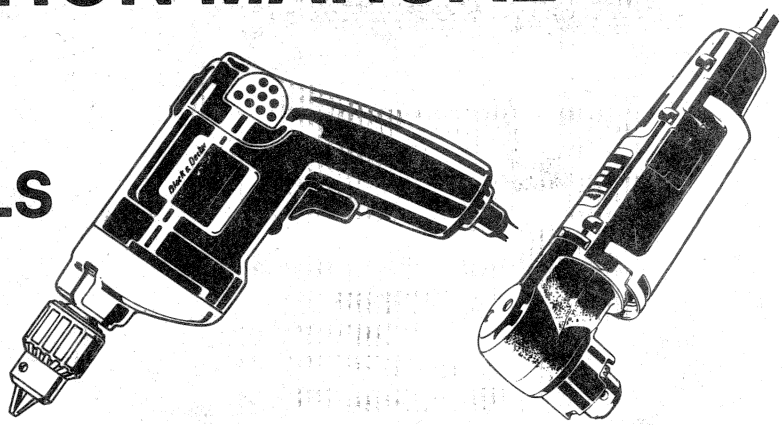
BLACK&DECKER™

INSTRUCTION MANUAL

PROFESSIONAL HOLGUN® DRILLS

¼" DRILL ⅜" DRILL ½" DRILL
DUAL RANGE DRILL
SCRUDRILL®
SHORTY® DRILL
RIGHT ANGLE DRILL



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

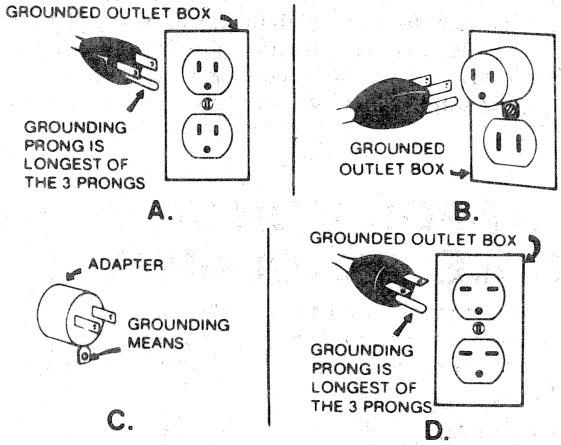
1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. 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.
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 pevent shock if you drill into a "live" wire.

FOR TOOLS EQUIPPED WITH 3-WIRE CORD & REQUIRE GROUNDING, PLEASE READ THE FOLLOWING:

GROUNDING

This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved three-conductor cord and three prong grounding type plug 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. If your unit is for use on less than 150 volts, it has a plug like that shown in Figure A. If it is for use on 150 to 250 volts, it has a plug like that shown in Figure D. An adapter, Figures B and C, is available for connecting Figure A plugs to two-prong receptacles. The green-colored rigid ear, lug, etc., must be connected to a permanent ground such as a properly grounded outlet box. No adapter is available for a plug as shown in Figure D. ADAPTER SHOWN IN FIGURES B & C IS NOT FOR USE IN CANADA.



FOR TOOLS EQUIPPED WITH 2-WIRE CORDS, AND ARE DOUBLE INSULATED, PLEASE READ THE FOLLOWING:

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.

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 insulation failure within the tool.

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

EXTENSION CORDS

Double insulated tools have 2-wire cords and can be used with 2-wire or 3-wire extension cords. Tools that have 3-wire cords requiring grounding must only be used with extension cords that have 3-prong grounding type plugs and 3-pole receptacles. Make sure which construction your tool is before choosing an extension cord. 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 letter "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.

CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS

NAMEPLATE RATING-AMPS	TOTAL EXTENSION CORD LENGTH - FEET							
	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.

SAVE THESE INSTRUCTIONS

MOTOR BRUSHES

Your Drill uses the B & D "Checkpoint" brush system. The too will stop when the brushes wear out (down to about 3/16" long). This prevents damage to the motor.

SWITCHES (PISTOL GRIP)

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 lock 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.

Be sure to release the switch 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 Switch is used for withdrawing bits from tight holes and removing screws at lower speeds. 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 switch to forward position by pushing it to the left.

SWITCH (RIGHT ANGLE & SHORTY® DRILL)

This switch operates by tightening and loosening your grip on the tool housing. CAUTION: Unplug tool when changing bits or accessories to avoid turning the drill "on" accidentally.

DUAL RANGE OPERATION

The two-speed gear drive in the dual-range hammer gun permits effective operation over an extended range of applications with a greater selection of accessories. To select proper speed for a particular job, refer to the instruction label on the underside of the gear case. For low speed operation, the shift knob should be rotated with position symbol " – " oriented toward the front of the tool. For high speed operation, the shift knob should be positioned with the " = " facing the front of the tool.

NOTE: the chart on the bottom of the unit is to help the user in determining what speed is best for a specific application.

For simplicity and ruggedness the gear train has been designed for shifting only when the unit is off. It may be necessary however, to rotate the chuck slightly to align the gears while turning the shift knob. Do not attempt to change speeds while the tool is running—doing so will damage the gear train.

OPERATION

DRILLING (ALL DRILLS)

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.

DRILLING (PISTOL GRIP)

1. Open chuck jaws by turning collar with fingers and insert shank of bit about ¾" 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 key counter clockwise in just one hole, then loosen chuck by hand.
2. 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.

DRILLING (RIGHT ANGLE & SHORTY® DRILL)

1. Open chuck jaws by aligning pilot hole in chuck with an opening in the chuck guard, and insert the chuck key through the opening and into the pilot hole (Fig. 4). Insert shank of bit about ¾" into chuck. It's important to tighten chuck with all three holes. To release bit, turn key counter-clockwise in just one hole.
2. For optimum control and comfort, the drill may be grasped in one of the following illustrated manners: Around the "neck" of the drill using one or two fingers to operate the paddle switch as in FIG. 5, in an inverted position with the heel of the hand pushing on the head of the drill and one or two fingers on the paddle switch as in FIG. 6, or holding the head of the drill with one hand and operating the paddle switch with the other hand holding the back end of the drill as in FIG. 7.

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. Aluminum is best drilled with kerosene.

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 clips 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.

MULTI-POSITION SIDE HANDLE (PISTOL GRIP)

This handle is supplied with all ½" Drills and some ⅜" Drills. It clamps to the front of the gear case and can be rotated to permit right-hand or left-hand use.

CAUTION: Always use side handle and hold Drill with both hands when using ½" Drill.

Assemble handle by expanding clamp and assemble as shown (Fig. 8).

SCRUDRILL® OPERATION

DRILLING — Turn the knurled collar until the "square" next to the word "DRILL" is lined up opposite the indicator on the gear case (Fig. 9). This position is for normal drilling.

SCREWDRIVING — Turn the knurled collar until the "square" next to the word "SCREW" is lined up opposite the indicator on the gear case (Fig. 9). This position is for normal screwdriving or screw removal.

DRIVING SCREWS

Adjust the collar to the screw driving position then insert the correct screw driving bit into chuck. Make sure that chuck jaw rests squarely on the "flats" of the bit — tighten chuck jaws securely using key in all 3 holes in the chuck. Turn on the unit and the chuck and bit will idle until the bit is engaged in the screw head and pressure is applied. The unit should be grasped firmly with both hands and a steady forward pressure applied — the screw will be driven down tight. At this point the clutch comes into operation and will ratchet or slip until the unit is removed from the screw. It is suggested that you practice by driving a few screws into a scrap piece of material until you get the "feel" of this procedure. DO NOT RATCHET UNNECESSARILY.

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, 10 North Park Drive, P.O. Box 857, Hunt Valley, MD 21030-0857.

Recommended accessories for your Drill are shown in this manual (CAUTION: The use of any other 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	½"	½"	⅜"	⅜"	⅜"	¼"	¼"	¼"	DUAL RANGE	
R.P.M.	0-600	0-900	0-1200	0-1800	0-2000	0-1800	0-2500	0-4000	0-1200	0-2500
BITS, METAL DRILLING	½"	½"	⅜"	⅜"	⅜"	¼"	¼"	¼"	⅜"	¼"
WOOD, FLAT BORING	1½"	1½"	1¼"	1"	1"	1"	¾"	½"	1¼"	¾"
BITS, MASONRY DRILLING	9/16"	9/16"	9/16"	½"	½"	½"	½"	NOT RECOMMENDED	9/16"	½"
HOLE SAWS	3"	3"	1½"	1⅛"	1⅛"	1⅛"	1⅛"	NOT RECOMMENDED	1½"	1⅛"

DRILLING CAPACITIES

CAT. NO.	1175	1165	1065	6016
DRILL SPEED	2000	1200	2000	2000
DRILL CAPACITY	3/8"	3/8"	1/4"	3/8"
BITS, METAL DRILLING	3/8"	3/8"	1/4"	3/8"
WOOD, FLAT BORING	1"	1¼"	3/4"	3/4"
BITS, MASONRY DRILLING	1/2"	9/16"	1/2"	1/2"
HOLE SAWS	1⅛"	1¼"	1"	1"

MAXIMUM RECOMMENDED CAPACTIES

SCRUDRILL®

R.P.M.→	0-1200
BITS, METAL DRILLING	⅜"
BITS, WOOD DRILLING	1¼"
BITS, MASONRY DRILLING	9/16"
HOLE SAWS	1½"

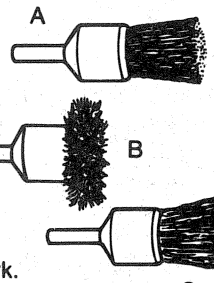
WIRE WHEEL BRUSHES	4" Diameter Maximum
WIRE CUP BRUSHES	3" Diameter Maximum
BUFFING WHEELS	3" Diameter Maximum
RUBBER BACKING PADS	4⅝" Diameter Maximum

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.

HIGH-SPEED HOLE SAWS USE WITH MANDRELS

SAW OUTSIDE DIAMETER	FOR CONDUIT SIZES	FOR PIPE TAP SIZES	SAW OUTSIDE DIAMETER	FOR CONDUIT SIZES	FOR PIPE TAP SIZES
⅝"	⅝" Hole Saw has built-in Mandrel; no separate Mandrel supplied.		1¾"	1¼"	1½"
¾"	⅜"		1⅞"		
⅞"	½"		2"	1½"	
1 5/16"		¾"	2 1/16"		
1"			2⅛"		
1 1/16"			2¼"		
1⅛"	¾"		2⅜"		
1 3/16"		1"	2½"	2"	
1¼"			2⅝"		
1⅜"	1"		2¾"		
1½"		1¼"	2⅞"		
1⅝"			3"	2½"	

CARBON REMOVING BRUSHES



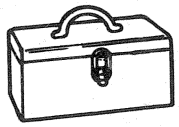
Made of tempered-steel wire; used with ¼" drills to remove rust and scale from metals. Leaves a burnished surface.

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

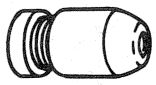
Use in cleaning and removing rust, scale, old paint. (Straight chuck shank). Maximum safe RPM—5,000.

HEAVY-DUTY TOOL BOX



13" x 8½" x 6¾"

DRILL STOP

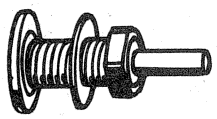


Capacity ¼" to ½" Governs drilling depth. Drill Stop.

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



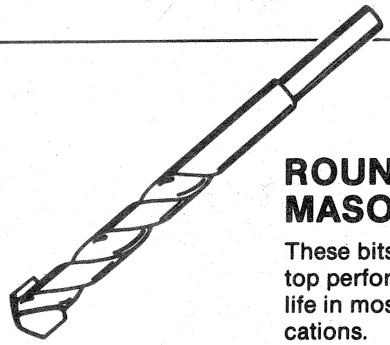
Fit ¼" to ½" Drills. Carry wire wheel brushes and buffing wheels. ¼" Arbor (½" dia., ¼" shank). ½" Arbor (½" dia., ½" shank).

BUFFING WHEELS

Use with ¼" to ½" Drills and Wheel Arbors. 3" x ⅜" x ½" Cotton Buff.

RUBBER BACKING PAD

Fit ¼" to ½" Drills. 4⅝" Rubbr Backing Pad with plain shank.



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"	1½"	3/16"
¼"	2"	¼"
5/16"	2¼"	¼"
⅜"	2½"	¼"
½"	2½"	¼"
9/16"	4¼"	¼"

CHUCK KEY HOLDER

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

FIG. A

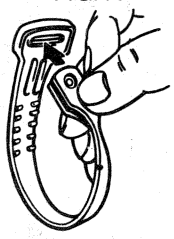
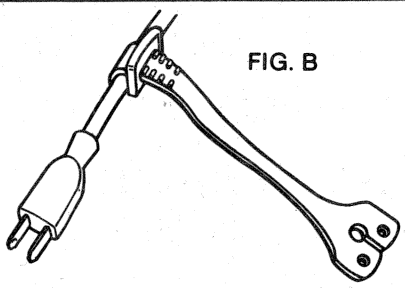


FIG. B



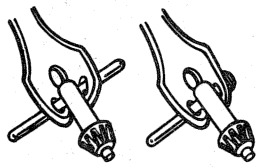


FIG. C

CHUCK REMOVAL (ALL DRILLS)

For Reversing Drills, start with 1.
For Non-Reversing Drills, skip steps 1 & 2 and start with step 3.

1. Place chuck key in chuck as shown in Figure10. Using a wooden mallet or similar object, strike key sharply in a CLOCKWISE direction. This will loosen screw inside chuck (Figure10).
2. Open chuck jaws fully. Insert screwdriver into front of chuck between jaws to engage screw head (Use a 3/16" hex wrench on Cat. No. 1311-09 ½" Drill). Remove screw by turning clockwise (left-hand thread).
3. Place key in chuck as shown in Figure11. Using a wooden mallet or similar object, strike key sharply in a COUNTER-CLOCKWISE direction (Figure 11). This will loosen chuck so that it can be unscrewed by hand.

FIG. 10

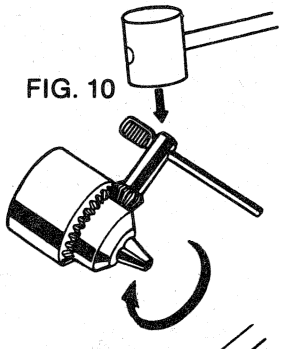
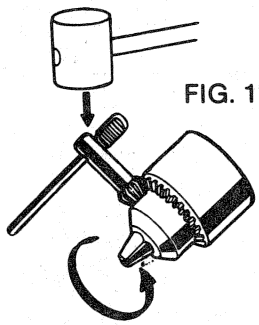


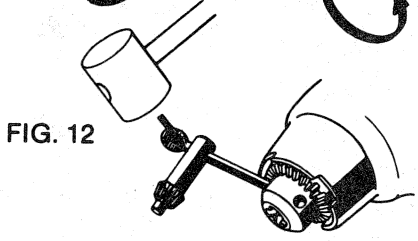
FIG. 11



CHUCK REMOVAL (RIGHT ANGLE & SHORTY® DRILL)

Insert straight end of chuck key handle into chuck as shown in figure 12. Using a wooden mallet or similar object, strike key sharply in a counter-clockwise direction, FIG. 12. This will loosen chuck so that it can be unscrewed by hand.

FIG. 12



LUBRICATION (ALL DRILLS)

All ball bearings used are factory lubricated to last the life of the bearings. All needle bearings used received their lubrication from the grease in the gear case. Clean and re-lubricate gear case yearly or whenever servicing requires the gear case to be removed. Use type and quantity of grease shown on Parts Bulletin packed with your tool.

(PISTOL GRIP)

Gear case is removed by removing the three screws from the front of the tool. If the chuck is too large to permit removal of the two top screws, see instructions for chuck removal.

COMMERICAL/INDUSTRIAL USE WARRANTY

Black & Decker 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.

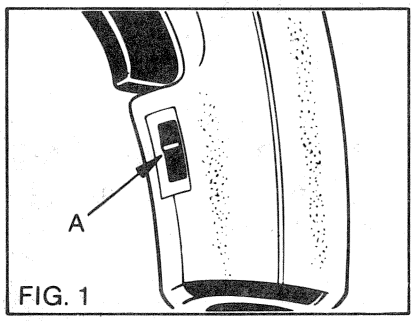


FIG. 1

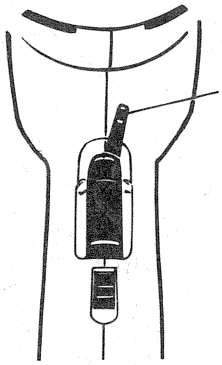


FIG. 2

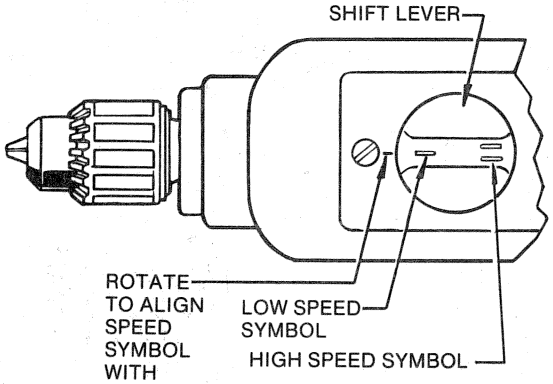


FIG. 3

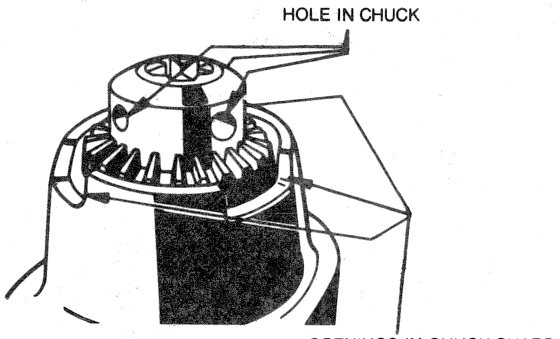


FIG. 4

FIG. 5

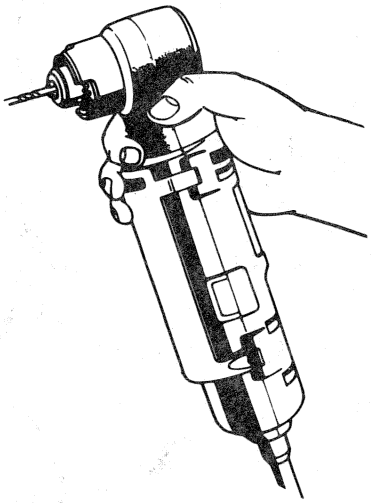


FIG. 6

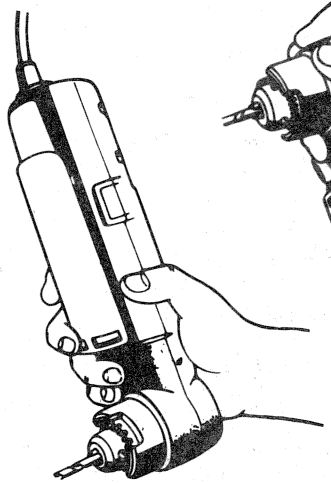
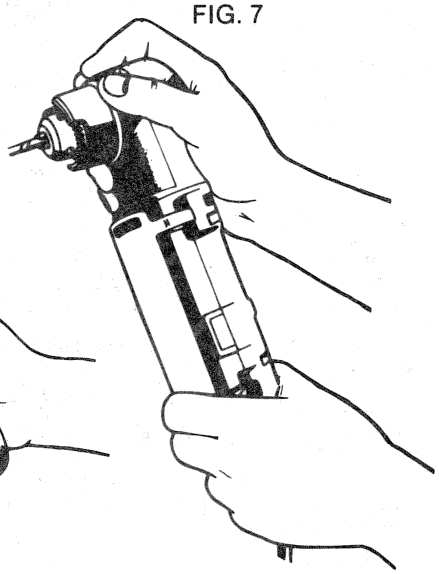


FIG. 7



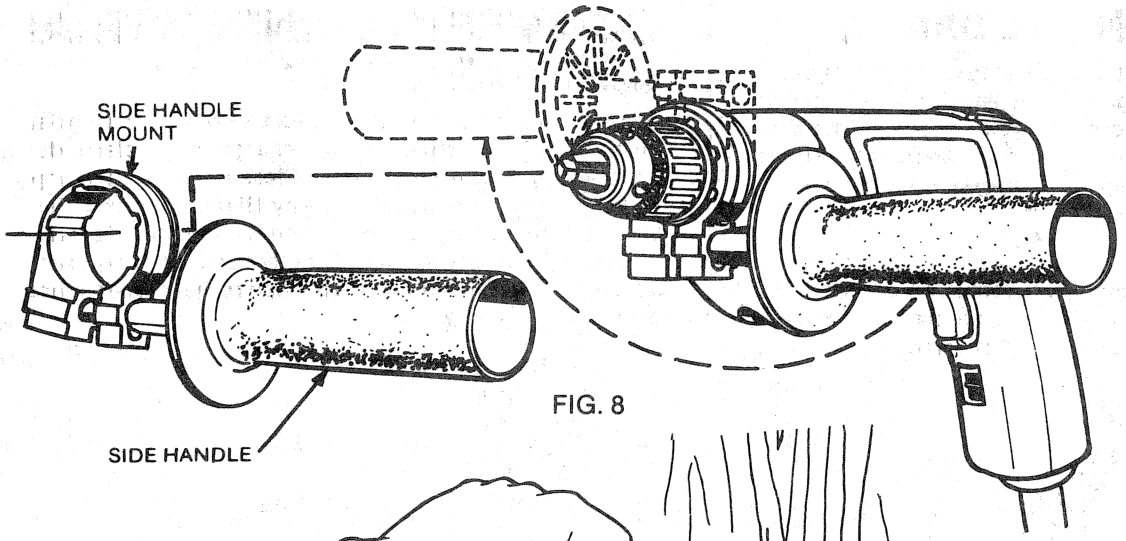
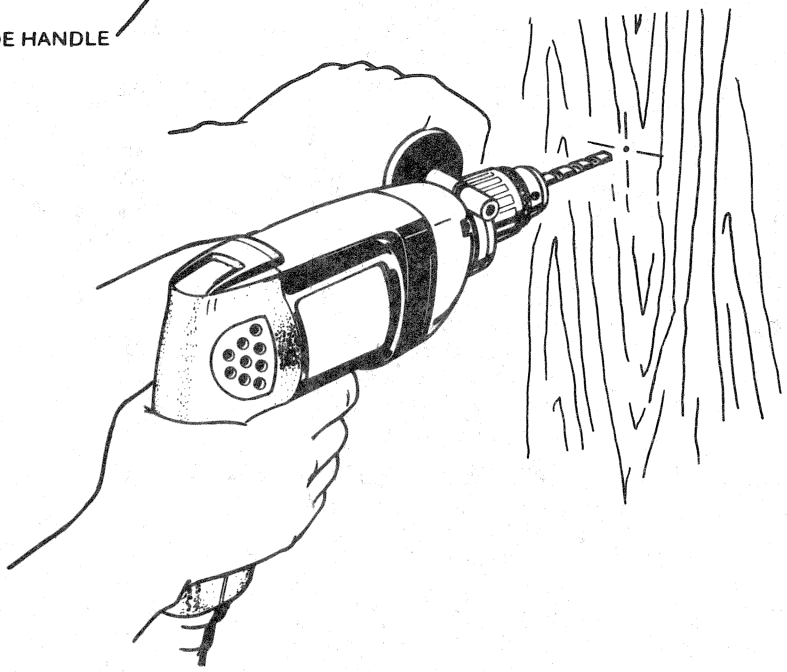


FIG. 8



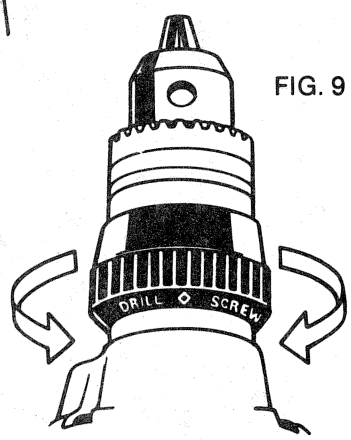


FIG. 9

NOTES

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

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