

GUIDE BOOK

for Use and Care of the



1/4" UTILITY DRILL

1/4" ALL-PURPOSE DRILL

3/8" UTILITY DRILL

Black & Decker[®]

PORTABLE ELECTRIC TOOLS

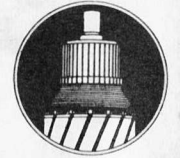
MOTORS

Your Black & Decker Drill is equipped with a "Universal" motor which can be used, at the voltage specified on the nameplate, with either Alternating Current at 25, 40, 50 or 60 cycles, or with Direct Current. Voltage should not vary more than 10%, over or under the voltage shown on the nameplate, or serious overheating and loss of power can result. All motors are tested at the factory and if your Drill fails to operate, please take the following action: (1) Check your supply line for blown fuses, (2) See that plug and receptacle are making good contact and (3) Inspect carbon brushes and replace them if they are worn away.



BRUSHES

Inspect carbon brushes frequently and replace when badly worn. Cartridge-type brush holders are used to make this operation easy for you. Merely remove both brush caps with a screwdriver and take out the brush and spring assemblies.* Springs should have enough tension to hold the brush firmly against the commutator. Be sure to replace badly worn brush assemblies.



Keep brushes clean and sliding freely in their guides. After several brush replacements, the commutator should be inspected for excess wear. If a groove has been cut by the brushes, the tool should be sent to one of our service stations for repair.

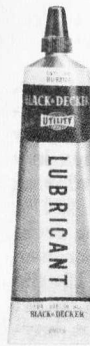
*On U-1, U-3 and U-15 Drills the switch handle must be detached first by removing these screws which hold the cover in place.

CABLE

The cable is the "life line" of your Drill—keep it clean by wiping it off occasionally. Keep it out of oils and greases which ruin the rubber. Coil it neatly when not in use and avoid dragging it across sharp surfaces or using it as a handle to lift the Drill.

When using the Drill at a considerable distance from power source, an extension cable of adequate size must be used to prevent loss of power. Use the table below for 115 volt current.

Extension Cable Length in feet.....	25	50	75	100	200
Gage of cable wire required.....	18	18	18	18	16



U-2194 Tube
of Lubricant.

LUBRICATION

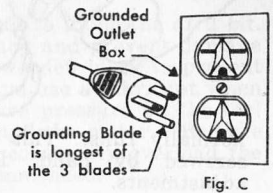
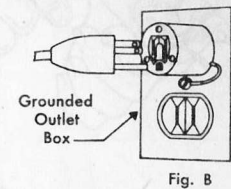
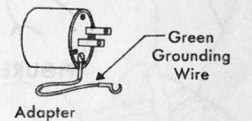
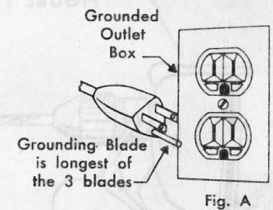
This Drill was properly lubricated at the Factory and is ready for use. The gears should be re-lubricated regularly from sixty days to six months, depending on use. Remove gear housing, flush out all old grease with kerosene and, with gears in place, refill the housing only half full. The B&D, U-2194 Tube of Lubricant, is ideal for this purpose. The commutator end armature bearing on the U-1, U-3 and U-15 Drills may be lubricated by one or two drops of oil on the armature shaft through the hole provided in the handle cover. The armature bearing at the commutator end on the U-50 Drill may be lubricated by putting one or two drops of oil through the small hole in the back end of the Motor Case.

GROUNDING

Every Electric Tool should be grounded while in use to protect the operator against shock. Proper grounding is a good habit to develop under all circumstances, but is especially important where dampness is present. This unit is equipped with approved 3 conductor cord and 3 blade grounding type attachment plug cap to be used with the proper grounding type receptacle, in accordance with the National Electrical Code. The green colored conductor in the cord is the grounding wire which is connected to the metal frame of the unit inside the housing and to the longest blade of the attachment plug cap. Never connect the green wire to a "live" terminal!

IF YOUR UNIT HAS A PLUG THAT LOOKS LIKE FIGURE "A", it will fit directly into the latest type of 3-wire grounding receptacles. The Unit is then grounded automatically each time it is plugged in. A special grounding adapter (Fig. "B") is supplied (EXCEPT IN CANADA) to permit using 2-wire receptacles until the correct receptacle is properly installed. The green grounding wire extending from the side of the adapter must be connected to a PERMANENT GROUND such as a properly grounded outlet box, conduit or water pipe before plugging in the tool.

IF THE UNIT HAS A PLUG LIKE FIGURE "C"
No adapter is furnished and it should be used in the proper standard matching 3-wire grounding receptacle. The unit is then grounded automatically each time it is plugged in.



The HEX-KEY Chuck

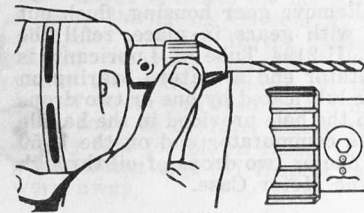


FIGURE 1

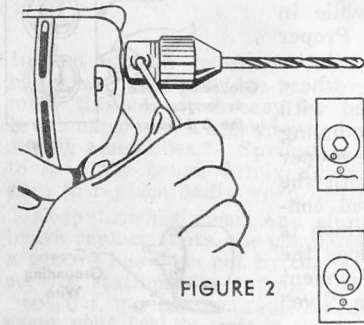
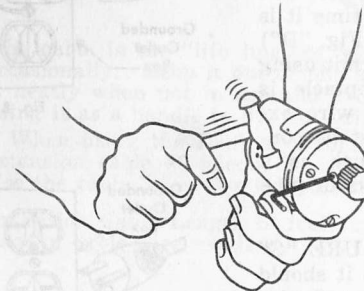


FIGURE 2



normally runs. This will loosen the chuck so that it can be easily unscrewed by hand. Disconnect tool before making any changes or adjustments.

The quick-acting "hex-key" (Cat. No. U-1500) chuck is a good general purpose chuck built to the Black & Decker standard of quality. Keep the hex-key in a convenient place and re-order at once if you lose it (Cat. No. U-1501). Keep chuck jaws clean and free from grease—the sleeve may be screwed off for cleaning purposes. If the chuck jaws require replacement, a set of jaws can be ordered without buying the complete chuck.

OPERATION First, insert key and turn the key socket so as to align the zero mark on the key socket with the zero mark on the chuck body, as shown in Fig. 1. Second, adjust jaws to drill size by turning fluted sleeve, insert drill and tighten sleeve lightly. Third, turn the key in either direction to lock so that the key socket assumes either position shown in Fig. 2.

To release the chuck, turn the key in opposite direction so that zero mark assumes original position as shown in Fig. 1. The sleeve can then be turned to release the drill.

To obtain maximum life of the jaw assembly, lock your chuck firmly with the key to prevent drill slippage, and when the chuck is not in use, leave it with the jaws open.

A slot at the bottom of socket also permits the use of a screw driver. Tighten in the same manner as when using Hex-Key.

REMOVING THE CHUCK Removal of Chuck from tool:—Place the chuck key in the chuck and strike key a sharp blow using a hammer or other object in the same direction that tool

The GEARED Chuck

The geared chuck is a precision instrument, designed for accurate work. Like any good mechanism, it should not be abused. Keep chuck clean and free of rust.

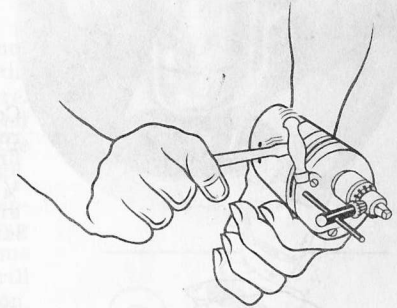
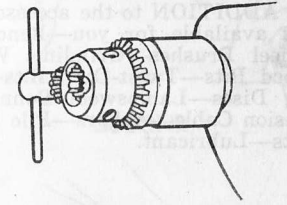
OPERATION First, always bottom the drill bit in the chuck. This permits the chuck jaws to grip the shank fully and prevents cocking the jaws. Second, use *all three holes* in the chuck body to tighten as much as possible. Only one hole is needed to release the bit. Third, use *only* a chuck key to tighten or loosen the chuck jaws. If you lose the chuck key, order a new one at once.

To obtain maximum life from the jaw assembly, lock your chuck firmly with the key to prevent drill slippage, and when the chuck is not in use, leave it with the jaws open.

REMOVING THE CHUCK Place the chuck key in the chuck and strike key a sharp blow using a hammer or other object in the same direction that tool normally runs. This will loosen the chuck so that it can be easily unscrewed by hand. *Disconnect* tool before making any changes or adjustments.

DRILLING

Mark exact center of hole with a center-punch or nail to guide the drill bit. Clamp or anchor the work securely to insure accuracy and prevent damage or injury. Thin metal should be backed up with a wooden block to prevent bending or distortion of the work. Keep bits sharp and use a lubricant when drilling ferrous metals other than cast iron. Relieve pressure on the tool when bit is about to break through to avoid "stalling" the motor. Be sure that chuck jaws are tightened securely and do not constantly overload the tool—in general, high speed and light feed are recommended.



ACCESSORIES for use with YOUR 1/4" DRILL

To increase the usefulness of your Drill examine the many Black & Decker Accessories listed on the next ten pages. They will save you time and money—and if used as directed will give you a first-rate job! These Accessories are available from the same dealer from whom you purchased your Drill.

IN ADDITION to the accessories shown on the following pages your dealer has available for you—Bench Stands—Abrasive Bands and Rolls—Wire Wheel Brushes—Grinding Wheels—Cotton Buffs—Masonry Drill Bits—Wood Bits—Twist-Drill Bits—Paint Mixers—Molded Rubber Pads—Sanding Discs—Lambswool Bonnets—Electric Wax—Wire Cup Brushes—Extension Cable—Arbors—Pile Fabric Pads—Replacement Chucks—Accessory Kits—Lubricant.

Sanding

SANDING DISC SELECTION

Sanding Discs are available in five different grades as follows:

- No. U-1408 "Very Coarse"
- No. U-1409 "Coarse"
- No. U-1410 "Medium Coarse"
- No. U-1411 "Medium"
- No. U-1412 "Fine"

Coarser grade discs give greater material removal, and finer grades give smoother finishes.

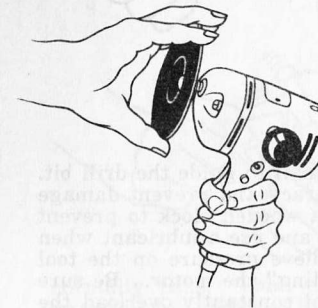
1/4" Drills, because of their higher R.P.M., give far better sanding results than do larger sized Drills with lower R.P.M.

SANDING DISC ATTACHMENT

Make sure the Drill is disconnected!

First: Attach Rubber Backing Pad. The threaded arbor on the back of the pad fits directly in the spindle of the tool.* It threads in a clockwise direction when facing the Drill. DO NOT thread on by running the motor. Tighten pad completely and firmly by hand. Rubber Backing Pads with unthreaded shanks are also available for use with a 1/4" chuck.

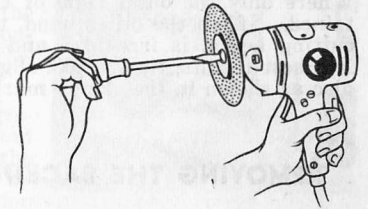
* Backing Pad #U-1302 fits into chuck.



FIRST

SANDING DISC ATTACHMENT (continued)

Second: Attach Sanding Disc. Place disc on Backing Pad so the hole in the disc lines up with hole in the pad. Then attach clamp washer and screw. Make sure that the screw is tightened securely. (To remove the Sanding Disc this operation is merely reversed.)



OPERATING AS SANDER

After plugging in the tool to the nearest electrical outlet, be sure before turning the Drill "ON" that the disc is free to revolve harmlessly (Drill is NOT resting on the disc). The tool will remain "ON" only so long as the operator squeezes the trigger switch unless the locking pin in the handle is engaged by pushing it in. To turn off, if the switch locking pin is engaged, squeeze the Trigger, then release it. The tool will stop running.

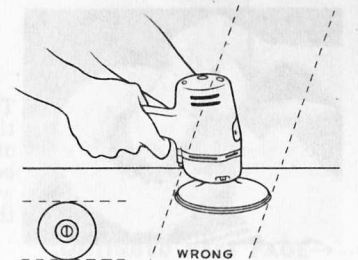
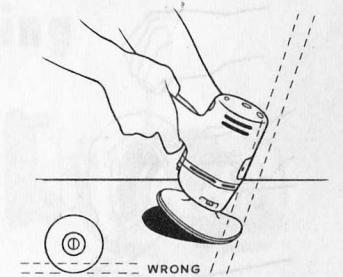
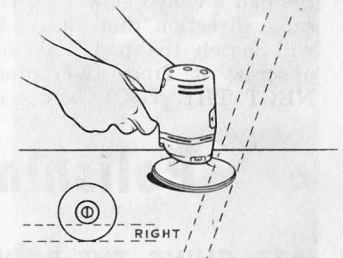
Grasp the control handles firmly—not gingerly—and operate the tool freely without forced effort or unnecessary pressure. Heavy pressure will slow cutting action and reduce abrasive life. The weight of the tool in most cases will prove to be enough.

Keep the tool moving with a long, sweeping motion, back-and-forth, advancing along the surface to produce smooth, continuous coverage. Preferably, do not hold the Drill in one spot or use circular or spiral motion.

To obtain maximum efficiency the sanding disc should be held at the proper angle against the work. The accompanying sketches show the right and wrong methods. The first position which is marked "RIGHT" presents the maximum amount of abrasive to the work without affecting the smoothness of the sanding action. The two positions marked "WRONG" cause either too little or too much abrasive contact.

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SECOND

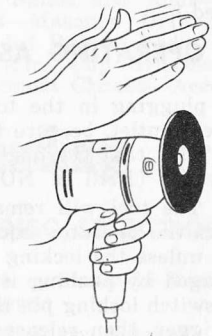


OPERATING as SANDER (continued)

Where only the outer edge of the disc is used a rough cut surface is obtained. If, on the other hand, the disc is placed flat against the work the cutting action is irregular and "bumpy" and the tool is hard to control. For best results, tip the tool slightly with just enough pressure to bend the disc as shown in the sketch marked "RIGHT," on previous page.

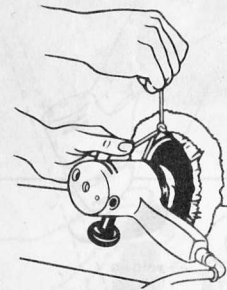
REMOVING THE BACKING PAD

To remove the Rubber Backing Pad strike the pad a sharp blow with your hand in the same direction that the pad rotates. This will loosen the pad and then you simply unscrew it from the spindle. DISCONNECT THE TOOL before doing this.



Polishing

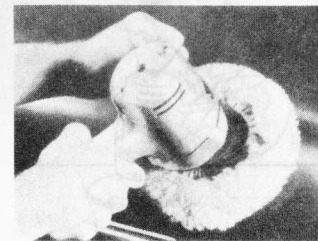
ATTACHING THE BONNET



For polishing operations a Lambswool Bonnet, which can be purchased from your dealer, is placed on the Rubber Backing Pad.

The Rubber Backing Pad is attached in the same manner as described on page 6. Then place the Bonnet over the Backing Pad and pull the drawstring tight. Tie the drawstring firmly so that the Bonnet does not slip on the Pad. Tuck the loose ends of the drawstring under the inside of the Pad to prevent fouling with the spindle.

Before making any adjustments make sure the tool is disconnected!



OPERATING AS POLISHER

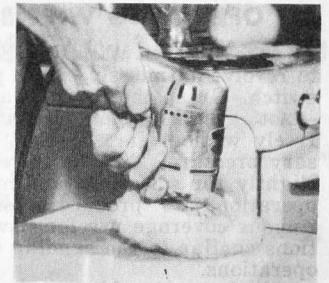
The first step in operation is to be sure that the surface to be polished is CLEAN. All film of dirt, grit, or other foreign substances should be cleaned from the surface before applying wax. If this cleaning operation is not done the results will definitely be inferior.

OPERATING as POLISHER (cont.)

The operation of the tool for polishing is the same as when sanding. Be sure that the Bonnet is free to revolve before pressing the trigger switch.

Grasp the control handles firmly—not gingerly—and operate the unit freely without forced effort or unnecessary pressure. Tilt the Bonnet slightly for smoothest and most efficient operation. Use a long sweeping motion back and forth advancing along the surface to produce the smoothest finish and highest lustre.

It is suggested that, if you plan to use the tool considerably as a Polisher, you purchase additional Bonnets from your dealer. In this way you will have a Bonnet for rough work and others to produce the finest finish. You can also buy from your nearest dealer Black & Decker Utility Pile Fabric Pads which are excellent for use with various compounds for rubbing down painted surfaces, removing orange peel, etc.



Cup Brushing

Among the many accessories available as extra equipment for the $\frac{1}{4}$ " Drill is a 3" Wire Cup Brush. The Wire Cup Brush is excellent for removing loose, scaly paint from wood or metal, or rust from metals preparatory to painting. Where a fine finish is desired, use a sanding disc of the proper grit after wire brushing the surface.

ATTACHING WIRE BRUSH

The Brush is equipped with a threaded arbor which screws directly into the spindle of the tool.* In attaching the Brush be careful that you do not run strands of wire into your hand. It is advisable to use a heavy rag to protect your hand when tightening the Brush on the spindle. Do not run the tool to "spin on" the Brush.

* Brush #U-1221 fits into chuck.

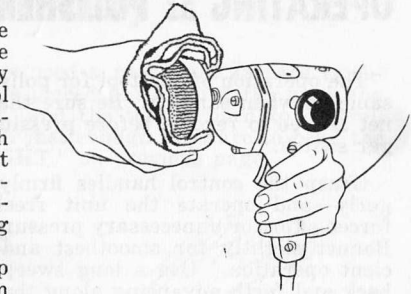


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OPERATING WIRE BRUSH

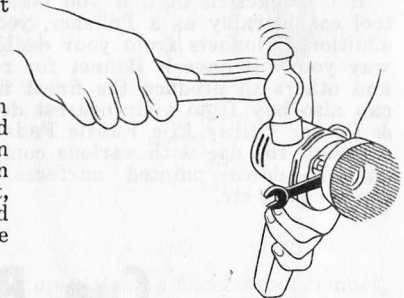
Be sure that the Wire Cup Brush is free to revolve harmlessly before pressing the switch. Grasp the control handles firmly—not gingerly—and operate the tool freely without forced effort or unnecessary pressure. Tilt the Wire Cup Brush slightly for smoothest and most efficient operation. To produce a smooth, continuous coverage use long sweeping motions similar to the sanding or polishing operations.

After considerable use the Wire Cup Brush will become dull; however, it can be sharpened within a matter of seconds. With the Wire Cup Brush attached to the Drill and the tool running, place it against a moving grinding wheel.



REMOVING WIRE BRUSH

To remove the Brush place a wrench on the two flattened sides of the hub and strike it a sharp blow in the direction that the Brush revolves. This will loosen the Brush and allow you to unscrew it, again being careful to protect your hand from the wire strands. Disconnect the tool before making any adjustments.



Hole Saws

Black & Decker Hole Saws will cut clean, round holes in any material a hack saw will cut. Where infrequent non-production work is indicated, Utility Hole Saws will give adequate service. They can be used with any Electric Drill or spindle equipped with the correct chucking device, but the power and speed of the spindle will govern the size of the Hole Saw to be used and the results obtained. We suggest the following limits on Black & Decker Drills. Hole Saws have approximately $\frac{3}{4}$ " depth-of-cut.

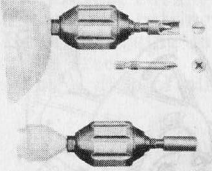
On $\frac{1}{4}$ " Electric Drills.....not larger than $1\frac{1}{8}$ " Hole Saws
 On $\frac{3}{8}$ " Electric Drills.....not larger than $1\frac{1}{2}$ " Hole Saws
 On $\frac{1}{2}$ " Electric Drills.....not larger than $3\frac{1}{2}$ " Hole Saws

No. U-1240 Mandrel ($\frac{1}{4}$ " Shank)
 Holds $\frac{3}{4}$ " to $1\frac{1}{8}$ " Hole Saws
 No. U-1241 Mandrel ($\frac{5}{16}$ " Shank)
 Holds $1\frac{1}{4}$ " to $2\frac{1}{2}$ " Hole Saws
 No. U-1260 Hole Saw $\frac{3}{8}$ " Diameter
 No. U-1250 Hole Saw $\frac{3}{4}$ " Diameter
 No. U-1251 Hole Saw $\frac{7}{8}$ " Diameter
 No. U-1252 Hole Saw 1" Diameter
 No. U-1253 Hole Saw $1\frac{1}{8}$ " Diameter

No. U-1254 Hole Saw $1\frac{1}{4}$ " Diameter
 No. U-1255 Hole Saw $1\frac{3}{8}$ " Diameter
 No. U-1256 Hole Saw $1\frac{1}{2}$ " Diameter
 No. U-1261 Hole Saw $1\frac{5}{8}$ " Diameter
 No. U-1257 Hole Saw $1\frac{3}{4}$ " Diameter
 No. U-1262 Hole Saw $1\frac{7}{8}$ " Diameter
 No. U-1258 Hole Saw 2" Diameter
 No. U-1263 Hole Saw $2\frac{1}{4}$ " Diameter
 No. U-1264 Hole Saw $2\frac{1}{2}$ " Diameter
 No. U-1259 Hole Saw $2\frac{1}{2}$ " Diameter

Screw Driving Attachment (Cat. No. U-1011)

Far faster and easier than by hand. Attachment threads into spindle of B&D $\frac{1}{4}$ " or $\frac{3}{8}$ " Utility Drills (Nos. U-1, U-3, U-15, U-50) or fits any $\frac{1}{4}$ " or $\frac{3}{8}$ " Chuck. Bit idles until forward pressure of the Drill engages mechanism and drives screw. Bits are available for slotted or Phillips head screws.

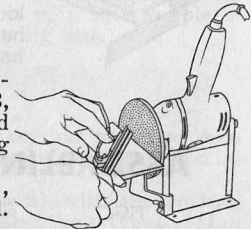


Sanding Table (Cat. No. U-1005)

Use this attachment in conjunction with the Horizontal Stand (U-2302) and your B&D (No. U-1, U-3, U-15, U-50) Drill. Material removal is rapid and accurate. Provides an efficient, economical sanding table for shaping and surfacing work.

To assemble, remove chuck from drill (see page 5), screw the metal plate into the spindle of the drill. Secure the Sanding Table to the Yoke End of the Horizontal Stand by means of the clamps on either side of table support. Before mounting the drill on the stand, apply a film of Disc Cement to the revolving plate, and press on evenly, the selected grade of Sanding Paper.

Feed the work without undue pressure and keep it moving back-and-forth to avoid "loading" the disc.

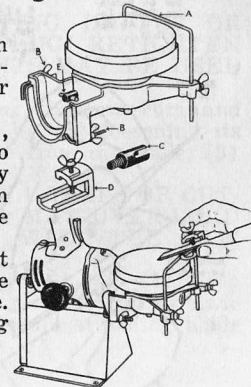


Roto-Hone Attachment (Catalog No. U-1006)

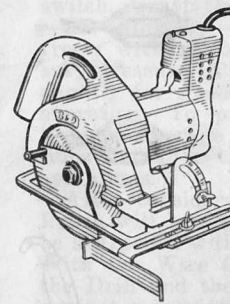
This accessory hones all kinds of edged tools to an accurate, razorlike sharpness. Use attachment in conjunction with Horizontal Stand (U-2302) and your B&D (No. U-1, U-3, U-15, U-50) Drill.

To assemble, remove chuck from drill (see page 5), mount tool in horizontal stand. Screw coupling (C) onto drill spindle and tighten. Affix the Roto-Hone assembly so that the coupling fits into its male part (E), then the two clamps (B) can be tightened against the yoke on the stand.

A guide bar (A) can be raised or lowered to suit your convenience. The Clamp (D) is used to secure part to sharpened. Stone has a coarse and a fine side. Use Roto Oil liberally to prevent chips from becoming embedded in the stone.



New Saw Attachment



(Cat. No. U-1013 For use with 1/4" Utility, 1/4" All-Purpose and 3/8" Utility Drills)

Has all the adjustable features of a professional Electric Saw. This new Drill Attachment provides for the world's safest power sawing at minimum cost. Perfectly balanced for easy, one or two hand use.

TO REMOVE CHUCK from DRILL—first Disconnect Drill! —Place the chuck key in the chuck and strike the key a sharp blow, using a hammer or other object, in the same direction that the tool normally runs. This will loosen the chuck so that it can be easily unscrewed by hand. When inserting chuck, thread it down snug by hand before turning on motor.

ASSEMBLING SAW ATTACHMENT to DRILL

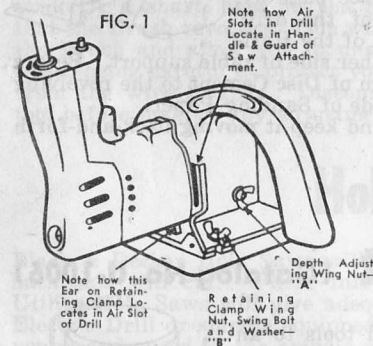


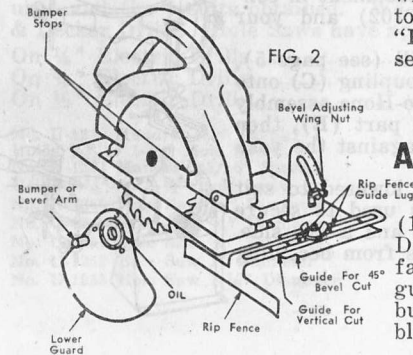
FIG. 1

Note how Air Slots in Drill Locate in Handle & Guard of Saw Attachment.

Note how this Ear on Retaining Clamp Locates in Air Slot of Drill

Retaining Clamp Wing Nut, Swing Bolt and Washer—“B”

FIG. 2



(1) Loosen wing nut “A” (Fig. 1) on depth adjustment and lower the Saw Attachment base plate (shoe) to its fullest extent (minimum depth of cut) and then retighten wing nut . . . (2) Loosen wing nut “B”, which holds the retaining clamp, far enough to permit it to swing free and allow the retaining clamp to open . . . (3) The air slots of the Drill are used to position the tool in the attachment. With the retaining clamp open, insert the Drill with its handle up. Then close the retaining clamp, being sure that the air slots in the Drill are engaged with the attachment at the top and bottom of the Drill . . . (4) Slide wing nut “B” back into its slot and tighten securely.

ATTACHING BLADE and GUARD

(1) Align arbor hole of saw blade with Drill spindle (with printing on blade facing OUT) . . . (2) Place lower blade guard on blade with the rubber-covered bumper above the bumper stop on upper blade guard . . . (3) Line up holes in

ATTACHING BLADE and GUARD (cont.)

guard, blade and spindle; insert spindle bolt and tighten securely with 9/16" wrench (hold blade from turning—use a heavy rag to prevent cutting fingers) . . . (4) Loosen wing nut "A", raise saw shoe to maximum cutting depth position and tighten wing nut securely . . . (5) Before plugging in Drill, be sure blade turns freely and that lower guard moves freely.
NOTE—Hub of lower guard should be oiled before use, and a drop of oil at frequent intervals will prevent drag and undue wear.

ATTACHING the RIP FENCE

(1) Engage slot in Rip Fence with two lugs on the "bridge" on front of saw shoe . . . (2) Insert carriage bolt (screw with square shoulder) up through hole in bridge—engage square shoulder on bolt with square hole in bridge . . . (3) Place flat washer on bolt and attach wing nut.

SAWING INSTRUCTIONS . . .

Set the depth adjustment, by lowering the saw shoe, so that no more than one full tooth, where possible, projects below the lower side of the material being cut. Tighten all wing nuts securely.

Line up the guide on the front of the shoe (see Fig. 2) with the cutting line, resting the front of the shoe on the work; then press the trigger switch and lock the tool "ON". This will free one hand to hold the material being cut. Before starting to cut, permit the blade to turn up to its maximum speed and then advance the saw slowly into the cutting line. Move the saw slowly at all times with no excess forward pressure. This will allow the highest possible blade speed to be maintained, which results in smoother cutting and a cooler running motor.

The cutting depth adjustment is controlled by a wing nut, which permits raising or lowering the saw shoe (see Fig. 1) and gives a range of cuts from 1-3/16" to 0" deep.

The beveling adjustment is controlled by a wing nut and quadrant on front of the saw shoe (see Fig. 2) and can be set for any beveling angle from a vertical cut of 0° to 45° angle bevel.

BEFORE MAKING ANY CHANGES IN CUTTING DEPTHS OR BEVEL ADJUSTMENTS, PULL THE ELECTRIC PLUG! RETIGHTEN WING NUTS SECURELY! THESE ADJUSTMENTS MAY BE USED SEPARATELY OR TOGETHER.

The Rip Fence is used primarily for making long, narrow cuts—and can be adjusted for cutting widths up to about 3" by (1) loosening its wing nut, (2) setting the fence at the proper distance from the blade, (3) retightening wing nut securely.

IMPORTANT—USE A SHARP SAW BLADE AT ALL TIMES OR CUTTING WILL BE DIFFICULT AND RAGGED AND MAY OVER-LOAD DRILL. USE ONLY SPECIAL B&D BLADES WITH THE SAW ATTACHMENT.

IMPORTANT SAFETY RULES . . . (1) Ground Drill before using. (2) Keep fingers away from saw blade! (3) Keep electric cord away from saw blade to avoid cutting cord in two! (4) Disconnect Drill before attaching blade or making ANY adjustments!

New Orbital Sanding Attachment



Quickly attaches to B&D $\frac{1}{4}$ " Drills (Nos. U-1, U-3, U-50, U-100). Gives your finishing jobs that "professional" look and takes the hard work out of sanding.

TO REMOVE CHUCK from DRILL—first Disconnect Drill!

To assemble the Sanding attachment to the various units listed above, the chuck must first be removed. To remove chuck, place the chuck key in the chuck and strike key a sharp blow in the same direction that the drill normally operates. This will loosen the chuck so that it can be easily unscrewed by hand.

ASSEMBLING SANDING ATTACHMENT to DRILL

SCREW THE ECCENTRIC into the spindle of the tool (Fig. 1) and carefully tighten. If removal of eccentric should be difficult, tap eccentric a light blow in the direction shown (Fig. 2).

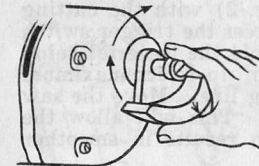


FIGURE 1

ROTATE ECCENTRIC clockwise until the arrow points in the direction of the drill handle. This will facilitate quick insertion of the tool into the attachment.

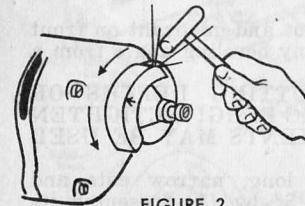


FIGURE 2

AIR SLOTS of the drill are used to locate the tool in the attachment. Turn wing nut counter-clockwise until the slide is back as far as it will go—then insert the tool with the handle of the tool pointing in opposite direction from slide. Make sure that the two ears at the rear enter the air slots—then tighten wing nut so that the ears on the slide enter slots at the front of drill. Tighten securely.

★ ATTACHING ABRASIVE PAPER ★

Lift the locking lever on the front, right hand side of the Sander to a vertical position—Insert abrasive paper about $\frac{1}{4}$ ". Return locking lever to its original position—which holds paper securely and crimps corners. Fold paper under bottom of plate. Raise rear locking lever to a vertical position and engage back end of paper in rear paper holder. Draw paper as tightly as possible and return locking lever to the locked horizontal position.

Your Orbital Sanding Attachment is now ready for operation.

LUBRICATION

The oil retaining, self-lubricating bearing used in the U-1016 Orbital Sander Attachment is made of pure metal powders and impregnated with high grade, non-gumming oil, assuring long lasting lubrication.

To prolong bearing life, add 1 or 2 drops of oil SAE 20 or SAE 30 motor oil, as shown in Fig. 3. (After approximately every 30 operating hours.)

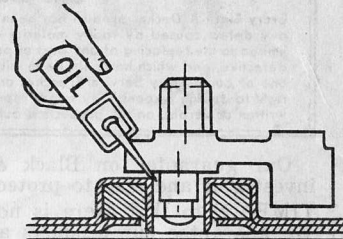


FIGURE 3

OPERATION

Grasp tool firmly not gingerly—and use the tool freely without forced effort or unnecessary downward pressure. Excessive pressure will slow cutting action and reduce abrasive life. The weight of the tool itself in most cases will prove sufficient.

It is not necessary to sand only with the grain of the wood. Move the sander in any direction over the work area to effect rapid and convenient coverage. Sand only long enough to obtain a smooth surface as the cutting action of the tool is rapid and too much material may be removed with prolonged sanding.

For best results sand progressively with coarse paper first, then medium, then fine. To obtain what might be called a “super finish” wet the lumber with a rag or sponge and let it dry. The grain of the wood will raise slightly and the surface feel a bit rough. Now re-sand with 150 or 4/0 grit paper for extra-smooth results.

SELECTING ABRASIVE PAPER

ELECTRO COATED, Aluminum Oxide abrasive paper is the best paper to use with your Sander. For all practical purposes, 150 or 4/0 fine grit, open grain paper will give you the greatest material removal consistent with proper wood finishing practice. To be certain of the smoothest sanded finish we recommend the use of ELECTRO COATED Abrasive Paper, packaged in envelopes of 12 sheets each as follows:

CAT. NO.	GRIT	3-5/8" x 9"
U-1413	60 or 1/2 0	Envelope of 12 sheets
U-1414	100 or 2/0	Envelope of 12 sheets
U-1415	150 or 4/0	Envelope of 12 sheets

DO NOT USE flint paper (sandpaper). Its cutting qualities are inferior. However, in certain metal sanding applications, emery cloth of various grits will prove more durable than abrasive paper.

The Black & Decker Guarantee

Every Black & Decker product has been carefully inspected before shipment, and we guarantee to correct any defect caused by faulty material or workmanship. Our obligation assumed under this guarantee is limited to the replacing of any part or parts which prove to our satisfaction, upon examination, to have been defective, and which have not been misused or carelessly handled. The complete unit must be returned to one of our Factory Service Branches or to our Factory, transportation charges prepaid. We reserve the right to decline responsibility where repairs have been made or attempted by others. No other guarantee, written or verbal, on our products is authorized by us.

Our guarantee on Black & Decker Products is written to protect your investment and also to protect us against unfair claims. Read it carefully—**TIME** Note that there is no time limit to the operation of this guarantee. We guarantee our products against any defect caused by faulty material or workmanship—regardless of when such defect may occur or become apparent. **MISUSE** Note that the guarantee is not operative if the product has been misused. "Misuse" includes, among other things, overloading beyond its rated capacity; continued use after a partial or total failure of some part has become apparent; use of a non-specified application, or use in combination with unauthorized attachments.

UNAUTHORIZED REPAIRS Do not attempt major repairs unless you are qualified and equipped to complete the repair accurately. Our guarantee is inoperative if "repairs have been attempted by others." Let our Service Engineers help you; they'll put the tool in good operating condition at minimum cost.

SERVICE

For expert "factory" repairs to your electric tool, send it (or have your dealer send it) to the most convenient of our Factory Service Branches listed below. All of these are equipped with genuine replacement parts, the correct tools and the "know-how" to give you prompt, efficient service.

FACTORY SALES and SERVICE BRANCHES

ATLANTA 13, GA.....	316 TECHWOOD DRIVE, N. W.	MIAMI 37, FLA.....	3900 N. W. 7th AVE.
BALTIMORE 11 MD.....	203 WEST 28th ST.	MILWAUKEE 13, WIS.....	6301 BLUE MOUND ROAD
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BUFFALO 9, N. Y.....	881 W. DELAVAN AVE.	NEW ORLEANS 12, LA.....	639 DRYADES ST.
CHARLOTTE 6, N. C.....	800 N. COLLEGE ST.	NEW YORK 77, N.Y.....	56-15 QUEENS BLVD. (WOODSIDE)
CHICAGO 7, ILL.....	1100 W. JACKSON BLVD.	OKLAHOMA CITY 6, OKLA.....	1717 LINWOOD BLVD.
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CLEVELAND 13, OHIO.....	3901 DETROIT AVE.	PHILADELPHIA 3, PA.....	333 N. 20th ST.
DALLAS 7, TEXAS.....	1808 N. INDUSTRIAL BLVD.	PITTSBURGH 32, PA.....	5437 BAUM BLVD.
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