

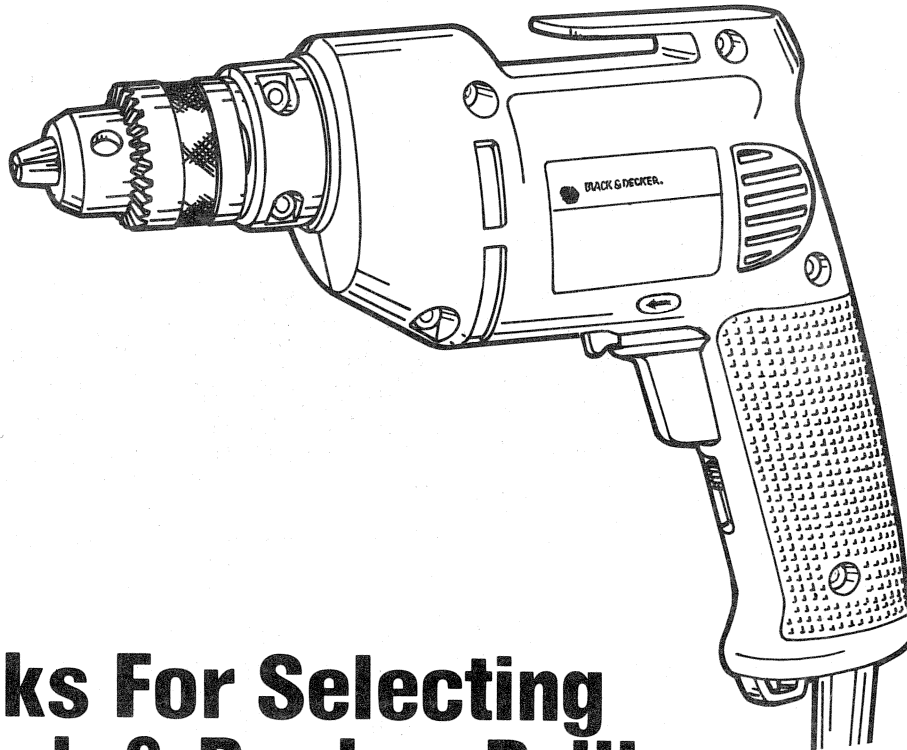


BLACK & DECKER®



Instruction Manual

3/8" Variable Speed Reversing Drill



Thanks For Selecting a Black & Decker Drill.

Your Black & Decker drill has been built to Black & Decker's exacting standards of quality to ensure years of superior performance.

With your new drill you can drill holes in practically any material you can name, you can buff, sand, polish, mix paint and drive screws with features like variable speed and reversing capability.

All this versatility and Black & Decker's inherent toughness make this drill every bit the professional that you are.

Please take the time to read this informative 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.

THANKS AGAIN FOR BUYING
BLACK & DECKER!



BLACK & DECKER®

Important Safety Instructions (For All Tools)

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

READ ALL INSTRUCTIONS

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **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.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.
4. **KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Do not let visitors contact tool or extension cord.
5. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place—out of reach of children.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
7. **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, for example, don't use circular saw for cutting tree limbs or logs.
8. **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.
9. **USE SAFETY GLASSES.** Also use face or dustmask if cutting operation is dusty.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
11. **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.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safe 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.
14. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
16. **AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked. More detailed extension cord information can be found on page 8.
18. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
19. **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.
20. **DO NOT OPERATE** portable electric tools near flammable liquids or in gaseous or explosive atmospheres. Motors in these tools normally spark, and the sparks might ignite fumes.

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

SAVE THESE INSTRUCTIONS FOR FUTURE USE.

Double Insulation

DOUBLE-INSULATED tools are constructed throughout with TWO separate "layers" of electrical insulation or one DOUBLE thickness of insulation between you and the tool's electrical system.

Tools built with this insulation system are not intended to be grounded. As a result, your tool is equipped with a two-prong plug which permits you to use extension cords without concern for maintaining a ground connection. See page 8 for more extension cord information.

NOTE: DOUBLE-INSULATION does not take the place of normal safety precautions when operating this tool. The insulation system is for added protection against injury resulting from a possible electrical failure within the tool.

CAUTION: When servicing all tools, **USE IDENTICAL REPLACEMENT PARTS.** Repair or replace damaged cords.

Lubrication

When the tool is taken apart for motor brush replacement a small amount of grease should be added (or redistributed from that remaining in housing) to the gears.

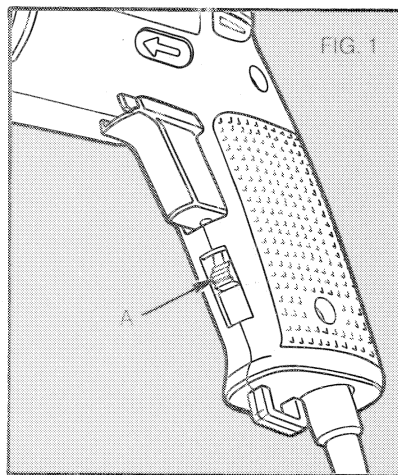
The ball bearings used in this tool are lubricated during manufacture and require no relubrication.

Motor Brushes

Your Drill uses the B & D "Checkpoint" brush system. The tool will stop when the brushes wear out. This prevents damage to the motor.

Switches

To start Drill, depress trigger switch; to stop Drill, release trigger. To lock trigger in "ON" position for continuous operation, depress trigger and push up locking button "A" Figure 1, then gently release trigger. To release locking mechanism, depress trigger fully, then release it. Before using the tool (each time) be sure that the locking button release mechanism is working freely.



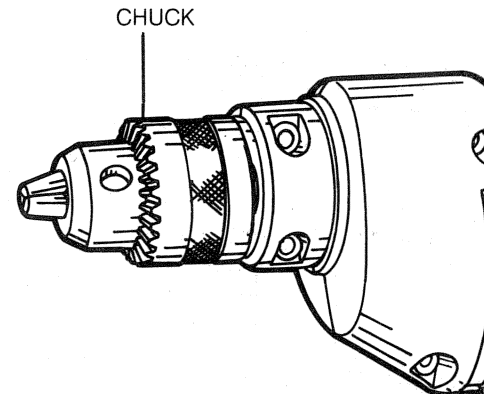
Do not lock the switch "ON" when drilling by hand so that you can instantly release the trigger switch if the bit binds in the hole.

The locking button is for use only when the drill is mounted in a drill press stand or otherwise held stationary.

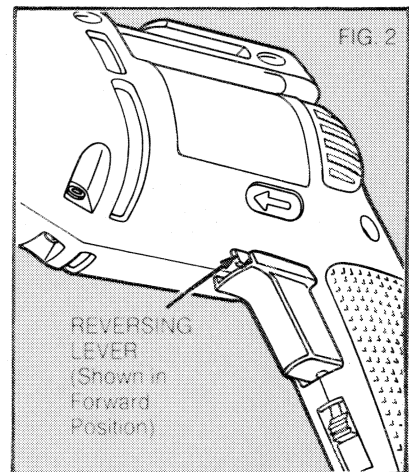
Be sure to release the locking button before disconnecting the plug from the power supply. Failure to do so will cause the tool to start immediately the next time it is plugged in. Damage or injury could result.

THE VARIABLE SPEED TRIGGER SWITCH permits speed control — the farther the trigger is depressed, the higher the speed of the Drill. **NOTE:** Use lower speeds for starting holes without a center punch, drilling in metal or plastics, driving screws, drilling ceramics, or mixing paint. Higher speeds are better for drilling wood and composition boards, and for using abrasive and polishing accessories.

THE REVERSING LEVER is used for withdrawing bits from tight holes and removing screws. It is located above the trigger switch (Fig. 2). To reverse the motor, release the trigger **FIRST** and then push the lever to the right. After any reversing operations, return lever to forward position.



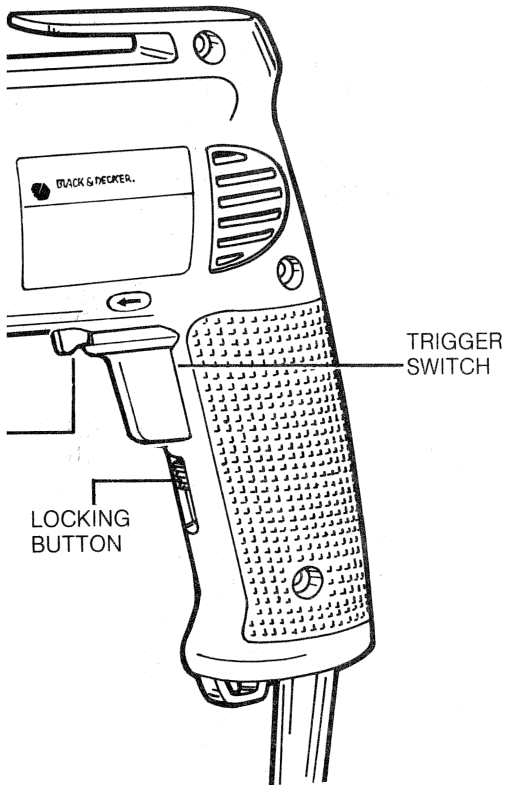
REVERSING —
LEVER



Operation

DRILLING

1. Always unplug the Drill when attaching or changing bits or accessories.
2. Use sharp drill bits only. For WOOD, use twist drill bits, spade bits, power auger bits, or hole saws. For METAL, use high speed steel twist drill bits or hole saws. For MASONRY, such as brick, cement, cinder block, etc., use carbide-tipped bits.
3. Be sure the material to be drilled is anchored or clamped firmly. If drilling thin material, use a wood "back-up" block to prevent damage to the material.
4. Always apply pressure in a straight line with the bit. Use enough pressure to keep drill biting, but do not push hard enough to stall the motor or deflect the bit.



5. Hold drill firmly to control the twisting action of the drill.
6. **IF DRILL STALLS**, it is usually because it is being overloaded or improperly used. **RELEASE TRIGGER IMMEDIATELY**, remove drill bit from work, and determine cause of stalling. **DO NOT CLICK TRIGGER OFF AND ON IN AN ATTEMPT TO START A STALLED DRILL — THIS CAN DAMAGE THE DRILL.**
7. To minimize stalling or breaking through the material, reduce pressure on drill and ease the bit through the last fractional part of the hole.
8. Keep the motor running when pulling the bit back out of a drilled hole. This will help prevent jamming.
9. With Variable Speed Drills there is no need to center punch the point to be drilled. Use a slow speed to start the hole and accelerate by squeezing the trigger harder when the hole is deep enough to drill without the bit skipping out.

Chuck

Open chuck jaws by turning collar with fingers and insert shank of bit about $\frac{3}{4}$ " into chuck. Tighten chuck collar by hand. Place chuck key in each of the three holes, and tighten in clockwise direction. It's important to tighten chuck with all three holes. To release bit, turn chuck counter clockwise in just one hole, then loosen the chuck by hand.

Drilling In Metal

Use a cutting lubricant when drilling metals. The exceptions are cast iron and brass which should be drilled dry. The cutting lubricants that work best are sulphurized cutting oil or lard oil; bacon-grease will also serve the purpose.

Because of the high speed of this drill, large ($\frac{5}{16}$ " to $\frac{3}{8}$ ") holes in steel can be made easier if a pilot hole ($\frac{5}{32}$ " to $\frac{3}{16}$ ") is drilled first.

Drilling in Wood

Holes in wood can be made with the same twist drills used for metal. These bits may overheat unless pulled out frequently to clear chips from the flutes. For larger holes, use Power Drill Wood Bits. Work that is apt to splinter should be backed up with a block of wood.

Drilling In Masonry

Use carbide tipped masonry bits at low speeds. Keep even force on the drill but not so much that you crack the brittle materials. A smooth, even flow of dust indicates the proper drilling rate.

Bubble Level

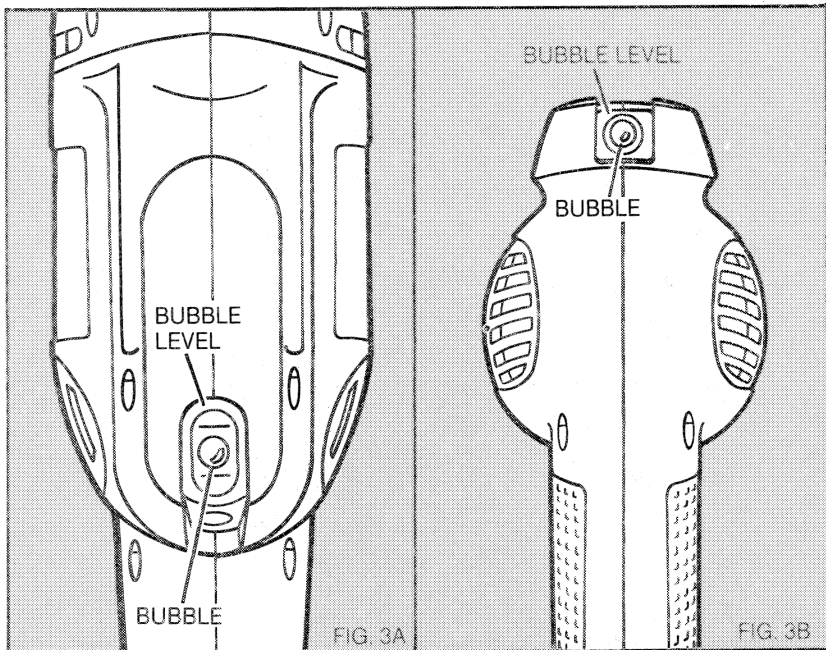
Your drill is equipped with a bubble level that assists you in drilling level holes.

For horizontal drilling, tilt the drill up or down as required so that the bubble floats in the center of the parallel lines drawn on the glass. When the bubble is centered between the lines, as shown in Figure 3A, the drill is level.

For vertical drilling, align the drill so that the bubble in the level floats in the center of the bull's-eye, as shown in Figure 3B.

To assure accuracy, first place a level on your workpiece and position it so that it is level. Then, when the drill reads level, the two will be aligned. (Any bubble level can only indicate level to the earth's surface.)

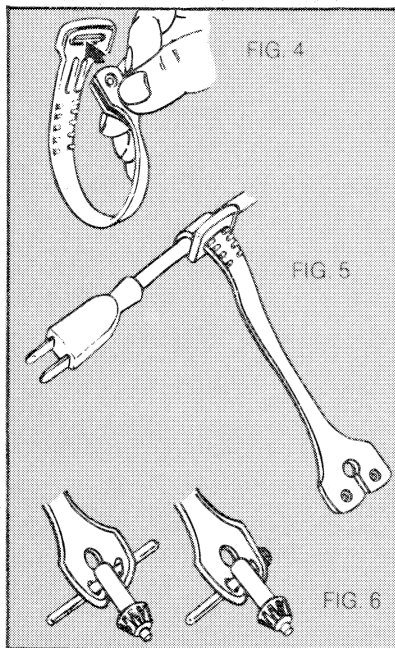
NOTE: The level is filled with mineral oil that may cause minor skin or eye irritation when contacted. If the level breaks and this fluid gets on your skin, rinse thoroughly with water. If any liquid gets in your eyes, rinse thoroughly with water and call a physician immediately.



Chuck Key Holder

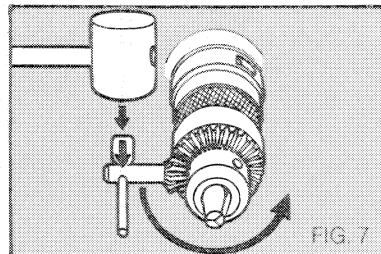
(May be installed already.)

1. Push double-hole end of Holder through slot in other end of Holder (Figure 4).
2. Slip loop over electric plug and draw loop tight around cord (Figure 5).
3. Push ends of Chuck Key Handle through two holes in end of Holder (Figure 6).



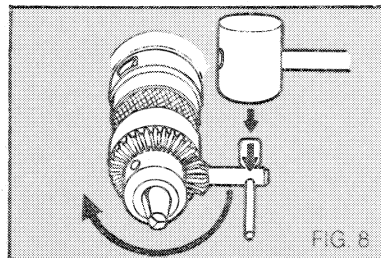
Chuck Removal

Place chuck key in any one of the three holes in the chuck, as shown in Figure 7. Strike the key sharply in the counterclockwise direction (When viewed from the front of the tool). This will loosen the chuck so that it can be removed by hand.



Chuck Installation

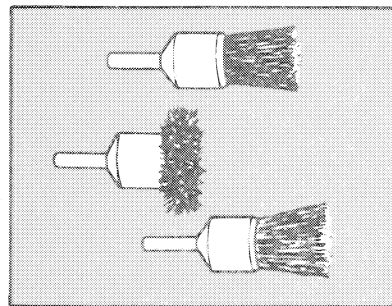
Screw the chuck on by hand as far as it will go. Place the chuck key in any of the three holes in the chuck and strike it sharply in the clockwise direction (When viewed from the front of the tool) as shown in Figure 8.



Carbon Removing Brushes

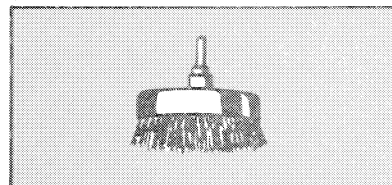
Made of tempered-steel wire; used with drills to remove rust and scale from metals. Leaves a burnished surface.

- A. Heavy-duty solid wire-filled brush.
- B. Side-flare brush for close corner work.
- C. Hollow-core, flare-bottom brush. Small cleaning brush. (Not shown.)



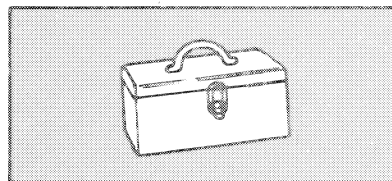
3" Wire Cup Brush

Use in cleaning and removing rust, scale, old paint. (Straight chuck shank). Maximum safe RPM—5,000.



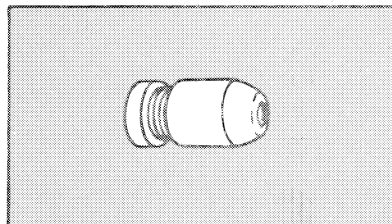
Heavy-Duty Tool Box

13" x 8½" x 6¾"



Drill Stop

Capacity ¼" to ½" Governs drilling depth.



Drill Accessories

The accessories listed in this manual are available at extra cost from your local dealer or Black & Decker Service Center. A complete listing of service centers is included on the owner's registration card packed with your tool.

If you need assistance in locating any accessory, please contact: Black & Decker (U.S.) Inc., User Services Department, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074-0618.

Every Black & Decker tool is of the highest quality. If you wish to contact us regarding this product, please call toll free between 8:00 a.m. and 5:00 p.m. EST, Monday through Friday. 1-800-762-6672

Recommended accessories for your Drill are shown in this manual (CAUTION: The use of any accessory might be hazardous.) For safety in use, the following accessories should be used only in sizes up to the maximums shown in the table below.

Maximum Recommended Capacities

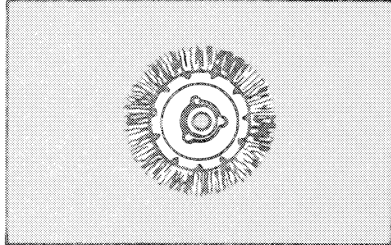
DRILL CAPACITY	¾"
R.P.M.	0-2500
BITS, METAL DRILLING	¾"
WOOD, FLAT BORING	1"
BITS, MASONRY DRILLING	½"
HOLE SAWS	1½"

ACCESSORY MUST BE RATED FOR USE AT SPEED EQUAL TO OR HIGHER THAN NAMEPLATE R.P.M. OF TOOL WITH WHICH IT IS BEING USED.

WIRE WHEEL BRUSHES	4" Diameter Maximum
WIRE CUP BRUSHES	3" Diameter Maximum
BUFFING WHEELS	3" Diameter Maximum
RUBBER BACKING PADS	4¾" Diameter Maximum

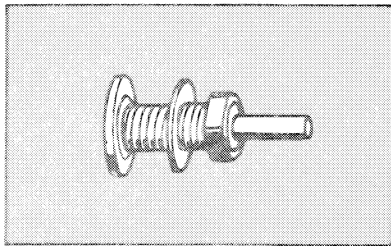
Wire Wheel Brushes

Use in cleaning and removing rust, scale, old paint. 4" Fine Brush, crimped; Maximum safe RPM—4,500
4" Coarse Brush, crimped; Maximum safe RPM—4,500



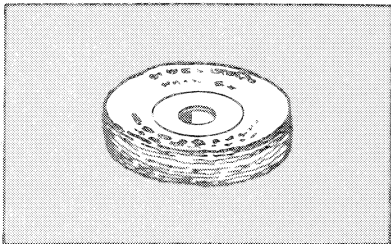
Wheel Arbors

Fit 1/4" to 1/2" Drills. Carry wire wheel brushes and buffing wheels.



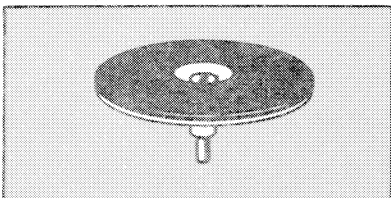
Buffing Wheels

Use with 1/4" to 1/2" Drills and Wheel Arbors. 3" x 3/8" x 1/2" Cotton Buff.



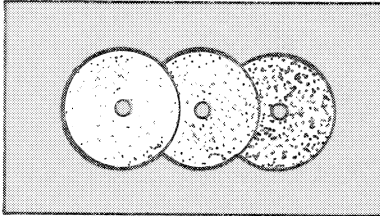
Rubber Backing Pad

Fit 1/4" to 1/2" Drills. 4 3/8" Rubber Backing Pad with plain shank. Used for sanding operations.



Sanding Discs

Use with Rubber Backing Pad.



High-Speed Hole Saws Use With Mandrels

SAW OUTSIDE DIAMETER	FOR CONDUIT SIZES	FOR PIPE TAP SIZES
5/8"	5/8" Hole Saw has built-in Mandrel; no separate Mandrel supplied	
3/4"	3/8"	
7/8"	1/2"	
1 5/16"		3/4"
1"		
1 1/16"		
1 1/8"	3/4"	

Round-Shank Masonry Bits

These bits are carbide-tipped for top performance and extra-long life in most masonry-drilling applications.



BIT DIAMETER (IN.)	USABLE DRILLING DEPTH (IN.)	SHANK DIAMETER (IN.)
3/16"	1 1/2"	3/16"
1/4"	2"	1/4"
5/16"	2 1/4"	1/4"
3/8"	2 1/2"	1/4"
1/2"	2 1/2"	1/4"

Extension Cords

Double insulated tools have 2-wire cords and can be used with 2-wire or 3-wire extension cords. Only round jacketed extension cords should be used, and we recommend that they be listed by Underwriters Laboratories (U.L.) (C.S.A. in Canada). If the extension will be used outside, the cord must be suitable for outdoor use. Any cord marked as outdoor can also be used for indoor work. The letters "WA" on the cord jacket indicate that the cord is suitable for outdoor use.

An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety, and to prevent loss of power and overheating. The smaller the gauge number of the wire, the greater the capacity of the cable, that is 16 gauge has more capacity than 18 gauge. When using more than one extension to make up the total length, be sure each individual extension contains at least the minimum wire size.

To determine the minimum wire size required, refer to the chart below.

NAMEPLATE RATING-AMPS	CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS							
	25	50	75	100	125	150	175	200
0 - 10.0	18	18	16	16	14	14	12	12
10.1 - 13.0	16	16	14	14	14	12	12	12
13.1 - 15.0	14	14	12	12	12	12	12	—

Before using an extension cord, inspect it for loose or exposed wires, damaged insulation, and defective fittings. Make any needed repairs or replace the cord if necessary. Black & Decker has extension cords available that are U.L. (C.S.A. in Canada) listed for outdoor use.

Warranty

Black & Decker (U.S.) Inc. warrants this product for one year from date of purchase. We will repair without charge, any defects due to faulty material or workmanship. Please return the complete unit, transportation prepaid, to any Black & Decker Service Center or Authorized Service Station listed under "Tools Electric" in the yellow pages. This warranty does not apply to accessories or damage caused where repairs have been made or attempted by others.

Like most Black & Decker products your tool is listed by Underwriters Laboratories to ensure that it meets stringent safety requirements.



This symbol on the nameplate means the product is listed by Underwriters Laboratories, Inc.



BLACK & DECKER®

BLACK & DECKER (U.S.) INC., U.S. Power Tools Group, 10 North Park Drive, P.O. Box 798, Hunt Valley, MD 21030-0798 U.S.A.

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