

Lifting equipment at work

A brief guide



INDG474
Published 2017

Introduction

This leaflet is mainly for dutyholders (employers, the self-employed and people who have some level of control over lifting equipment). It provides advice on the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) which deal with the specific risks associated with the use of lifting equipment. It describes what you should do to protect yourself, your employees and others in the workplace. It will also be useful to employees and their representatives.

LOLER covers work equipment in workplaces where the Health and Safety at Work etc Act 1974 (the HSW Act) applies, this includes factories, offshore installations, agricultural premises, construction sites, offices, shops, hospitals, hotels, places of entertainment etc.

As a dutyholder you should refer to the regulations and Approved Code of Practice to familiarise yourself fully with your duties (see *Safe use of lifting equipment*¹).

This leaflet supplements *Providing and using work equipment safely* (INDG291),² which deals with the general duties relating to work equipment required by the Provision and Use of Work Equipment Regulations 1998 (PUWER).

What equipment is covered by LOLER?

There are two important definitions you need to know:

- 'Lifting equipment' means equipment used at work for lifting or lowering loads. The definition includes attachments used to anchor, fix or support the equipment (eg the runway for an overhead crane).
- 'Accessory for lifting' means lifting equipment for attaching loads to machinery for lifting.

The scope of LOLER is very wide and covers a range of work equipment, including:

- cranes;
- industrial lift trucks;
- telehandlers;
- passenger lifts;
- hoists;
- mobile elevating work platforms;
- scissors lifts;
- vehicle lifts;
- vehicle tail lifts;
- dumb waiters;
- bath hoists.

It also includes lifting accessories such as:

- slings;
- hooks;
- shackles;
- eyebolts;
- clamps and grabs;
- magnets;
- vacuum lifters;
- crane forks;
- lifting beams;
- spreaders etc.

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

What equipment is not covered by LOLER?

Some equipment used in lifting is not covered by LOLER, for example equipment whose principal function is not lifting, such as conveyor belts, or the three-point linkage on a tractor. Where this is the case, you would still have duties under PUWER to ensure the work equipment is safe and suitable.

LOLER does not apply if you provide equipment to be used primarily by members of the public, such as passenger lifts in shopping centres or train stations. However, you still have duties under the HSW Act to ensure the equipment is safe. Following the requirements in LOLER will help you meet those duties.

LOLER does not apply to escalators, which are covered more specifically by the Workplace (Health, Safety and Welfare) Regulations 1992.

Items such as pallets, skips, ladles, one-trip integral slings attached to a load and similar containers are considered part of the load. They are not subject to the requirements relating to lifting equipment and accessories for lifting. However, LOLER does require every part of a load and anything attached to it and used in lifting to be of adequate strength.

What does LOLER 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 and when appropriate, lifting equipment (including accessories) is thoroughly examined by a competent person and appropriate action taken regarding subsequent examination/inspection reports (see 'Thorough examination' section for details).

What can go wrong?

Using lifting equipment can present a number of hazards:

- people can be hit and injured by:
 - moving parts;
 - dropped loads;
 - unplanned or unintended movement or release of loads;
- people can be crushed both between moving loads and parts of the machine, walls or other objects;
- parts of the body can be drawn in or trapped between rollers, belts, chains and pulley drives;
- lifting equipment or accessories for lifting can become unreliable and develop faults due to poor maintenance, or machines may be used improperly through inexperience or lack of training;
- parts of the equipment may fail and loads may drop.

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 that the work is carried out safely and the right equipment for the task is used. 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;
- equipment failure;
- untrained workers planning the lift or using the equipment;
- trying to move loads that exceed the load limit of the machine;
- uncontrolled movement of the load or the equipment.

Safe lifting needs to be properly planned by a competent person, appropriately supervised and carried out safely taking into account the environment and operating conditions. 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 equipment and accessories?
- 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?
- Are there any additional risks, eg from high winds or other weather conditions?
- The route of the lift – will the load be lifted over an occupied area?

Dos and don'ts of lifting safely

Do

- Use equipment that is marked with its safe working load, which is not overdue for examination, or is new with an EC Declaration of Conformity less than one year old, and was not assembled on site for this lift.
- Plan the lifting work, identifying the equipment, people and method of lifting.
- 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 packing to prevent sharp edges of the load from damaging slings and do not allow equipment 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-leg slings make sure the sling angle is taken into account.
- Have a responsible slinger or banksman and use a recognised signalling system.
- Check weather conditions where the lift could be affected.
- Keep the reports of thorough examination as well as any declarations of conformity or test certificates (see 'Thorough examination' section).

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?

Lifting equipment must be maintained to ensure it is safe for use. The frequency of maintenance is determined by a number of factors, including:

- the environment in which it is used;
- the frequency of use;
- the consequences of failure;
- the people using the equipment.

Thorough examination

The following explains the options under LOLER relating to the requirement for thorough examination of lifting equipment and explains the benefits of having an 'examination scheme'. However, this does not replace the necessity for operators to carry out checks to lifting equipment and accessories before use.

Thorough examination and inspection are key requirements of LOLER. To meet these requirements dutyholders must:

- ensure lifting equipment (including lifting accessories) exposed to conditions causing deterioration, which could lead to dangerous situations, undergoes regular thorough examination by a competent person;
- ensure all supplementary inspections, tests and repairs recommended by the competent person are carried out within the timescale stated.

What is thorough examination?

A thorough examination is a systematic and detailed examination of the lifting equipment by a competent person to detect any deterioration and/or defects that are, or might become, dangerous.

Who is a 'competent person'?

A competent person:

- should have enough appropriate practical and theoretical knowledge and experience of the lifting equipment so that they can detect defects or weaknesses, and assess how important they are in relation to the safety and continued use of the equipment;
- should not normally be the same person who performs routine maintenance unless the level of risk of injury in the event of equipment failure is small. Having a second person carrying out the thorough examination means a different person reviewing the safety of the equipment rather than the maintenance person assessing their own work;
- should be sufficiently independent and impartial to make objective decisions;
- may be employed by a separate company, or selected by an employer from members of their own staff.

How often must lifting equipment and accessories be thoroughly examined?

You must have lifting equipment thoroughly examined:

- **before using it for the first time** – unless the equipment has an EC Declaration of Conformity less than one year old and was not assembled on site. If it was assembled on site it must be examined by a competent person to establish the assembly was correct and safe, eg a lift installed in a building;
- **after assembly and before use at each location** for equipment that requires assembly or installation before use, eg tower cranes;
- **regularly in service** – all lifting equipment deteriorates in use and should be thoroughly examined so that deterioration can be detected in sufficient time to allow remedial action to be taken. Deterioration can occur more quickly in certain conditions such as wet, abrasive or corrosive environments, and this equipment may need to be thoroughly examined more frequently. You have a choice. You can arrange for the thorough examination to be carried out either:
 - at regular intervals: at least every six months for lifting accessories and equipment used to lift people; and at least every 12 months for other lifting equipment (as in Table 1); or
 - in accordance with an examination scheme drawn up by a competent person. The competent person will determine the level of thorough examination required based on an assessment of the risks;
- **following 'exceptional circumstances'** – eg if it is damaged or fails; after an accident or dangerous occurrence; following a substantial or significant modification or repair; if it is out of use for long periods; or if there is a major change in how it is used which is likely to affect its integrity.

Table 1 In-service examination periods (maximum period where no examination scheme exists)

Type of equipment	6 months	12 months
Accessory for lifting	✓	
Equipment used to lift people	✓	
All other lifting equipment		✓

What is an examination scheme?

An examination scheme involves a thorough examination and would include a detailed schedule of checks, appropriate examination techniques and testing requirements drawn up to suit the operating conditions of a specific item of lifting equipment. This can help ensure that the resources you spend more accurately reflect the level of risk. The examination scheme:

- should identify the parts of the lifting equipment to be thoroughly examined;
- can cover a number of similar items subject to the same operating conditions, eg lifting accessories which are sufficiently similar in age and subjected to similar amounts of use;
- may often specify periods that are different (longer or shorter) from the ‘periodic’ examination intervals (ie six or 12 months), but a longer period must be based on a rigorous assessment of the risks;
- can be drawn up by the user, owner, manufacturer or some other independent person, as long as they have the necessary competence;
- should be reviewed regularly, during each thorough examination and after any event that may alter the risks associated with the lifting equipment. You must inform the competent person of any incidents that may affect the risks associated with the use of the equipment and of any recent or imminent changes in the use of the lifting equipment which may affect the examination scheme.

When should lifting equipment be inspected?

Under LOLER, lifting equipment may also need to be inspected at suitable intervals between thorough examinations. This is usually where your risk assessment has identified a significant risk from the use of the equipment. If they are required:

- the scope and frequency will depend on the opinion of the competent person;
- most manufacturers of lifting equipment can provide a guide on how often inspections should take place;
- inspections would normally include visual and functional checks;
- inspections should be regular (eg weekly, monthly or quarterly) and they are normally carried out on machinery (eg cranes). Lifting accessories such as chains or slings will not normally require an inspection as long as they receive a thorough examination at the appropriate interval and a proper pre-use check;
- the schedule of inspections should be included in any examination scheme.

Do I need to have the non-lifting parts of the equipment inspected?

Yes. PUWER requires all work equipment that is exposed to conditions causing deterioration which may result in dangerous situations to be inspected. For some lifting equipment, such as forklift trucks, you will need to inspect both the distinct

lifting elements as well as the non-lifting elements.
Using a forklift truck as an example:

- the thorough examinations and supplementary inspections (where required) will be carried out under LOLER and limited to the lifting mechanism (eg the chains and forks);
- inspection under PUWER will be limited to the non-lifting parts such as the brakes, lights and fall-over protection;
- the maintenance of both the lifting and non-lifting parts of the truck will be carried out under PUWER.

In cases like these, the LOLER and PUWER inspection procedures can be combined if appropriate. Your competent person can advise you on this also; see 'Further information'.

There may also be times when additional checks are required, for example some mobile equipment may require an MOT certificate to allow it to be driven on roads. Neither a LOLER thorough examination nor a PUWER inspection would serve the same purpose or remove this need.

Are thorough examinations or inspections the same as routine maintenance?

No. Routine maintenance typically involves checking and replacing worn or damaged parts, lubrication, replacing time-expired components, topping up fluid levels and making routine adjustments. This is to ensure the equipment continues to operate as intended and risks associated with wear or deterioration are avoided.

Thorough examination may indicate areas of poor maintenance, but is not intended to replace it. You should not wait for the results of a thorough examination before carrying out maintenance on your lifting equipment. Maintenance is a requirement under PUWER and applies to all work equipment, including lifting equipment.

Do I need to keep records?

Yes. You must keep records of all thorough examinations and inspections for all your lifting equipment (see Table 2).

The competent person must provide you with a written report of thorough examination and any inspections or tests they do. The report will identify if there are defects and what you must do to put them right. Schedule 1 of LOLER¹ sets out what information must be in the report.

Table 2 Record-keeping

Type of examination or inspection	How long to keep records
Thorough examination before first use.	Lifting equipment – the EC Declaration of Conformity should be retained until the employer ceases to use the lifting equipment. Lifting accessories – for two years.

Thorough examination before use where the safety of the equipment depends on the installation conditions.	Until the equipment is no longer in use at the place where it was installed/assembled.
In-service thorough examination (six-monthly, 12-monthly or examination scheme).	Until the next report is made or two years, whichever is the later.
In-service inspections/tests.	Until the next report is made.

What happens if defects are found in the lifting equipment?

- If the competent person finds a defect with the lifting equipment or accessory during the thorough examination and/or inspection which in their opinion is, or could become, a danger to people, they must tell you and confirm this in the report of thorough examination/inspection.
- If the competent person discovers a defect that involves an existing or imminent risk of serious personal injury, they must tell you immediately and send a copy of the report to the relevant enforcing authority (usually HSE or the local authority), even if the defects are remedied immediately. A competent person who fails to report a defect, simply because it has been remedied on the spot, is disguising a potentially dangerous situation.
- You must take action to rectify any defect you are told about. **If you are notified of a serious and significant defect you must immediately take the lifting equipment out of service until the defect has been put right. If you do not, you will be breaking the law.**
- For defects that need to be rectified within a certain timescale, you must repair or replace the defective equipment within the specified time, and not use it after that time unless the defect has been satisfactorily put right.

Other duties

You have additional duties under other health and safety laws. For example, you have a duty under the Management of Health and Safety at Work Regulations 1999 to carry out a risk assessment (see HSE's website at www.hse.gov.uk/simple-health-safety/manage.htm).

You must consult your employees (either directly or via safety representatives) in good time on health and safety matters. Issues you must consult employees on include:

- risks arising from their work;
- proposals to manage and/or control these risks;
- the best ways of providing information and training.

Employers can ask employees and their representatives what they think the hazards are, as they may notice things that are not obvious and may have some good, practical ideas on how to control the risks. See the worker involvement website for more information on consulting employees (www.hse.gov.uk/involvement).

Employees

Employees have general legal duties to take reasonable care of themselves and others who may be affected by their actions, and to cooperate with their employer to enable their health and safety duties and requirements to be complied with.

For an employee, or those working under someone else's control, the law says they must:

- report any safety hazard they identify to their employer;
- use the equipment and safety devices supplied or given to them properly, in accordance with any training and instructions (unless they think that would be unsafe, in which case they should seek further instructions before continuing).

References

1 *Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and guidance* L113 HSE 1998
www.hse.gov.uk/pubns/books/l113.htm

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

Further reading

Thorough examination and testing of lifts: Simple guidance for lift owners Leaflet
INDG339(rev1) HSE 2008 www.hse.gov.uk/pubns/indg339.htm

Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22 (Fourth edition) HSE 2014
www.hse.gov.uk/pubns/books/l22.htm

Workplace health, safety and welfare: A short guide for managers Leaflet
INDG244(rev2) HSE 2007 www.hse.gov.uk/pubns/indg244.htm

Risk assessment: A brief guide to controlling risks in the workplace Leaflet
INDG163(rev4) HSE 2014 www.hse.gov.uk/pubns/indg163.htm

How the Lifting Operations and Lifting Equipment Regulations apply to health and social care Health Services Information Sheet HSIS4(rev1) HSE 2012
www.hse.gov.uk/pubns/hsis4.htm

A number of industry associations have also produced guidance on thorough examinations, including the British Industrial Truck Association (BITA) (www.bita.org.uk), the Fork Lift Truck Association (FLTA) (www.fork-truck.org.uk), the Society of Operations Engineers (SOE) (www.soe.org.uk) (vehicle tail lifts) and the Safety Assessment Federation (SAFed) (www.safed.co.uk).

Guidance on the safe use of lifting equipment has also been produced by the Lifting Equipment Engineers' Association (LEEA) (www.leea.co.uk), the International Powered Access Federation (IPAF) (www.ipaf.org) and the Construction Plant-hire Association (CPA) (www.cpa.uk.net). You can find further information on their websites.

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/indg474.htm

© *Crown copyright* If you wish to reuse this information visit www.hse.gov.uk/copyright.htm for details. First published 04/17