their working practices safer. The £47 million, two-year project was set on a large site in York, surrounded by green fields, housing and a main road.

Both companies needed to find safe ways to unload structural steel and concrete panels around the site, and comply with the Work at Height Regulations 2005.

Next steps

The two companies looked into a number of different options. The most flexible was to build a two-part, edge-protection style gantry from tube and fitting scaffolding. This could be craned into position around the two sides of the vehicle when it parked at any number of different locations on the site. Or, at times, it was left in position for the vehicles to drive between..

Results

A ladder frame was built into the gantry to allow safe access to the bed of the vehicle. The gap between the bed of the vehicle and the edge of the gantry is never more than 150mm.

The system makes sure that safe unloading happens at different locations on site, which is efficient in terms of handling of materials and time. Also, where there is space onsite, the system can be set up as a drive-through unloading area.

Figure 1 *Drive through unloading gantry*

Balfour Beatty have also utilised a similar system on their £530 million project at Birmingham Hospital, using a system scaffold, to address the issue of falls from vehicles.

Figure 2 *System scaffold unloading gantry*

Figure 3 *Safe stair access onto the scaffolding system*

This unloading bay is constructed from a system scaffold. The vehicle reverses in to the area and then the vehicle bed can be safely accessed from the scaffold platforms using the stair access that has been incorporated into the scaffolding.

Shepherd Group's solution to working at height

Reducing falls from vehicles case study 8

This case study is part of a series, which give examples of good practice to reduce injuries due to falls from vehicles through sensible management of health and safety risks in the workplace.

The challenge

Shepherd Group Ltd has its own fleet of jackleg portable cabins that are used by their construction business as site accommodation. They are used as site cabins, offices and welfare facilities, or temporary accommodation at schools, hospitals, factories and many other premises.

When they are delivered they are usually craned from the back of the delivery vehicle by a mobile crane or lorry-mounted crane, fitted on the back of the lorry loader. Operatives had to mount the roof of the cabin to attach the lifting chains/slings at each of the four corners. This posed a dangerous risk of the operative falling from height.

The answer

By working with their employees, they identified a solution to reduce work at height. The designed solution uses brackets, retrofitted to the bottom and top of each cabin jackleg. Four slings are then attached (one per leg)..

Figure 1 *Brackets, retrofitted to the bottom and top of each cabin jackleg.*

The results

The cabins can now be offloaded from the delivery vehicle using the lorry loader crane by attaching these slings to the new brackets on the bottom and top of the jacklegs, swinging the sling into place using a guide rope. The lift can take place once all four are in place. With practice, the slings are relatively easy to position from the ground. The cabin can be loaded and unloaded by the operator alone. It is a relatively quick method once the operator is familiar with swinging the slings into place over the brackets.

Figure 2 *A successful lift with slings in place*

The only work at height that is necessary is when the cabins are required to be double or tripled stacked. The connections that need to be secured when carrying out this work are at cabin height so a ladder is needed. Shepherds have designed a ladder that fixes securely to the cabin jackleg.

Figure 3 Double stacked cabins

Figure 4 Specially designed ladder, fitted onto the cabin.

Shepherd Group Ltd's solution has removed the need for work at height. The new system is fitted to the cabin so no extra equipment needs to be carried by the haulier. It was developed in consultation with the workforce, therefore co-operation from operatives has been positive.

Figure 5 Lifting jackleg cabins from the base, removing the need for people to access the roof of the cabin or vehicle.

Shepherd Group Ltd has also modified their equipment cages, using the same principle, allowing them to be unloaded from vehicles without operatives needing to access the bed of the vehicle and work at height.

HSE

Health and Safety Executive

Select improve access to flat-bed trailers and rigid vehicles

Reducing falls from vehicles case study 13

This case study is part of a series, which give examples of good practice to reduce injuries due to falls from vehicles, through sensible management of health and safety risks in the workplace.

The challenge

Select Plant Hire Company Ltd provide earth-moving machinery and tower cranes to sites operated by their parent company, Laing O'Rourke. The larger earth-moving machines are transported to site by low loader, but smaller machines, tower crane sections and test weights for the tower cranes are transported by either flat-bed articulated units or 8 wheel rigid trucks. While some loads can be secured by throwing the straps across the load, others can only be safely secured by accessing the bed of the vehicle to attach straps to the tie down points. Access is also necessary to sling certain loads.

While carrying out a risk assessment on the loading/unloading operation, Select identified a need for a safer way to access the bed of the vehicle. Drivers were typically climbing onto the bed of the vehicle by using the under-run bars as steps. However, Select were unable to identify any suitable access system commercially available, so decided to develop their own system.

Select's criteria for the access system:

- It should clamp on to the vehicle or trailer to prevent the ladder slipping or moving in use.
- It should have a handrail which extends 1 metre above the bed height of the vehicle, regardless of the height of the vehicle bed.
- It must suit Select's entire range of vehicles, which have various designs of bed-edge steelwork.
- It should be able to be mounted at various points around the bed of the trailer to access different parts of the vehicle load.

Their design of access system is shown in the photos below. The design is based on a class 1 industrial ladder, fitted with a sliding bed-plate and two ratchet clamps (Figure 2) which securely hold the ladder against the bed of the vehicle. The handrail is fixed to the clamp system and therefore always remains 1 metre above the height of the vehicle bed.

When not in use, the ladder remains with the tractor unit (if fitted to an articulated trailer) and is stored behind the cab with a locking system to prevent theft.

Figure 1 Ladder in use on flat-bed trailer

Figure 2 Showing ratchet clamping system

The results

Select has significantly improved the access to its fleet of flat-bed vehicles and trailers.

Following 12 months of successful trials with two prototype ladders, which showed a high level of driver acceptance, two pre-production ladders were ordered, along with a batch of 25 production models from a local manufacturer. The cost of the ladder in production quantities is around £250 each.

The medium term objective is that all company flat beds and articulated units, and all similar vehicles provided by contractors will be fitted with this access system to reduce the risk of falls from vehicles.

Figure 3 Access system in use

Annex 8 – Example Toolbox Talks

Safe Access/Egress to/from Vehicle Deck

Tool Box Talk - Safe Access/Egress to/from a Vehicle Deck

Date Held:	Location:	Time Held:

Topics:

- Use ladders fixed to vehicle chassis, or manufactured recess steps.
- Before using ladders carried on the vehicle, always ensure they are in good condition before use.
- Never use a damaged ladder.
- Ensure access steps are free from contamination and defect.
- Use grab-handles, and handrails whenever possible.
- Do not use under-run guards or “No Step” areas to gain access or egress to and from the vehicle deck.
- Always be aware when working on the vehicle deck that you are alongside an open edge.
- Always check safety footwear for mud, grease etc and remove all surplus debris.

Footed Ladder

Protected by the Mast Section

No Side Protection

Ladder with Handhold

Working at Heights

Tool Box Talk - Working at Height

Date Held:	Location:	Time Held:

Introduction:

Falling from height is the major cause of fatalities in the construction, petrochemical, rail & nuclear industry. Falls from any height may result in death or serious Injury. All such deaths and serious injuries are preventable.

Main points:

- Can work at height be avoided and the risk eliminated?
- Plan work at height to include safe access/egress, edge protection (for people and materials), PPE and suitable training as applicable.
- Work at height requires guardrails, intermediate guardrails and toeboards to be fitted where possible. Alternative collective means of protection include MEWPs, podium steps and tower scaffolds.
- Where impracticable to fit guard-rails, intermediate guard-rails and toe-boards then personal fall protection equipment must be utilised as required. Operators must use their working at height PPE kit bag when carrying out work at height.

Discussion points:

- If roof work is involved, identify any fragile areas and/or openings and implement suitable protective precautions.
- Access ladders must be secured and extend at least 1 metre beyond working platforms to allow for safe access/egress.
- Where access ladders run for more than 9m then suitable intermediate platforms must be provided.
- Consider weather conditions – wet, windy and/or icy conditions can have a serious impact on safety at height.
- Ensure operatives are suitably trained and physically capable for tasks being undertaken.
- If guard-rails, fragile surface covers, void protections, etc, are removed for any reason they must be replaced as soon as possible, and in the interim should be physically guarded.
- Use crawling boards/roof ladders where applicable.

IT'S NOT THE FALLING THAT HURTS – IT'S THE LANDING!

Use of Ladders

Tool Box Talk - Use of Ladders

Date Held:	Location:	Time Held:

Introduction:

Ladders are one of the most used, and abused, pieces of equipment on a Construction site. When abused and misused, they have enormous potential to cause accidents and injuries.

Main points:

- Ladders are essentially a means of access/egress and should only be used as working platforms for very short duration tasks, where alternative platforms would be impracticable and where such tasks can be carried out safely using a ladder.
- Only industrial class ladders should be used. These must be in good condition (no missing/broken rungs, split stiles, etc).
- Ladders must be suitably angled (1 unit out for every 4 units up) and suitably secured (Preferably tied off at the top using both stiles to prevent both sideways slip and rotation).

Discussion points:

- Ladders must extend at least 1 metre beyond working platforms to allow for safe access/egress.
- Beware of overhead obstructions, especially overhead power lines (metal ladders/metal reinforcements).
- Ladders must not be painted (this hides defects), should be stored correctly and be subject to regular inspection.
- Never take serviceability for granted, always carry out a visual check prior to use. Report any defects immediately.
- Never carry out home made repairs on a ladder, and never use a ladder with existing home made repairs, and never use a home made ladder!
- Always stand ladders on a firm base. Never use milk crates, oil drums, etc., to gain extra height, and if ground is soft use suitable support. Consider staking at bottom.
- Never use rungs as a support for planks, or rest rungs on planks.
- Remove excessive mud, grease, etc. from footwear prior to climbing/descending a ladder.
- Always use both hands to climb/descend, and always face the ladder.
- Do not carry loads up ladders – use hoists or alternatives.
- Never over reach from ladders – get down and move them.
- Avoid using metal ladders against metal surfaces – the reduced friction makes them more liable to slipping.

SILLY PEOPLE TAKE CHANCES – SENSIBLE PEOPLE TAKE PRECAUTIONS

Attendance Record

Toolbox Talk Attendance Record

Toolbox Talk Subject:

Toolbox Talk Deliverer	**Name:**	
	Signature:	

Attendees

Name	Trade	Company	Signature

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