



UNITED KINGDOM

Workplace Health and Safety Guide



Plant and Equipment Inspections

Provided by:

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As an employer, you need to ensure that your employees have a safe working environment, and part of that means conducting inspections on and maintaining work equipment. The purpose of an inspection is to identify whether work equipment can be operated, adjusted and maintained safely and to detect and remedy any issues before it results in a health and safety risk.

Not all work equipment needs a formal inspection and in many cases a quick visual check before use will be sufficient. However, a more detailed inspection is necessary for any equipment where significant risks to health and safety may arise from incorrect installation, reinstallation, deterioration or any other circumstances. In addition, depending on the type of equipment you have and the type of work you do, you may be subject to additional health and safety legislation requiring periodic inspections, such as for lifting equipment, pressure systems or local exhaust ventilation. The following is a general overview of inspection requirements.

General Work Equipment Inspections

The Provision and Use of Work Equipment Regulations 1998 (PUWER) (1999 in Northern Ireland) places duties on employers or the self-employed that own, operate or have control over work equipment. Work equipment is any machinery, appliance, apparatus, tool or device used in the workplace. This includes equipment that employees provide for their own use at work. The scope of work equipment is therefore extremely wide. The use of work equipment is widely interpreted as 'any activity involving work equipment', including 'starting, stopping, programming, setting, transporting, repairing, modifying, maintaining, servicing and cleaning'.

PUWER Regulation 6 specifies the circumstances where inspection is required to ensure that healthy and safe conditions are maintained:

- Where the safety of work equipment depends on the installation conditions. The equipment should be inspected after installation and before first use and after any reassembly at new locations.
- At suitable intervals where work equipment is exposed to conditions causing deterioration liable to result in dangerous situations.
- Where there are exceptional circumstances that may have jeopardised the safety of the work equipment, such as major modifications, known or suspected serious damage and substantial changes in the nature of use.

Who Can Inspect

Equipment can be inspected by anyone who has sufficient knowledge of and experience with the work equipment. The necessary level of competence will vary depending on the type and nature of the equipment. If you have a third party conduct the inspection, you should keep physical evidence of the inspection, such as an inspection report or, for smaller items, some form of tagging, colour coding or labelling system.

The Inspection

What an inspection entails will depend on the type of work equipment, its use and the conditions to which it is exposed. Remember to take full account of any manufacturer's recommendations. The advice of others, such as trade associations and consultants, as well as other sources like published

advice on health and safety, may also be helpful. An inspection should concentrate on parts that are necessary for the safe operation of work equipment. In some cases, this may require testing or dismantling.

Inspection Frequency

The frequency of inspections on general work equipment should be determined through your workplace risk assessment. You need to inspect work equipment if your risk assessment identifies any significant risk of injury to operators and others from the equipment's installation or use. Remember that not all safety-critical features on a particular item of work equipment may require inspection at the same intervals.

The frequency of inspections can widely vary, including:

- Quick checks before use
- Weekly checks
- Extensive examinations, undertaken every few months

The results of the inspection should be recorded and this record should be kept at least until the next inspection of that equipment.

Power Press Inspections

Power presses are dangerous machines that have caused many accidents over the years. Serious injuries usually result from accidents caused by getting trapped between the tools of a power press. Part IV of PUWER contains specific requirements regarding power presses. Power presses and associated guards or protection devices need to be 'thoroughly examined' at specified intervals and inspected daily when they are in use to ensure that they are safe. This work should only be performed by a competent person, and records should be kept.

Who Is a 'Competent Person'?

A competent person carrying out a thorough examination and test of a power press, guard, protection device or closed tool should have sufficient practical and theoretical knowledge as well as experience to detect defects or weaknesses and assess their importance in relation to the safe operation and use of the power press.

The Inspection

A power press inspection and test should consist of a detailed examination supplemented by removal of parts necessary to determine the safety of the press. The operations involved in carrying this out will depend on the type of press and on the judgement of the competent person. It should always include those parts concerned with the actuation or control of the slide and ram, and any mechanisms controlling a guard or protection device. This should also consist of careful visual examinations and dismantling as necessary in order to verify the power press's integrity.

Inspection Frequency

Along with an initial thorough examination and testing of presses before they are used in the workplace, a periodic examination of a power press with its guards and protection devices is

required at least once every six months or, where there are fixed guards, every 12 months. Also, thorough examinations are required under exceptional circumstances, such as after any major modifications or repair work.

In addition, under Regulation 33 of PUWER, you must designate in writing an 'appointed person' to inspect and test the guards and safety devices on each press every day that they are in use (within the first four hours of each shift) and after setting, resetting or adjusting the tools. This daily inspection and test should consist of a visual inspection of parts that can be seen and a suitable test to assess the correct functioning of guards and protection devices. The appointed person must be adequately trained and competent to do the work on each type of press.

Lifting Equipment Inspections

The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) (1999 in Northern Ireland) places duties on employers or the self-employed that own, operate or have control over lifting equipment. 'Lifting equipment' is work equipment for lifting and lowering loads, including lifting accessories and attachments used for anchoring, fixing or supporting the equipment. Common examples include overhead cranes, vehicle lifts, hoists and fork lifts. However, there are some types of lifting equipment not covered under LOLER. Make sure you know exactly what lifting equipment you have at your worksite and whether you have duties to inspect it under LOLER. Even if LOLER does not apply, PUWER likely will.

LOLER requires employers to ensure that:

- Lifting equipment and accessories that are exposed to conditions causing deterioration which could lead to dangerous situations undergo regular, thorough examinations by a competent person.
- All supplementary inspections and tests recommended by the competent person are carried out within the timescale stated.

Who Is a 'Competent Person'?

A competent person:

- Should have enough appropriate practical and theoretical knowledge of and experience with the lifting equipment so that he or she can detect defects or weaknesses and assess how important they are in relation to the safety and continued use of the equipment.
- Should not be the same person who performs routine maintenance, as he or she would be responsible for assessing his or her 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 its own staff.

What Is a 'Thorough Examination'?

A thorough examination is a systematic and detailed examination of the equipment and safety-critical parts, carried out at specified intervals by a competent person. The competent person must then complete a written report that contains information required by [Schedule 1](#) of LOLER, including

the examination date, date when the next examination is due and any defects found. If serious defects are identified, the competent person carrying out the examination must immediately report this verbally to the duty holder. This should then be followed by the written report, a copy of which must also be sent to the relevant enforcing authority.

The examination methods will depend on the professional judgement of the competent person undertaking the examination, but need to include all matters that affect the safety of the lifting equipment, including likely deterioration with time. For most common lifting equipment and accessories, there are industry standard procedures and criteria which a competent person would follow when undertaking thorough examinations and making judgements as to the continued safety of the equipment. Methods used can include visual examination and functional checks, measurements of wear, traditional non-destructive testing, load testing and some disassembly or internal examination of parts.

Inspection Frequency

In order to verify that lifting equipment and accessories remain safe for use, and to detect and remedy any deterioration in good time, thorough examinations are required throughout the lifetime of the equipment, including examinations at these intervals:

- Before first use (unless there is a valid Declaration of Conformity made less than 12 months earlier)
- After assembly and before use at each location
- After exceptional circumstances
- Regularly while in service if it is exposed to conditions causing deterioration likely to result in dangerous situations
 - Every six months for lifting equipment and any associated accessories used to lift people
 - Every six months for all lifting accessories
 - Every 12 months for all other lifting equipment
- In accordance with an examination scheme drawn up by a competent person

Records of thorough examinations should be made and, where defects are identified, should be reported to both the person using the equipment (and to any person from whom it has been hired or leased), and to the relevant enforcing authority (HSE for industrial workplaces; local authorities for most other workplaces).

Pressure Systems Inspections

The Pressure Systems Safety Regulations 2000 (PSSR) (2004 in Northern Ireland) places duties on employers to create a written scheme of examination for most pressure systems. Exempted pressure systems are listed in the PSSR. Generally speaking, only very small systems are exempted. Common examples of pressure systems and equipment are boilers and steam heating systems, pressure cookers, heat exchangers and compressed air systems. Most pressure-related incidents are caused by improper use, installation or design, which can result in explosions, release of gases and

fires. Under the PSSR, employers using pressure systems and equipment need to have a written scheme of examination (WSE) to be used by a competent person.

What Is a 'Written Scheme of Examination'?

A WSE is a document containing information about items of plant or equipment that form a pressure system, operate under pressure and contain a 'relevant fluid'.

PSSR Regulation 8 places a duty on the user of an installed system and the owner of a mobile system not to allow pressure systems to be used until they have a WSE that covers:

- Protective devices
- Pressure vessels
- Parts which, if they fail, may give rise to danger

The written scheme must also specify the nature and frequency of examinations and include any special measures that may be needed to prepare a system for a safe examination. For fired (heated) pressure systems, such as steam boilers, the written scheme should include an examination of the system when it is cold and stripped down and when it is running under normal conditions.

The legal responsibility for defining the scope of the WSE rests with the user or owner, who may need to seek advice from other sources, such as in-house engineering staff, inspection staff or consultants.

What Does the Examination Entail?

PSSR Regulation 9 requires an 'examination in accordance with the written scheme', meaning a careful and critical scrutiny of a pressure system, in or out of service as appropriate, using suitable techniques, including testing where appropriate, to assess both its actual condition and whether it will not cause danger until the next examination. The pressure system must be examined by a competent person in accordance with the written scheme. No particular guidance is given on what should be in the report of examination, as the size and complexity of systems differ greatly.

Who Is a Competent Person?

A competent person has the necessary knowledge, experience and independence to undertake the functions required of him or her. The competent person carrying out examinations under a written scheme does not necessarily need to be the same one who prepares or certifies the scheme as suitable. This person can be someone in-house or part of an organisation providing independent inspection services.

Local Exhaust Ventilation (LEV) Inspections

LEV is a system that takes dusts, mists, gases, vapour and fumes out of the air so that they can't be breathed in. Properly designed LEV will:

- Collect the air that contains the contaminants
- Ensure contaminants are contained and taken away from people
- Clean the air (if necessary) and get rid of the contaminants safely

Under the Control of Substances Hazardous to Health Regulations 2002 (COSHH) (2003 in Northern Ireland), employers are required to control risks from substances. If you decide to use a LEV system to control these risks, you need to make sure that it works properly. This means having the system thoroughly examined and tested by a competent person. Make sure that you keep records of all examinations and tests.

When you select a LEV system, make sure you receive from the supplier:

- A user manual with a general specification of what the LEV system is designed to control and how it achieves control. This should include a description of the system with diagrams, a description of checks and maintenance and replacement schedules, a list of parts, a detailed description of a specific statutory 'thorough examination and test' and a description of signs of wear and control failure.
- A logbook that includes schedules for regular checks and maintenance and records of these checks.
- A commissioning report that includes test points and details of LEV performance specifications and calculations.

Who Is a Competent Person?

You must make sure that anyone who designs, selects, checks and maintains the LEV system and does the thorough examination and test is competent. He or she should have the knowledge, skills and experience to do the job properly. This isn't normally something you can do yourself. You and your employees will need to co-operate with the examiner. Make sure to give him or her the LEV commissioning report, LEV user manual and logbook with details of checks and maintenance activities.

What Is a 'Thorough Examination and Test'?

Most LEV systems need a thorough examination and test once each year (at least every 14 months) to make sure it works well and continues to protect your employees. Some LEV systems (such as those controlling more critical or high-hazard processes) need more frequent thorough examination and testing. The COSHH Regulations require more frequent testing for some processes.

A thorough examination tests the LEV against the performance recorded in the commissioning report. It should include airflow and pressure measurements, checks on control effectiveness and, possibly, exposure measurement. If you don't have the design performance data, you will not know whether your system is working correctly, so you may need to have your system commissioned. If your system has already been commissioned, but you have changed the process or layout since then, you need to re-commission it. A professional advisor can help you.

The examiner will attach a 'tested' label to all hoods. This will include the name of the examiner and the date of the next test. If a hood has clearly failed, then a red 'fail' label will be attached instead, and urgent action will be necessary. The examiner will give you a report of the examination and test, which should include a prioritised action plan listing anything that you need to do.

If the examination and test show that the LEV isn't adequately controlling exposure to airborne contaminants, stop the work and repair the LEV. If you want work to continue while you arrange repair, employees will need further protection, such as suitable personal protective equipment and respiratory protection. The system should carry the red 'fail' label until it has been repaired.

If the thorough examination and test report action plan contains long lists of repairs and poor performance, your checking and maintenance is not good enough. Use the test report as an audit of your procedures and an opportunity to review all your exposure control measures. Improve them if you can.