

BASIC TECHNIQUES

The power unit is fitted with a No Volt Return (NVR) switch (b), which switches to the OFF position if the power supply is interrupted. Push the green button to start and the red to stop. NOTE: the magnet will remain in the on position.

Slide the safety guard into position. Switch the unit on and where applicable spray the cutter with cutting oil.

Apply light pressure to the cutter until the cut is established, then increase the pressure slightly to progress.

Applying too much pressure will not increase the speed of the cut but will damage the cutter.

When the cut is completed, raise the cutter clear of the hole before switching the power unit OFF.

EQUIPMENT CARE

Never push the equipment beyond its design limits. If it will not do what you want with reasonable ease, assume you have the wrong tool for the job. Ask at

your local HSS Hire for advice.

Always switch OFF the power unit before making any adjustments to it.

Always use the correct cutting oil and refill the reservoir as soon as it becomes empty. **Never use the miller without cutting oil.**

After each cut, clear the plug from inside the cutter and the work area of swarf.

Keep the equipment clean. You will find this less of a chore if you clean up regularly, rather than wait until the end of the hire period.

When not in use, **store the equipment somewhere clean, dry and safe** from thieves.

FINISHING OFF

Switch OFF the power unit, support the miller remove the safety chain or webbing strap then switch OFF the magnet.

Remove any cutter and pilot, neatly coil the flex and place the miller in its case ready for return to your local HSS Hire.



... have you been trained

The law requires that personnel using this type of equipment in the workplace must be competent and qualified to do so. Training is available at HSS Training 0845 766 7799

...any comments?

If you have any suggestions to enable us to improve the information within this guide please e-mail your comments or write to the Safety Guide Manager at the address below e-mail: safety@hss.com

©HSS Hire Service Group Ltd 2022 No. 522/02

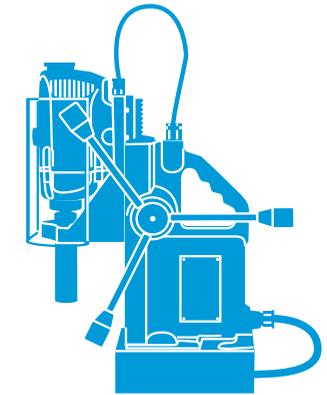
Building Two, Think Park, Mosley Road,
Manchester, M17 1FQ

www.hss.com

522/02

Operating & Safety Guide 522

HSS Hire



Magnetic Broaching Machines

Portable milling machines for boring accurate holes in steel.



Code 01451/01521

GETTING STARTED

Fit the miller with the appropriate cutter and pilot. With the machine switched OFF and isolated from the power supply, loosen the 2 allen grub screws on the chuck (be careful not to completely remove them). Insert the pilot point down, into the cutter from the top (see diagram).

Now insert the cutter into the chuck, lining up the 2 flat faces with the grub screws. Holding the cutter in place, tighten the grub screws to hold the cutter firmly in place, then remove the allen key!

Wearing gloves, clear any dirt or swarf from the base of the magnet and the surface of the work.

Plug the unit into a suitable power supply. Then place the unit in the correct position for drilling and activate the magnet by moving switch a) to ON.

Attach the safety chain or webbing strap by looping it through the handle of the unit and around the workpiece (or other suitable anchor point). Take up any slack in the chain or webbing strap and clip the carabina hook through a convenient link in the free end of the chain.

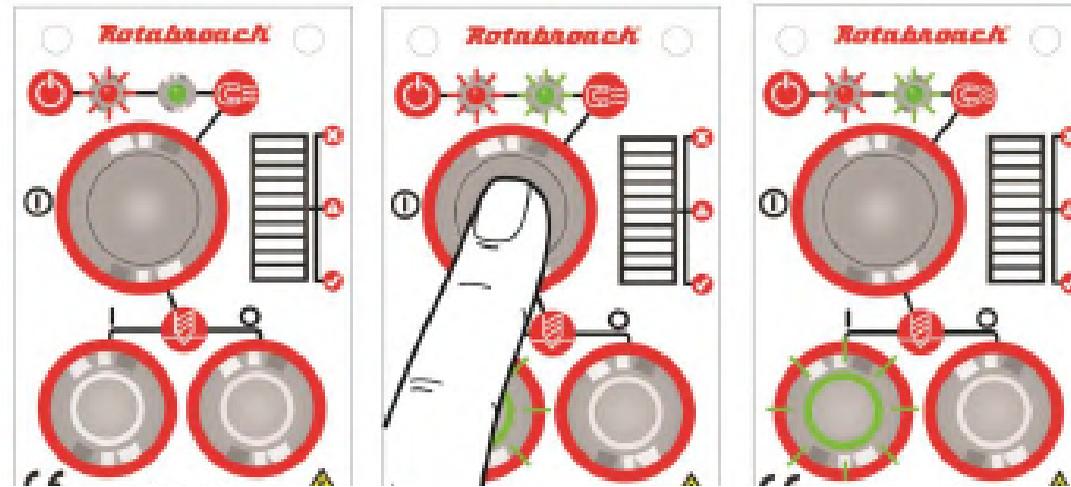
Note: on fixed base units the base must be positioned exactly, on the adjustable base unit any inaccuracy can be compensated by loosening the base lock lever 1/4 of a turn, manoeuvring the unit, then re-locking the base.

Select the correct speed for the cutter you are using, refer to the guide on the front of the motor unit. Note that the Minibore unit has a single speed only.

To change the gear speed turn the selector lever 90 degrees to horizontal, then move the whole selector either up or down, then turn the lever back to the vertical. That done, move the variable speed control to the correct 'E' number (between 1 & 6).

If you are cutting on top of a surface fill the oil reservoir via the oil fill slot, as the pilot is depressed the oil will be fed automatically to the cutter. If cutting on a vertical surface or over head, oil will have to be fed manually, and great care must be taken to ensure the oil does not 'run' back into the motor unit.

Element 40 Control panel operation



1) Power

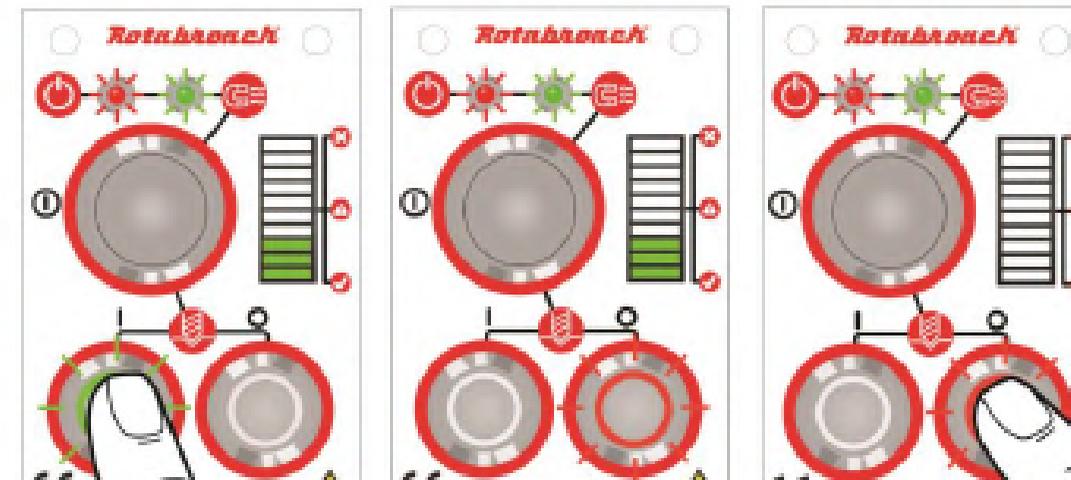
When the drill is connected to the power supply, the RED LED will indicate power to the drill.

2) Magnet ON

To turn the magnet ON or OFF, depress the large button on the control panel. A GREEN LED will indicate the magnet is ON.

3) Motor switch

When the magnet has power, the GREEN switch will light up to indicate motor start.



4) Motor ON

Press the GREEN Switch to turn the motor on. Proceed with cutting- following all safety guidelines...

5) Cutting

See below for detailed description of the CutSmart™ visual indicator

6) Motor OFF

To stop the motor, press the RED switch. The motor will stop, and the magnet will remain on. The GREEN switch will turn on.

Go back to step 3 to start over.

CutSmart™ Technology



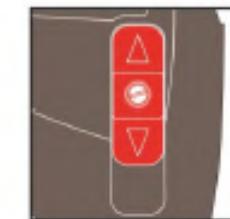
CutSmart™ Technology

Designed for you to get the most out of your machine and your cutters. CutSmart has an easy to read panel that indicates when you are drilling with too much force, which will damage the machine and the cutters. Allow the cutter to do the work and you will find that a much smoother hole and faster drilling time is achieved.

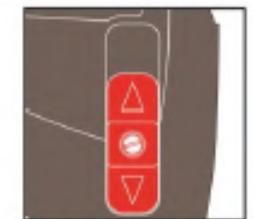
Element 40 Gear Selection

The Element 40 magnetic drill is fitted with a 2 speed gearbox. The gear is used to reduce the output speed when using larger cutters.

Up to 30mm diameter cutters, gear position 1 should be used.
30 – 40mm diameter cutters, gear position 2 should be used

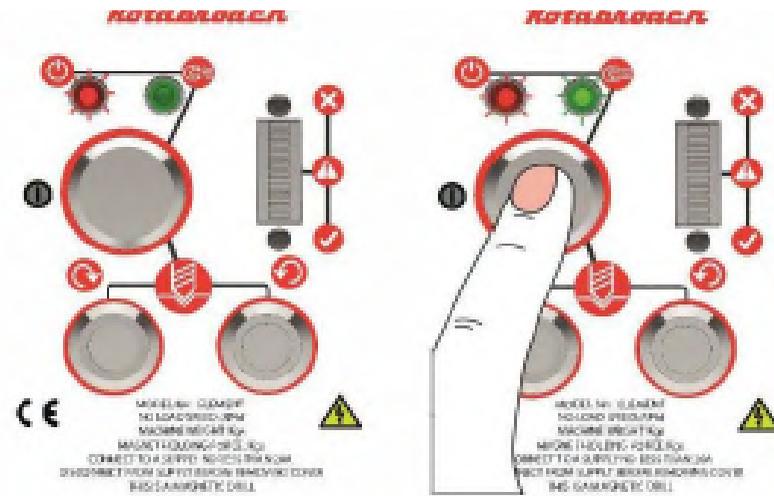


Gear position 1:
High speed Up to
30mm diameter
cutters



Gear position 2:
Low speed 30 to
40mm diameter
cutters

Element 50 Control panel operation



1) Power

When the drill is connected to the power supply, the RED LED will indicate power to the drill.

2) Magnet ON

To turn the magnet ON or OFF, press the large button on the control panel, the LED will illuminate either GREEN or RED depending on material thickness.



3) Motor ON

Press the GREEN switch to turn the motor on. Proceed with cutting following all safety guidelines.

4) Cutting

See to the right for detailed description of the CutSmart visual indicator.

5) Motor OFF

To stop the motor press the GREEN switch. The motor will stop and the magnet will remain on. The GREEN switch will turn off.

CutSmart™ Technology



CutSmart™ Technology

Designed for you to get the most out of your machine and your cutters. CutSmart has an easy to read panel that indicates when you are drilling with too much force, which will damage the machine and the cutters. Allow the cutter to do the work and you will find that a much smoother hole and faster drilling time is achieved.

Element 50 Tapping Function



1. Ensure power to the machine, red LED will illuminate (1).

2. Press the magnet switch on (2) to engage the magnet. The LED will light up in either green or red (3). Depending on the material thickness and magnetic adhesion. Green magnet LED indicates optimum adhesion achieved. Drilling operation is available.

Warning if red magnet LED is illuminated this indicates optimum adhesion not achieved. Drilling operation is still available.

3. Use the speed controller on the top cap housing to dictate the speed, always use speeds that are recommended for the drill size being used.

4. Turn the motor on in the forward direction (4).

5. Drill the hole to the recommended tapping size for the thread to be cut.

6. Without disengaging the magnet replace the drill with the tap.

7. Set the spindle speed to the required tapping speed required.

8. Start the drill spindle in the forward direction (4) and feed the tap into the hole until it begins to cut. Once cutting the tap will feed itself through, only gentle pressure on the feed handles should be necessary.

9. Once the tap has threaded the hole the drill should be stopped immediately (4).

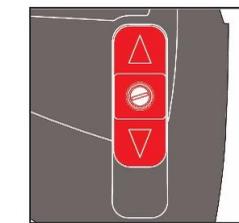
10. The drill spindle should then be switched to reverse (5) and the tap can be fed back out of the hole.

Allowing the tap to be safely extracted from the hole at a reduced RPM.

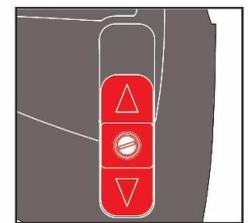
Element 50 Gear Selection

The Element 50 magnetic drill is fitted with a 2 speed gearbox. The gear is used to reduce the output speed when using larger cutters.

Slide Selector Position	Speed Controller Setting	
	Level 1	Level 6
∧	200/min	500/min
∨	100/min	265/min



Slide Selector Position Up



Slide Selector Position Down

GENERAL SAFETY

For advice on the safety and suitability of this equipment contact your local HSS Hire.

Keep children, animals and bystanders away from the work area.

Never use this equipment if you are ill, feeling tired, or under the influence of alcohol or drugs.

This equipment should only be used by a competent person who has read and understood these instructions.

Ensure the work area is well lit and ventilated. Do not drill near flammable gasses or liquids.

 Never use this equipment if you are ill, feeling tired, or under the influence of alcohol or drugs.

 Safety Goggles MUST be worn by everyone in the work area.

 NOTE: Some materials contain substances which, when drilled, can be harmful to health. A suitable mask must be worn when using this equipment.

 NOTE: This equipment generates potentially harmful noise levels. To comply with health and safety at work regulations, ear defenders must be worn by everyone in the vicinity.

 Wear practical, protective clothing, gloves, hard hat and footwear. Avoid loose garments and jewellery that could catch in moving parts.

 These machines are heavy, always seek assistance lifting and manouvering.

Never operate this machine with people working below, Cordon off a safety area.

Always stand to the side of the machine when in use, to safeguard the operator against falling debris.

Ensure the machine is switched OFF before plugging it in to its power supply.

Check the equipment before use. If it shows signs of damage or excessive wear, return it.

If working above ground-level, work from a suitable, stable platform - an access tower for example. Never work from ladders or steps.

Information on COSHH regulations is available from your local HSS Hire.

ELECTRICAL SAFETY

Most HSS power tools plug into a standard 13amp power socket. However, 110v tools (with a round yellow plug) must be provided with a suitable 110v

generated supply, or powered from the mains via a suitable 110v transformer.

If the tool fails, or if its flex or plug gets damaged, return it. Never try to repair it yourself.

Keep the flex out of harm's way, and keep it clear of moving parts.

Extension leads should be fully unwound and loosely coiled, away from the equipment. Never run them through water, over sharp edges or where they could trip someone.

Using electrical equipment in very damp or wet conditions can be dangerous.

 To reduce the risk of electric shock, use a suitable RCD (Residual Current-Operated Device) available from your local HSS Hire, or power 240V (Not 110V) equipment from a power circuit with a built-in RCD.

Siting an RCD

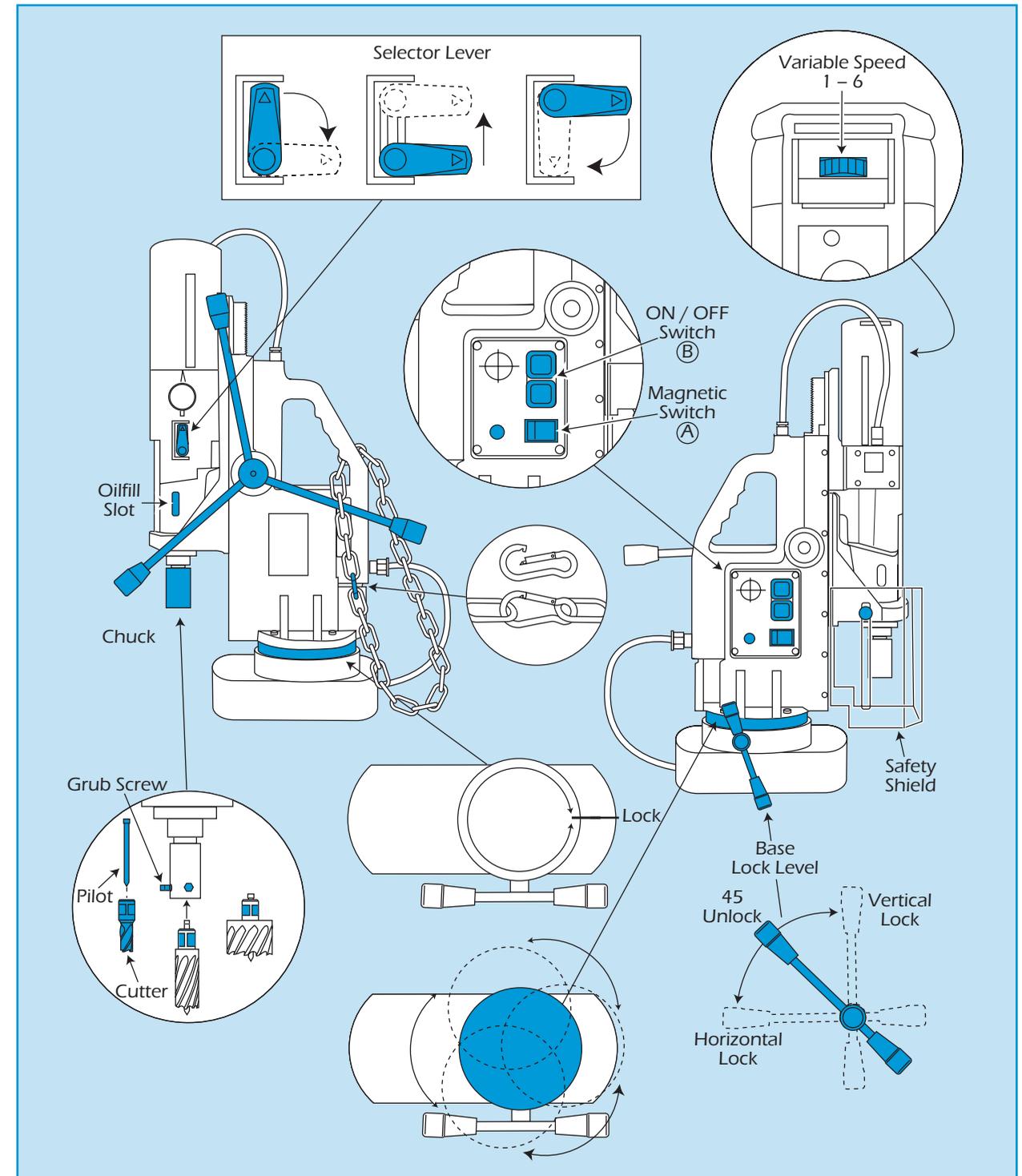
When used with a transformer an RCD will only protect the user if fitted between the transformer and the tool being used.

An RCD fitted between the power supply and the transformer only protects up to the transformer.



Never carry or pull the equipment by its flex.

To avoid injury due to power failure always secure the unit to the workpiece using the chain and carabina hook supplied.



Know Your Symbols

HSS have created clear Icons to inform the hirer of their responsibilities towards the safe use of hire equipment.

These are designed to reduce the amount of different safety information labels required for each product for hire.

General use PPE / Warning

Clearly marked minimum PPE will be visible on all equipment,



Correct PPE must be worn



HAV Hand Arm Vibration



Danger Rotating blade



Danger Hot exhaust



Danger Electric shock



Caution Abrasive Wheel



Caution Finger trap

Fuel and Supply Types



Pe
Petrol



Di
Diesel



2t
2 - Stroke Petrol



EI
Electric

Safe Procedures

All hirers must understand and respect the safe procedures of all equipment.

It is the responsibility of the hirer to maintain and return the equipment in a clean condition and good working order.



Ro
Read OPS Guide



Ou
Outdoor Use only



HI
Heavy Lifting



Cd
Check Oil daily



Cf
Check Fuel daily



Cw
Check Water daily



Bc
Battery Care



Sh
Safe Height Working



Swl
Refer to Data Plate



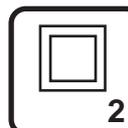
V
Check Power Voltage Data Plate

Electrical Safety

Safe wiring procedures.



Ea
Must be Earthed Class 1



Doi
Double Insulated Class 2



Enl
Earth Live Neutral Wire Coding

Return Responsibility

Charges apply to equipment returned dirty and damaged.



Cc
Cleaning Charge



Rc
Repair Charge