

# Equipment / Machinery Quiz



## QUESTION

There are three main components that employers are legally bound to provide to ensure and maintain a safe work workplace. What are they'

## ANSWER

- Training
- Maintenance
- Inspections/Risk assessment

## WHY IS IT RIGHT

## PREVENTION

### Training / Information

Training must be sufficient to ensure that all people know how to competently use any equipment they use at work, without unnecessary risks to the health and safety of themselves or others. Training therefore depends on the task, and to what extent an employee already has relevant knowledge and experience. Individual training needs are likely to be greatest when a person is first recruited, although further training may also be required from time to time.

To be appropriately trained to prepare and check work equipment, doesn't always mean formal, certificated training. Often the work to prepare or check equipment prior to use can be carried out following manufacturer's instructions using

basic skills and common sense. However, for certain types of equipment, there are well-recognized industry schemes that cover, for example, the mounting of abrasive wheels.

## **Information**

Any worker who uses or operates work equipment, or any other person who may be affected by the use of the equipment, **must be made aware of the hazards involved.**

Any person using work equipment must be **properly trained** in the safe use of the equipment or machinery. There should also be **proper supervision** and **inspection of the use of work equipment** to ensure that safety procedures are followed correctly.

## **Risk assessments:**

Before any work equipment or machinery is used or installed a risk assessment must be carried out. The purpose of the risk assessment is to identify the hazards and risk of injury that may arise when using the work equipment. The risk assessment should also identify ways in which the hazards and risk may be eliminated or reduced.

## **HAZARDS**

There are many ways in which work equipment and its use can create a risk of injury. The most common hazards are:

- **Entrapment** ' for example when fingers are caught in the moving parts of a machine.
- **Impact** ' when workers are crushed by moving parts of equipment or by other items being processed by a machine.
- **Contact** ' when the body comes into contact with sharp edges, hot parts or live electrical items.
- **Entanglement** ' when clothing, hair or jewelry become caught in parts of a machine.

- **Ejection** ‘ when workers are hit by parts or objects flying out or off machines.

## **MAINTENANCE**

Maintenance work should only be undertaken by those who are competent to do so, who have the necessary knowledge and experience to:

- know what to look at
- know what to look for
- know what to do, and
- be aware of, and able to avoid, unnecessary risks to themselves and others

## **EMPLOYERS HAVE THE DUTY TO PROVIDE SUITABLE WORK EQUIPMENT THAT IS WELL DESIGNED AND SUITABLE FOR THE JOB.**

When selecting new work equipment employers should:

- obtain full information about the safe use of the equipment
- ensure that the equipment has a CE safety mark to show that it complies with standards
- arrange adequate training for using the equipment

## **INSPECTIONS**

Employers, you are legally required to provide safe equipment for use in connection with your work.

Where the safety of equipment depends on the installation conditions or is exposed to conditions causing deterioration liable to result in dangerous situations, you must inspect your equipment to identify whether it can be operated, adjusted and maintained safely. Doing this on a regular basis can help you detect any deterioration and take action before it results in any health and safety risk.

Inspection frequencies depend on the type of work equipment,

its use and the conditions to which it is exposed. This should be determined through:

- risk assessment, taking full account of any manufacturer's recommendations
- the advice of others, such as trade associations and consultants
- other sources, such as published advice on health and safety

### **Different types of inspection include:**

- quick checks before use (e.g. the condition of electric cables on hand-held power tools, functional testing of brakes)
- weekly checks (e.g. tire pressures, presence of guarding, function of safety devices)
- more extensive examinations, undertaken every few months or longer (e.g. the general condition of a ladder, close examination of a safety harness, portable appliance testing).

### **USE OF PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING:**

This may be necessary when certain hazards from work equipment cannot be avoided. Examples of personal protective equipment and clothing that may be necessary when using work equipment are:

- safety helmets
- gloves
- safety goggles
- ear protectors
- safety footwear
- types of clothing ' for instance high visibility garments

### **Personal protective equipment or clothing must:**

- be suitable for the task being undertaken

- give adequate protection against the hazard
- fit properly and comfortably

### **BASIC MACHINERY SAFETY TIPS:**

- Only operate machinery if you've successfully completed the required training and are authorized to do so.
- Know how to stop the machinery before you start it.
- Check to see if the area around the machine is tidy and free of obstructions.
- Wear the required personal protective equipment (PPE), such as safety footwear and eyewear.
- Do not wear loose items including gloves, dangling chains, rings or unrestrained long hair. These could get caught in the moving parts and pull you in.
- Make sure all machine guards are fitted correctly and securely and are maintained in good working order.
- Do not remove or disable machine guards, unless the machine requires repair or maintenance, you are authorized to conduct those repairs or maintenance AND the proper Lockout-Tagout procedures are followed.
- Never attempt to start a machine that has a lockout tag on it.
- Before using the machine, first, ensure that it's working properly. Inform your supervisor if you discover any problems.
- If the machine malfunctions while you are operating it, report the problem immediately to your supervisor and do not continue to use the machine until it has been inspected and determined safe to operate.
- Never place your hands or any other body part in the point of operation or other moving parts.

### **WHY IS EVERYTHING ELSE WRONG**

#### **MECHANICAL EQUIPMENT / MACHINERY / TOOL FAILURES**

Employers are increasingly using mechanical equipment and

tools to increase productivity. While this can reduce the amount of manual labor some workers must perform and reduce the types of injuries workers once suffered, mechanical equipment and tools can be dangerous. Workers can suffer debilitating injuries or deaths when machinery and smaller tools fail or malfunction.

## **WHY FAILURES**

Mechanical failure of equipment, machinery, and tools can involve many problems, such as misalignment of parts, power surge overloads, broken gear sets, chips or breaks of parts, and oil contamination. In some cases, the breakdown of a part can cause further damage to the machinery and lead to its malfunction and a worker being injured. There are many reasons why equipment fails and causes accidents including:

- **Wear and tear.** Parts in machinery and tools will wear down over time due to their constant use. At some point, they must be replaced due to wear and tear. When employers fail to replace them due to the cost, they will malfunction'sometimes repeatedly if only minor repairs are done.
- **Defective design or manufacture.** In some cases, the machinery, equipment, or tools were designed or manufactured improperly. If the defect is serious enough, it can cause a catastrophic workplace accident if the machinery malfunctions or breaks down.
- **Lack of training.** Workers must be trained in the safe use of heavy equipment, like forklifts, bulldozers, and other heavy machinery and equipment, before using them on the job. Even drills, power saws, and other power tools can be extremely dangerous if workers use them without training in their safe use. Many tragic accidents occur when employers do not take their workers' safety seriously and do not invest the time to properly train their employees.
- **Improper maintenance.** Employers have a duty to inspect,

repair, and replace machinery, equipment, and tools on a regular basis. Unfortunately, many employers do not do this, which can result in a tragic workplace accident.

- **Operator error.** Many accidents occur when operators of equipment and machinery make errors or engage in negligent actions. This can lead to their own injuries or the injuries of others, such as when a heavy machine operator hits a nearby worker.
- **Third-party negligence.** In some cases, a third party, such as a sub-contractor or supplier, may have provided the machinery, operated it, or maintained it and may have caused an accident due to negligence.