

# ***Rotabroach***<sup>TM</sup>

# **COMMANDO 35**

**Magnetic Drilling Machine**

**Model Number:  
Commando 35/1 & Commando 35/3**

*This machine is CE approved*



## ***Rotabroach***<sup>TM</sup>

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Thank you for purchasing our Commando 35 magnetic drill. We would really like your feedback on this machine.

*Other Products by Rotabroach™:*



Thank you for your purchase

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### Parts included in kit:

<b>Part №</b>	<b>Rotabroach P/N</b>	<b>Description</b>	<b>Qty/pcs</b>
9	RDH2014	Guard	1
10	RDH2015	Hexagon Spanner 5mm	1
11	RD4152	Hexagon Spanner 3mm	1
12	RD4329	Safety Strap	1
13	RDH2018	Spare Brush 230V	1
	RDH2019	Spare Brush110V	1
14	RDH2020	Chuck Adaptor	1
15	RDH2021	Keyed Wrench	1

## 1) INTENDED USE

The intended use of this magnetic drill, is to drill holes in ferrous metals. The magnet is used to hold the drill in place whilst the drill is functioning. It is designed to use in fabrication, construction, railways, petrochemical and other applications when drilling ferrous metal. Any deviation from its intended use will not be covered by warranty.

## 2) SAFETY INSTRUCTIONS FOR MAGNETIC DRILLS



**WARNING - Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and or serious injury.**

**Save all warnings and instructions for future reference.**

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

### 1) Work area safety

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2) Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduced the risk of electric shock.

### 3) Personal Safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch or invites accidents.
- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
  - f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
  - g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
  - h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
- 4) Power tool use and care**
- a) **Do not force the power tool. Use the correct power tool for your application.**  
The correct power tool will do the job better and safer at the rate for which it was designed.
  - b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
  - c) **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
  - d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
  - e) **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
  - f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
  - g) **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.**  
Use of the power tool for operations different from those intended could result in a hazardous situation.
  - h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
- 5) Service**
- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

### **Safety instructions for magnetic drills**

- a) **Do not use this tool if you or any bystanders have a cardiac pacemaker or other medical implants.** Cardiac pacemakers and other medical implants may malfunction due to magnetic fields emitted by the tool, which may result in personal injury.
- b) **Always check the safety strap for wear or damage before each use.** A worn or damaged safety strap may fail unexpectedly during use and may result in personal injury.
- c) **Only attach the magnetic drill to ferrous metal.** The magnetic base will not secure properly to non-ferrous metals, such as non-magnetic grades of stainless steel.
- d) **Clean the surface before attaching the drill stand to the work surface.** Paint, rust or scale decrease the holding strength of the magnet. Chips, burrs, dirt and other foreign matter on the surface of the magnetic base will also decrease holding power.
- e) **Always secure the magnetic base on a smooth, flat work surface.** If the workpiece is uneven and not smooth or flat, the magnetic base may release from the workpiece, causing unexpected movement of the tool or workpiece and personal injury.

- f) **Use clamps or other practical ways to secure and support the workpiece to a stable platform.** It is important to support the workpiece properly to minimise body exposure, binding, or loss of control.
- g) **Always use the safety strap provided or recommended to secure the tool to the workpiece before turning on the drill motor.** The magnetic base may release from the workpiece, causing unexpected movement of the tool or workpiece and personal injury.
- h) **Always activate the magnetic base and make sure it is securely attached to the workpiece before turning on the drill motor.** Failure to secure the magnetic base to the workpiece may cause unexpected movement of the tool or workpiece and personal injury.
- i) **Always ensure the workpiece is in a fixed or stable position.**  
Unexpected movement of the workpiece may result in personal injury.
- j) **Make sure you are in a stable position and able to control the tool while releasing the tool from the workpiece.** A loss of control upon releasing the tool from the workpiece may result in personal injury.
- k) **Keep your hands out of the drilling area while the tool is running.** Contact with rotating parts or chips may result in personal injury.
- l) **Make sure the bit is rotating before feeding into the workpiece.** Otherwise the accessory may become jammed in the workpiece causing unexpected movement of the workpiece and personal injury.
- m) **Do not use excessive feed force while drilling.** Use of excessive feed force may cause the magnetic base to release from the workpiece, causing unexpected movement of the tool or workpiece and personal injury.
- n) **Avoid generating long chips by regularly interrupting downward pressure.** Sharp metal chips may cause entanglement and personal injuries.
- o) **Never remove chips from the drilling area while the tool is running. To remove chips, move the bit away from the workpiece, switch off the drill motor and wait for the bit to stop moving. Use tools such as a brush or hook to remove chips.** Contact with rotating parts or chips may result in personal injury.
- p) **When performing drilling that requires the use of cutting fluid, route the cutting fluid away from the operator's work area or use a liquid collection device.** Such precautionary measures keep the operators's work area dry and reduce the risk of electric shock.
- q) **When the bit is jammed, stop applying downward pressure and turn off the tool.**  
Investigate and take corrective actions to eliminate the cause of bit jamming.
- r) **When restarting a drill in the workpiece, check that the bit rotates freely before starting.** If the bit is bound it may not start, it may overload the tool, or may cause the drill stand to release from the workpiece.
- s) **Do not deactivate the magnetic base until the tool is turned off and the bit has come to a complete stop.** Premature deactivation of the magnetic base may cause unexpected movement of the tool or workpiece and personal injury.

### 3) INFORMATION PLATE SYMBOLS



1. Refer to the user manual for operational and safety issues with regard to this machine.
2. Eye protection must be worn when operating the machine.
3. Ear defenders must be worn when operating the machine.
4. Dispose of the machine and electrical components correctly.
5. Do not use if you have a pacemaker or other implanted medical device due to strong electromagnetic fields.

## 4) SPECIFICATION

Max hole cutting capacity in steel = 35mm dia. x 50mm doc

<b>Voltages</b>	110V 50-60Hz	230V 50-60Hz
<b>Normal full load</b>	11.6A   1200W	5.5A   1200W
<b>Electro Magnet</b>	0.72A 75W	0.35A 75W
<b>Size</b>	181mm long x 80mm wide	
Holding Force at 20°C with 25mm minimum plate thickness <b>The use on any material less than 25mm thick will progressively reduce the magnetic performance. If possible, substitute material should be positioned under the magnet and work piece to equate to a suitable material thickness. If this is not possible, an alternative secure method of restraining the machine MUST be used.</b>	10000N	
<b>Overall Dimensions</b>		
<b>Height - maximum extended</b>	504mm	
<b>Height - minimum</b>	329mm	
<b>Width (including Capstan fitting)</b>	190mm	
<b>Length Overall (including Guard)</b>	278mm	
<b>Nett Weight</b>	11kgs	
	Commando 35/1	Commando 35/3
<b>Vibration total values (triax vector sum) in accordance with EN62841-1:</b>	Vibration emission value (ah):2.273m/s <sup>2</sup> Uncertainty(K):1.Sm/s'	Vibration emission value (ah):1.935 m/s' Uncertainty(K):1.Sm/s'
<b>Level of sound pressure in accordance with EN62841-1:</b>	<i>Sound pressure(LpA):</i> 87.9 dB(A) <i>Acoustic power(LWA):</i> 100.9 dB(A) uncertainty(K): 3dB(A)	<i>Sound pressure(LpA):</i> 86.0 dB(A) <i>Acoustic power(LWA):</i> 99.0 dB(A) uncertainty(K): 3dB(A)

### Vibration and Noise

The declared vibration total value(s) and the declared noise emission value(s) have been measured in accordance with a standard test method and maybe used for comparing one tool with another.

The declared vibration total value(s) and declared noise emission values(s) may also be used in a preliminary assessment of exposure. The vibration and noise emissions during actual use of the power tool can differ from the declared total value depending on the ways in which the tool is used and especially what kind of workpiece is being processed.

The need to identify safety measures to protect the operator that are based on an estimation of exposure in the actual conditions of use (taking account of all parts of the operating cycle such as the times when the tool is switched off and when it is running idle in addition to the trigger time).

Ear and eye defenders must be worn when operating this machine. Wear gloves to protect hands when operating the machine.

**Suitable only for a single phase 50-60Hz A.C. power supply  
DO NOT USE ON D.C. SUPPLY**

**Do not use your magnetic drill on the same structure when arc welding is in progress.**

**WARNING: THIS APPLIANCE MUST BE EARTHED!**

**D.C. current will earth back through the magnet and cause irreparable damage.**

**NB: ANY MODIFICATIONS TO THIS MACHINE WILL INVALIDATE THE GUARANTEE**

## 5) OPERATIONAL SAFETY PROCEDURES

### READ BEFORE USING THE MACHINE

- When using electrical tools, basic safety precautions should always be followed to reduce the risk of electric shock, fire, and personal injury.
- Ensure the magnet is **OFF** before plugging in the machine.
- **Do NOT** use in wet or damp conditions. Failure to do so may result in personal injury.
- **Do NOT** use in the presence of flammable liquids, gases or in high risk environments. Failure to do so may result in personal injury.
- **BEFORE** activating the machine, inspect all electrical supply cables (including extension leads), and replace if damaged. **DO NOT** use if there are any signs of damage.
- Only use extension cables approved for site conditions.
- **BEFORE** activating the machine, **ALWAYS** check the correct function of all operational systems, switches, magnet etc.
- **BEFORE** operating, the machine **MUST** be securely restrained to a fixed independent feature (by using safety strap RD4329, or other means) to reduce the potential free movement, should the magnet become detached from the workpiece. Failure to do so may result in personal injury.
- **ALWAYS** wear approved eye protectors, ear defenders and recommended PPE at **ALL** times when operating the machine.
- Disconnect from power source when changing cutters or working on the machine.
- Cutters and swarf are sharp, **ALWAYS** ensure that hands are adequately protected when changing cutters or removing swarf. Use a tool or brush where necessary to remove any swarf or the cutter from the arbor.
- Before operating the machine, **ALWAYS** ensure cutter-retaining screws are secured tightly.
- Regularly clear the work area and machine of swarf and dirt, paying particular attention to the underside of the magnet base.
- **ALWAYS** remove tie, rings, watches and any loose adornments that might entangle with the rotating machinery before operating.
- **ALWAYS** ensure that long hair is securely enclosed by an approved restraint before operating the machine.
- Should the cutter become stuck in the work piece, stop the motor immediately to prevent personal injury. Disconnect from power source and turn arbor to and from. **DO NOT ATTEMPT TO FREE THE CUTTER BY SWITCHING THE MOTOR ON AND OFF.** Wear safety gloves to remove the cutter from the arbor.
- If the machine is accidentally dropped, **ALWAYS** thoroughly examine the machine for signs of damage and check that it functions correctly **BEFORE** drilling resumes.
- Regularly inspect the machine and check for any damaged or loose parts.
- **ALWAYS** ensure when using the machine in an inverted position that only the minimum amount of coolant is used and that care is taken to ensure personal safety.
- **ALWAYS** take care when lifting and transporting this machine. The maximum lifting weight for one person is 25kgs. **See Fig.1**



- Cutting tools may shatter, **ALWAYS** position the guard over the cutter before activating the machine. Failure to do so may result in personal injury.
- On completion of the cut, a slug will be ejected. **DO NOT** operate the machine as the ejected slug may cause injury.
- When not in use **ALWAYS** store the machine in a safe and secure location.
- **ALWAYS** ensure that approved **ROTABROACH™** agents conduct repairs.

## 6) OPERATING INSTRUCTIONS

- Keep the inside of the cutter clear of swarf. It restricts the operating depth of the cutter.
- Ensure that the coolant bottle contains sufficient cutting oil to complete the required operating duration. Refill as required.
- Occasionally depress the pilot to ensure cutting fluid is being correctly metered.
- To start the machine follow the control panel operation instructions.
- **ALWAYS** switch off the motor by depressing the **RED** stop button. **DO NOT** switch off the motor by turning the magnet switch to zero.
- Apply light pressure when commencing the cut of a hole until the cutter is introduced into the work surface. Pressure can then be increased sufficiently to load the motor. Excessive pressure is undesirable, it does not increase the speed of penetration and will cause the safety overload protection device to stop the motor, (the motor can be restarted by operating the motor start button), and may cause excessive heat which may result in inconsistent slug ejection.
- Always ensure that the slug has been ejected from the previous hole before commencing to cut the next.
- If the slug sticks in the cutter, move the machine to a flat surface, switch on the magnet and gently bring the cutter down to make contact with the surface. This will usually straighten a cocked slug and allow it to eject normally.
- Apply a small amount of light oil lubricant regularly to the slide and arbor support bearing.
- Cutter breakage is usually caused by insecure anchorage, a loosely fitting slide or a worn bearing in the arbor support. (Refer to routine maintenance instructions).
- Only use approved cutting fluid. Rota broach cutting fluid has been specially formulated to maximise the cutters performance. It is available in 1 litre (RD208) and 5 litre (RD229).



**Fig.2 Instructions:**

1. Unscrew the cap
2. Pour neat oil into the coolant bottle
3. Screw the cap back on the bottle firmly
4. Open the tap

**WARNING - Rotating Cutter Hazard.** Only operate the motor when the machine is in the fully lowered position with the guard covering the cutter. The motor can be raised higher than the guard to allow cutter installation; however, this must only be done while the motor is switched off. Failure to follow this precaution may result in serious injury due to entanglement or contact with the rotating cutter.

## 7) EXTENSION CABLE SELECTION

The machines are factory fitted with a 3 meter length cable, having three conductors 1.5mm<sup>2</sup> LIVE, NEUTRAL and EARTH.

If it becomes necessary to fit an extension cable from the power source, care must be taken in using a cable of adequate capacity. Failure to do so will result in a loss of traction by the magnet and a reduction of power from the motor.

Assuming a normal AC supply of the correct voltage, it is recommended that the following extension lengths shall not be exceeded:

**For 110v supply: 3.5metres of 3 core x 1.5 mm<sup>2</sup>**

**For 230v supply: 26metres of 3 core x 1.5 mm<sup>2</sup>**

If the supply cord of this power tool is damaged, it must be replaced by a specially prepared supply cord available through the service organisation.

**ALWAYS DISCONNECT THE MACHINE FROM THE POWER SOURCE BEFORE CHANGING CUTTERS.**

## 8) MOUNTING OF CUTTERS

- The machine has been made to accept cutters having 19.05mm (3/4") dia. Weldon shanks.

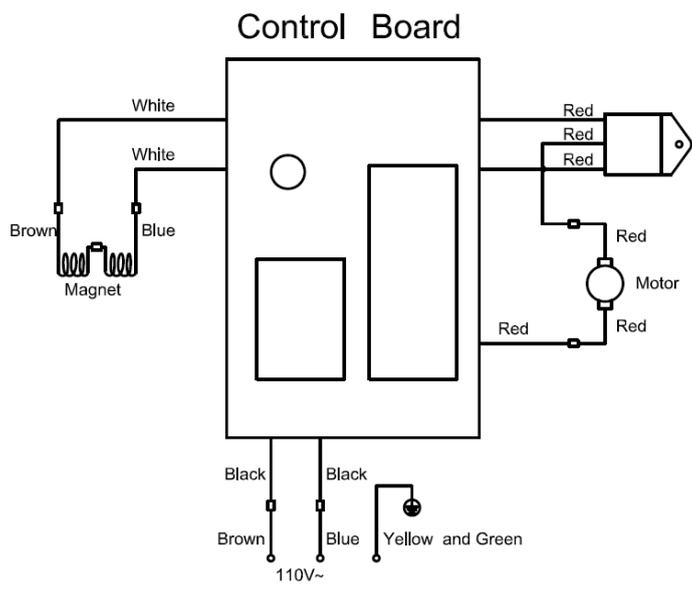
The following procedure is to be used when mounting cutters:

- Lay the machine on its side with feed handles uppermost, ensuring arbor is wound down to its lowest point to enable access to socket screws.
- Take appropriate pilot and place through the hole in cutter shank. Insert shank of cutter into bore of arbor, ensuring alignment of two drive flats with socket screws.
- Tighten both screws using hexagon key.

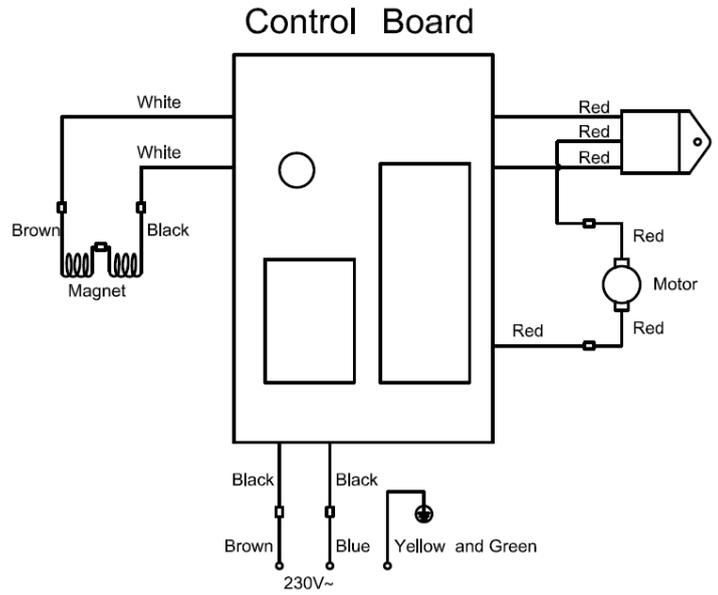
## 9) REMEDIES FOR HOLE MAKING PROBLEMS

<i>Problem</i>	<i>Cause</i>	<i>Remedy</i>
1) Magnetic base won't hold effectively	Material being cut may be too thin for efficient holding.	Attach an additional piece of metal under work-piece where magnet will be located, or mechanically clamp magnetic base to work-piece.
	Swarf or dirt under magnet.	Clean magnet.
	Irregularity on magnet contact or work-piece.	Use extreme care; file any imperfections flush to surface.
	Insufficient current going to magnet during drilling cycles.	Confirm power supply and output from control unit, check supply cable.
2) Cutter skips out of centre-punch mark at initiation of cut	Magnetic base is not holding effectively.	See causes and remedies above.
	Worn arbor bushing and/or ejector collar.	Replace! Only a few thousandths wear permissible. New arbor bushing is needed. Light pressure only is needed until a groove is cut. The groove then serves as a stabiliser.
	Too much feed pressure at start of cut.	Replace or re-sharpen. Sharpening service is available.
	Cutter is dull, worn, chipped or incorrectly sharpened.	Improve centre-punch and/or replace worn parts
	Poor centre-punch mark; weak pilot spring; pilot not centred in centre-punch mark.	Replace part or parts
	Worn or bent pilot, worn pilot hole.	Replace part or parts
	Loose bolts on motor bushing support bracket, main casting or loose gib adjusting set screws.	Adjust where necessary
3) Excessive drilling pressure required	Incorrectly re-sharpened, worn or chipped cutter.	Re-sharpen or replace.
	Coming down on swarf lying on surface of work-piece.	Take care not to start a cut on swarf.
	Gibs out of adjustment or lack of lubrication.	Adjust setscrews, and lubricate.
	Swarf accumulated (packed) inside cutter.	Clear cutter.
4) Cutter breakage	Steel swarf or dirt under cutter.	Remove cutter, clean part thoroughly and replace.
	Incorrectly re-sharpened or worn cutter.	Always have a new cutter on hand to refer to for correct tooth geometry, together with instruction sheet.
	Cutter skipping.	See causes and remedies (2).
	Gib Strip need adjustment.	Tighten Gib Strip.
	Cutter not attached tightly to arbor.	Retighten.
	Insufficient use of cutting oil or unsuitable type of oil.	Inject oil of light viscosity into the coolant-inducing ring and check that oil is being metered into cutter when pilot is depressed. If not, check pilot groove and arbor internally for dirt or apply oil externally. (Even a small amount of oil is very effective).
5) Excessive cutter wear	See cause and remedy above	
	Incorrectly re-sharpened cutter.	Do not use. Refer to instructions and a new cutter for proper tooth geometry.
	Exercise, insufficient or spasmodic cutting pressure.	Use sufficient steady pressure to slow the drill down. This will result in optimum cutting speed and chip load.

**10) WIRING DIAGRAM**

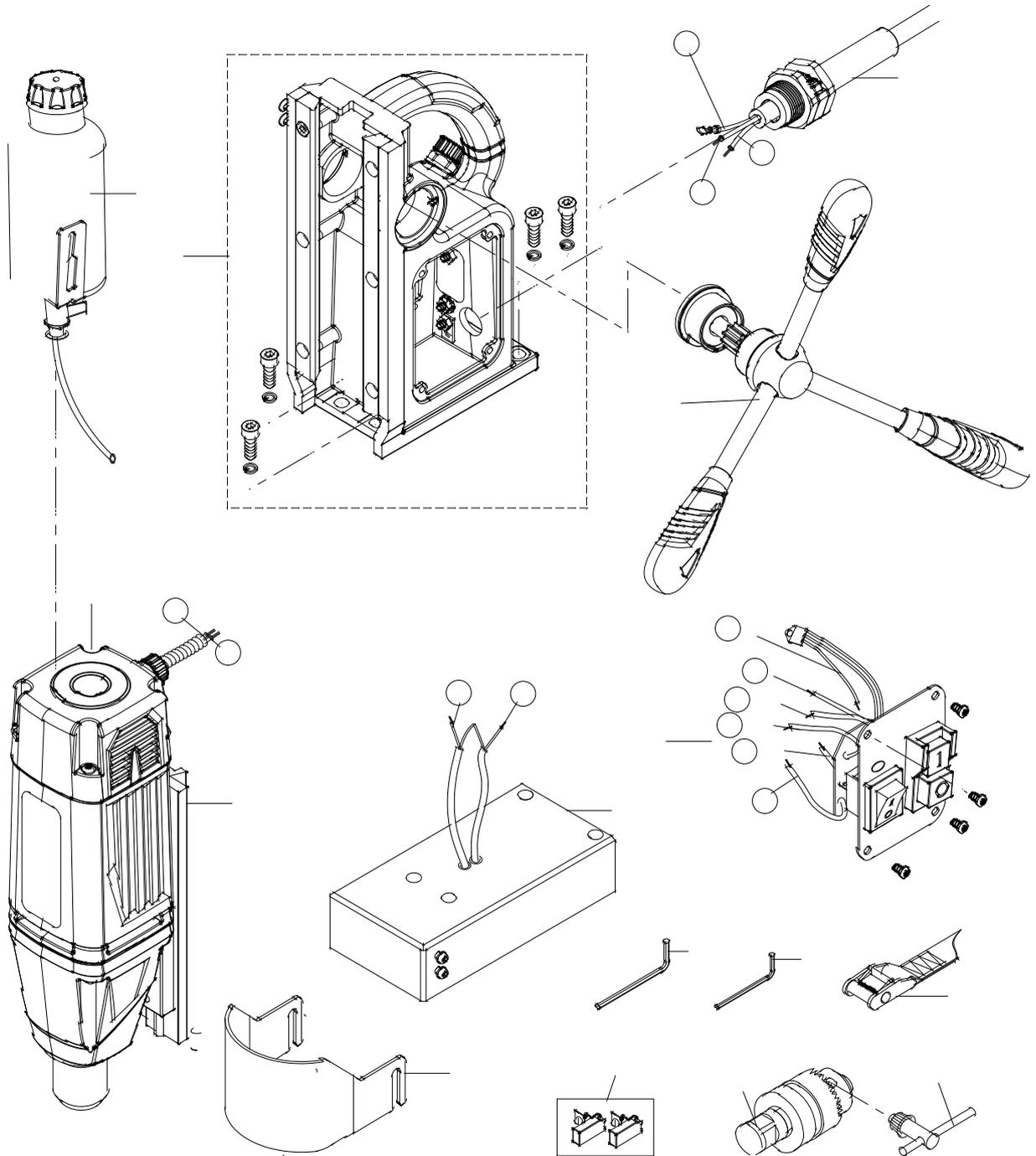


110V WIRING DIAGRAM



230V WIRING DIAGRAM

11) EXPLODED VIEW & PARTS LIST



<b>Part №</b>	<b>Rotabroach P/N</b>	<b>Description</b>	<b>Qty/pcs</b>
1	RDH2000	Full Motor Assembly 230V	1
	RDH2001	Full Motor Assembly 110V	1
2	RDH2003	Housing Assembly 230V	1
	RDH2004	Housing Assembly 110V	1
3	RDH2005	Coolant Bottle Assembly	1
4	RDH2006	Cable Assembly 230V	1
	RDH2007	Cable Assembly 110V	1
5	RDH2008	Capstan Spindle Assembly	1
6	RDH2002	Motor Top Cap Only	1
7	RDH2010	Control Panel Assembly 230V	1
	RDH2011	Control Panel Assembly 110V	1
8	RDH2012	Magnet Assembly 230V	1
	RDH2013	Magnet Assembly 110V	1
9	RDH2014	Guard	1
10	RDH2015	Hexagon Spanner 5mm	1
11	RD4152	Hexagon Spanner 3mm	1
12	RD4329	Safety Strap	1
13	RDH2018	Spare Brush 230V	1
	RDH2019	Spare Brush 110V	1
14	RDH2020	Chuck Adaptor	1
15	RDH2021	Keyed Wrench	1

## 12) FITTING THE CHUCK

- The machine is supplied with a chuck (RDH2020). To install, loosen the grub screws and insert the chuck in the same manner as an annular cutter.
- Ensure the chuck is securely fastened before operating the machine.
- Note: Coolant will not flow through the chuck as it does with the arbor and annular cutter. Lubrication should be applied directly to the tool being used.

## 13) MAINTENANCE

In order to 'get the best life' out of your Rotabroach machine always keep it in good working order.

A number of items must always be checked on Rotabroach machines.

Always before starting any job make sure the machine is in good working order and that there are no damaged or loose parts. Any loose parts must be tightened.

**Before proceeding with any maintenance work be certain that the power supply is disconnected.**

Description	Every operation	1 week	1 Month
Visual check of machine for damage	X		
Operation of machine	X		
Check brush wear		X	
Check magnetic base	X		
Check alignment of the machine			X
Check grease			X
Check armature			X

### Visually check the machine for damage.

The machine must be checked before operation for any signs of damage that will affect the operation of the machine. Particular notice must be taken to the mains cable, if the machine appears to be damaged it should not be used, failure to do so may cause injury or death.

### Check operation of the machine.

The machines operation must be checked to ensure that all components are working correctly.

**Machine Brushes** - should be checked to make sure there is no abnormal wear present (this should be checked at least once a week if used frequently). If the brush has worn more than 2/3 the original length the brushes should be changed. Failure to do so may cause damage to the machine.

**Magnetic base** - before every operation the magnetic base should be checked to make sure that the base is flat and there is no damage present. An uneven magnet base will cause the magnet not to hold as efficiently and may cause injury to the operator.

### **Adjustment of slide and bearing bracket alignment.**

An essential requirement of the machine is that the slide can move in a smooth and controlled manner, free of lateral movement and vibration.

This situation can be maintained by periodic adjustment of the slide and is accomplished in the following manner:

1. Place the machine in an upright position and, by means of the capstan, raise the slide to its highest position. Clean the brass gib strips and apply a small amount of light machine oil to the wear surfaces.
2. **Now** lower the slide back to its lowest position. Bring the slide into the center of the dovetail slide housing and loosen screws thus allowing free movement of the arbor support bracket.
3. Commencing with the middle screws, gently feed in all the screws until slight resistance is encountered.
4. Operate the slide up and down a few times to test the movement and make any further necessary adjustments. Try to ensure that all the screws are exerting a uniform pressure on the slide from top to bottom. A perfectly adjusted slide will operate freely up and down without any sideways movement.
5. Now raise the slide to its highest position. Slightly undo the arbor bearing bracket and, using fingers only, tighten the screws.
6. Place the machine on a steel plate, connect to power supply and switch on the magnet. Start up the motor. If the arbor is incorrectly aligned, the arbor support bracket will be seen to oscillate. Make any necessary further adjustments to the bracket to ensure correct alignment of the spindle and finally tighten the screws using a spanner. Lastly tighten the arbor bearing bracket.

### **Check machines grease.**

The gearbox grease should be checked once a month to ensure all moving components are covered to prevent wear. The grease should be changed at least once a year to ensure you gain the best from your machine.

### **Check Armature of the machine.**

This should be checked at least once a month to check that there are no visual signs of damage to the body or to the commutator. Some signs of wear will be seen on the commutator over a period of time but this is normal (this is the part that comes into contact with the brushes) however, if there are any signs of abnormal damage the part should be replaced.

## 14) TROUBLE SHOOTING

Magnet and motor do not function	<ul style="list-style-type: none"> <li>- The magnet switch is not connected to the power supply</li> <li>- Damaged or defective wiring</li> <li>- Defective fuse</li> <li>- Defective magnet switch</li> <li>- Defective control unit</li> <li>- Defective power supply</li> </ul>
Magnet does function, the motor does not	<ul style="list-style-type: none"> <li>- Damaged or defective wiring</li> <li>- Carbon brushes are stuck or worn out</li> <li>- Defective magnet switch</li> <li>- Defective on / off switch</li> <li>- Defective control unit</li> <li>- Defective armature and/or field</li> <li>- Defective protective reed switch</li> </ul>
Magnet does not function, the motor does	<ul style="list-style-type: none"> <li>- Defective magnet</li> <li>- Defective fuse</li> <li>- Defective control unit</li> </ul>
Hole cutters break quickly, holes are bigger than the hole cutter	<ul style="list-style-type: none"> <li>- Play in the guide</li> <li>- Bent spindle</li> <li>- Shaft extending from the motor is bent</li> <li>- Pilot bent</li> </ul>
Motor running roughly and/or seizing up	<ul style="list-style-type: none"> <li>- Bent spindle</li> <li>- Shaft extending from the motor is bent</li> <li>- Triangular guide not mounted straight</li> <li>- Dirt between spindle and triangular guide</li> </ul>
Motor making a rattling sound	<ul style="list-style-type: none"> <li>- Gear ring (bottom of the armature) worn out</li> <li>- Gear(s) worn out</li> <li>- No grease in gear box</li> </ul>
Motor humming, big sparks and motor has no force	<ul style="list-style-type: none"> <li>- Armature damaged</li> <li>- Field burned</li> <li>- Carbon brushes worn out</li> </ul>
Motor does not start or fails.	<ul style="list-style-type: none"> <li>- Damaged or defective wiring</li> <li>- Damage to armature or field coil</li> <li>- Damaged or defective brushes</li> </ul>
Guiding takes a great deal of effort	<ul style="list-style-type: none"> <li>- Guide is set too tight</li> <li>- Guide is dry</li> <li>- Guide/gear- rack/rotation system is dirty or damaged</li> </ul>
Insufficient magnetic force	<ul style="list-style-type: none"> <li>- Damaged or defective wiring</li> <li>- Bottom of magnet not clean and dry</li> <li>- Bottom of magnet not flat</li> <li>- Work piece is not bare metal</li> <li>- Work piece is not flat</li> <li>- Work piece is too thin less than 10mm</li> <li>- Defective control unit</li> <li>- Defective magnet</li> </ul>
Frame under voltage	<ul style="list-style-type: none"> <li>- Damaged / defective wiring</li> <li>- Defective magnet</li> <li>- Motor seriously dirty</li> </ul>
Fuse blows when magnet switch is turned on	<ul style="list-style-type: none"> <li>- Damaged or defective wiring</li> <li>- Wrong value fuse</li> <li>- Defective magnet switch</li> <li>- Defective control unit</li> <li>- Defective magnet</li> </ul>
Fuse blows when motor is started up	<ul style="list-style-type: none"> <li>- Damaged or defective wiring</li> <li>- Wrong value fuse</li> <li>- Motor running roughly</li> <li>- Defective armature and / or field</li> <li>- Carbon brushes worn out</li> <li>- Defective control unit</li> </ul>
Rotation system free stroke too long	<ul style="list-style-type: none"> <li>- Loose or defective gear-rack</li> <li>- Defective rotation system</li> </ul>

# Rotabroach™

## 15) WARRANTY AND CE STATEMENTS

Rotabroach™ warrants its machines to be free from faulty materials, under normal usage of machines, for a period of 12 months from initial date of purchase. All other parts (excluding cutters) are under warranty for 90 days, provided that the warranty registration card (or online registration) has been completed and returned to Rotabroach™ or its designated distributor within a period of 30 days from the purchase date. Failure to do so will void the warranty. If the stated is adhered to, Rotabroach™ will repair or replace (at its option) without charge, any faulty items returned.

### This warranty does NOT cover:

1. Components that are subject to natural wear and tear caused by the use not in accordance with the operators instructions.
2. Defects in the tool caused by non-compliance with the operating instructions, improper use, abnormal environment conditions, inappropriate operating conditions overload or insufficient servicing or maintenance.
3. Defects caused by using accessories, components or spare parts other than original Rotabroach™ parts.
4. Tools to which changes or additions have been made.
5. Electrical components are subject to manufacturer's warranty.

Your online registration can be submitted at [www.rotabroach.co.uk](http://www.rotabroach.co.uk)

The warranty claim must be logged within the warranty period. This requires the submission or sending of the complete tool in question with the original sales receipt which must indicate the purchase date of the product. A complaint form must also be submitted prior to the return. This can be found online at [www.rotabroach.co.uk](http://www.rotabroach.co.uk).

Failure to complete this form will result in the delay of your claim.

All goods returned defective must be returned pre-paid to Rotabroach™, in no event shall Rotabroach™ be liable for subsequent direct, or indirect loss or damage.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, (EXPRESSED OR IMPLIED) INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

ROTABROACH™ RESERVE THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE

**Known and Trusted Worldwide for Quality, Performance and Reliability**

# Rotabroach™



**EC Declaration of Conformity**

Based on the referenced test reports, the below product has been found to comply with the relevant harmonised standard(s) to the directive(s) listed on this verification at the time the tests were carried out.

Name and address of manufacturer: Rotabroach Ltd  
Burgess Road, Sheffield Road, Sheffield  
S9 3WD, United Kingdom

Product tested: COMMANDO 35X/1,  
COMMANDO 35X/3,  
COMMANDO 35/3,  
COMMANDO 35/3,  
COMMANDO 35/1\* ,  
COMMANDO 35/3\* ,  
(\*=A or B or C or Blank, means different colour and package)

Application of product: Hole drilling metal

Relevant standards/directives EN12717 : 2001+A1 : 2009  
The EMC Directive 2014/30/EU  
The Machinery Directive 2006/42/EC – Annex I  
EN 62841-1:2015 +AC:15  
EN IEC55014-1:2021  
EN IEC55014-2:2021  
EN IEC61000-3-2: 2019+A1:2021  
EN61000-3-3:2013+A1:2019+A2:2021

Name and Address of Responsible person.

Mr Mathew Grey  
Managing Director  
Burgess Road,  
Sheffield  
S9 3WD  
United Kingdom

Date:

28th January 2026

Signature:

A handwritten signature in black ink, appearing to read 'Mathew Grey'.