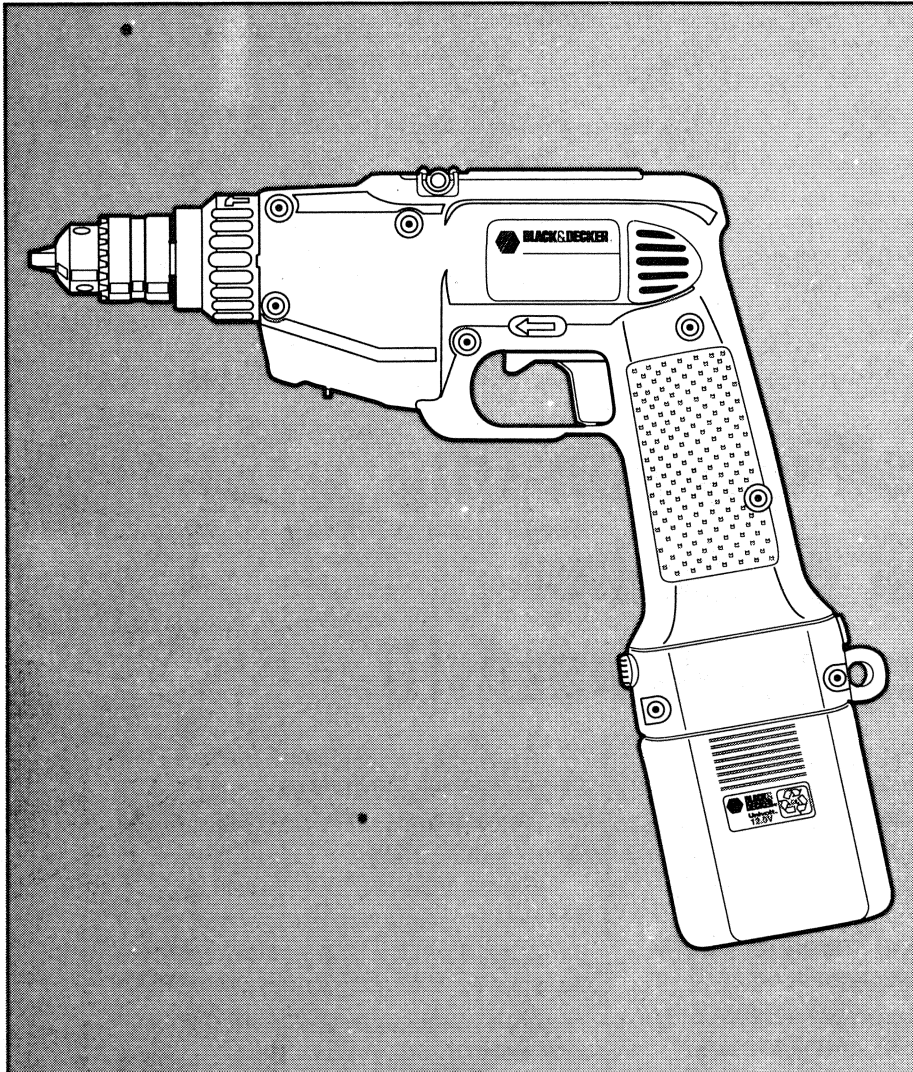
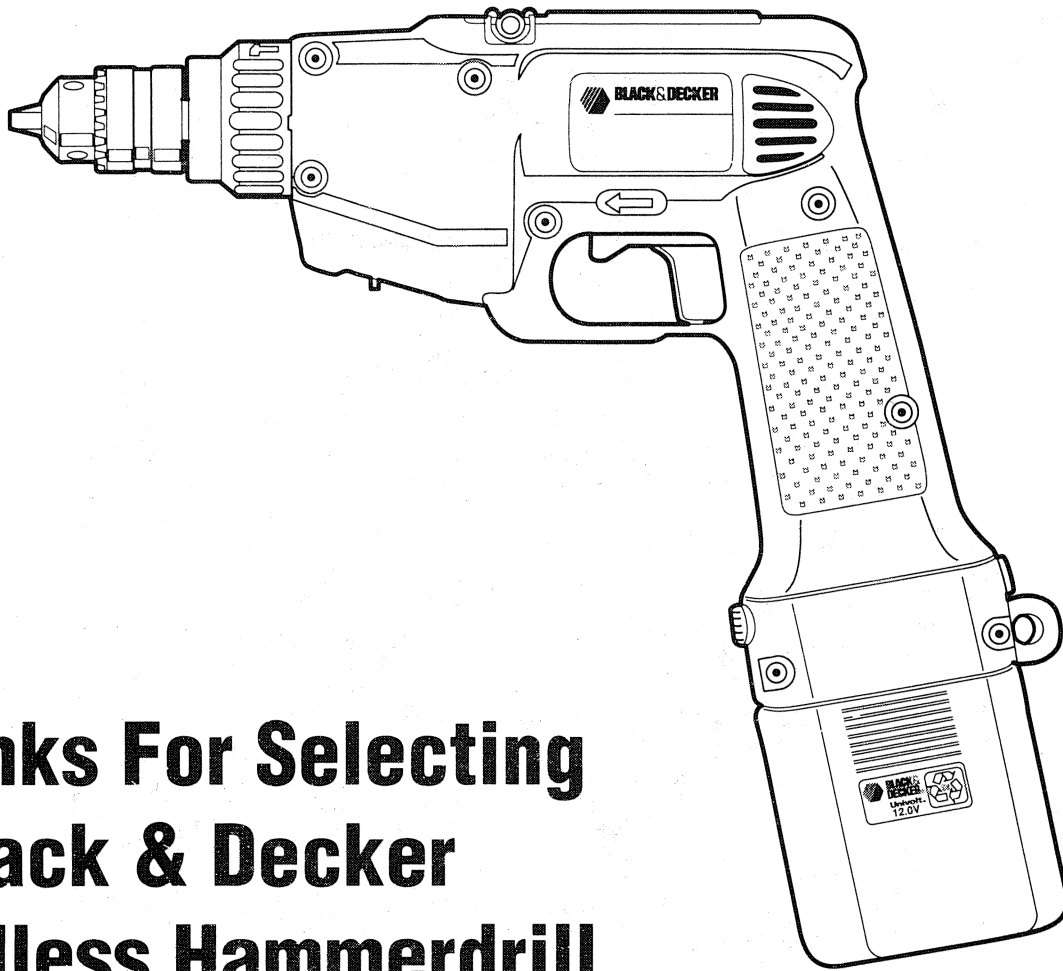


BLACK & DECKER
CORDLESS



Instruction Manual
3/8" V.S.R. Dual Range
12.0 Volt Cordless Hammerdrill



Thanks For Selecting a Black & Decker Cordless Hammerdrill.

Your new cordless hammerdrill has been engineered to the same tough standards of quality that have made Black & Decker the world's leader in cordless technology. Made to be tough and reliable, your new hammerdrill packs plenty of power and long life for jobs far removed from any power source.

With it and the proper accessories you can drill holes in practically any material you can name, you can buff, sand, polish, and even drive and remove screws with features like variable speed and reversing capability.

All of this versatility and Black & Decker's famous toughness make this hammerdrill every inch the professional that you are.

Please take the time to read this informative instruction manual and pay particular attention to the safety instructions we've included 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

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. **KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Do not let visitors contact tool.
4. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place—out of reach of children.
5. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
6. **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.
7. **DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Non-skid footwear is recommended when working outdoors. Wear protective hair covering to contain long hair.
8. **USE SAFETY GLASSES.** Also use face or dustmask if operation is dusty.
9. **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.
10. **DON'T OVERREACH.** Keep proper footing and balance at all times.
11. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safe performance. Follow instructions for lubricating and changing accessories. Keep handles dry, clean, and free from oil and grease.
12. **LOCK OFF TOOLS** when not in use, before servicing, and when changing accessories.
13. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
14. **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure selector is in the trigger lock off position when carrying or storing tool. **BE AWARE** that this tool is always in an operating condition because it does not have to be plugged into an electrical outlet. Keep the switch control lever in the lock "OFF" position, as shown in Figure 4, when you are not using the tool.
15. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
16. **CHECK DAMAGED PARTS.** Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.
17. **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 TOOL!** Hold the tool only by the plastic handle to prevent shock if you drill into a "live" wire.

SAVE THESE INSTRUCTIONS FOR FUTURE USE.

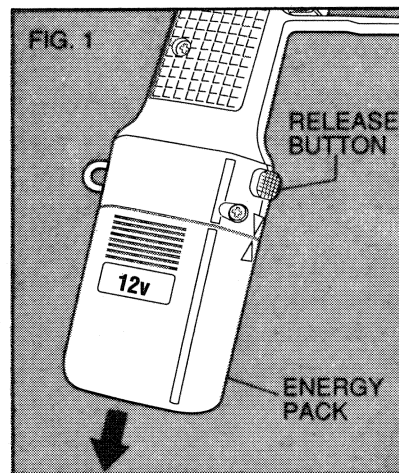
Your tool carton contains two separate instruction manuals; one for your hammerdrill and one for the UNIVOLT one hour battery charger.

READ ALL OF THE INSTRUCTIONS IN THE UNIVOLT ONE HOUR BATTERY CHARGER INSTRUCTION MANUAL BEFORE ATTEMPTING TO CHARGE THE ENERGY PACK IN YOUR TOOL.

Removing and Installing the Energy Pack

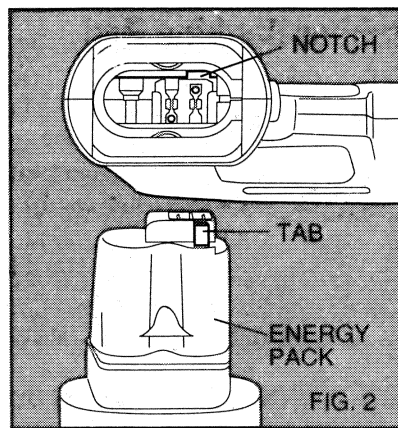
NOTE: THE BATTERIES IN YOUR ENERGY PACK ARE NOT FULLY CHARGED AT THE FACTORY.

To remove the energy pack from the tool, press the release button or buttons, as shown in Figure 1, and let the energy pack slide out of the tool handle. Insert it into the charger as described in the charger instruction manual.



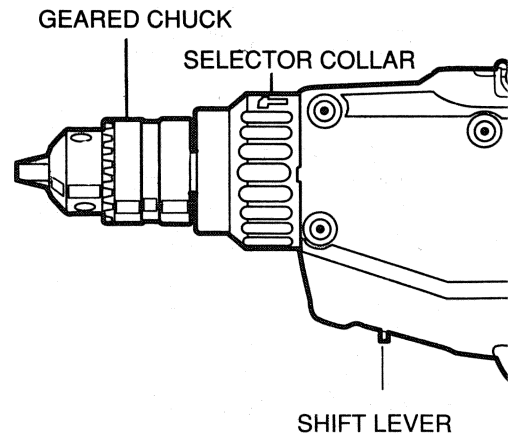
To install the energy pack into the tool handle, align the tab, shown in Figure 2, with the notch inside the tool's handle and slide the energy pack firmly into the handle until you hear the lock snap into place.

An alternate means of alignment is to match the arrows on the front of the tool and the front of the energy pack. (Older packs do not have arrows on them.)



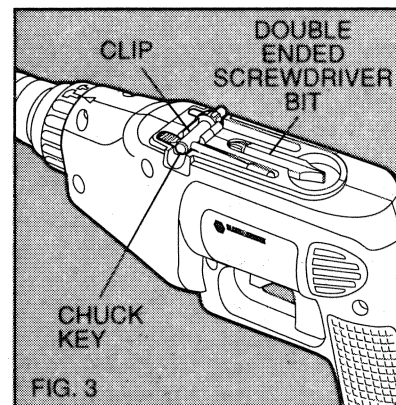
Energy Pack Important Charging Notes

1. Longest life and best performance can be obtained if the batteries are charged when the air temperature is about +75°F. **DO NOT** charge the batteries in an air temperature below +40°F or above +105°F. This is important and will prevent damage to the batteries and extend their life.
2. If the batteries do not charge properly — (1) Check current at receptacle by plugging in a lamp or other appliance, (2) Check to see if receptacle is connected to a light switch which turns power off when you turn out the lights.
3. If the receptacle is o.k., and you do not get proper charging, take or send the tool and charger to your local Service Center. See "TOOLS, ELECTRIC" in yellow pages.
4. The energy pack should be recharged when it fails to produce sufficient power on jobs which were easily done previously. **DO NOT CONTINUE** to use the energy pack under these conditions. Repeat the charging procedure.
5. Under certain conditions, with the charger plugged into the power supply, the exposed charging contacts inside the charger can be shorted by foreign material and may cause a fire. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil, or any buildup of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no energy pack in the cavity. Unplug charger before attempting to clean.



Chuck Key Storage

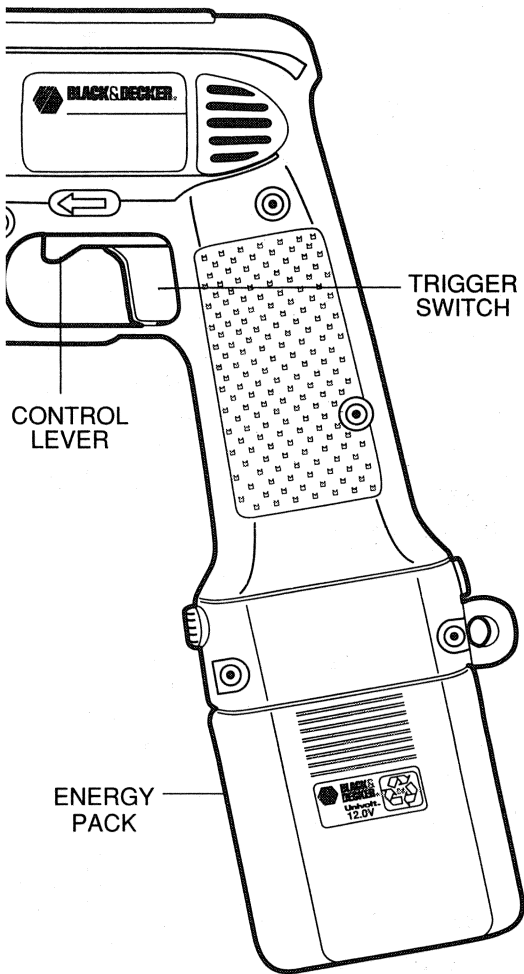
The chuck key for your tool is stored on the top of the housing, as shown in Figure 3. To remove the chuck key, simply pull it up and out. To return the key to the holder, push it in place until the clip snaps over it to hold it in place.



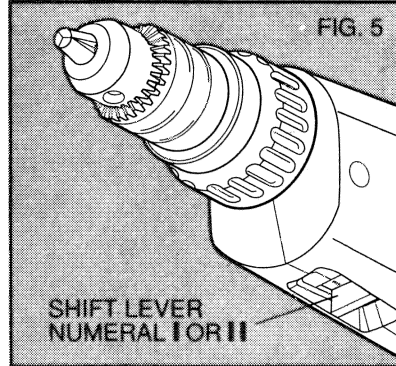
Switches

To turn the tool "ON", squeeze the trigger switch; to turn the tool "OFF", release the trigger switch. Your tool is equipped with a variable speed switch which enables you to select the best speed for a particular application. The farther you squeeze the trigger, the faster the tool will operate.

A switch control lever determines the direction of the tool and also serves as a lock "OFF" lever. To select forward rotation (for drilling operations and driving screws) release the trigger switch and push the switch control lever to the right (when viewed from the chuck end) as shown in Figure 4.



(0-1200 rpm) and less torque. The Dual Range coupled with the variable speed switch will give you the flexibility you need to handle nearly every job. A little practice with the different settings will be most beneficial to a thorough understanding of the capabilities of your hammerdrill.



To shift from one range to another, TURN OFF THE DRILL AND PERMIT IT TO STOP COASTING. Slide the shift lever to the desired location before resuming operation. It may occasionally be necessary to slowly rotate the chuck BY HAND in order to engage the gears.

Use lower speeds for starting holes without a center punch, drilling in metals, masonry or plastics, driving screws, drilling ceramics or mixing paint. Higher speeds are better for drilling in wood, wood compositions and for using abrasive and polishing accessories.

Chuck and Key

LOCK THE TOOL IN THE OFF POSITION. Open chuck jaws and insert shank of bit about 1" 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 prevent bit slippage. To release bit, turn chuck key counterclockwise in just one hole, then loosen chuck by hand.

Collar Shift Operation

LOCK OFF SWITCH

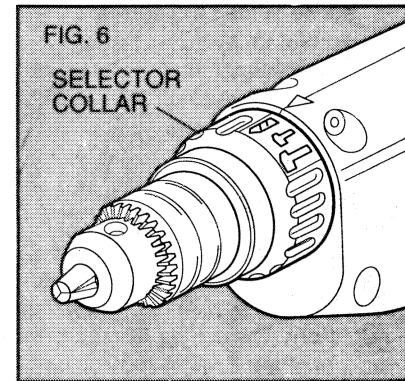
The collar on your hammerdrill has three positions: Drill, Light Hammer, and Heavy Hammer. To select Drill, rotate the selector collar so that the drill bit drawing aligns with the arrow on the top of the gear case as shown in Figure 6.

In the Drill position the tool acts like any drill.

Select the desired speed range and install the desired drill bit into the chuck as described under the "Chuck and Key" section of this manual.

To utilize the Light Hammer feature of your tool, rotate the selector collar to align the smaller of the two hammer pictures with the arrow shown in Figure 6. The Light Hammering position is for hammer drilling in soft concrete and masonry such as brick, mortar and soft ceramics. Use the Light Hammer position whenever possible to considerably lengthen battery life.

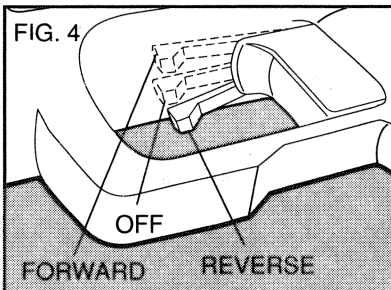
When harder masonry is encountered shift to the Heavy Hammer position by aligning the larger hammer picture with the arrow on the top of the gear case.



Operation

DRILLING

1. Use sharp drill bits only. For WOOD, use twist drill bits, spade bits, power auger bits, or hole saws. For METAL, use highspeed steel twist drill bits or hole saws. For MASONRY, such as brick, cement, cinder block, etc., use carbide-tipped bits.
2. 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.
3. 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.
4. Hold tool firmly to control the twisting action.



To select reverse (for backing out screws or jammed drill bits) push the lever to the left (when viewed from the chuck end). The center position of the lever locks the tool in the "OFF" position.

When changing the position of the switch control lever, be sure the tool is "OFF" and the chuck has stopped coasting.

The Dual Range feature of your hammerdrill allows you to shift gears for greater versatility. The low range, indicated by the numeral I located as shown in Figure 5, provides low speed (0-500 rpm) and high torque. The setting II, indicated in the same location, yields a higher speed

5. **IF TOOL STALLS**, it is usually because it is being overloaded. **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 TOOL— THIS CAN DAMAGE THE TOOL.**
6. To minimize stalling or breaking through the material, reduce pressure on tool and ease the bit through the last fractional part of the hole.
7. Keep the motor running when pulling the bit back out of a drilled hole. This will help prevent jamming.
8. With Variable Speed Tools 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.

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.

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 tool but not so much that you crack the brittle materials. A smooth, even flow of dust indicates the proper drilling rate.

Chuck Removal

(Figures 7 & 8)

1. Place chuck key in chuck as shown below. Using a wooden mallet or similar object, strike key sharply in a **CLOCKWISE** direction. This will loosen screw inside chuck.

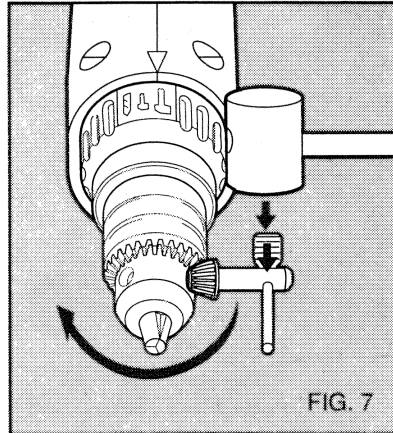


FIG. 7

2. Open chuck jaws fully. Insert screwdriver into front of chuck between jaws to engage screw head. Remove screw by turning clockwise (left-hand-thread).
3. Place key in chuck as shown below. Using a wooden mallet or similar object, strike key sharply in a **COUNTER-CLOCKWISE** direction. This will loosen chuck so that it can be unscrewed by hand.

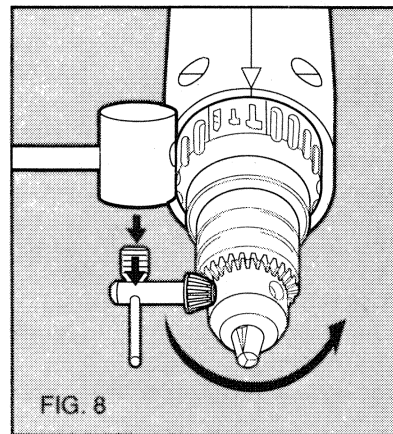


FIG. 8

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 locating any accessory, please contact:

Black & Decker (U.S.) Inc.
Consumer Service Department
626 Hanover Pike
P.O. Box 618
Hampstead, MD 21074-0618

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

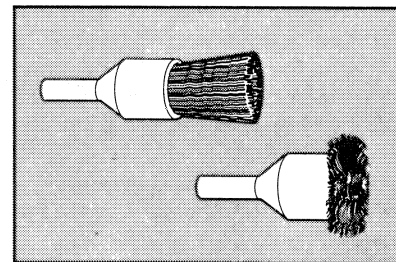
Maximum Recommended Capacities

TOOL CAPACITY	3/8"
R.P.M.	0-500/ 0-1200
BITS, METAL DRILLING	3/8"
WOOD, FLAT BORING	3/4"
BITS, MASONRY DRILLING	1/2"

Carbon Removing Brushes

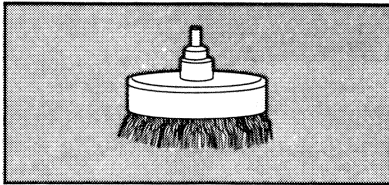
Made of tempered-steel wire; used with drills to remove rust and scale from metals. Leaves a bur-nished surface.

- 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.)



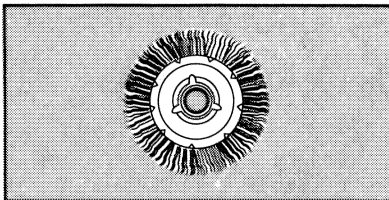
3" Wire Cup Brush

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



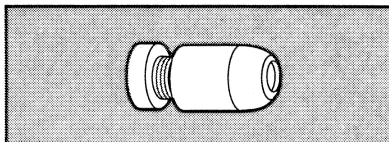
Wire Wheel Brushes

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



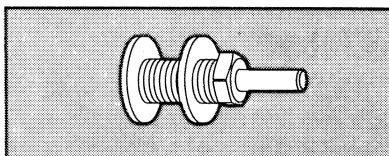
Drill Stop

Capacity 1/4" to 1/2" Governs drilling depth. Drill Stop.



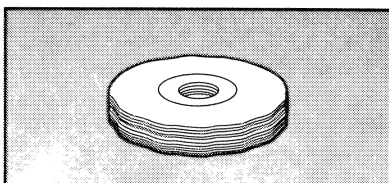
Wheel Arbors

Fit 1/4" to 1/2" Drills. Carry wire wheel brushes and buffing wheels.
1/4" Arbor (1/2" dia., 1/4" shank).
1/2" Arbor (1/2" dia., 1/2" shank).



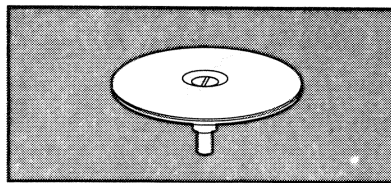
Buffing Wheels

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



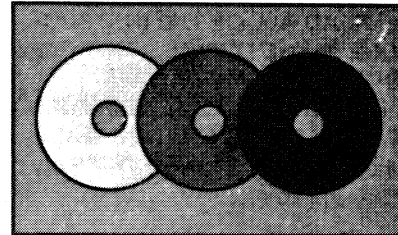
Rubber Backing Pad

Fit 1/4" to 1/2" Drills. 4 5/8" Rubber Backing Pad with plain shank. Used for sanding operations.



Sanding Discs

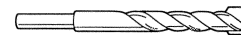
Use with Rubber Backing Pad.



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"	

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"
9/16"	4 1/4"	1/4"



Pilot-Point™ Drill Bit

Available in three distinctive product lines.

High Speed Steel Bright Finish Bullet™ Bits

- Individual bits, in sizes from 1/16" to 1/2" in 1/64" increments*
- 8-, 11- and 14-piece sets packaged in convenient, reusable storage cases
- 21- and 29- piece sets packaged in rugged metal storage boxes that convert into self-standing drill bit holders

Black Oxide-Coated Bullet™ Bits

- 29 fractional jobber length sizes, available in bulk, from 1/16" to 1/2" in 1/64" increments*
- 13-, 21- and 29-piece sets packaged in durable metal index boxes

Titanium-Coated Bullet™ Bits

- 16 fractional sizes available carded*
- 8-piece set packaged in pocket-sized storage case

*Bullet™ Pilot Point™ Drill Bits can only be manufactured in 1/8" to 1/2" diameters. 1/16" to 7/64" sizes have 135-degree split point tips.

Lubrication

All ball and sleeve bearings used are factory lubricated to last the life of the bearings. All needle bearings used receive their lubrication from the grease in the gear case.

Important

To assure product SAFETY and RELIABILITY, repairs, maintenance (including brush inspection and replacement) and adjustment should be performed by BLACK & DECKER Service Centers or other qualified service organizations, always using BLACK & DECKER replacement parts.

Warranty

Black & Decker (U.S.) Inc. warrants this product for one year from the 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.

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

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 Underwriter's Laboratories, Inc.

See 'Tools-Electric'
—Yellow Pages—
for Service & Sales



BLACK & DECKER®

BLACK & DECKER (U.S.) INC., U.S. Power Tools Group, 10 North Park Drive, Hunt Valley, MD 21030 U.S.A.

Form No. 741970
(FEB91-2)

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