

# RB30

## LittleBrute MAGNETIC DRILL PRESS



**SAFETY GUIDELINES**



**USER GUIDELINES**



**PARTS & SCHEMATICS**

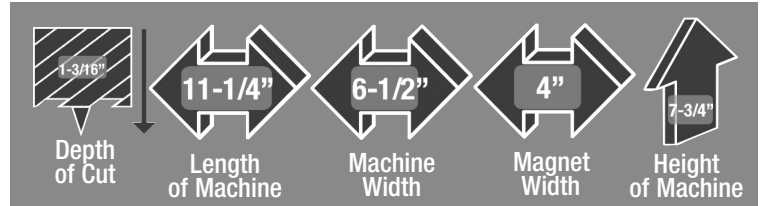
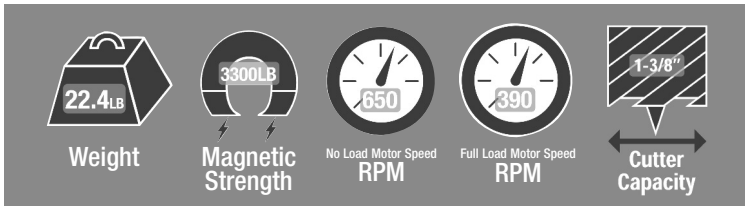




## IMPORTANT

Please read these operating and safety instructions carefully and completely. For your own safety - before using this equipment check that the voltage is correct and that all handles and parts are firmly secured. If you are uncertain about any aspect of using this equipment, contact your distributor.

## PLEASE KEEP THESE INSTRUCTIONS



### INCLUDED WITH EVERY RB30

Carrying case, cutting fluid, wrench M8, hex key M2.5, hex key M4 and safety chain

**Ear and eye protection MUST be worn during operation of this equipment. Do NOT touch the cutter while it is in motion. Always follow the Personal Protection Equipment (PPE) recommendations while operating this tool.**

**This machine is designed specifically for drilling holes in steel using annular cutters. We recommend Champion RotoBrute annular cutters. Please consult your Champion authorized distributor for a complete range of sizes.**

**DO NOT modify and / or use your RotoBrute magnetic drill press for any application other than for which it is intended.**

## SAFETY

### Be sure to read and follow these important safety instructions:

When using your RB30 LittleBrute, be sure to follow these important safety precautions:

1. Before operating the machine, check supply voltage and general conditions, i.e. cable/cord damage. A machine with damaged cable must be returned or repaired prior to use.
2. Always use the safety chain in all drilling applications.
4. Since cutting tools can shatter, eye and head protection should be worn at all times.
5. After use, clean machine and cutters and keep in the case provided.
6. Store when not in use, in a dry environment.
7. Always provide a method of catching slug, where the ejected slug may cause injury (slug ejects at end of cut).
8. Should the cutter jam in the work-piece, stop the machine immediately. Isolate the machine at the main supply. Loosen the cutter. Do not attempt to free cutter by starting and stopping the motor.

### Electrical Safety

1. Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way.
2. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or breakdown, grounding provides a low resistance path to carry electricity away from the user.
3. Never use the cord to carry the tools or pull the plug from an outlet. Replace damaged cords immediately.
4. When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock. Minimal gauge external cord should be 12/3.
5. Use the RB30 with 110 A/C voltage only. Not for use with generators, welders or any DC power source. Do not use on any surface where welding is taking place.

### Personal Safety

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. Do not wear loose clothing or jewelry. Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on, invite accidents.

Remove adjusting keys before turning the tool on.

Do not overreach. Keep proper footing and balance at all times.

Safety equipment (eye protection, dust mask, nonskid safety shoes, hard hat, hearing protection, non-skid shoes) should always be worn.

### Tool Use and Care

Use clamps or other practical ways to secure and support the work-piece to a stable platform. Do not force tool. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool. Store idle tools out of reach of children and other untrained persons. Maintain tools with care. Keep cutting tools sharp and clean. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.

### Service

Tool service must be performed only by qualified personnel. When servicing a tool, use only original replacement parts. Use of unauthorized parts will void the warranty. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

### Magnetic Drill Safety

The drill's magnetic adhesion depends on the thickness of the work-piece. 7/16" is the minimum recommended thickness for safe operation. Keep the magnet clean of metal chips and other dirt and debris. These will seriously reduce the magnetic adhesion. The drill must be operated on its own electrical outlet. Always use the supplied safety chain. An electrical overload can result in loss of adhesion.

**CAUTION: The slug ejects at end of cut and is very hot.**

**WARNING:** Do not attempt to drill a work-piece, which is thicker than the maximum cutting depth of the cutter being used. **Never** exceed 1-3/8" cutter diameter.

### Maintenance and Troubleshooting

Keep the drill press and the cord clean. In case of electrical or mechanical malfunction, immediately switch off the tool and disconnect the plug. Excessive sparking generally indicates the presence of dirt in the motor or worn out carbon brushes. Periodically check brushes for wear and replace when they reach 1/4".

For all other service and maintenance, please contact a Champion® authorized service center.

### Safety Chain

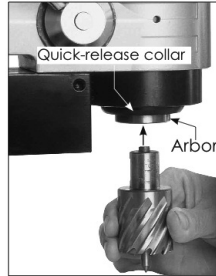
The safety chain must always be used. Loop the chain through the slot above the magnet and around the workpiece. Push on the spring buckle and thread the loose end of the strap through the loop and pull tight. Push on the spring buckle to release chain.





## Mounting Annular Cutters

1. Place a pilot pin in the cutter at the shank end. Insert the cutter into the special arbor.
2. Whenever mounting or removing cutters, always unplug the machine.
3. Lower the arbor.
4. Push up on the quick-release collar. Insert the cutter with pilot pin and turn until the flat meets the locking pin. When the flat meets the locking pin, the collar will snap down. Double check to ensure that it is fully locked.
6. Position the machine on a clean, dry, ferrous surface at least 7/16" thick. Switch on the magnet.
7. Apply BruteLube wax at all times to annular cutters to enhance the quality of cut and prolong the cutting tool life.
8. Switch on the drill. Always proceed with caution at the start of drilling operations. When using RotoBrute annular cutters apply pressure gradually at first until a depth of 1/8" is reached. Normal cutting pressure can then be applied.
9. On completion of cut, withdraw the cutter from hole, switch off the drill, then the magnet. Ensure the magnet base is clear of chips. Locate the next hole using the above procedures.
10. To remove the cutter, lower the arbor, push up on the quick-release collar and remove the cutter.



## General Operation

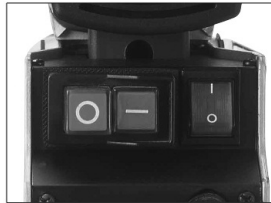
**WARNING:** Always ensure that the magnet is adhered properly to the workpiece before beginning drilling.

**NOTE:** If mounting to a curved surface beam, mount the machine parallel to the curve in the work piece.

**WARNING:** Avoid operating at more than 90 degrees from horizontal. When drilling at such an angle take precautions to prevent cutting coolant from entering the motor.

BruteLube Wax should be used.

1. First fit tool into arbor and line up with intended center of cut. Then switch magnet on.
2. Press green motor on button to start motor. Use the crank handle to feed to work. Always use very light pressure when beginning the cut and just as the tool is breaking through.



The crank handle offers tremendous leverage. Therefore do not use too much force. Allow the cutting tool to determine the pace. With experience, the operator will be able to determine the best pace to feed to the work. There should be some degree of audible slowing of the motor but not bogging in the cut. Correct cutting speed with a properly sharp annular cutter will produce long unbroken chips, which produce a "bird's" nest shaped bundle of chips around the cut.

**NOTE:** Always ensure that the cutting tool is sharp. A dull cutter typically will have finer and/or choppy shavings.

**WARNING:** ALWAYS clear chips when there is too much build-up. Excessive chip build-up could result in a jammed cutter or other hazardous situation.

**WARNING:** The slug ejects at end of cut and is very hot. Always provide a method of catching the slug, where the ejected slug may cause injury to people below.

**CAUTION:** Take extreme caution if attempting to cut half-circles or to stitch drill (drill overlapping holes) with a tungsten carbide cutter. This may destroy the cutter.

## Reversing of Changing the Position of the Handle

The handle is quick-release and adjustable to suit different operating conditions. If it is required to mount the handle on the opposite side or to change its position, push the Release Button in the center of the handle-hub and remove. Press the Button and mount on the opposite side or in the desired position.



## L.E.D Work Light

The RB30 is equipped with the L.E.D WORK LIGHT which is always on whenever the machine is plugged in. This is useful when working in low light conditions.



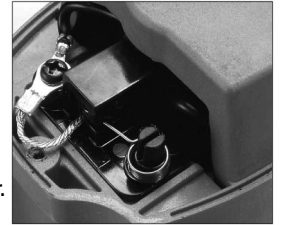
## Carbon Brushes

The carbon brushes are a normal wear part and must be replaced when they reach their wear limit.

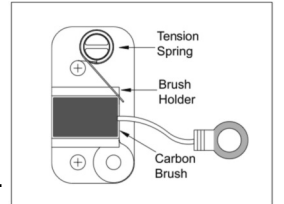
**Caution:** Always replace the brushes as a pair.

To replace:

1. Remove the 4 screws and remove the motor tail cover.
2. Using pliers rotate the brush spring out of the way and slide the old carbon brush out of the brush holder.
3. Unscrew the screw to remove the brush lead. The old carbon brush may now be lifted away.
4. To install a new brush, undertake the reverse of the removal detailed above.
5. Replace the motor tail cover.



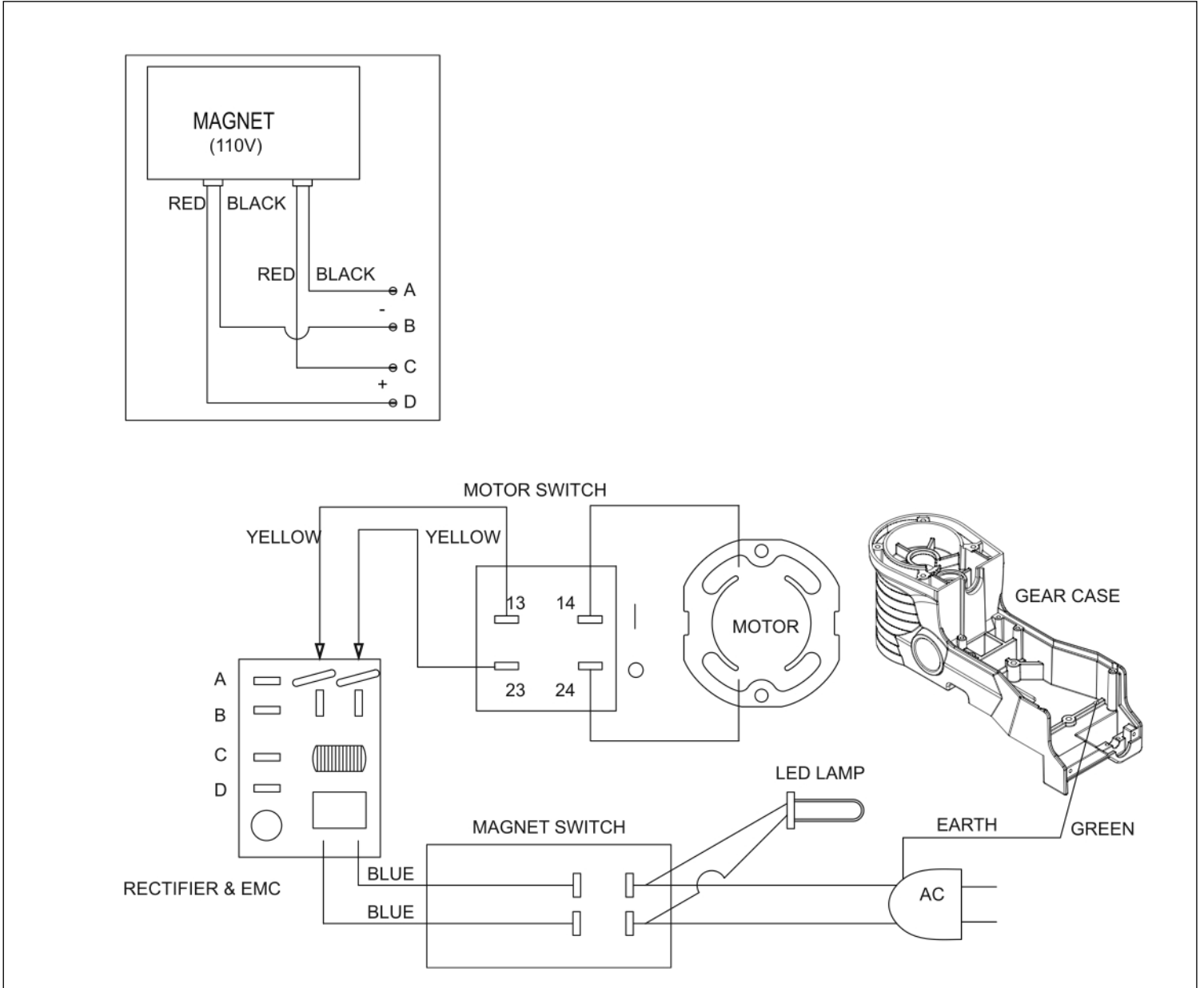
The brush design stops the machine before the carbon brushes are finished and protects the motor. In the event of the machine coming to a stop without obvious reason - then check the brushes immediately.





# RB30 LittleBrute

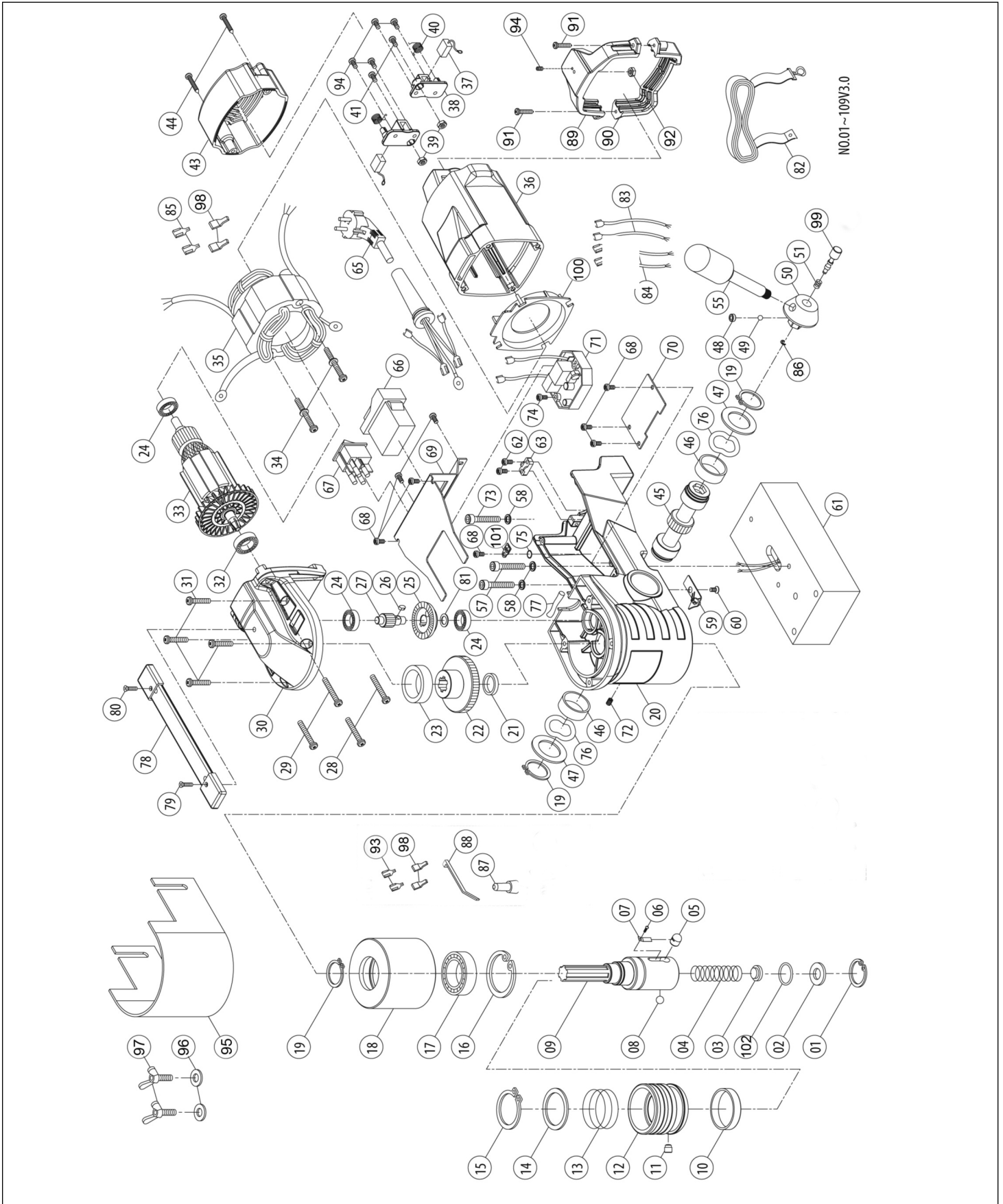
## ELECTRICAL DIAGRAM





# RB30 LittleBrute

## RB30 SCHEMATIC





# RB30 LittleBrute

## KEY TO RB30 SCHEMATIC

No.	List/Size	Description	No.	List/Size	Description	No.	List/Size	Description
1	RB3001	INTERNAL CIRCLIP R19	35	RB3035	STATOR	75	RB3075	SUN WASHER M4
2	RB3002	ARBOR WASHER	36	RB3036	MOTOR HOUSING	76	RB3076	WASHER 30X38.5 (2)
3	RB3003	COOLANT SEAL	37	RB3037	CARBON BRUSH 7X11 (2)	77	RB3077	SEAL
4	RB3004	SPRING	38	RB3038	BRUSH HOLDER (2)	78	RB3078	STRAP (inc. 78-1, 78-2 & 78-3)
5	RB3005	LOCK PIN	39	RB3039	NUT M4 (2)	79	RB3079	SCREW M5x8
6	RB3006	SET SCREW M3	40	RB3040	BRUSH SPRING (2)	80	RB3080	SCREW M5X10
7	RB3007	LOCK PIN SPRING	41	RB3041	SCREW M4X10 (2)	81	RB3081	FLAT WASHER M10.1X14X1
8	RB3008	BALL STOP	43	RB3043	MOTOR TAIL COVER	82	RB3082	SAFETY CHAIN
9	RB3009	SPINDLE	44	RB3044	SCREW M4X25 (2)	83	RB3083	WIRE LEAD-BLACK 18CM (2)
10	RB3010	RING	45	RB3045	CRANK SPINDLE	84	RB3084	WIRE LEAD-YELLOW 18CM (2)
11	RB3011	COLLAR PIN	46	RB3046	CRANK BUSHING 28X32X12 (2)	85	RB3085	O-RING 12X20X4
12	RB3012	QUICK-RELEASE COLLAR	47	RB3047	THRUST WASHER 25.5X40X2 (2)	86	RB3086	E-CLIP E3
13	RB3013	SPRING	48	RB3048	BALL SEAT	87	RB3087	CONNECTOR
14	RB3014	SPRING SEAT RING	49	RB3049	CHECK BALL 05	88	RB3088	BELT
15	RB3015	EXTERNAL CIRCLIP S-35	50	RB3050	CRANK HUB	89	RB3089	TOP STRAP BRACKET CONNECTOR
16	RB3016	INTERNAL CIRCLIP R-47	51	RB3051	SPRING .6X4.1X5.3X4TX8.5L	90	RB3090	BOTTOM STRAP BRACKET SUPPORT
17	RB3017	BEARING 6005ZZ	55	RB3055	CRANK LEVER	91	RB3091	SCREW M3 X 16 (2)
18	RB3018	SPINDLE GUIDE	57	RB3057	SOCKET CAP SCREW M6X30 (2)	92	RB3092	NUT M5
19	RB3019	EXTERNAL CIRCLIP S-25 (3)	58	RB3058	SPRING WASHER M6 (3)	93	RB3093	WIRE CONNECTOR (2)
20	RB3020	GEAR CASE	59	RB3059	LED LAMP	94	RB3094	SCREW M4 X 8
21	RB3021	BUSHING 18X23X4	60	RB3060	FLAT HEAD SCREW M4X6	95	RB3095	SAFETY GUARD
22	RB3022	QUILL GEAR	61	RB3061	MAGNET BASE 164X80X48	96	RB3096	FLAT WASHER 6 X 13 X 1 (2)
23	RB3023	BUSHING 30X36X12	62	RB3062	SCREW M4X14 (2)	97	RB3097	SCREW M6 X 10 (2)
24	RB3024	BALL BEARING 608ZZ (3)	63	RB3063	CABLE CLIP	98	RB3098	POST WRAP CONNECTOR
25	RB3025	BEVEL GEAR M1X46T	65	RB3065	POWER SUPPLY CABLE - 110v	99	RB3099	PLUNGER ASSEMBLY
26	RB3026	PARALLEL KEY M4X4X8	66	RB3066	MOTOR NVR SWITCH 110V	100	RB30100	COOLING SHROUD
27	RB3027	INTERMEDIATE GEAR M1.25X9T	67	RB3067	MAGNET SWITCH	101	RB30101	GROUND LABEL
28	RB3028	SCREW M5X25 (2)	68	RB3068	SCREW M4x8 (8)	102	RB30102	O-RING 12 x 20 x 4
29	RB3029	SCREW M5X30 (2)	69	RB3069	SWITCH BRACKET			
30	RB3030	GEAR COVER	70	RB3070	MOUNTING PLATE			
31	RB3031	SCREW M5X25 (4)	71	RB3071	OVERLOAD UNIT - 110V			
32	RB3032	BEARING 60012RS	72	RB3072	SCREW M4X8			
33	RB3033	ARMATURE 110V M1X6T	73	RB3073	SOCKET CAP SCREW M6X16			
34	RB3034	SCREW M5X60 (2)	74	RB3074	SCREW M4X16			

All parts are 1 Piece unless otherwise stated in brackets



## THE ROTOBRITE RANGE



RB32 MINIBRUTE



RB45 MIGHTIBRUTE



RB65E MEGABRUTE



AC35



AC50



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