

Safe Operating Procedures – Angle Grinder

Last Reviewed: 31st October 2014

Incorrect use of Angle Grinders can cause serious injury.

Do not use unless you have been shown how to safely operate this power tool and all Safe Operating Procedures and Precautions are being followed.

REQUIRED PPE

- | | | |
|------------------------------|---------------------------------------|-----------------------------------|
| - Gloves | - Safety Eyewear or Face Shield | - Ear Muffs or Hearing Protection |
| - Safety Footwear | - Protective Clothing (Close Fitting) | - Contain long/loose hair |
| - Remove any rings/jewellery | - Dust Mask | |

Before using check....

- **Declutter the workspace.** Ensure you have a safe clear area in which to work free of trip hazards, obstacles, or other people.
- **Ensure sufficient lighting of work area.** A head torch works well to ensure there is sufficient lighting of the area where you are working to avoid eye strain and accidents due to poor light
- **Power cord, extension lead, socket.** Ensure all electrical leads/cords/sockets are safe for use. Keep these clear of the area where grinding.
- **Ventilation.** Grinding and cutting will produce dust and metal particles, sparks and fumes. Open doors and windows and try to direct sparks away from you.
- **Flammable materials/items.** Ensure there are no flammable materials in the work area due to the risk of sparks
- **Have Fire Extinguisher nearby.** Have this available due to risk of sparks causing fire
- **Grinder Guard.** Ensure this is correctly fitted. The guard on an angle grinder is an essential component which should be in place at all times. It protects the user from sparks thrown upwards and backwards and also takes some of the impact if the disk shatters, by deflecting chunks of material downwards. The guard should be adjusted to the correct angle, giving maximum protection by deflecting sparks and disk fragments towards the ground
- **Side Handle.** Ensure this is tightly screwed into the tool
- **Grinder Disc.** Inspect the grinder disk for damage. NEVER use a damaged grinding disc. (see further notes below)
- **Support of work piece.** Ensure the item you are grinding is securely supported in place. Use clamps, bench vices, etc as necessary to ensure piece you are working on is securely in place
- **Assembly.** Ensure the disc, flange, locknut, guard, and handles are assembled according to the manufacturer's instructions (These can be found inside the Grinder box).
- **Power Switch.** Ensure the power/on switch is in the off position prior to connecting power to the Grinder

Selecting a Disc

If a grinding disc shatters it can cause serious (potentially fatal) injuries

- **Always use the proper disc for the material being cut.** (eg masonry or metal). DO NOT USE ON WOOD

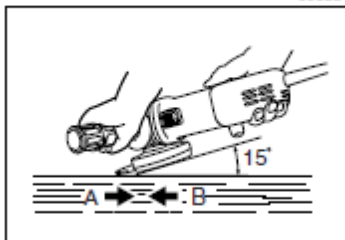
- **Check the disc for defects.** Cracks, missing chunks or other defects in a disc are a potential hazard. A disc with a defect could potentially shatter and throw out fragments at high velocity with fatal consequences
- **Never use a cutting disc for grinding.** Cutting discs are thin and not design to withstand side pressure, unlike discs used for grinding. They can over flex and shatter. If you grind with the side faces of a cutting disk, this will thin the disc and potentially result in a disc explosion. Grinding discs shouldn't be used for cutting either
- **Correct rotational speed.** Discs should never be used at a rotational speed greater than they were designed for. Discs are marked with the maximum RPM specification. The larger the disc the lower the maximum speed it can rotate at. This means that you shouldn't use a worn down 9 inch disc on a 4 ½ inch grinder.
- **Flange Nut.** Ensure this is suitable for the disc and tightened fully
- **Depressed Centre Grinding wheels.** If using a depressed centre grinding wheel be sure to use only fiberglass-reinforced discs.
- **Run tool with no load.** Makita recommends you run the tool with no load for about a minute holding the tool away from others. If the disc is flawed, it will likely separate during this test.

Safety when using

- **Familiarise yourself with the Grinder before turning on and pre-use checks have been done.** Make sure you are aware of exactly where power on/off switch is and that all pre-use safety checks/processes have been followed.
- **Make sure the disc is not contacting the work piece before the switch is turned on.**
- **Hold the tool firmly at all times.** One hand firmly on the housing and the other on the side handle.
- **Keep hands away from rotating parts**
- **Angle.** In general keep the edge of the wheel or disc at an angle of about 15 degrees to the workpiece surface. During a break-in period with a new wheel do not work the wheel/disc away from you (direction B in the picture below) or it will cut into the work piece. Always work towards you (direction A) until the disc has been rounded off by use. Once this has been done the wheel may be worked in both A and B direction.

Grinding and sanding operation

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- **Do not leave the tool running. Operate the tool only when hand-held**
- **Do not apply excessive force.** This could cause the disc to break. The weight of the tool applies adequate pressure
- **If Dropped.** ALWAYS replace the disc if the tool is dropped while grinding
- **Never bang or hit the disc onto work**
- **Do not touch the work piece immediately after operation; it may be extremely hot and could burn your skin.**
- **After using the tool ensure the disc rotation comes to a complete stop before setting the tool down. Setting the tool down with the wheel rotating can cause personal injury.**

Instruction Manual

DNA Electrical currently has 1x Angle Grinder available for use. It is a Makita Angle Grinder, model 9558NB. There is a complete instruction manual inside the box with the Angle Grinder. This shows correct assembly methods as well as safe operation instructions and safety precautions