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## ANGLE GRINDER - (110/230v)

### SAFETY PRECAUTIONS & WARNINGS

It is in the interests of those operating this equipment, and for the safety of others, that these **SAFETY PRECAUTIONS & WARNINGS** are carefully read and understood before operating this equipment.

### PURPOSE

1. This equipment is designed for grinding, cutting and de-burring metal. In addition, it may also be used to cut brick and concrete using the appropriate abrasive wheel.

### PERSONAL SAFETY

2. This equipment is designed for operation by an able bodied adult. Anyone with either temporary or permanent disability must seek expert advice before using it. It must not be operated by minors, or by anyone under the influence of drugs or alcohol.
3. If the equipment is not used in a safe, careful and controlled way, personal injury or injury to others may result.
4. Before attempting to operate this equipment you must familiarise yourself with the equipment, its controls and operating characteristics.
5. Abrasive wheels used on this equipment must only be changed by a competent person experienced in such tasks (see 'ABRASIVE WHEEL SAFETY' below).
6. Before starting your work, think and plan ahead to ensure you, and others around you, will be working in a safe environment.
7. When using this equipment, it is recommended that the following items of Personal Protective Equipment (PPE) be worn:
  - Ear defenders providing protection up to 98dB(A).
  - Dust mask to a minimum protection of EN149ffp2(s).
  - Impact resistant goggles to EN166-B or BS2092, grade 1 protection.
  - Appropriate industrial gloves.

**NOTE:** Other types of work, or environment, may require a higher level of PPE.

8. With regard to electrical safety implications when using this equipment, see the section on 'ELECTRICAL SAFETY' below.

### ELECTRICAL SAFETY

9. The operating voltage of this equipment may be either 110v (yellow industrial plug connector), or 230v (square pin or blue plug connector).

#### 110v ANGLE GRINDERS (YELLOW PLUG)

10. Only use a portable transformer and only plug the transformer directly into the 230v socket.
11. Only suitably rated, heavy-duty 110v extension cable, not longer than 50m (160ft), must be used between the transformer and the equipment. Do not use 230v extension cables.
12. When routing the extension cable, avoid immersion in liquids and trapping the cable in windows, doorways and other areas that could cause damage to the cable. Avoid laying the cable in areas that are subject to site traffic. Ensure all connections are kept dry.

#### 230v ANGLE GRINDERS (Square Pin or Blue Plug)

13. To safeguard against electrical shock, always connect the equipment into a residual current device (RCD) that in turn is connected to a 230v socket.
14. Before using the equipment press the 'RED' test button on the RCD to ensure that it is working. Re-set the RCD according to the instructions provided.
15. Only suitably rated, heavy-duty 230v extension cable, not longer than 50m (160ft), must be used between the mains (RCD) and the equipment.
16. When routing the extension cable, avoid immersion in liquids and trapping the cable in windows, doorways and other areas that could cause damage to the cable. Avoid laying the cable in areas that are subject to site traffic. Ensure all connections are kept dry.

### OPERATING AREA SAFETY

17. Before commencing work ensure that the area you are to operate the equipment in is a safe environment. Erect safety barriers and warning signs as necessary.
18. Make sure that the work area is clear of obstructions and hazards (projections, cables, pipes etc.).
19. Before commencing work warn others who may be working in the vicinity of the equipment to keep clear. If possible place safety barriers around your work area.
20. Anybody who is working near to you will also need to wear the appropriate PPE.
21. Protect others from noise, dust and debris.
22. Do not use this equipment where there is a danger of igniting inflammable materials or igniting fumes from petrol, or gas cylinders.

### BEFORE OPERATING THE EQUIPMENT

#### SAFETY CHECKS

23. Visually inspect the equipment and all its accessories (abrasive wheel, cables, plugs, safety barriers, etc.) for serviceability (completeness, signs of damage, undue wear, etc.). Do not use the equipment if found damaged or worn - contact the hire company immediately.
24. Before attempting to operate the equipment, familiarise yourself with the equipments controls. Make sure you understand their purpose and function.
25. If you are working on a vehicle, keep clear of fuel pipes and electrical cables.
26. Sparks from the abrasive wheel can ignite flammable materials; keep clear of fuel vapours, wood shavings, fabrics, etc.
27. When cutting into a wall or structures, be aware of hidden electrical cables and pipes and the load bearing integrity.
28. Do not attempt to cut asbestos or material containing asbestos.
29. Protect vulnerable items and surfaces from dust and debris.
30. Protect others from dust and debris.
31. Do not use this equipment in the rain or where it could become wet.
32. Before you start the equipment, you must know how to **STOP** it in an emergency.

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## OPERATING THE EQUIPMENT

### ABRASIVE WHEEL SAFETY

33. The selection of the correct type of abrasive wheel is vitally important. Select as follows:
- **Use only abrasive wheels design for use with this type of hand-held grinder. Use only wheels marked with: 'BF' or 'REINFORCED'.**
  - **Wheels must be of the correct type for the material to be cut.**
  - **The bore size of the abrasive wheel must be the same size to that of the spindle diameter of the machine.**
  - **Ensure the diameter of the abrasive wheel is appropriate for the equipment.**
  - **The wheel speed (marked on the side of the wheel) must be greater than the spindle speed of the machine (as indicated on the machine).**
  - **Always examine the wheel before use for the presence of cracks, distortion, etc.**
34. Abrasive wheels must only be fitted or changed by those trained and experienced to do so.
35. Once the abrasive wheel has been securely fitted, switch-on the equipment and allow to run for 30secs under 'no load' to ensure there is no excessive vibration or any other faults.

## USING THE EQUIPMENT

36. Use the correct type of abrasive wheel (see '**ABRASIVE WHEEL SAFETY**' above) for the material being worked.
37. Where possible, secure the material to be cut/ground in a vice, or clamp securely to the workbench.
38. Ensure the abrasive wheel to be used is not cracked, frayed or distorted.
39. Ensure the guard is in place, adjusted correctly and secure.
40. Always use both hands to hold and control the equipment. Use the side handle, if fitted.
41. Keep the equipments electrical cable clear of the abrasive wheel.
42. Always ensure the equipment is running at its optimum running speed before attempting to use it.
43. Be aware of the reactive forces when the abrasive wheel first contacts the work piece.
44. Vibration from this equipment may be hazardous if used for extended periods. Ensure hands are warm before commencing work, take frequent breaks and exercise the hands and wrists.
45. When cutting material, the equipment may generate large amounts of dust and debris, therefore clean the equipments ventilation slots at frequent intervals.
46. Do not allow the machine to labour, reduce the pressure on it.
47. Do not attempt to cut round bends or sharp curves with this equipment.
48. Always lift the grinder clear of the work piece before switching-off. Always allow the abrasive wheel to stop rotating before placing the equipment on the workbench.
49. Stop working and switch-off the machine if someone approaches you.
50. Stop the equipment and un-plug it before moving it or making any adjustments or changing the abrasive wheel.

## SECURITY AND MAINTENANCE

51. Visually check the condition of the equipment at the start of each day.
52. If the equipment operates erratically, or incorrectly, do not use and do not attempt to repair it. Inform the hire company.
53. Periodically clean the equipment to ensure it is free from dust, dirt and other debris.
54. When the equipment is left unattended for long periods (i.e. overnight), ensure it is made secure to prevent unauthorised use or loss.

## COLLECTION & PICK-UP

55. For safety reasons this equipment requires you to use a **VAN** or an **ESTATE**.

