

## S34 – Opening Statement

### Workshop Safety

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Having an efficient workshop can be one of the most cost-effective ways of maintaining plant and equipment on site. It can also be an area of great risk. We have put together a simple procedure for workshop safety that includes a table of hazards and suggested control measures, a set of rules for employees that can be tailored to fit your own place of work, and an inspection sheet that can be used on a weekly/monthly basis to help monitor compliance.

Putting this procedure into place will help improve the housekeeping on your site and minimise the risk to employees and contractors when maintenance is being undertaken.



## S34 – Workshop Safety

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### What is this?

This is a written procedure which provides guidance on the relevant health and safety issues applicable to workshops.

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### The person responsible for implementing this procedure is:

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### What does a responsible manager need to do?

A manager responsible for a workshop must ensure:

- There are risk assessments and safe systems of work for the activities being undertaken in the workshop;
  - There is an inspection and maintenance regime for the mobile plant that is being used;
  - There is an inspection and maintenance regime for all electrical, pneumatic, hydraulic and lifting equipment and hand tools;
  - That there are appropriate workshop rules in place;
  - That there are appropriate emergency procedures in place;
  - That plant and equipment is secure and can only be operated by people who have been trained, deemed competent and authorised to use them; **and**
  - There are appropriate welfare facilities available including a systemised housekeeping regime.
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### What do employees need to do?

Employees must:

- Read and abide by the workshop rules;
  - Not use equipment without receiving the correct training;
  - Not use equipment that is faulty or damaged;
  - Ensure that all workshop inspections are carried out correctly;
  - Report all defects and deficiencies to the responsible manager; **and**
  - Ensure that all tools are correctly stored away at the end of every day.
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### Types of hazards found in a workshop

- Hand tools
- Batteries and chargers
- Inspection pits
- Mobile plant
- Chemicals and substances
- Waste
- Drilling machines.



## What are the particular risks involved with using hand tools?

Many risks can be controlled by ensuring hand tools are properly used and maintained, for example:

- **Hammers:** Avoid split, broken or loose shafts and worn or chipped heads. Make sure the heads are properly secure to the shafts.
- **Files:** These should have a proper handle. Never use them as levers.
- **Chisels:** The cutting edge should be sharpened to the correct angle. Do not allow the head of cold chisels to spread to a mushroom shape; grind off the sides regularly.
- **Screwdrivers:** Never use them as chisels and never use hammers on them. Split handles are dangerous.
- **Spanners:** Avoid splayed jaws. Scrap any which show signs of slipping. Have enough spanners of the right size. Do not improvise by using pipes, etc. as extension handles.

## What controls are needed when using batteries and chargers?

Batteries and chargers exploding causing electric and acid burns.

- During and after charging, batteries emit hydrogen that is an easily ignited and explosive gas. Therefore charging of batteries should be carried out in a well-ventilated area that must be clearly identified as a possible flammable atmospheric zone where smoking is prohibited.
- Battery terminals must not be connected or disconnected to chargers as this could create sparks. If sparks ignite the hydrogen, batteries may explode spraying the area with acidic electrolyte.
- Batteries must never be charged at a rate above the manufacturer's recommendations.
- Care must be taken to avoid metal coming into contact with battery terminals as it will cause heavy short circuit currents leading to arcing and/or rapid heating of the metal in contact.
- Metal finger or wrist jewellery should never be worn as it may come into contact with battery terminals and cause burns and flash injuries.
- Protective gloves and goggles must be worn as a minimum to protect an individual from any contact with battery acid.

Electric shock

- Switch off the battery charger before connecting or disconnecting the clips from the charger. If possible connect the clips remote from the battery terminal.
- Keep crocodile clips clean and free from corrosion and, except for the contact surfaces, insulated.
- Always clean battery terminals before fixing charging clips.
- Never use battery discharge testers immediately after charging, when false readings are given anyway.



## What hazards and controls are needed when using inspection pits?

Flammable and toxic vapours can accumulate in pits in dangerous quantities. This could result in a fire or explosion.

- Ensure either general ventilation or mechanical extraction is available.
- Electrical equipment used in pits should be suitable for use in a flammable atmosphere.
- If hand-lamps are used they should be of an explosion protected type capable of being dropped two metres without damage.
- Low-voltage hand-lamps are desirable to reduce the risk of electric shock, but remember they give no protection against the risk of explosion.
- All hand tools used in the pit should be either air-powered or explosion protected.
- If the pit has not been used for some time its atmosphere should be tested before personnel enter the pit.

Personnel can be injured through falling into unguarded pits.

- Provide temporary barriers and boards when the pit is not in use.
- Suitable signage should be in place when it is in use.
- The pit lights should be left on when the pit is not protected. This time must be kept to a minimum and access to the pit area restricted when the pit is unfenced.
- The edges of the pit should be clearly marked with bright paint.
- Remember, if the pit is much longer than the vehicle on it, the ends constitute a hazard.

Lighting in the pit can be poor.

- Provide suitable lighting at least one metre above the pit floor. The light should be sealed and glazed with toughened plastic such as polycarbonate or wired armoured, laminated or toughened glass fitted flush into the pit wall to minimise possibility of damage. The lights should be regularly cleaned.
- White glazed tiling on the pit wall may remove the need for auxiliary or hand-lamps.

Means of escape from pits can be poor.

- There must always be two distinct means of escape from the pit when people are in it.

The work can be ergonomically and physically detrimental to the well-being of operatives.

- Ensure mechanical lifting aids are provided and employees are trained in manual handling techniques.
- Where it is reasonable to do so, high stools should be provided for employees working on vehicles whilst in the pit.
- Personnel in the pit working on the bottom of vehicles should always wear eye-protection.



## Rolling roads and brake test equipment

Operators attempting adjustments to vehicles under test can be seriously injured. The following must be considered:

- Ensure controls are of the dead man type, which are in working order.
  - Ensure no unauthorised entry to the area when testing is taking place.
  - Where access cannot be prevented, fit guards at the sides of rolls.
  - Maintain the running surface of the brake tester to prevent unnecessary access for the drying of test surfaces and tyres.
  - Prohibit other testing and adjustments on the vehicle while the rolling road is moving.
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## Petroleum spirit

Petrol is a highly flammable liquid, which gives off an invisible flammable vapour even at very low temperatures. Because the vapour is heavier than air it rapidly sinks to the lowest levels such as inspection pits and/or basements.

- Never remove sender units without first draining the tank. The fuel gauge may be faulty and tapping the tank is not a reliable method of establishing the content level.
- Carry out draining in a well ventilated area, preferably outside and definitely not over an inspection pit.
- Warn other personnel that fuel draining is taking place by posting clear warning notices.
- Do not undertake hot work on petrol tanks unless you have been trained in such work.
- Do not carry out welding work on a vehicle alone. A mask makes it difficult to see a fire starting. Ensure other personnel are in attendance and that suitable fire-fighting appliances e.g. dry powder/foam are to hand.
- Ensure ventilation equipment is in good working order.
- Strictly enforce a 'No Smoking' policy.

**Note:** Low voltage equipment and insulated hand-lamps offer no protection against the dangers of flammable vapours being ignited.

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## Waste management

Care must be exercised in the disposal of dangerous waste. The following items should be safely and suitably disposed of in accordance with waste management procedures:

- Tyres
- Batteries
- Brake and clutch linings
- Petrol tanks
- Waste oils



- Solvents
  - Empty or partially empty paint cans
  - Soiled rags, gloves or overalls.
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## What controls are needed for drilling machines?

To prevent accidents:

- Always provide adjustable guards for the chuck and spindle, or trip device;, and
- Provide adequate clamps or a suitable vice for the work-piece to prevent impact from violently spinning machinery.

Make sure operators:

- Tie back hair which may be caught in rotating spindles, chucks or tools;
  - Wear a suitable coverall so no loose clothing can get entangled;
  - Remove rings, gloves, ties or scarves, etc which may become entangled in the machinery;
  - Wear eye protection to prevent swarf being thrown into unprotected eyes; and
  - Are trained to check guards and report faults promptly.
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## Other specific hazards

There are separate specific procedures in place for the following significant issues in a workshop environment:

- Risk Assessment Leading to Safe Systems of Work
  - Abrasive Wheels
  - Isolation and Lock off
  - Forklift Truck Operation
  - Manual Handling
  - Pressure Systems
  - Maintenance and Inspection of Plant and Equipment
  - Housekeeping
  - Noise
  - COSHH
  - Electricity at Work.
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## Associated documentation

- Workshop rules
- Workshop inspection checklist

