



# 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

Weight: 22.4 LB  
 Magnetic Strength: 3300 LB  
 No Load Motor Speed RPM: 650  
 Full Load Motor Speed RPM: 390  
 Cutter Capacity: 1-3/8"

Depth of Cut: 1-3/16"  
 Length of Machine: 11-1/4"  
 Machine Width: 6-1/2"  
 Magnet Width: 4"  
 Height of Machine: 7-3/4"

#### 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.





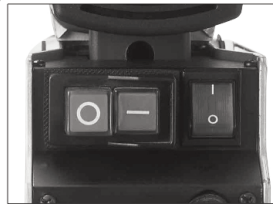
## Mounting Annular Cutters

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.

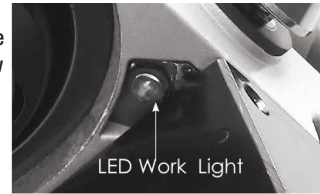
## Reversing or Changing the Position of the Handle

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.



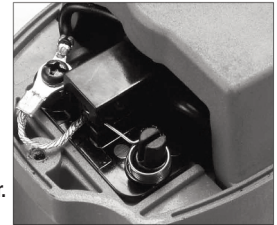
## L.E.D Work Light

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.

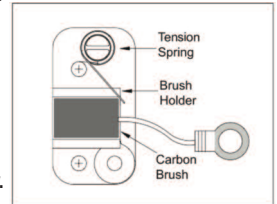


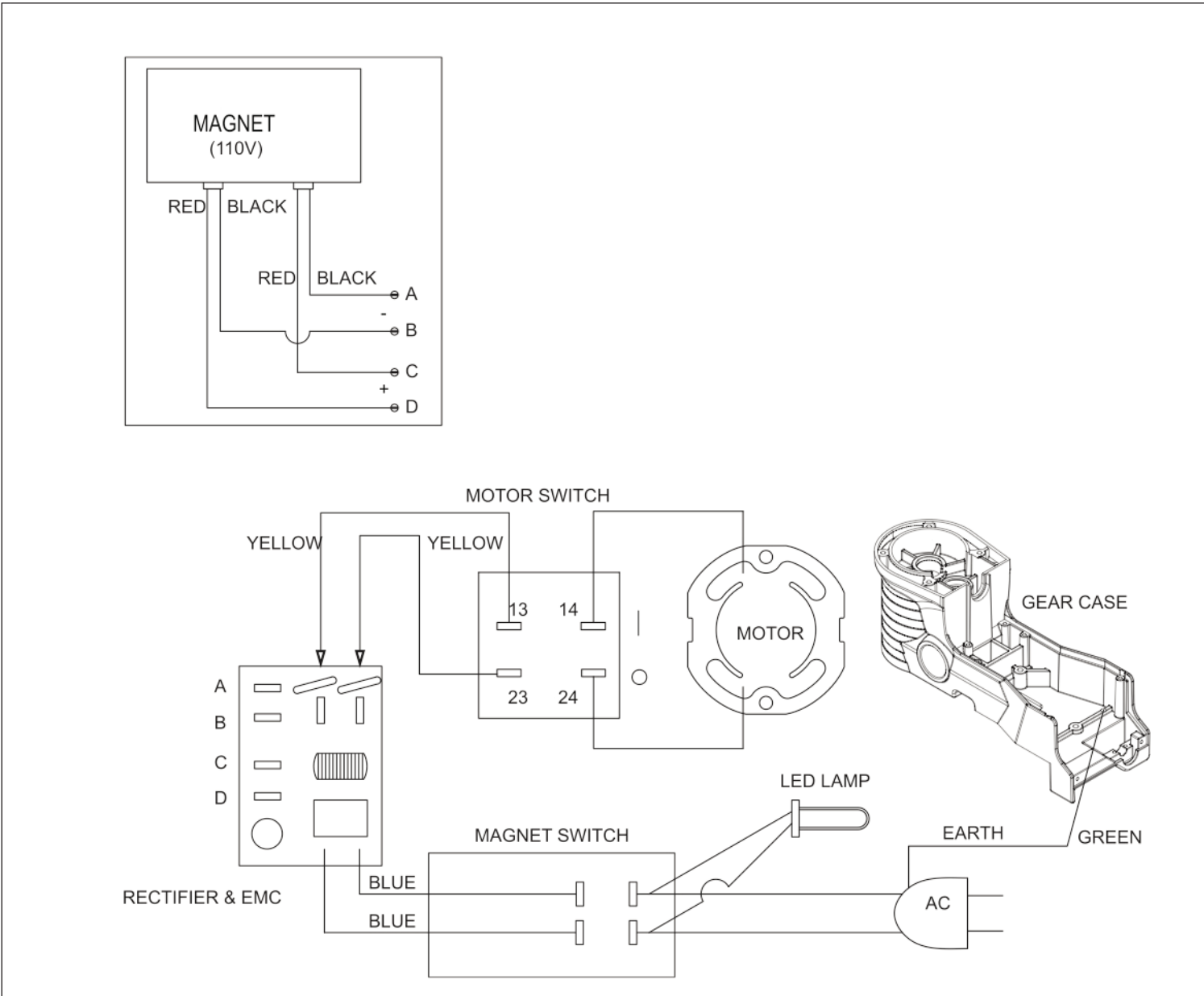
## Carbon Brushes

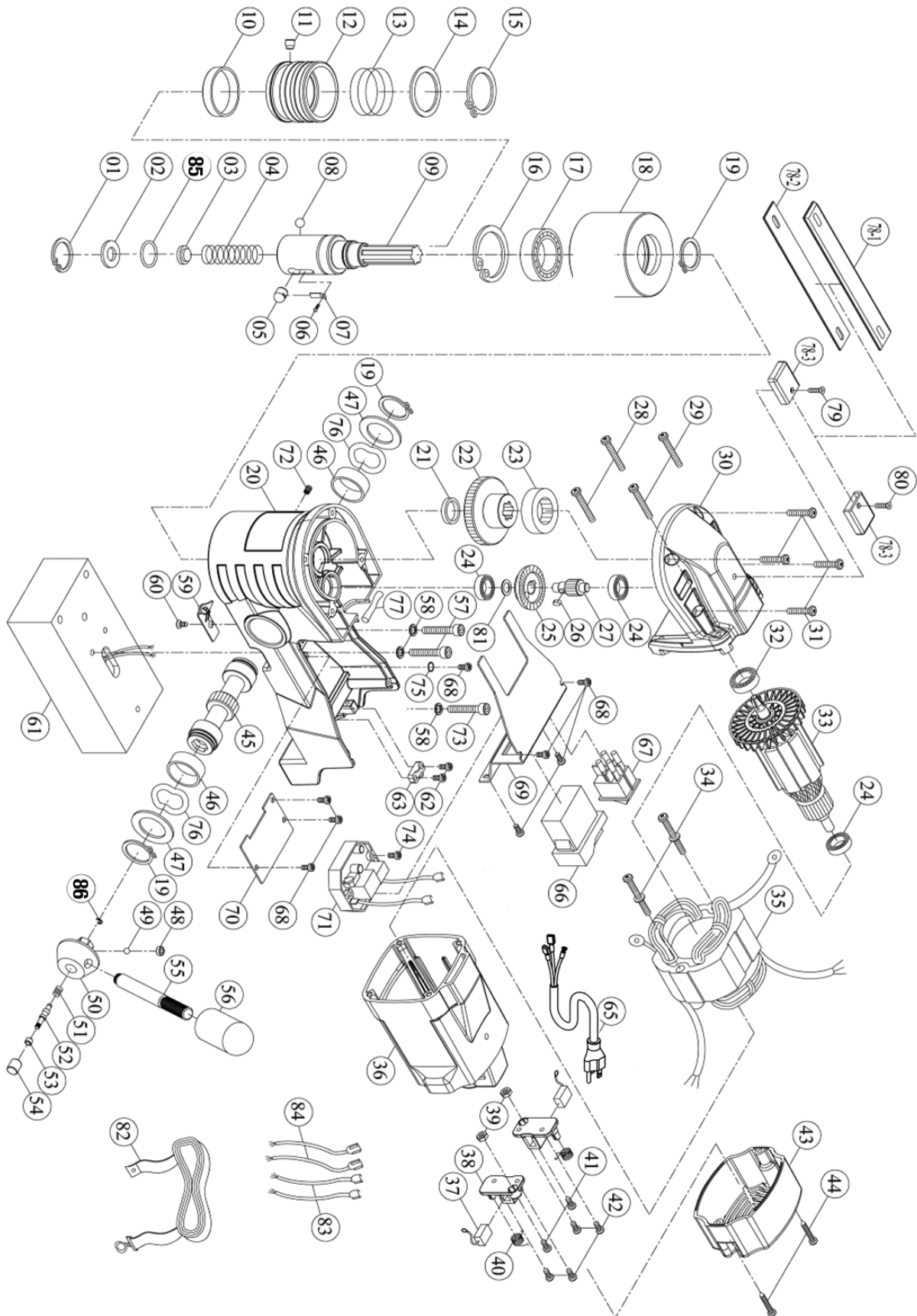
- The carbon brushes are a normal wear part and must be replaced when they reach their wear limit. Caution: Always replace the brushes as a pair.
- To replace:
1. Remove the 4 screws and remove the motor tail cover.
  2. Using pliers rotate the brush spring out of the way and slide the old carbon brush 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.









No.	List/Size	Description	No.	List/Size	Description	No.	List/Size	Description
1	RB3001	INTERNAL CIRCLIP R19	32	RB3032	BEARING 60012RS	63	RB3063	CABLE CLIP
2	RB3002	ARBOR WASHER	33	RB3033	ARMATURE 110V M1X6T	64	RB3064	CORD ARMOR
3	RB3003	COOLANT SEAL	34	RB3034	SCREW M5X60 (2)	65	RB3065	POWER SUPPLY CABLE - 110v
4	RB3004	SPRING	35	RB3035	STATOR	66	RB3066	MOTOR NVR SWITCH 110V
5	RB3005	LOCK PIN	36	RB3036	MOTOR HOUSING	67	RB3067	MAGNET SWITCH
6	RB3006	SET SCREW M3	37	RB3037	CARBON BRUSH 7X11 (2)	68	RB3068	SCREW M4x8 (8)
7	RB3007	LOCK PIN SPRING	38	RB3038	BRUSH HOLDER (2)	69	RB3069	SWITCH BRACKET
8	RB3008	BALL STOP	39	RB3039	NUT M4 (2)	70	RB3070	MOUNTING PLATE
9	RB3009	SPINDLE	40	RB3040	BRUSH SPRING (2)	71	RB3071	OVERLOAD UNIT - 110V
10	RB3010	RING	41	RB3041	SCREW M4X10 (2)	72	RB3072	SCREW M4X8
11	RB3011	COLLAR PIN	42	RB3042	SCREW M4X12 (4)	73	RB3073	SOCKET CAP SCREW M6X16
12	RB3012	QUICK-RELEASE COLLAR	43	RB3043	MOTOR TAIL COVER	74	RB3074	SCREW M4X16
13	RB3013	SPRING	44	RB3044	SCREW M4X25 (2)	75	RB3075	SUN WASHER M4
14	RB3014	SPRING SEAT RING	45	RB3045	CRANK SPINDLE	76	RB3076	WASHER 30X38.5 (2)
15	RB3015	EXTERNAL CIRCLIP S-35	46	RB3046	CRANK BUSHING 28X32X12 (2)	77	RB3077	SEAL
16	RB3016	INTERNAL CIRCLIP R-47	47	RB3047	THRUST WASHER 25.5X40X2 (2)	78	RB3078	STRAP (inc. 78-1, 78-2 & 78-3)
17	RB3017	BEARING 6005ZZ	48	RB3048	BALL SEAT	79	RB3079	SCREW M5x8
18	RB3018	SPINDLE GUIDE	49	RB3049	CHECK BALL 05	80	RB3080	SCREW M5X10
19	RB3019	EXTERNAL CIRCLIP S-25 (3)	50	RB3050	CRANK HUB	81	RB3081	FLAT WASHER M10.1X14X1
20	RB3020	GEAR CASE	51	RB3051	SPRING .6X4.1X5.3X4TX8.5L	82	RB3082	SAFETY CHAIN
21	RB3021	BUSHING 18X23X4	52	RB3052	PLUNGER	83	RB3083	WIRE LEAD-BLACK 18CM (2)
22	RB3022	QUILL GEAR	53	RB3053	PLUNGER GUIDE 4.1X10X4.5	84	RB3084	WIRE LEAD-YELLOW 18CM (2)
23	RB3023	BUSHING 30X36X12	54	RB3054	BUTTON	85	RB3085	O-RING 12X20X4
24	RB3024	BALL BEARING 608ZZ (3)	55	RB3055	CRANK LEVER	86	RB3086	E-CLIP E3
25	RB3025	BEVEL GEAR M1X46T	56	RB3056	GRIP			
26	RB3026	PARALLEL KEY M4X4X8	57	RB3057	SOCKET CAP SCREW M6X30 (2)			
27	RB3027	INTERMEDIATE GEAR M1.25X9T	58	RB3058	SPRING WASHER M6 (3)			
28	RB3028	SCREW M5X25 (2)	59	RB3059	LED LAMP			
29	RB3029	SCREW M5X30 (2)	60	RB3060	FLAT HEAD SCREW M4X6			
30	RB3030	GEAR COVER	61	RB3061	MAGNET BASE 164X80X48			
31	RB3031	SCREW M5X25 (4)	62	RB3062	SCREW M4X14 (2)			

All parts are 1 Piece unless otherwise stated in brackets

### OTHER MODELS AVAILABLE FROM CHAMPION



**RB32 MINIBRUTE**



**RB45 MIGHTIBRUTE**



**RB65 MEGABRUTE**



**AC35**



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