



# RB32-VSR

# MINIBRUTE Magnetic Drill press

## SAFETY & USAGE GUIDELINES · PARTS & SCHEMATICS





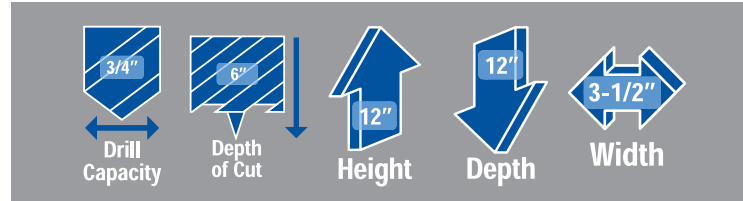
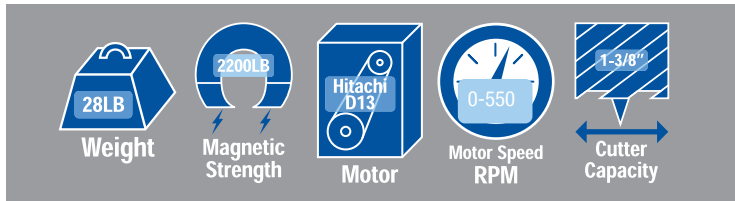
# RB32-VSR

# MINIBRUTE COMPONENTS & SAFETY

## 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 RB32

Carrying case, safety strap, RB334 3/4" arbor, RB3212 1/2" drill chuck, D-handle, cutting fluid, safety guard, chuck key, hex keys and spanner wrenches  
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 or with twist drills when using the optional drill chuck. 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 RB32 MiniBrute, 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 strap 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 by rotating the arbor. Do not attempt to free cutter by starting and stopping the motor.
9. Always use the safety guard provided.

## 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 RB-32 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 invites 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, non skid safety shoes, hard hat, hearing protection) should be used for appropriate conditions.

## 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. Use the correct tool for the application.

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. 1/2" (13mm) is the minimum 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 strap or 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" (35mm) 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" (6mm). Also check that the machine is well lubricated.

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

COMPONENTS & SAFETY



# RB32-VSR

The RB32 is available in one other configuration:

RB32-VSR - The same features as the RB32 but has variable speed control and reverse. It also features an isolating power relay for improved handling safety. The RB32-VSR can run twist drills at the correct RPM and has optical attachments.

Please see Champion's website for additional technical information downloads on this configuration.



# RB32-VSR

# MINIBRUTE OPERATING INSTRUCTIONS

## RB32-VSR FEATURES AND BENEFITS

1. Champion's RB32-VSR MiniBrute with variable speed & reverse motor is engineered for drilling holes and tapping threads.
2. The RB32-VSR features a 0-550 variable speed motor, which can be operated in both forward and reverse.
3. An optional tapping head unit is available for use with hand taps and spiral point taps. With Champion's 'quick change' tapping head, a variety of tap sizes #0 thru 7/8" and 3/8" NPT pipe taps can be run utilizing the RB32-VSR.

## TO ASSEMBLE / CHANGE THE RB32-TAPPER

1. The arbor and arbor support bracket must be removed to assemble the tapper.
2. Align the threaded hole in the tapper with the 1/2-20 thread spindle.
3. Turn clockwise to tighten.
4. To remove the tapper, use the 17mm wrench provided to hold the spindle nut in place. Use the 7/16" wrench to hold the flats while turning counter clockwise to loosen.

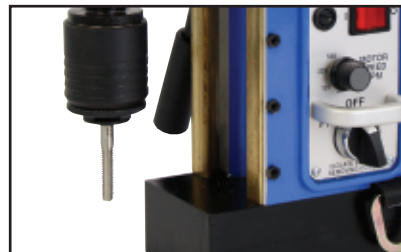
## USING THE RB32-VSR TAPPER

1. Align the tapper collet with the hole on the bottom of the tapper.
2. Push up on one side of tapper, push in collet and let down sides of tapper to lock collet into place.
3. Align tap with hole in center of the collet. Once aligned, push collet ring in, push tap into collet and release center collet ring to lock tap into place.
4. Taps can be run at full speed after developing a comfortable technique. Switch to neutral prior to reversing taps. This will help prolong the life of the motor.
5. To remove, reverse steps.

## RB32-VSR PANEL



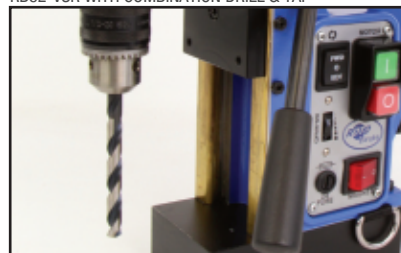
## RB32-VSR VERSATILITY



RB32-VSR WITH TAP



RB32-VSR WITH COMBINATION DRILL & TAP



RB32-VSR WITH TWIST DRILL

## RB32-VSR ADAPTOR OPTIONS

RB334  
Arbor



RB3212  
Drill Chuck



RB335  
Arbor



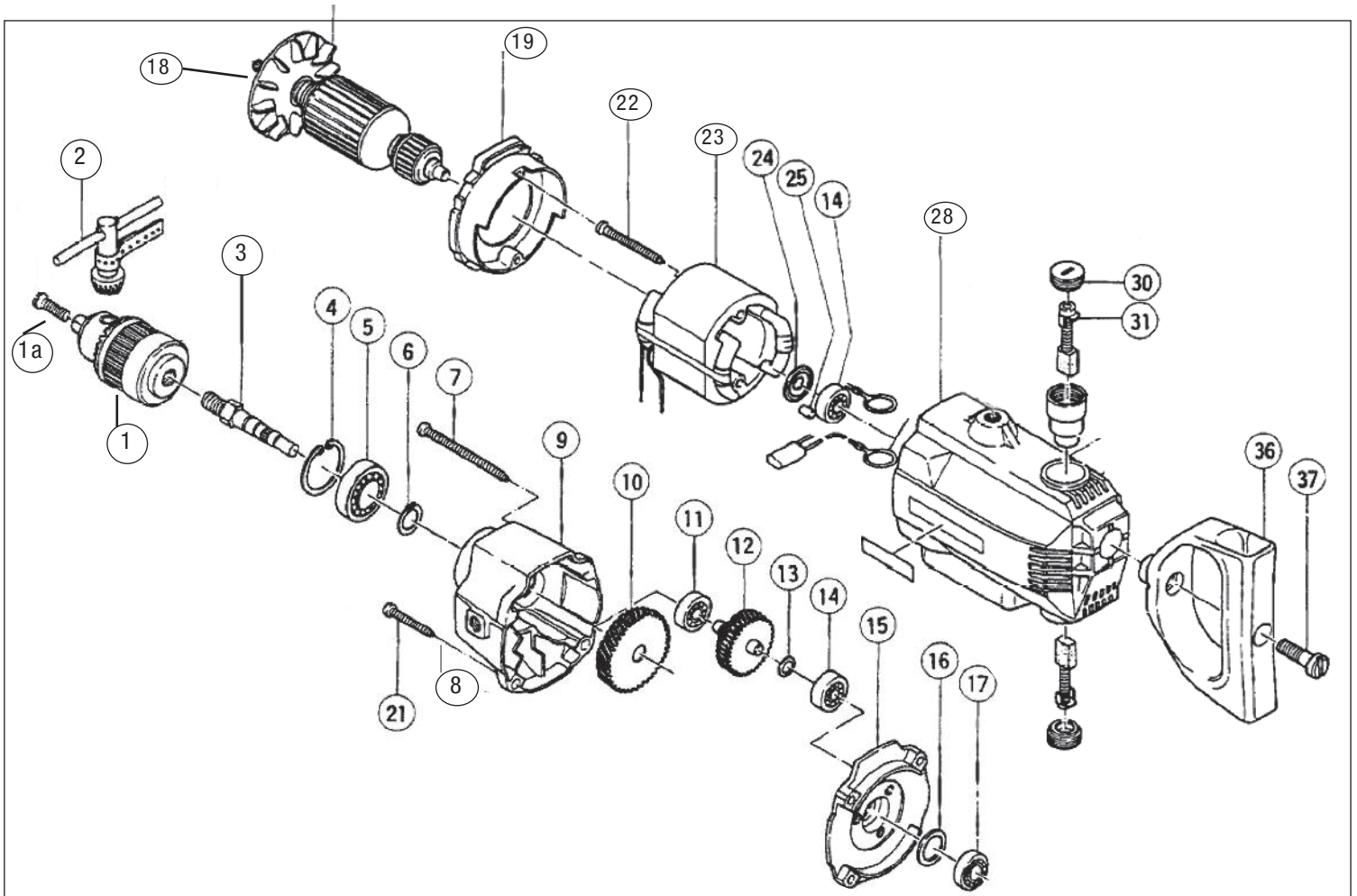
RB32  
Tapper





# RB32-VSR

# MINIBRUTE MOTOR PARTS



**No. List/Size Description (Qty per Machine)**

1	RB3212	1/2" Jacobs Chuck (1)
1 a	RB32-1122	Drill chuck safety screw
2	RB3212-KEY	Chuck Key (1)
3	RB32-1667	Spindle (1)
4	RB32-9556	D35 Retaining Ring
5	RB32-6202VV	Ball Bearing
6	RB32-9544	D15 Retaining Ring
7	RB32-7725	Tapping Screw D5X70 (1)
8	RB32-9454	D5 SpringWasher (4)
9	RB32-1650	Gear Cover (1)
10	RB32-3448	Final Gear
11	RB32-627VVM	Ball Bearing
12	RB32-652Z	Second Pinion Assembly
13	RB32-9426	D8Washer
14	RB32-608VVM	Ball Bearing

- RB522 Varistor (1)
- RB326 Relay Bracket & 523 Clip (1)
- RB32-8002 Field Coil Connect #26 (1)
- RB32-8012 Field Coil Connect #27 (1)
- RB5620D5/25 Tap Screws
- RB32-5075 M5X15 Pin Retaining Screw

**No. List/Size Description (Qty per Machine)**

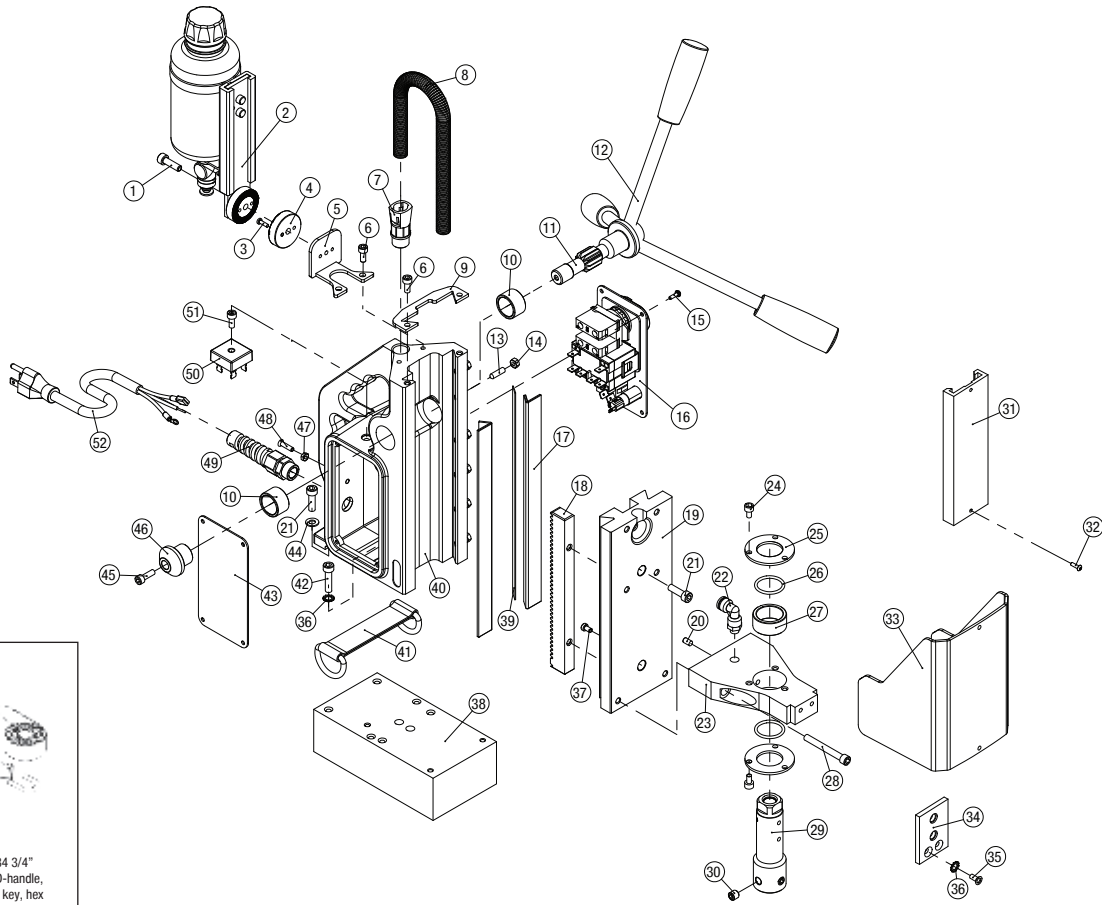
15	RB32-2791	Inner Cover Assembly (1)
16	RB32-984357	Washer
17	RB32-609VVM	Ball Bearing
18	RB32-657	Armature (1)
19	RB32-1562	Fan Guide (1)
20	RB32-1875	Tapping Screw D5X35 (2)
21	RB32-1007	Tapping Screw D5X60 (2)
22	RB32-797	Stator Field Coil (1)
23	RB32-4367	Dust Seal
24	RB32-6362	Bearing Lock
25	RB32-HAD13	Housing Assembly (1)
26	RB32-1781	Brush Caps (2)
27	RB32-612	Carbon Brush (set) (2)
28	RB32-794Z	D-Handle (1)
29	RB32-796Z	Special Bolt M10 (1)





# RB32-VSR

# MINIBRUTE STAND SCHEMATIC



INCLUDED WITH EVERY RB32:  
Carrying case, safety strap, RB334 3/4"  
arbor, RB3212 1/2" drill chuck, D-handle,  
cutting fluid, safety guard, chuck key, hex  
keys and spanner wrenches

### No. List/Size Description (Qty per machine)

1	RB3201	M6 x 25 Cap Head Screw (1)
2	RB3202	Coolant Bottle Assembly (1)
3	RB3203	M4 x 10 Cap Head Screw (2)
4	RB3204	Fixed Ratchet Wheel (1)
5	RB3205	Coolant Bracket (1)
6	RB3206	M5 x 12 Cap Head Screw (4)
7	RB519A	Cable Gland for Conduit Lead (2)
8	RB504	PAFS13 Conduit (1)
9	RB311	Retaining Bracket (1)
10	RB502	Pinion Bush(2)
11	RB313	Pinion (1)
12	RB32175	Handle And Knob Assembly (3)
13	RB3213	M5 x 18 Grub Screw (6)
14	RB3214	M5 Steel Nut (6)
15	RB3215	M3 x 10 Panel Screws (8)
16	RB3216	Panel Assembly 110V (1)
17	RB312	Brass Guides (2)
18	RB322	Rack (1)
19	RB304	Slide (1)
20	RB3220	M6 x 8 Grub Screw (1)

### No. List/Size Description (Qty per machine)

21	RB3221	M6 x 20 Cap Head Screw (4)
22	RB3224	Swivel Elbow (1)
23	RB308	Arbor Support Bracket (1)
24	RB3225	M5 x 10 Socket Cap Head Screw (6)
25	RB3226	Coolant Ring Cover (2)
26	RB3227	O Ring 24-30 (2)
27	RB3228	Flange Bush (1)
28	RB3229	M6 X 40 Socket Cap Head Screw (2)
29	RB334	1/2" - 20 Threaded mount to 3/4" Arbor (1)
30	RB3230	Grub Screw for Arbor (2)
31	RB3232	Guard Slide (1)
32	RB3233	M4 x 14 Button Head Screw (2)
33	RB3234	Guard (1)
34	RB3235	Guard Support (1)
35	RB3236	M5 x 16 C/SNK Socket Screw (2)
36	RB3237	M6 Shank Proof Washer (4)
37	RB3238	M6 X 10 Cap Head Screw (1)
38	RB302	Magnet Base Assembly (1)
39	RB329	Shim Strip (1)
40	RB301	Main Body Casting (1)

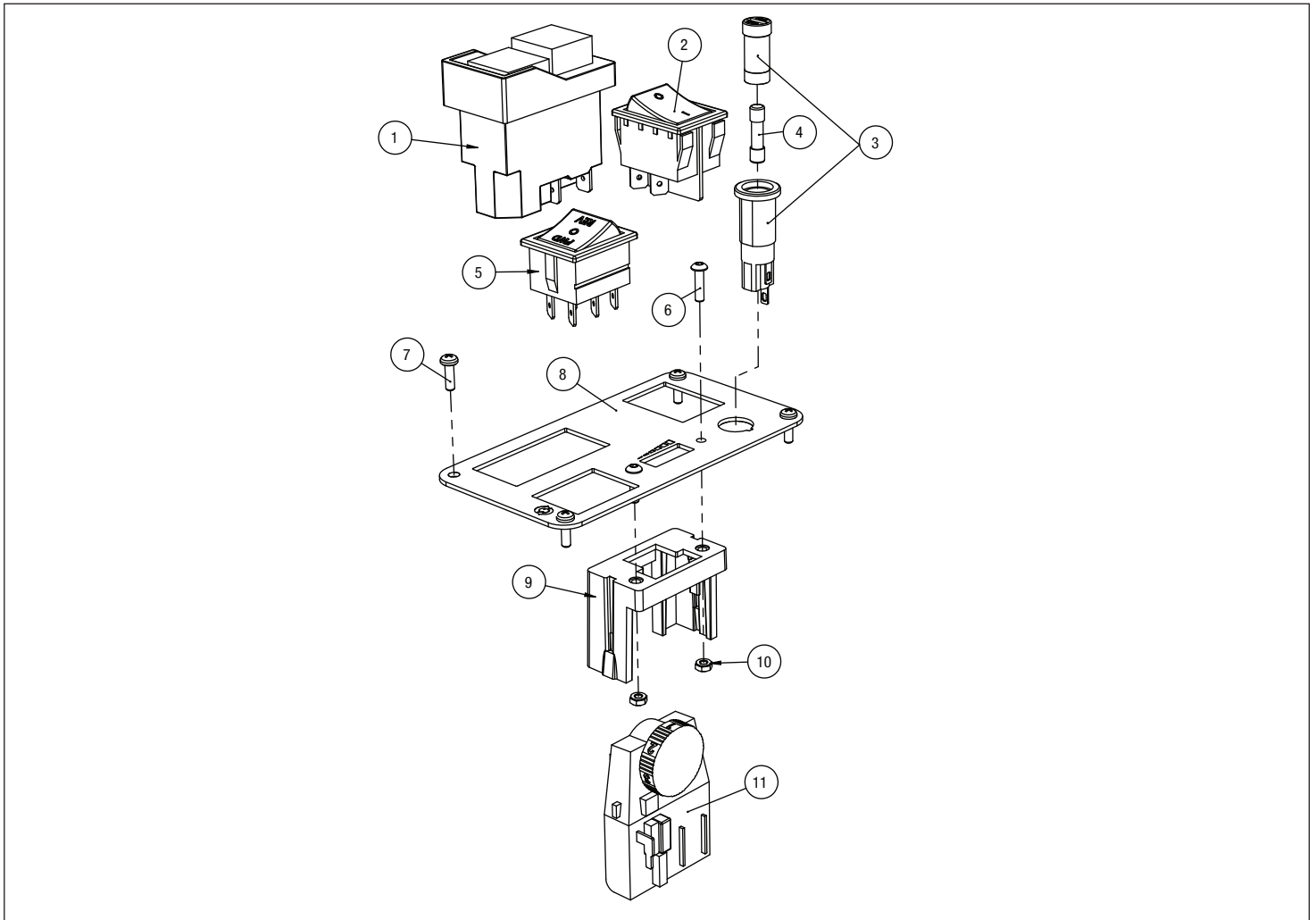
### No. List/Size Description (Qty per machine)

41	RB3241	D Ring Strap (1)
42	RB3242	M6 x 30 Cap Head Screw (2)
43	RB316	Side Panel (1)
44	RB3244	M6 Steel Washer (2)
45	RB221	M5 x 15 Socket Cap Head Screw (1)
46	RB524	Pinion End Cap (1)
47	RB3247	M4 Brass Nut (1)
48	RB3248	M4 x 20 C/SNK Machine Screw (1)
49	RB519	Cable Gland (1)
50	RB515	Rectifier Unit (1)
51	RB3251	M5 x 25 Socket Cap Head Screw (1)
52	RB503	Mains Cable (1)



# RB32-VSR

## MINIBRUTE PANEL SCHEMATIC



### No. List/Size Description (Qty per machine)

1	RB32-VSR-656	Motor NVR Switch (1)
2	RB32-VSR-456	Magnet Rocker Switch (1)
3	RB511	Fuse holder (1)
4	RB512	2A Fuse (1)
5	RB32-VSR-650	FWD/REV Rocker Switch (1)
6	RB32-VSR-674	M3 X 12 Torx SEC. Screw (2)
7	RB32-VSR-252	M3 X 12 Pozi Pan Screw (4)
8	RB32-VSR-670	RB32-VSR Front Panel (1)
9	RB32-VSR-655	Speed Control Unit (1)
10	RB32-VSR-675	M3 Nut (2)
11	RB32-VSR-653	Speed Control (1)



# RB32-VSR

# MINIBRUTE OPERATING INSTRUCTIONS

## Operating Instructions

1. Place a pilot pin in the cutter at the shank end. Insert the cutter into the special arbor, aligning the flats to the set screws on the arbor. Secure the set screws to the cutter with the supplied hex wrench.
2. Position the machine on a clean, dry, ferrous surface at least 1/2" thick. Switch on the magnet.
3. Cutting fluid must be used at all times to enhance the quality of cut and prolong the cutting tool life. Cutting fluid is applied through small holes located at the top/shank end of the arbor and feeds via gravity.
4. 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.
5. 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.

## Adjusting Dovetail Slides

Slowly adjust the hex screws while moving the handle up and down. Adjust so there is no free play or no binding anywhere through its range of travel. Periodically check, lubricate, and adjust as necessary.

## Repositioning of Handles

1. Elevate the slide upward to its full extent.
2. Remove the pinion cap screw and pinion cap from the shaft end (opposite side to handles).
3. Slide the pinion with the handles on outward, approximately 1/3rd distance.
4. Disengage the rack by means of raising the slide up by another 3/4".
5. Remove pinion, reposition through opposite side of body casting and reverse procedure as above.

## Assembly of Arbor for use with Annular Cutters

1. Align arbor support bracket with holes on dovetail slide.
2. Align support screws with holes and tighten clockwise.
3. IMPORTANT - do NOT tighten all the way until arbor is in place.
4. Place arbor through center hole of support bracket, making sure spindle bushing collar is upright. Align with 1/2-20 threaded spindle and tighten clockwise.
5. When arbor is in place, tighten arbor support screws.
6. To remove arbor, use the 17mm wrench provided to hold the spindle nut in place. Use the 7/16" wrench to hold the flats while turning counter-clockwise to loosen.

## Assembly of Drill Chuck for use with Straight Shank Tools

An important feature of the RB32 is that it can quickly and easily be converted to operate standard twist drills and other straight shank cutting tools such as chassis reamers.

To remove the arbor assembly:

1. Use the included 5mm hex wrench to remove the two arbor support screws.
2. Loosen 3/4" arbor by unscrewing in counter-clockwise direction, using a wrench on flats located at top of arbor.
3. Remove arbor support bracket.
4. Screw on 3-jaw chuck, supplied, and install safety screw to prevent drill chuck from becoming frozen.
5. Insert twist drill or other straight shank cutting tool and tighten with chuck key. To remove drill chuck, reverse procedure.

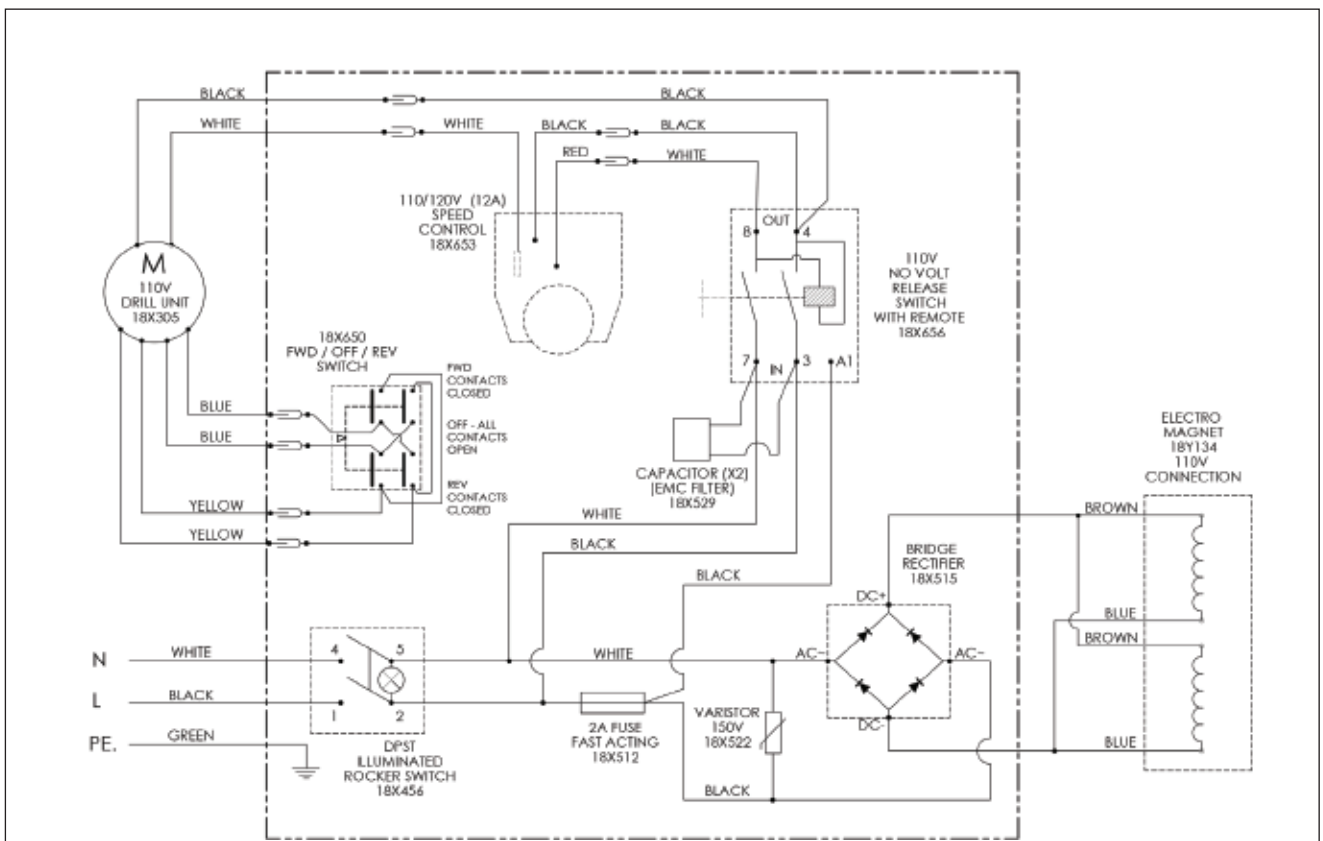
## Assembly of Traverse Handles

1. To assemble traverse handle, place each of the three (3) handles into the threaded holes on the pinion shaft, turning clockwise to tighten.
2. To remove handles, turn counter-clockwise.

## Assembly of Safety Guard

- Loosen screw from underneath the arbor support (front/center). Align the bracket slot with the screw, and tighten screw until safety guard locks into place.
- To remove safety guard, loosen screw and remove safety guard.

## RB32-VSR ELECTRICAL DIAGRAM





# PORTABLE METAL DRILLING SYSTEMS

## OTHER ROTOBRITE MACHINES AVAILABLE FROM CHAMPION



AC35 MiniBrute



AC50 MightiBrute



SB35 SmartBrute



RB30 LittleBrute



RB32 MiniBrute



RB65E MegaBrute

### Carbide Tipped Annular Cutter Ranges

#### CT150

1-3/8" Depth of cut

#### CT200

2" Depth of cut

#### CT300

3" Depth of cut

#### CT400

4" Depth of cut



### High Speed Annular Cutters

#### XL100

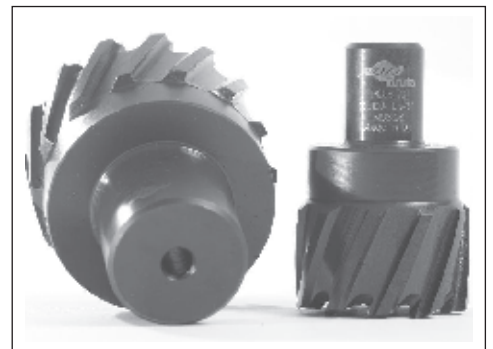
1" Depth of cut

#### XL200

2" Depth of cut

#### XL300

3" Depth of cut



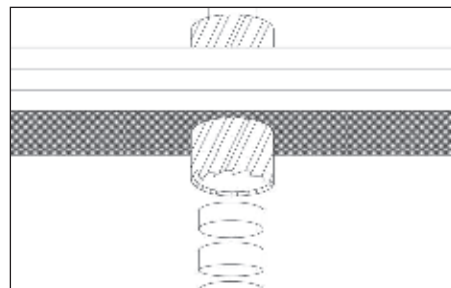
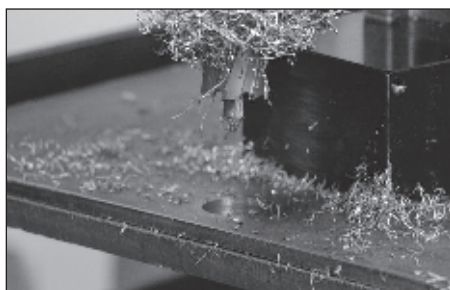
### Carbide Tipped Stack Annular Cutters

#### CT150STK

Carbide Tipped Stack Cut  
1-3/8" Depth of cut

#### CT200STK

Carbide Tipped Stack Cut  
2" Depth of cut



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