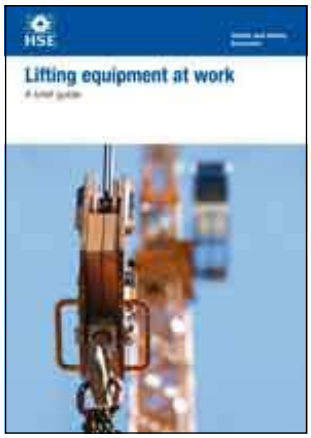
Lifting equipment at work

A brief guide



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Introduction

This leaflet provides general information about the requirements of the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). It describes what you, as an employer, may need to do to protect your employees in the workplace. It will also be useful to employees and their representatives.

However, it is important that you also refer to the Regulations and Approved Code of Practice to familiarise yourself fully with your duties.

What equipment is covered by the Regulations?

Lifting equipment includes any equipment used at work for lifting or lowering loads, including attachments used for anchoring, fixing or supporting it. The Regulations cover a wide range of equipment including, cranes, forklift trucks, lifts, hoists, mobile elevating work platforms, and vehicle inspection platform hoists. The definition also includes lifting accessories such as chains, slings, eyebolts etc. LOLER does not apply to escalators, which are covered more specifically by the Workplace (Health, Safety and Welfare) Regulations 1992.

If you allow employees to provide their own lifting equipment, then this too is covered by and should comply with the Regulations.

Do the Regulations apply to me?

If you are an employer or self-employed person providing lifting equipment for use at work, or you have control of the use of lifting equipment, then the Regulations will apply to you. They **do not** apply if you provide equipment to be **used primarily by members of the public**, for example lifts in a shopping centre. However, such circumstances are covered by the Health and Safety at Work etc Act 1974 (HSW Act).

While your employees **do not** have specific duties under LOLER, they do have general duties under the HSW Act and the Management of Health and Safety at Work Regulations 1999 (the Management Regulations), for example to take reasonable care of themselves and others who may be affected by their actions and to co-operate with others.

The Regulations cover workplaces where the HSW Act applies – this includes factories, offshore installations, agricultural premises, offices, shops, hospitals, hotels, places of entertainment etc.

What do the Regulations require me to do?

You need to make sure that when using any lifting equipment the requirements of LOLER are met. For example, you should make sure that all lifting equipment is:

- sufficiently strong, stable and suitable for the proposed use. Similarly, the load and anything attached (eg timber pallets, lifting points) must be suitable;
- positioned or installed to prevent the risk of injury, eg from the equipment or the load falling or striking people;
- visibly marked with any appropriate information to be taken into account for its safe use, eg safe working loads. Accessories, eg slings, clamps etc, should be similarly marked.

Additionally, you must make sure that:

- lifting operations are planned, supervised and carried out in a safe manner by people who are competent;
- where equipment is used for lifting people it is marked accordingly, and it should be safe for such a purpose, eg all necessary precautions have been taken to eliminate or reduce any risk;
- where appropriate, before lifting equipment (including accessories) is used for the first time, it is thoroughly examined. Lifting equipment may need to be thoroughly examined in use at periods specified in the Regulations (ie at least six-monthly for accessories and equipment used for lifting people and, at a minimum, annually for all other equipment) or at intervals laid down in an examination scheme drawn up by a competent person. All examination work should be performed by a competent person (someone with the necessary skills, knowledge and experience);
- following a thorough examination or inspection of any lifting equipment, a report is submitted by the competent person to the employer to take the appropriate action.

Why is lifting equipment safety important?

Working with any machinery can be dangerous because moving machinery can cause injuries in many ways:

- People can be hit and injured by moving parts of machinery or dropped or ejected material. Parts of the body can also be drawn in or trapped between rollers, belts, chains and pulley drives.
- Sharp edges can cause cuts and severing injuries, sharp-pointed parts can stab or puncture the skin, and rough surface parts can cause friction or abrasion.
- People can be crushed both between parts moving together or towards a fixed part of the machine, wall or other object, and two parts moving past one another can cause shearing.
- Parts of the machine, materials and emissions (such as steam or water) can be hot or cold enough to cause burns or scalds and electricity can cause electrical shock and burns.
- Equipment or attachments can become unreliable and develop faults due to poor or no maintenance, or machines may be used improperly through inexperience or lack of training.
- Parts of the equipment may fail and loads may drop.

Before you start

Before you start using any equipment you need to think about what risks may occur and how these can be managed. You should:

- Check that it is complete, with all safeguards fitted, and free from defects.
- Produce a safe system of work for using and maintaining the equipment. Maintenance may require the inspection of critical features where deterioration would cause a risk. Also look at the residual risks identified by the manufacturer in their information/instructions provided with the equipment and make sure they are included in the safe system of work.
- Make sure the equipment has been installed properly, is stable and is not in a location where other workers, customers or visitors may be exposed to risk.
- Make sure you have chosen the right equipment for the job.

Note that new equipment should be CE marked and be supplied with a Declaration of Conformity and instructions in English.

Make sure the equipment is:

- safe for any work that has to be done when setting up, during normal use, when carrying out repairs for breakdowns or faults, and during planned maintenance;
- properly switched off, isolated or locked-off before taking any action to remove blockages, clean or adjust the equipment.

Also, make sure you identify and deal with the risks from:

- electrical, hydraulic or pneumatic power supplies;
- badly designed safeguards. These may be inconvenient to use or easily overridden, which could encourage your workers to risk injury and break the law. If they are, find out why they are doing it and take appropriate action to deal with the reasons/causes.

Preventing access to dangerous parts

Think about how you can make the equipment safe; the measures you use to prevent access to dangerous parts should be in the following order. In some cases it may be necessary to use a combination of these measures:

- Use fixed guards (eg secured with screws or nuts and bolts) to enclose the dangerous parts, whenever practicable. Use the best material for these guards – plastic may be easy to see through but may easily be damaged. Where you use wire mesh or similar materials, make sure the holes are not large enough to allow access to moving parts.
- If fixed guards are not practicable, use other methods, eg interlock the guard so that the equipment cannot be started before the guard is closed and cannot be opened while the machine is still moving. In some cases, trip systems (such as photoelectric devices, pressure-sensitive mats or automatic guards) may be used if other guards are not practicable.
- Where guards cannot give full protection, use jigs, holders, push sticks etc if it is practicable to do so.
- Control any remaining risk by providing the operator with the necessary information, instruction, training, supervision and appropriate safety equipment.

Other things you should consider

- Make sure control switches are clearly marked to show what they do.
- Have emergency stop controls where necessary, eg mushroom-head push buttons within easy reach.
- Make sure operating controls are designed and placed to avoid accidental operation and injury. Use two-hand controls where necessary and shroud start buttons and pedals.
- Do not let unauthorised, unqualified or untrained people use lifting equipment – never allow children to operate or help with lifting equipment. Some workers, eg new starters, young people or those with disabilities, may be particularly at risk and need instruction, training and supervision.
- Adequate training should ensure that those who use the equipment are competent to use it safely (they have the necessary skills, knowledge and experience), and are physically suited to the task.
- Make sure the work area around the equipment is kept clean and tidy, free from obstructions or slips and trips hazards, and well lit.

Dos and don'ts of equipment safety

As the dutyholder you should make sure that all employees likely to use lifting equipment, understand and follow these dos and don'ts:

Do…

- ✔ check the equipment is well maintained and fit to be used, ie appropriate for the job, working properly and all the safety measures are in place;
- ✔ make sure all parts, including attachments, can accommodate the load weight;
- ✔ use the equipment properly and in accordance with the manufacturer's instructions;
- ✔ make sure employees are wearing the appropriate protective clothing and equipment, required for that machine, such as safety glasses, head protection and safety shoes.

Don't…

- ✘ use equipment that has a danger sign or tag attached to it. Danger signs should only be removed by an authorised person who is satisfied that the equipment or process is now safe;
- ✘ remove any safeguards, even if their presence seems to make the job more difficult;
- ✘ wear dangling chains, loose clothing, rings or have loose long hair that could get caught up in moving parts;
- ✘ distract people who are using equipment.

Safe lifting by machine

If you are an employer or a self-employed person providing lifting equipment for use at work, or if you have control of the use of lifting equipment, you must make sure it is safe. Think about what risks there may be and how they can be managed. For example:

- damage or deterioration of the equipment or attachments caused by wet, abrasive or corrosive environments;
- trying to move weights that are too heavy and exceed the load limit of the machine;
- equipment failure;

- untrained workers planning the lift or using the equipment;
- people being struck by moving parts of the equipment or by things falling.

Safe lifting needs to be properly planned by a competent person, appropriately supervised and carried out safely. Any equipment you use must have been properly designed, manufactured and tested. Don't forget maintenance.

Factors you should consider

- What are you lifting, and what problems does it present?
- How heavy is it, and is this within the safe limits for the lifting gear?
- Where is its centre of gravity?
- How will you attach it to the lifting machinery?
- Who is in control of the lift?
- Could you rehearse the lift if necessary?

Dos and don'ts of lifting safely

Do:

✔ use only certified lifting equipment, marked with its safe working load, which is not overdue for examination;
✔ keep the reports of thorough examination as well as any declarations of conformity or test certificates;
✔ make sure the load is properly attached to the lifting equipment. If necessary, securely bind the load to prevent it slipping or falling off;
✔ before lifting an unbalanced load, find out its centre of gravity. Raise it a few inches off the ground and pause – there will be little harm if it drops;
✔ use packaging to prevent sharp edges of the load from damaging slings and do not allow tackle to be damaged by being dropped, dragged from under loads or subjected to sudden loads;
✔ when using jib cranes, make sure any indicators for safe loads are working properly and set correctly for the job and the way the machine is configured;
✔ use outriggers where necessary;
✔ when using multi-slings make sure the sling angle is taken into account;
✔ have a responsible slinger or banksman and use a recognised signalling system.

Don't…

✘ use unsuitable equipment, eg makeshift, damaged, badly worn chains shortened with knots, kinked or twisted wire ropes, frayed or rotted fibre ropes;
✘ exceed the safe working load of machinery or accessories like chains, slings and grabs. Remember that the load in the legs of a sling increases as the angle between the legs increases;
✘ lift a load if you doubt its weight or the adequacy of the equipment.

Equipment maintenance

Why is maintenance of equipment important?

Additional hazards can occur when equipment becomes unreliable and develops faults. Maintenance allows these faults to be diagnosed early and corrected to manage any risks. However, maintenance needs to be correctly planned and carried out. Unsafe maintenance has caused many fatalities and serious injuries either during the maintenance or to those using the badly or wrongly maintained/ repaired equipment.

An effective maintenance programme will make equipment more reliable. Fewer breakdowns will mean less dangerous contact with equipment is required, as well as having the cost benefits of better productivity and efficiency.

LOLER requires lifting equipment to be maintained so that it remains safe and that maintenance is carried out safely.

What do I have to do?

If you are an employer and you provide lifting equipment you need to demonstrate that you have arrangements in place to make sure they are maintained in a safe condition.

Think about what hazards can occur:

- if equipment or an attachment breaks during use;
- equipment starts up unexpectedly;
- there is contact with materials that are normally enclosed within the machine, ie caused by leaks/breakage/ejection etc;
- if a load or part of a load falls.

Failing to correctly plan and communicate clear instructions and information before starting maintenance can lead to confusion and can cause accidents. This can be a particular problem if maintenance is carried out during normal production work or where there are contractors who are unfamiliar with the site.

Extra care is also required if maintenance involves:

- working at height or when doing work that requires access to unusual parts of the building;
- entering vessels or confined spaces where there may be toxic materials or a lack of breathable of air.

How can I do it?

Establish a planned maintenance programme and a reporting procedure for workers who may notice problems while working on machinery.

Some items of equipment may have safety-critical features where deterioration would cause a risk. You must have arrangements in place to make sure the necessary inspections take place.

But there are other steps to consider:

Before you start maintenance

- Decide if the work should be done by specialist contractors. Never take on work for which you are not competent or not prepared.
- Plan the work carefully before you start, ideally using the manufacturer's maintenance instructions, and produce a safe system of work. This will reduce the risks and avoid unforeseen delays.
- Make sure maintenance staff are competent and have appropriate clothing and equipment.
- Try and use downtime for maintenance. You can avoid the difficulties in co-ordinating maintenance and lost production if maintenance work is performed before start-up or during shutdown periods.

Safe working areas

- You must provide safe access and a safe place of work.
- Don't just focus on the safety of maintenance workers – take the necessary precautions to ensure the safety of others who may be affected by their work, eg other employees or contractors working nearby.
- Set up signs and barriers and position people at key points if they are needed to keep other people out.

How do the Regulations relate to other health and safety legislation?

The requirements of the Regulations need to be considered alongside other health and safety law. For example, section 2 of the HSW Act requires all employers to ensure, so far as is reasonably practicable, the health, safety and welfare of all their employees. Similarly, the Management Regulations contain important duties which relate to the carrying out of a risk assessment to identify measures that you can take to eliminate, or reduce, the risks presented by the particular hazards in your workplace (see Further information).

Other more specific legislation, for example the Personal Protective Equipment at Work Regulations 1992, may also apply. Under these particular Regulations there may be a need to provide a safety harness for rope access work during activities such as window cleaning.

Further reading

Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and guidance L113 HSE Books 1998 ISBN 978 0 7176 1628 2 www.hse.gov.uk/pubns/books/l113.htm

Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22 (Third edition) HSE Books 2008 ISBN 978 0 7176 6295 1 www.hse.gov.uk/pubns/books/l22.htm

Providing and using work equipment safely: A brief guide to the law Leaflet INDG291(rev1) HSE Books 2013 www.hse.gov.uk/pubns/indg291.htm

Managing health and safety: Five steps to success Leaflet INDG275 HSE Books 1998 www.hse.gov.uk/pubns/indg275.htm

Buying new machinery: A short guide to the law and your responsibilities when buying new machinery for use at work Leaflet INDG271(rev1) HSE Books 2011 www.hse.gov.uk/pubns/indg271.htm

Workplace transport safety: An employers' guide HSG136 (Second edition) HSE Books 2005 ISBN 978 0 7176 6154 1 www.hse.gov.uk/pubns/books/hsg136.htm

Workplace transport safety: A brief guide Leaflet INDG199(rev1) HSE Books 2013 www.hse.gov.uk/pubns/indg199.htm

Hiring and leasing out of plant: Application of PUWER 98, regulations 26 and 27 MISC156 HSE Books 1998 www.hse.gov.uk/pubns/9204.pdf

Risk management web pages: www.hse.gov.uk/risk/

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at www.hse.gov.uk/pubns/indg290.htm.