# HSE GUIDANCE

# SAFELY USING LIFTING EQUIPMENT



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# Introduction

This guidance provides general information about the requirements of the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) (1999 in Northern Ireland). 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. For more detailed guidance, please look to the regulations and any approved codes of practice. Make sure to also consider other health and safety regulations that may apply.

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## What equipment is covered by LOLER?

Lifting equipment includes any equipment used at work for lifting or lowering loads, including attachments used for anchoring, fixing or supporting loads. LOLER covers 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 (1993 in Northern Ireland).

Lifting equipment provided by employees is covered by and should comply with LOLER.

## Does LOLER apply to me?

If you are an employer or a self-employed person who is providing lifting equipment for use at work, or you have control of the use of lifting equipment, then LOLER applies to you. It does not apply if you provide equipment to be used primarily by members of the public; for example, lifts in a shopping centre. However, circumstances such as these are covered by the Health and Safety at Work etc. Act 1974 in Great Britain and the Health and Safety at Work (Northern Ireland) Order 1978 (HSW Act and Order).

While your employees do not have specific duties under LOLER, they are responsible for taking reasonable care of themselves and others who may be affected by their actions and are also expected to cooperate with others under the HSW Act and Order and the Management of Health and Safety at Work Regulations 1999 (2000 in Northern Ireland.).

# What am I required to do?

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

- Sufficiently strong, stable and suitable for its intended use. Similarly, the load and anything attached (eg timber pallets, lifting points) must be suitable.
- Positioned or installed in order to prevent the risk of injury—eg from the equipment itself or from a load falling.
- Visibly marked with any appropriate information to be taken into account for its safe use. 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.
- Equipment used for lifting people is marked accordingly, and that all necessary precautions have been taken to eliminate or reduce any risk.
- When appropriate, lifting equipment is thoroughly examined (including accessories) before it is used for the first time. Lifting equipment may need to be thoroughly examined in use at periods specified in LOLER (ie at least bi-yearly for accessories and equipment used for lifting people, and at a minimum, yearly for all other equipment) or at intervals laid down in an examination scheme drawn up by a competent person (someone with the necessary skills, knowledge and experience). All examination work should be performed by a competent person.
- Following a thorough examination or inspection of any lifting equipment, a report is submitted by the competent person to the employer in order 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 by material that drops or is ejected. Parts of the body can also be drawn in or trapped between moving parts, such as rollers, belts, chains and pulley drives.
- Sharp edges can cause cuts and severing injuries, sharp points can stab or puncture the skin, and rough-surface parts can cause friction or abrasion to the skin.
- People can be crushed between parts moving together or towards a fixed part of the machine, wall or other object, two parts moving past one another can also cause severing and other major injuries.
- Parts of the machine, materials and emissions (such as steam or water) can be hot enough to cause burns or scalds, electricity can also 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 due to inexperience or lack of training.
- Parts of the equipment may fail and loads may drop.





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# 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 the instructions that are provided with the equipment, and make sure they are included in the safe system of work.

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- Make sure that 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 it should be supplied with a Declaration of Conformity as well as 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; and
- Properly switched off, isolated or locked-off before any action is taken to remove blockages, clean the equipment or make adjustments.

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 do either, take appropriate action to resolve the reasons for their actions.

## 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 it may also be easily damaged. Where you use wire mesh or similar materials, make sure the holes are not large enough to allow access to moving parts.

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- If fixed guards are not practicable, use other methods; for example, interlock the guard so that the equipment cannot be activated 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 to 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. Some workers, such as new hires, 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 and are physically suited for the task.
- Make sure the work area around the equipment is kept clean and tidy, free from obstructions or and trip hazards, and well lit.

# Dos and don'ts before lifting

	Do		Don't
•	Check that the equipment is well-maintained and fit to be used (ie appropriate for the job), working properly, and that all of the safety measures are in place.	•	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.
•	Make sure all parts, including attachments, can accommodate the load weight.	•	Remove any safeguards, even if their presence seems to make the job more difficult.
•	Use the equipment properly and in accordance with the manufacturer's instructions.	•	Wear dangling chains, loose clothing, rings, or long, unrestrained hair that could get caught up in moving parts.
•	Make sure employees are wearing the appropriate protective clothing and equipment required for that machine, such as safety glasses, head protection and safety shoes.	•	Distract people who are using equipment.

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# 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.

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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; or
- 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 be properly designed, manufactured and tested, and must also receive regular maintenance.

## Main factors to consider

- What are you lifting, and what problems does it present?
- How heavy is it, and is this weight 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?



## Dos and don'ts when lifting

Do	Don't
<ul> <li>Only use certified lifting equipment, marked with its safe working load, which is not overdue for examination.</li> <li>Keep the reports of thorough examination as well as any declarations of conformity or test certificates.</li> <li>Make sure the load is properly attached to the lifting equipment. If necessary, securely bind the load to prevent it from slipping or falling off.</li> <li>Before lifting an unbalanced load, find out its centre of gravity. Raise it a few centimetres off the ground and pause—there will be little harm if it drops.</li> <li>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.</li> <li>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.</li> <li>Use outriggers where necessary.</li> <li>When using multi-slings, make sure the sling angle is taken into account.</li> <li>Have a responsible slinger or banksman, and use a recognised signalling system.</li> </ul>	<ul> <li>Use unsuitable equipment—eg makeshift or damaged equipment, badly worn chains shortened with knots, kinked or twisted wire ropes, frayed or rotted fibre ropes, etc.</li> <li>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.</li> <li>Lift a load if you're uncertain of its weight or the adequacy of the equipment.</li> </ul>



# Equipment Maintenance

Additional hazards can occur when equipment becomes unreliable and develops faults. Maintenance allows these faults to be diagnosed early and corrected in order to manage any risks. However, maintenance needs to be correctly planned and carried out. Unsafe maintenance can cause many fatalities and serious injuries to those using improperly maintained/repaired equipment.

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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 the equipment remains safe to use.

# 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 that lifting equipment is maintained in a safe condition.

Think about what hazards can occur if:

- Equipment or an attachment breaks during use;
- Equipment activates unexpectedly;
- There is contact with materials that are normally enclosed within the machine, caused by leaks/breakage/ejection, etc; or
- AA 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 when 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; or
- Entering vessels or confined spaces where there may be toxic materials or a lack of breathable 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 occur.



However, 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 to use downtime for maintenance. You can avoid the difficulties in coordinating 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, such as other employees or contractors working nearby.
- Set up signs and barriers, and position people at key points if they are needed in order to keep other people out.

