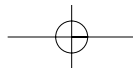


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Instruction Manual

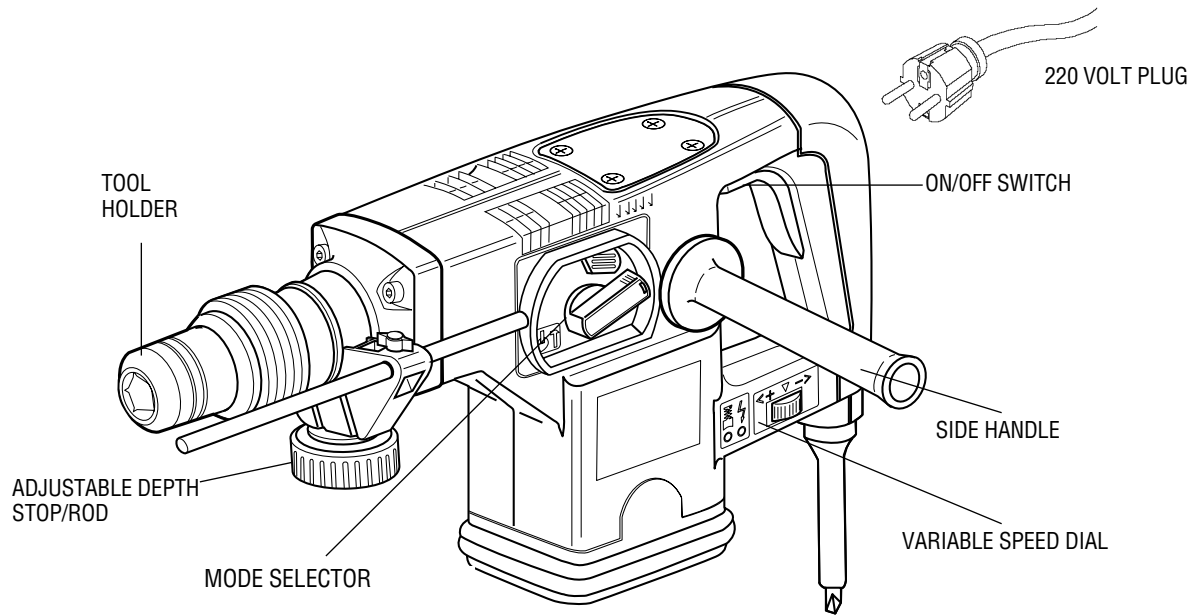
5097-220 Rotary Hammer

Getting the most out of your tool.

Please take time to read this manual and pay particular attention to the safety rules we've provided for your protection. Don't forget to send in your owner's registration card. If you have any questions about your tool please call:

1-800-9-BD TOOL
(1-800-923-8665)

Model	Bit Type	Stop Rotation	Variable Speed	Capacity	Core
5097-220 Macho™ ME	SDS Max®	yes	yes	1-1/2"	3-1/2"



FOR YOUR SAFETY - ALL TOOLS

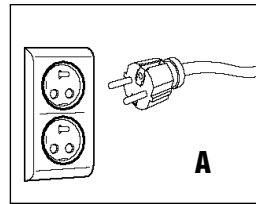
Important Safety Instructions

WARNING: When using electric tools, basic safety precautions should always be followed to reduce risk of fire, electric shock, and personal injury, including the following:

READ ALL INSTRUCTIONS

Grounding Instructions

This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with a 3-conductor cord to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal.



The two grounding contacts and the grounding receptacle in the plug must be connected to a permanent ground, such as a properly grounded outlet. No adapter is available for a plug as shown in Figure A.

Safety Instructions For All Tools

- **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- **CONSIDER WORK AREA ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Do not use tool in presence of flammable liquids or gases.
- **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, and refrigerator enclosures.
- **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.

- **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
- **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended.
- **DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- **USE SAFETY GLASSES.** Also use face or dust mask if operation is dusty.
- **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
- **DISCONNECT OR LOCK OFF TOOLS** when not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
- **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is off when plugging in.
- **EXTENSION CORDS.** Use only 3-wire extension cords that have a grounding type plug and receptacles that accept the tool's plug. Replace or repair damaged cords.

Volts	Minimum Gage for Cord Sets			
	Total Length of Cord in Feet			
120V	0-25	26-50	51-100	101-150
240V	0-50	51-100	101-200	201-300
Ampere Rating		AWG		
More Than	Not more Than			
0	- 6	18	16	14
6	- 10	18	16	14
10	- 12	16	16	14
12	- 16	14	12	Not Recommended

- **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
- **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

Additional Safety Instructions for Rotary Hammers

1. **WEAR SAFETY GOGGLES** or other eye protection.
2. **WEAR EAR PROTECTORS** when hammering for extended periods.
3. **ALWAYS USE THE SIDE HANDLE** supplied with the tool. Keep a firm grip on the hammer when it is operating.
4. **DON'T OVERREACH.** Maintain a firm, balanced working stance. When necessary, use only properly positioned, safe platforms, ladders and scaffolds, to do the job safely.
5. Hammer bits and tools get hot in operation. Wear gloves when touching them.

6. **CAUTION:** When drilling or driving into walls, floors or wherever "live" electrical wires may be encountered, **DO NOT TOUCH ANY FRONT METAL PARTS OF THE TOOL!** Hold the tool only by the plastic handle to prevent shock if you drill or drive into a "live" wire.

SAVE THESE INSTRUCTIONS FOR FUTURE USE

Motor

Your tool is powered by a B&D built motor. Be sure your power supply agrees with nameplate marking.

Voltage decrease of more than 10% will cause loss of power and overheating. All B&D tools are factory tested; if this tool does not operate, check the power supply.

Side Handle and Depth Rod

For operating convenience, the side handle can be installed in front or rear positions. Always operate the tool with the side handle properly assembled.

To mount in front position (Figure 1)

1. Unscrew the side handle and disassemble the side handle clamp.
2. Snap the steel ring over the collar behind the tool holder. Squeeze both ends together, mount the bush and insert the pin.
3. Place the side handle clamp and screw on the clamp knob. Do not tighten.
4. Insert adjustable depth rod into hole.
5. Screw the side handle into the clamp knob and tighten it.
6. Rotate the side handle mounting assembly to the desired position. For drilling horizontally with a heavy drill bit, place the side handle assembly at an angle of approximately 20° for optimum control.
7. Lock the side handle mounting assembly in place by tightening the clamp knob.

FIGURE 1

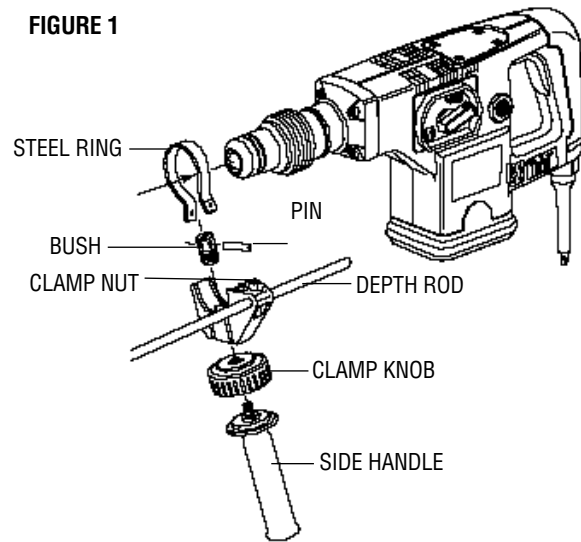
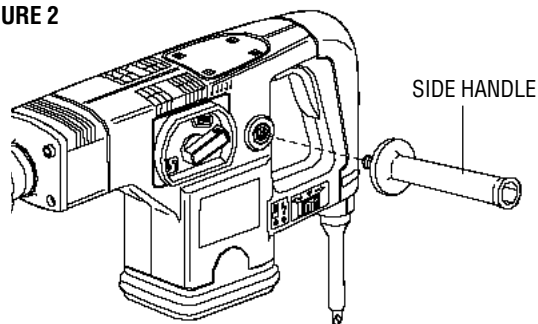


FIGURE 2



To mount in rear position (Figure 2)

1. Unscrew the side handle and remove it from the front position. Leave the side handle mounting assembly in front position so that the depth adjustment rod can still be used.
2. Screw the side handle directly into one of the rear side handle positions on either side of the tool.

To adjust the depth rod

1. Loosen clamp nut and insert bit into tool holder.
2. Push drill bit into a surface and adjust rod to desired depth of hole (distance between bit tip and depth rod tip).
3. Tighten clamp nut.

NOTE: This adjustment can be made with or without side handle in place.

Inserting and Removing SDS-max® Accessories (Figure 3)

TURN OFF TOOL AND DISCONNECT FROM POWER SUPPLY.

1. Pull back the tool holder locking sleeve and insert the bit shank.
2. Turn the bit slightly until the sleeve snaps back in position.
3. Pull on the bit to check if it is properly locked. The hammering function requires the bit to be able to move axially several centimeters when locked in the tool holder.
4. To remove bit, pull back the tool holder locking sleeve and pull the bit out of the tool holder.

Soft Start Feature

The soft start feature allows you to build up speed slowly, thus preventing the drill bit from walking off the intended hole position when starting. The soft start feature also reduces the immediate torque reaction transmitted to the gearing and the operator if the hammer is started with the drill bit in an existing hole.

Torque Limiting Clutch

All rotary hammers are equipped with a torque limiting clutch that reduces the maximum torque reaction transmitted to the operator in the case of a jamming drill bit. This feature also prevents the gearing and motor from stalling. The torque limiting clutch has been factory set and cannot be adjusted.

Electronic Speed and Impact Control

(Figure 4) The electronic speed and impact control allows the use of smaller drill bits without the risk of bit breakage, drilling into light and brittle materials without shattering, and optimal tool control for precise chiseling. To set the control dial: Turn the dial to the desired level. The higher the number, the greater the speed and impact energy. With dial settings from “1” to “5” (full power) the tool is extremely flexible and adaptable for many different applications. The required setting depends on the bit size and hardness of material being drilled.

Mode Selector

(Figure 5) Your rotary hammer can be used in two operating modes: **Hammer drilling** (simultaneous rotating and impacting for all concrete and masonry drilling operations) and **Hammering only with spindle lock** (impacting only- for light chipping, chiseling, and demolition applications). The chisel can be locked into 8 different positions.

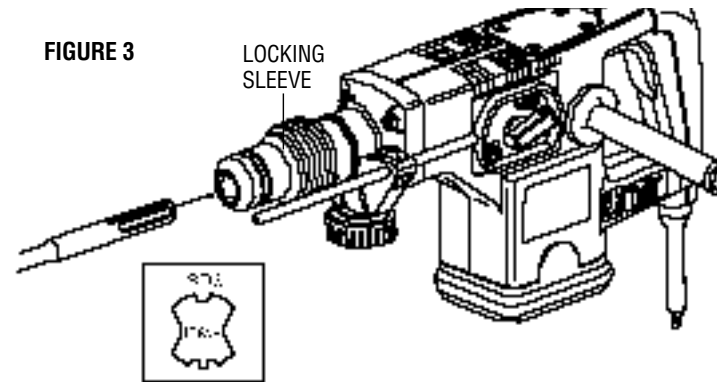
NOTE: Also in this mode, the hammer can also be used as a lever to free a jammed drill bit.

To select the required operating mode, rotate the selector lever over the safety lock until it covers the symbol.

Service and Power Indicator LEDs

(Figure 5) The RED service indicator LED lights up when the carbon brushes

FIGURE 3

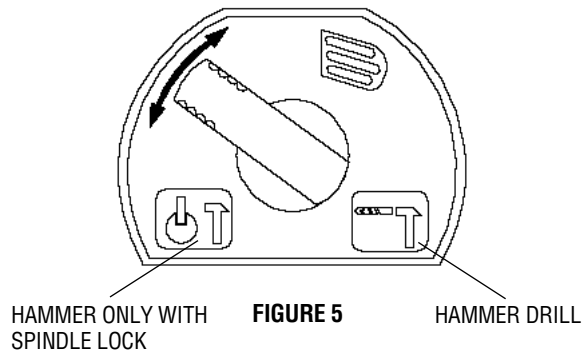
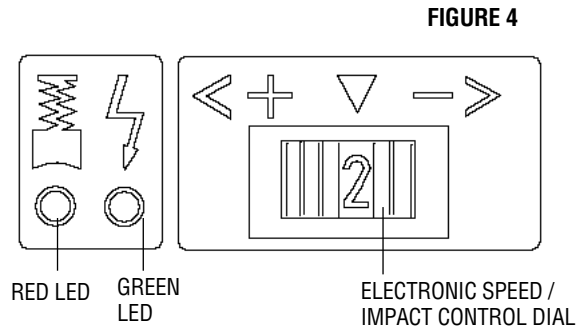


are nearly worn out to indicate that the tool needs servicing. After approximately 8 hours of use the motor will automatically be shut off. Take the tool to a B&D service location for routine inspection and maintenance.

The GREEN power-ON indicator LED lights up when the tool is switched ON. If the indicator LED is lit but the tool does not start, this indicates a motor related problem. If the indicator LED does not light up and the tool does not start, this indicates an ON/OFF switch or cord related problem.

Drilling with a Solid Bit

1. Set the speed and impact control dial.
2. Set the model selector to the “hammer drilling” position.
3. Insert the appropriate drill bit.
4. Fit and adjust the side handle.
5. If necessary, set the drilling depth rod.
6. Mark the spot where the hole is to be drilled.



7. Place the drill bit on the spot and press the ON/OFF switch.
8. Push with only enough force until hammer beats smoothly. The hammer only needs enough pressure or force to engage the mechanism. Pushing harder will not make the hammer drill faster.
9. To stop the tool, release the ON/OFF switch. Always turn the tool OFF when work is finished and before unplugging.

Drilling with a Core Bit

1. Turn the speed and impact control dial to the maximum torque position.
2. Set the model selector to the “hammer drilling” position.
3. Fit and adjust the side handle.
4. Assemble the centering bit and adapter shank into core bit.
5. Place the centering bit on the spot and press the ON/OFF switch.
NOTE: Some core drills require the removal of centering bit after about 1 cm of penetration. If so, remove and continue drilling.
6. When drilling through a structure thicker than the depth of the core bit, break away the round cylinder of concrete or core inside the bit at regular intervals. To avoid unwanted breaking away of concrete around the hole, first drill a hole the diameter of the centering bit completely through the structure. Then drill the cored hole halfway from each side.
7. To stop the tool, release the ON/OFF switch. Always turn the tool OFF when work is finished and before unplugging.

Chipping and Chiseling

1. Set the model selector to the “hammering only with spindle lock” position.
2. Set the impact control dial to desired impact energy.
3. Insert the appropriate chisel and rotate it by hand to lock it into the desired position. For spline units, use a 3/4” hex x 21/32” round insert tool and for SDS Max® models use SDS Max® insert tools.

4. Fit and adjust the side handle.
5. Press the ON/OFF switch and start working.
6. Push with enough force to keep bit from bouncing only. Pushing harder will not increase chipping speed.
7. To stop the tool, release the ON/OFF switch. Always turn the tool OFF when work is finished and before unplugging.

Accessories

Recommended accessories for use with your tool are available at extra cost from your distributor or your local service center. Service centers are listed in the back of manual.

CAUTION: The use of any non-recommended accessory may be hazardous.

If you need any assistance in locating any accessory, call 1-800-9-BD TOOL (1-800-923-8665) or contact B&D, Consumer Services Department, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074.

Maintenance

Your B&D tool has been designed to operate over a long period of time with a minimum of maintenance. Continuous satisfactory operation depends upon proper tool care and regular cleaning. Keep ventilation slots clear and regularly clean the housing with a soft cloth.

Important

To assure product safety and reliability, repairs, maintenance, and adjustments should be performed by B&D service centers or other qualified service organizations, always using B&D replacement parts.

Every B&D tool is of the highest quality.

If you wish to contact us regarding this product, please call toll free between 8:00am and 8:00pm ET, seven days a week:

1-800-9-BD TOOL
(1-800-923-8665)

One Year Free Maintenance

All B&D tools for Industry and Construction are covered under a one year free maintenance program where B&D will inspect your tool for safety and provide necessary maintenance or repairs, including normal wear and tear parts, for one year, FREE OF CHARGE.

Full Warranty

All B&D tools for Industry and Construction are warranted to be free of any defects in materials or workmanship. Upon thorough examination of tool, B&D will repair or replace, at our option, any product that is determined to be defective.

Conditions

The service/safety check and the warranty do not apply to: repairs made or attempted by anyone other than an authorized B&D service location; misuse, abuse, neglect, improper application of the tool; missing parts; or normal wear and tear (after first year of ownership). Please return the complete unit, transportation prepaid, to any B&D factory owned or B&D authorized service center location (list provided or see yellow pages under "Tools Electric").