

Safety Code of Practice 41

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LIFTING OPERATIONS AND EQUIPMENT



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1 SUMMARY

The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 cover all aspects of lifting that is done wholly or partly by mechanical means. It does not include lifting done entirely by manual handling. Whether lifting objects or persons the risk to people must be minimised. This guide sets out how this may be achieved by forward planning of lifting operations and thorough examination of the lifting equipment. It includes guidance on the use and maintenance of passenger and goods lifts.

Everyone in the University has responsibilities under LOLER, even if they are just a passenger in a lift. This guide defines those responsibilities. A checklist is provided for planning lifting operations.

Any School/Directorate/Department/Unit that is responsible for lifting equipment (which includes hoists, cranes, fork lift trucks, chains, ropes, lifting accessories, jacks and lifting beams) must:

- Identify all lifting operations and equipment;
- Appoint a competent person(s) to be responsible for each item of lifting equipment owned or used by the School/Directorate/Department/Unit;
- Ensure that lifting operations are planned, undertaken and supervised by trained and competent persons;
- Maintain lifting equipment;
- Examine and inspect lifting equipment as required under LOLER, or in accordance with a written scheme of examination that has been drawn up by a competent person;
- Keep inspection, test and maintenance records;
- Ensure that before lifting equipment is used, it is examined by the user for any signs of physical damage, and if damaged is taken out of use;
- Ensure that lifting equipment is sufficiently strong, stable and suitable for the proposed use;
- Ensure that the load and anything attached (e.g. timber pallets, lifting points) are suitable;
- Ensure that lifting equipment is positioned or installed to prevent the risk of injury, e.g. from the equipment or the load falling or striking people;
- Ensure that lifting equipment and accessories e.g. slings, clamps, are visibly marked with information to be taken into account for its safe use e.g. safe working loads.

Safety Note 41 provides guidance on passenger lift safety.

2 SCOPE

This Guide sets out what managers, staff, students and tenants have to do to ensure the safety of people when using lifting equipment or when using passenger and goods lifts.

When an object or person is lifted and lowered there are risks from:

- Equipment failure resulting in the object or person being lifted or lowered to fall, injuring persons beneath;
- Collapse of equipment or its components which fall onto persons causing injury;
- During the operation of lifting equipment persons being injured by being crushed, struck or falling.

NB: In the majority of cases a lifting operation will incorporate an element of manual handling. Safety Guide 37 Manual Handling refers.

2.1 Definitions

"Lifting equipment" is defined as items whose primary function is the lifting or lowering of a load. This includes: cranes, lift trucks, goods and passenger lifts, hoists, elevating access or work platforms, tractor front-end loaders; and the "lifting accessories" such as ropes, chains, shackles, eye bolts etc.

A "lifting operation" is that which is concerned with use of lifting equipment in the lifting or lowering of a load.

Guidance:

Within the University many Schools/Directorates/Departments/Units will have equipment and operations that they may not traditionally associate with lifting or lowering loads. Examples include ropes used for climbing or work positioning during arboriculture; fall arrest systems for working at height; vehicle tail lifts; mobile elevating work platforms (MEWPs).

'FMD' refers to the Facilities Management Directorate. FMD is responsible for passenger and goods lifts throughout the University.

"Competent person" with regard to thorough examination of lifts and lifting equipment is a person/organisation with sufficient technical and practical knowledge to be able to detect any defects and assess how significant they are. The competent person should be sufficiently independent and impartial to allow them to make an objective assessment.

Guidance:

It is not advisable for the same person who performs routine maintenance to carry out the thorough examination, as they are then responsible for assessing their own work.

The competent person appointed by the University for conducting thorough examinations is currently the engineer surveyor of Royal Sun Alliance, appointed by FMD. The 'thorough examination' is also termed an 'insurance inspection'.

3 RESPONSIBILITIES

The primary regulations applicable to this guide are the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998.

3.1 Duties on managers

Heads of Schools/Directorates/Departments/Units and other managers must:

- Ensure that all lifting operations undertaken by their staff or students are identified;
- Ensure the operators and their supervisors are given the necessary information, instruction and training;
- Ensure that initial planning is carried out by those with appropriate knowledge and expertise – i.e. the right equipment and resources are chosen for the task;
- Ensure that the individual lifting operations are planned and carried out by persons with appropriate knowledge and expertise – i.e. establish a safe method of work;
- Ensure that the lifting equipment satisfactorily maintained;

- Ensure that lifting equipment, machinery and accessories for lifting loads and people are strong and stable enough for the particular use and are clearly marked to indicate their safe working loads;
- Ensure that lifting equipment is positioned and installed to minimise risks;
- Ensure that lifting equipment which is designed for lifting people is clearly marked to this effect and vice versa for equipment not designed for lifting people e.g. goods lifts;
- Cooperate with arrangements made for thorough examination and testing by a 'competent person' (i.e. the 'insurance inspector') followed by resultant remedial work;
- Ensure that LOLER is complied with where relevant and the risk of the use of lifting equipment is satisfactorily controlled;
- Seek further information and advice as necessary, before lifting operations are undertaken.

3.2 Duties of staff, building occupants, tenants, students

All staff, students and other building occupants e.g. tenants and members of the public, must:

- Not use lifting equipment unless they have been properly trained and are supervised by a competent person;
- Not travel in goods lifts;
- Not overload passenger or goods lifts;
- Report any defects associated with passenger or goods lifts to FMD (via the FMD Help Desk, extension 7000);
- In the event of being trapped, follow the emergency procedures in the lift and use the telephone or intercom to contact Security (See Safety Note 41 for further information);
- Never attempt to escape from a broken down lift.

3.3 Duties of the Deputy Head of Maintenance (FMD Operational Duty Holder)

FMD are responsible for meeting the requirements of LOLER in so far as they apply to goods and passenger lifts. Therefore responsibilities for the safe installation, commissioning, maintenance, inspection and test are delegated to the FMD Deputy Head of Maintenance (FMD Operational Duty Holder). The Duty Holder may engage competent third parties to assist with this. The Duty Holder must ensure, where lifting equipment is maintained by FMD, that:

- A risk assessment is completed and current for each passenger and goods lift and lifting operation;
- The thorough examination of lifts are carried out at the appropriate intervals by a competent person and resultant remedial work is carried out in a timely fashion;
- Inspections and maintenance are carried out between the examinations in accordance with the equipment manufacturer's information and the risk assessment;
- Where necessary, a written scheme of examination is prepared for lifting equipment (see section 6.1);
- Adequate records are kept, in compliance with LOLER.

The Duty Holder may engage competent third parties to assist with meeting these duties. The arrangements for doing so, including a written description of the responsibilities of the various parties, should be included in a lift procedures manual held by the Duty Holder. This manual must be available to colleagues in FMD.

Guidance:

Monthly inspections are carried out on all passenger and goods lifts by the University's appointed lift contractor, who will agree any resultant remedial works with FMD.

The University's appointed lift consultant carries out quality checks on the lifts to ensure that the works have been completed satisfactorily. They also prepare specifications for new lifts and witness test the lift installation and commissioning.

The FMD Lift Procedures Manual is held on the FMD Maintenance web portal. The web portal also gives access to competent persons' reports, risk assessments, inspection reports and overload test certificates.

4 PLANNING LIFTING OPERATIONS

4.1 Risk assessment

A risk assessment should be undertaken to identify the risks of the proposed lifting operation and to assist with the selection of measures to eliminate or adequately control the risks, proportionate to that magnitude of risk. NB. The requirement for a risk assessment is embodied in LOLER reg. 8 - the requirement for lifting operations to be planned.

4.2 Initial planning

The lifting operation must be properly planned by a competent person; appropriately supervised; and carried out in a safe manner. The degree of planning will vary considerably - depending upon the type of lifting equipment to be used and the complexity of the lifting operation for which it will be used. NB Supervision does not necessarily mean the direct physical presence of a supervisor at all times.

This preliminary action must ensure that the equipment selected is suitable for the range of tasks that it will have to carry out (PUWER reg. 4). It must be strong and stable enough for the particular use, and must be installed correctly.

Guidance: Checklist to assist in the selection of suitable lifting equipment

Consider:-

The weight and nature of the load to be lifted

What lifting accessories are needed?

Where is the load to be moved from and to?

How often will the equipment be used for this task?

In what environment will the equipment be used?

Who is to take part in the lifting operation and what are their competencies?

For routine operations an initial plan may only be required once – but occasionally reviewed.

4.3 Planning of individual lifting operations

For routine lifting operations the planning of each individual lifting operation will be a matter for the operators who have the appropriate knowledge, training and expertise.

For complex lifting operations it may be necessary to plan the task on each occasion it is carried out - see Appendix 1.

Guidance: An example of an action sequence for an individual routine lifting operation

Assess the load

Select any appropriate accessories

Check the path of the load

Prepare its setting-down position

Check the condition of the equipment and any accessories

Secure the load

Make the lift

Release the load

Repeat the above as necessary

Check the equipment condition

Return equipment to appropriate place

Where practicable, loads must not be carried or suspended over areas occupied by persons. This is particularly important where the load is being lifted over areas used by persons not engaged in the lifting operation e.g. other members of staff, students or members of the public.

Arrangements must be put in place to prevent unauthorised access to the area under the load e.g. barriers or tapes. It will not normally be sufficient to direct people away from the area, without physical precautions to prevent access.

5 INFORMATION, INSTRUCTION, TRAINING AND SUPERVISION

Appropriate supervision (see LOLER and the Health & Safety at Work etc. Act) will be proportionate to the risk i.e. the level of supervision will be determined by the nature of the work, and the competence of those involved in using the equipment and assisting with the operation.

Information and instruction must be provided for safe use of the equipment. Operators and those supervising the operation must receive training which should:

- Enable staff to identify that lifting equipment is, or is not, safe to use;
- Enable staff to carry out pre-use checks on the lifting equipment, to identify faults or damage;
- Enable staff to use equipment safely.

6 LIFTING OF PERSONS

A higher risk is recognised when lifting equipment is used to lift persons. More stringent requirements (LOLER reg. 5) are imposed for this equipment. These requirements are for measures to:-

- Prevent a person using the lift/lifting equipment being crushed, trapped or struck or falling from the carrier;
- Prevent the carrier falling;
- Ensure a person trapped in a carrier can be freed.

People should only be raised on work equipment that is specifically designed for that purpose. In exceptional circumstances, people can be lifted by other machines provided that they have a

purpose-made carrier suitably constructed and attached. Nobody should ever be lifted in a loader bucket, on the forks of a fork-lift truck or a similar attachment not designed for the purpose.

Where a person in a carrier (work platform) might fall and be injured:

- The carrier should be fitted with edge protection which should be suitable for the purpose and should be securely fixed to the carrier;
- The edge protection should be sufficiently high and be either solid, mesh or, if in the form of rails, should have a top rail, intermediate rail and a toe board;
- The lifting equipment to which the carrier is attached should have a device to prevent the carrier becoming detached. This includes the basic attachment of the carrier to its lifting machine as well as any other devices necessary, e.g. if a carrier is fitted on a telescopic loader the loader would need to have a hydraulic lock-off valve for the tilt mechanism;
- A means of escape from the carrier should be available. This could include a ladder stored nearby.

The requirement for thorough examination and inspection for lifting equipment used to lift people is at a greater frequency, particularly where equipment is exposed to conditions liable to cause its deterioration - see Section 6.

7 THOROUGH EXAMINATION AND INSPECTION

7.1 Thorough examination

Thorough examinations must be carried out by a competent person:

- Initially, before equipment is taken into service;
- Following installation where safety is dependent on correct installation;
- Following any exceptional event (such as an accident) or long period without use;
- Periodically where lifting equipment is exposed to conditions which may cause deterioration which could lead to a dangerous situation.

The periods between routine thorough examinations are:

- Every 6 months for passenger lifts and other lifting equipment which lifts persons;
- Every 6 months for lifting accessories;
- Every 12 months for cranes and all other lifting equipment.

The above periods specified in LOLER may be varied if the competent person considers it appropriate. In this case a written examination scheme must be prepared with regard to the equipment's assessed risk.

7.2 Inspections

Inspections between the thorough examinations may, as an outcome of the risk assessment, be found to be necessary. These may consist of functional checks and visual examinations at suitable intervals. They will normally be required where the safe operation of the lifting equipment is dependent on its condition in use and deterioration could lead to significant risks. Examples of such conditions include:

- Rapid wear from use in an arduous environment;

- Failure through repeated operation;
- Malfunction;
- Tampering with safety devices.

The inspection schedule that is appropriate will take account of the risk assessment and the equipment manufacturer's information. The person to decide upon this schedule is likely to be the same competent person who conducted the Initial Planning (see 3.1).

Any person carrying out elements of the inspection schedule, e.g. the operator, user or supervisor, must have an appropriate level of competence to do so.

Lifting equipment which may require regular inspection is likely to include fork-lift trucks and hoists. Lifting accessories such as chains or slings will not normally require an inspection so long as they receive a thorough examination at an appropriate interval, and a proper pre-use check.

7.3 Pre-use checks

Pre-use checks must be carried on the lifting equipment before the lifting equipment is used by an operator during each working day. The aim of such checks is to pick up faults due to day-to-day wear and tear and malfunction of safety-related equipment. If any defects are found the user or operator should report the defect or, if competent to do so, take action to rectify it.

A trained operator or other person carrying out the checks should be able to identify damage to lifting ropes and accessories, distortions to shackles and other obvious faults which could affect the safe operation of the lifting equipment or accessories.

8 RECORD KEEPING

Records must be kept, by the person responsible for the lifting equipment, of:-

- Thorough examination reports of first use or new installation (other than of lifting accessories) - for so long as the equipment is kept, or is in newly installed location;
- EC declarations of conformity - for so long as the equipment is kept;
- Routine thorough examinations reports of all lifting equipment - for at least 2 years, or until the next report, whichever is longer;
- Written examination schemes, where appropriate.

In most cases these will be held by the FMD Operational Duty Holder and are available within the Maintenance web portal. Any lifting equipment not examined and inspected by the University's engineer surveyor will not have the records on the web portal and these will need to be held by the School/Directorate/Department/Unit.

9 FURTHER ADVICE AND INFORMATION

- The Lifting Operations and Lifting Equipment Regulations 1998: SI.1998/2307 (HMSO)
- Safe Use of Lifting Equipment; Approved Code of Practice and Guidance: L113 (HSE)
- The Provision and Use of Work Equipment Regulations 1998: SI. 1998/2306 (HMSO)
- Safe Use of Work Equipment: Approved Code of Practice and Guidance: L22 (HSE)
- The Management of Health and Safety at Work Regulations 1992: SI.1992/2051 (HMSO)
- Management of Health and Safety at Work: Approved Code of Practice: L21 (HSE)
- Thorough examination and testing of lifts – Simple guidance for lift owners. HSE INDG 339.

- The Safety Assessment Federation (SAFed) publishes guides to 'best practice' in the examination and inspection of lifting plant - Guidelines for the supplementary tests of in-service lifts (LG1).

Appendix 1: Lifting operations and equipment compliance checklist

The following summarises the features of LOLER; indicates hazards and corresponding risks; and implies appropriate control measures.

Using this checklist, together with the Initial Planning checklist, will constitute an assessment of the risks associated with the provision and use of lifting equipment.

Adequate responses to these checks will lead to the development of a safe system of work with lifting equipment.

1. Material of equipment's manufacture suitable for the conditions of use?
2. Adequate strength and stability of equipment?
3. Access prevented to any dangerous parts of equipment/machinery?
4. Safe means of getting on/off or in/out of equipment, including safe release in the event of breakdown?
5. Equipment operator's position without slipping/tripping risk?
6. Equipment's operation is ergonomic?
7. Operator protected from harmful environment?
8. Starting equipment; changing its operating conditions; stopping it; or stopping it in an emergency is only achieved by deliberate operation of appropriate controls with desired state achieved in a safe manner?
9. Warnings or warning devices easily recognised and understood without ambiguity?
10. Equipment marked (incl. any accessories) with safe working load and any information for its safe use?
11. Suitable lighting provided such that the equipment may be used, and the operation conducted, safely?
12. Storage of equipment in conditions that do not lead to damage/deterioration?
13. Equipment maintained in a safe condition - without risk to persons carrying out the maintenance operation?
14. Operators inspect equipment before and after use?
15. Thorough examination and inspection of equipment by an independent competent person before being put into service for the first time and periodically thereafter?
16. Procedure established for notification of defects following thorough examinations and inspections?
17. Records of the equipment's EC Declaration of Conformity, and of thorough examinations, kept for the required periods?
18. Safety of load handler (person attaching/detaching the load) and/or banksman?
19. Adequacy of headroom/floorspace for the equipment and the load path?
20. Proximity to hazards such as other work equipment, unsound surfaces, electrical cables etc?
21. Security of the load and its potential for spillage or disintegration?
22. Loads not passing, or suspended, over people?
23. Operator's visibility of load and its path?
24. If outdoors, the weather?

ASSESSMENT OF RISK:

TRIVIAL / TOLERABLE / MODERATE / SUBSTANTIAL / INTOLERABLE

ACTIONS TO FURTHER CONTROL RISK:

SIGNATURE:

DATE:

Appendix 2: Version control

VERSION	KEEPER	REVIEWED	APPROVED BY	APPROVAL DATE
X.X	H&S	Every four years	XXXXX	XX/XX/XX
X.X	H&S	Annually	XXXXX	XX/XX/XX