

# TOOLBOX TALK

## HANDHELD GRINDER

Handheld grinders are used in the workshop environment for fabrication and repairs. The repair environment may vary so the technician must assess each repair through dynamic risk assessment on each individual merit.

### Hazards to watch for:

- Most angle grinder injuries are from metal particles lodging in the operator's eye and sparks causing injuries to eyes and hands.
- Kickback, where the disc is thrust away from the object it is grinding, can result in severe cuts to hands, arms, head, torso, and legs. Don't use a large 9" handheld grinders overhead.
- Ejection of work piece.
- Discs can shatter or explode, sending pieces flying across the work area and causing face injuries, upper limbs injuries to the user and others in the vicinity.
- Load noise created when cutting, causing hearing damage.
- Vibration causing hand-arm vibration syndrome (HAVS).
- Flammable substances and combustible materials causing fires and explosions, by sparks. Ensure flammable substances and combustible materials are removed before using the hand grinder.
- Electrocution or electric shock caused by defective electric plug, cable or equipment. When using hand grinder is damp conditions or environment, ensure it is plugged into an RCD.
- Trip hazards, avoid tripping over the electrical cable.
- Entanglement hazards, ensure no loose clothing, jewellery and hair is exposed when using a hand grinder.



## Safe Procedures to follow:

### Equipment: Visual checks:

- Ensure the hand grinder is fit for purpose.
- The guards and handles are fitted and serviceable.
- If the hand grinder is electrical and older than 12 months old, it must be PAT tested. Check the electrical cable and plug to make sure it is in good condition and not damaged or repaired.
- If the hand grinder is air operated ensure it is maintained / lubricated.
- Ensure the grinding disc is in good condition and suitable for the task it is being used.
- Wear wide vision enclosed goggles, or a full-face shield.
- Make sure the disc revolutions per minute (rotation speed limit (rpm)) is greater than the angle grinder operating speed. How will the technician check this, add example? Check the equipment manufacturer's operating instructions and disc labelling. If in doubt stop and report to your manager and supervisor.
- Under normal circumstances the handle must be attached to the handheld grinder.
- In certain circumstances the location of the item needing to ground may have restricted workspace. In this circumstance it may be required to remove the hand grinder handle to allow access. In this circumstance you should wear a enclosed goggles and a full-face shield. You must do a dynamic risk assessment to make sure it is safe to operate the grinder in a restricted workspace.
- The restricted workspace would require you to have a greater level of protection in the event of a disc failure or kickback from components and hand grinder.
- On completion of work in a restricted workspace the hand grinder handle must be refit straight away. **Do not return it to storage without the handle being fitted.**
- Never use a 9" hand grinder (large) over head. Always use a 9" hand grinder below your waist.
- Ensure the correct flange and locking nut is used for the type of disc. Otherwise, the disc can shatter at high speed.
- Ensure the disc is visually checked and it is not defective or damaged.
- Ensure the disc has not exceeded its use by date. This is usually stamped on the inner collar of the disc. If unsure refer to manufacturer's guidance and/or see your manager or supervisor immediately.
- Allow the grinder to "run-up" to operating speed before applying it to the job.
- Hold the grinder against the workpiece with minimum pressure so the disc doesn't "dig in" and cause it to kickback.
- Never bump the grinder onto the work, or let the disc hit any other object while grinding.

- Keep the grinding disc at a 15 to 30-degree angle to the work.
- Ensure the workpiece is held firmly in a bench vice when appropriate.
- Switch 'OFF' and stop the grinder regularly to rest your hands and arms.
- When not in use, disconnect the power and place the grinder on a bench with the disc facing upwards.
- Never put a grinder down until the disc stops rotating.
- Disconnect power and then remove the plug before changing disc. You must be trained and authorised to change the disc.
- Never use a cut-off wheel for grinding or a grinding disc for cutting.
- Dispose of any disc that has been dropped. Cracked or weakened discs can shatter in use.
- Any defective equipment must be reported and repaired or quarantined.

## **PPE**

- Wear wide vision enclosed goggles or a full-face shield.
- Wear protective gloves (Reference spec: Super touch Rock Kevlar Gloves 7101. EN388)
- Ensure overalls are worn correctly.
- The restricted workspace would require you to have a greater level of protection in the event of a disc failure or kickback from components.
- Keep the work at waist height during grinding where possible. Any grinding above waist height must be completed wearing a full-face shield.

## **Training**

- Minimum Training required is E workshop course: Hot Works, Oxy-Acetylene, Abrasive wheel and Welding Safety Awareness.