

### 230 VOLT MACHINES (Continued...)

4. Lay it out carefully avoiding liquids, sharp edges, doorways or windows where it might be trapped, and places where vehicles might run over it. Unroll it fully or it will overheat and could catch fire.
5. Make sure that any extension cable connections are dry and safe.

### USING THE GRINDER

1. Wear your protective equipment including goggles and dust mask.
2. Any work that is not part of a fixture should be securely clamped or held in a vice.
3. Check that the abrasive wheel is fitted correctly and securely, and that the guard is properly adjusted.
4. Check that the abrasive wheel is clear of any obstruction before switching on. Be prepared for large grinders to kick when the motor starts.
5. Let the grinder run up to speed before contacting the work surface. Be prepared for the reactive force when the wheel contacts the work surface.
6. Keep the wheel running at speed: if the machine starts to labour and slow down do not force it so hard. Firm but steady pressure keeping the wheel speed up will be more effective and safer than using aggressive force.
7. Lift the abrasive wheel clear of the work before switching off.
8. The abrasive wheel will continue to rotate for a few seconds after you switch

off. Wait for it to stop completely before you put the grinder down.

9. Switch off and stop work if someone approaches you.
10. Watch out for signs that vibration may be affecting your hands. If your fingers start to tingle or feel numb, take a short break from using the grinder. Exercise your fingers to encourage blood circulation.
11. To help prevent vibration affecting your hands, operate the machine for shorter periods. Keep your hands warm – wearing gloves may help do this.
12. Make sure that the machine ventilation slots do not become blocked with dust and debris.
13. Keep the cable clear of the abrasive wheel and any sharp edges on your work.
14. If you think the cable may be cut or damaged in any way, switch off and unplug at the mains before inspecting it. If the cable attached to the machine is damaged, stop using the machine. Contact the hire company. If an extension cable has been damaged, do not use it again.
15. Take care not to accidentally pull the plug from the socket.
16. Switch off and unplug before leaving the machine unattended.
17. If your equipment does not work properly, do not attempt to repair it. Contact the hire company.

Please keep this leaflet safely as it may be required for future reference

## Straight Grinders

The rules and procedures in force where people are at work may require the person responsible for this equipment to carry out a specific risk assessment.

### It is important to read this entire leaflet BEFORE using the Straight Grinder

1. Electricity can be hazardous and must always be used with great care.
2. This grinder is designed for grinding, wire brushing and deburring metal.
3. The abrasive wheel rotates very fast and can cause injury or damage if the machine is not used in a careful and controlled way.
4. If you have not used a straight grinder before, familiarise yourself with the machine on some straightforward work before you start on the main task.
5. Plan your work and think ahead to make sure you will always be working safely.
6. You must have at least the following items of personal protective equipment: goggles: impact resistant EN166 - B or BS2092 grade 1; dust mask - a minimum of EN149 ffp3(s) protection; ear muffs or plugs giving protection for levels up to 98 dB(A); gloves; rcd if using a 230 volt (mains) supply.
7. This machine must not be used by minors, or by anyone under the influence of drugs or alcohol.
8. This machine is designed for operation by an able bodied adult. Anyone with either a temporary or permanent disability must seek expert advice before using it.



### WORK AREA

1. Do not use this grinder where there is a danger of explosion. It will ignite fumes from petrol, or gas cylinders.
2. Make sure that the area is clear and safe and that no-one is near to you or could distract you.
3. Protect other people from the noise and dust. Warn others to keep away, put barriers around your work area.

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## WORK AREA (Continued...)

- If you are working on a car or other vehicle, check that there are no fuel pipes where you are working. You might accidentally cut into them.
- Sparks from grinding can ignite flammable materials some distance away, check there are no wood shavings, paper or exposed paints or thinners.
- Sparks from grinding are still hot when they settle, they will burn a very small spot, and stick into some surfaces - cover any surfaces or objects that may be damaged, or difficult to clean.
- Do not use this machine to grind asbestos or materials containing asbestos.

## OPERATORS

- The following items of personal protective equipment (ppe) are the minimum that should be worn whenever you use this machine. Particular jobs or environments may require a higher level of protection.
- You must wear impact resistant goggles (EN166 - B or BS2092 grade 1) when you are working with this machine.
- This equipment is likely to cause noise levels up to 98 dB(A) – wear appropriate ear muffs or plugs giving hearing protection for this level as a minimum.
- You will need to wear an appropriate dust mask (with a minimum of EN149 ffp3(s) protection) when you are grinding material that causes dust.
- Anybody who is working near to you will also need to wear appropriate personal protective equipment.

## GRINDER

- Check the machine, cables, plugs and guards. If anything is found damaged, do not use the grinder - contact the hire company.
- Check that the plug on your machine matches your supply. Do not try to force connections or improvise them.
- Machines with a cylindrical yellow

# Before Starting Work...



industrial plug fitted are designed to run off a special 110v supply. The hire company will have provided a portable transformer if you need to power the machine from a normal mains 230v supply. If a portable transformer has been supplied, take care not to injure yourself when moving it about - it may be heavier than you think. Machines designed to run directly from 230v mains will have either a normal square pin plug fitted, or a blue industrial plug.

- Make sure that the guards around the wheel are in place and adjusted correctly.
- Always hold the grinder correctly with two hands while working.
- Vibration from using this grinder can be hazardous. Warm your hands up before you start work, and wear gloves to keep your hands warm while you are working.
- Check on how the on/off switch operates - before you switch the grinder on, you must know how to stop it.

## ABRASIVE WHEELS

- You must not fit or change any abrasive wheel unless you are competent to do so.
- Always switch off and unplug, before changing or adjusting an abrasive wheel.
- You must only use reinforced abrasive wheels suitable for hand - held machines, with this grinder. The label on the wheel will have BF or REINFORCED marked on it. You must not use any other wheels.
- Make sure that you use the correct type of abrasive wheel recommended by the hire company for the material you are grinding.



- Check that your abrasive wheels are in good condition - do not use any that are damaged, distorted or badly worn.
- Look at the speed stated on the label of the abrasive wheel, and the speed shown on the straight grinder. The wheel speed must be greater than, or equal to, that shown on the machine.
- Use the blotters (paper discs) to absorb any irregularities between the surfaces of the grinding wheel and the flange.
- Only use the wheel flanges that were supplied with the machine and are correct for the wheel you are using. Make sure that the flanges are tightened just enough to drive the wheel - normal hand force on the correct tools is sufficient. Use the tools supplied with the machine.
- When you have fitted the abrasive wheel, check that the wheel rotates freely before switching on. Then let the machine run without load for about 30 seconds. If there is any excessive vibration or other sign that the wheel is not fitted properly, stop the machine and check what is causing the problem.
- Return used wheels to the Hire Company or dispose of them carefully.

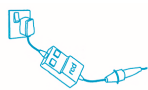
## ELECTRICAL SAFETY

Your machine will only operate on one voltage: it will be 110v or 230v. 110v machines will have a yellow industrial plug fitted. 230v machines will have either a normal square pin plug fitted, or a blue industrial plug. Read the instructions below for your machine.

## 110 VOLT MACHINES (YELLOW PLUG)

- If you are using a portable transformer, plug the transformer directly into the 230 volt socket. Do not use any 230v extension cables. 
- If you need to use an extension cable, follow any special instructions given by the hire company. If the hire company have not given any special instructions, you should only use a suitably rated heavy duty 110v extension cable, not longer than 50 metres (160 feet). You must only use an extension cable between the transformer and the machine.
- Lay the extension cable out carefully avoiding liquids, sharp edges, doorways or windows where it might be trapped, and places where vehicles might run over it. Unroll it fully or it will overheat and could catch fire.
- Make sure that any extension cable connections are dry and safe.

## 230 VOLT MACHINES (SQUARE PIN OR BLUE PLUG)

- Use a residual current device ("rcd") plugged directly in to the 230volt socket. Plug your machine into the rcd. This will help to protect you against electric shock if the cable or machine get damaged. 
- Use the "TEST" button to check that the rcd is working each time you use it. Reset the rcd according to the instructions supplied with it.
- If you need an extension cable, follow any special instructions given by the hire company. If the hire company have not given any special instructions, you should only use a suitably rated heavy duty one, not longer than 50 metres (160 feet). Plug it directly into the rcd. 

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