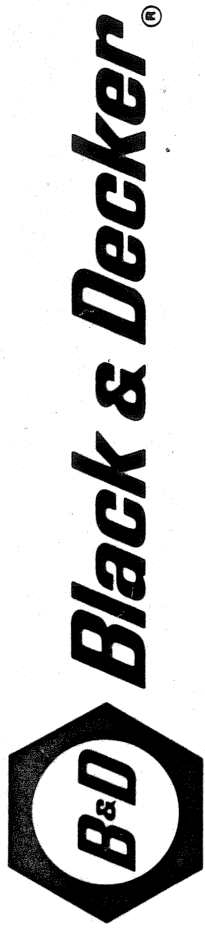


COMMERCIAL / INDUSTRIAL USE WARRANTY

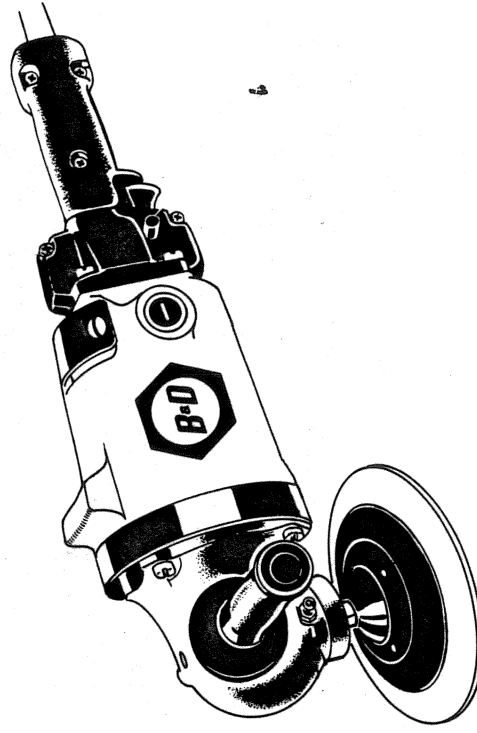
Black & Decker warrants this product for one year from date of purchase. We will repair without charge, any defects due to faulty material or workmanship. Please return the complete unit, transportation prepaid, to any Black & Decker Service Center or Authorized Service Station listed under "Tools Electric"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

CAUTION

To assure product SAFETY and RELIABILITY, repairs, maintenance (excluding 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.



Black & Decker®



DISC SANDERS & GRINDERS

OWNER'S MANUAL

BLACK & DECKER (U.S.) INC.
INDUSTRIAL/CONSTRUCTION DIVISION
626 HANOVER PIKE, HAMPSTEAD, MD. 21074, U.S.A.

IMPORTANT SAFETY INSTRUCTIONS

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

READ ALL INSTRUCTIONS

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.

BLACK & DECKER ACCESSORIES

USE ONLY ACCESSORIES MARKED "OK" UNDER CAT. NO. OF YOUR TOOL

CATALOG NO.	CAT. NO.	USE ONLY ACCESSORIES MARKED "OK" UNDER CAT. NO. OF YOUR TOOL								
		4076	4061	4049-02 4071	4075 4052	4046-01 4046	6112	4232	4078	
18056	4" WIRE CUP BRUSH	-	OK	OK	OK	OK	OK	-	-	-
24353	5" WIRE CUP BRUSH	-	OK	OK	OK	OK	OK	-	-	-
12398	6" WIRE CUP BRUSH	-	OK	OK	OK	OK	OK	-	-	-
38507	4" FLARING CUP WHEEL GUARD	-	OK	OK	OK	OK	OK	-	-	-
38508	5" FLARING CUP WHEEL GUARD	THESE WHEEL GUARDS MUST BE USED WITH THE FLARING CUP WHEELS LISTED BELOW FOR SAFE OPERATION								
38509	6" FLARING CUP WHEEL GUARD	OK	OK	OK	OK	OK	OK	OK	OK	OK
24050	4" FLARING CUP WHEEL	OK	OK	OK	OK	OK	OK	OK	OK	OK
23444	5" FLARING CUP WHEEL	OK	OK	OK	OK	OK	OK	OK	OK	OK
18039	6" FLARING CUP WHEEL	-	OK	OK	OK	OK	OK	-	-	-
37219	5" FLARING CUP WHEEL (CONCRETE)	-	OK	OK	OK	OK	OK	-	-	-
37220	6" FLARING CUP WHEEL (CONCRETE)	-	OK	OK	OK	OK	OK	-	-	-
61829	3-1/2" BACKING PAD	OK	OK	OK	OK	OK	OK	OK	OK	OK
50928	4-3/4" QUICK CHANGE BACKING PAD	OK	OK	OK	OK	OK	OK	OK	OK	OK
50934	6-1/2" QUICK CHANGE BACKING PAD	-	OK	OK	OK	OK	OK	-	-	-
51824	7" QUICK CHANGE BACKING PAD	-	OK	OK	OK	OK	OK	-	-	-
50885	7" DEPRESSED CENTER WHEEL GUARD	THESE WHEEL GUARDS MUST BE USED WITH THE DEPRESSED CENTER WHEELS LISTED BELOW FOR SAFE OPERATION								
37109	9" DEPRESSED CENTER WHEEL GUARD	OK	OK	OK	OK	OK	OK	OK	OK	OK
52524	8500 RPM DEPRESSED CENTER WHEEL	OK	OK	OK	OK	OK	OK	OK	OK	OK
37111	7" x 1/8" DEPRESSED CENTER WHEEL	OK	OK	OK	OK	OK	OK	OK	OK	OK
37112	7" x 1/4" DEPRESSED CENTER WHEEL	OK	OK	OK	OK	OK	OK	OK	OK	OK
37113	9" x 1/8" DEPRESSED CENTER WHEEL	-	OK	OK	OK	OK	OK	-	-	-
37114	9" x 1/4" DEPRESSED CENTER WHEEL	-	OK	OK	OK	OK	OK	-	-	-
57430	7" x 1/4" DEPRESSED CENTER WHEEL (CONCRETE)	OK	OK	OK	OK	OK	OK	OK	OK	OK
31000	7" "KOOLIFLEX" BACKING PAD	OK	OK	OK	OK	OK	OK	OK	OK	OK
31001	9" "KOOLIFLEX" BACKING PAD	OK	OK	OK	OK	OK	OK	OK	OK	OK
61906	5" PHENOLIC BACKING DISC	OK	OK	OK	OK	OK	OK	OK	OK	OK
61907	7" PHENOLIC BACKING DISC	OK	OK	OK	OK	OK	OK	OK	OK	OK
61908	9" PHENOLIC BACKING DISC	OK	OK	OK	OK	OK	OK	OK	OK	OK
33493	FEATHER-EDGING ATTACHMENT	-	OK	OK	OK	OK	OK	-	-	-

MISCELLANEOUS ACCESSORIES

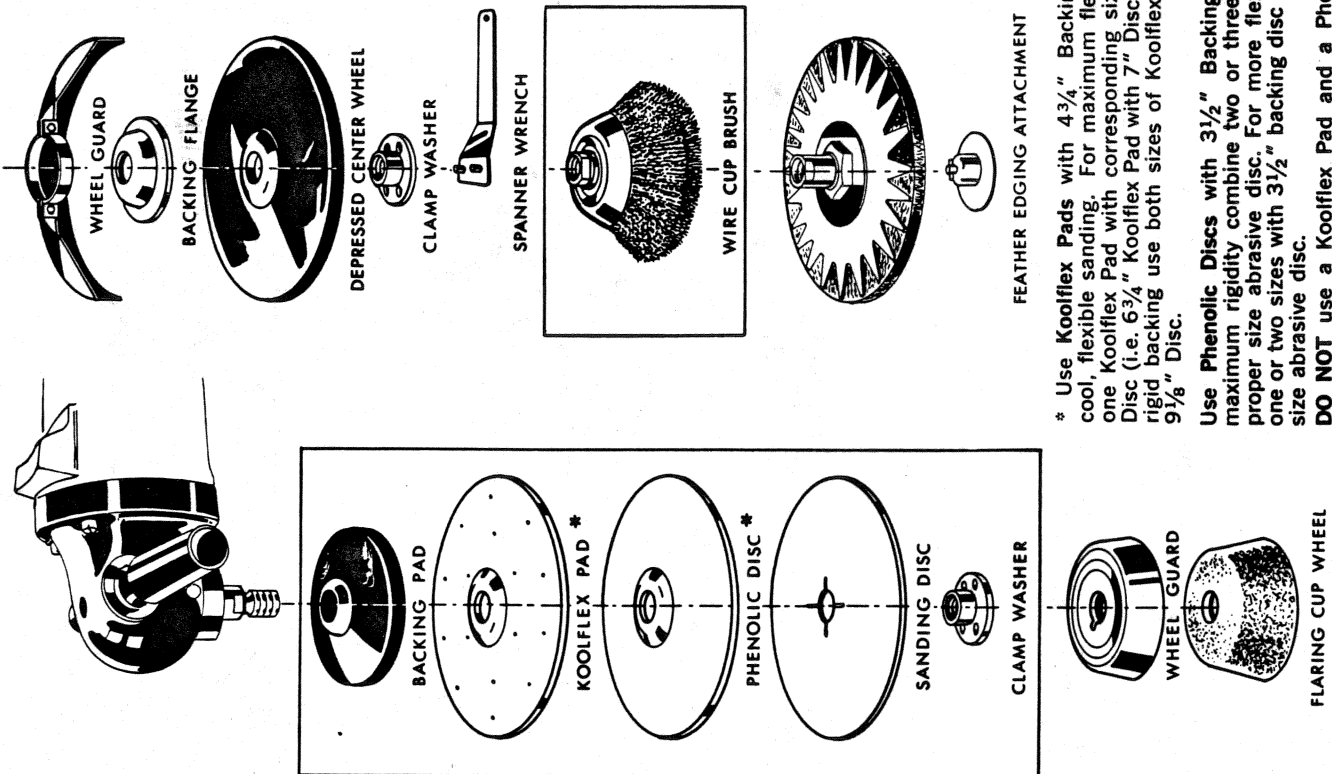
- No. 54338 Disc Wheel Adaptor: Includes Wheel Backing Flange, not threaded, #22191 Clamp Washer and #61820 Spanner Wrench for use with Depressed Center and "Koolifeather" wheels.
- No. 57443 Disc Wheel Adaptor: For Depressed Center Wheel for concrete. Includes same items as above.
- No. 22191 Clamp Washer: For Depressed Center Wheels.
- No. 50933 Clamp Washer: For Quick-Change Pads.
- No. 45925 Clamp Washer: Outside Threaded
- No. 61820 Spanner Wrench: No. 60541 Gear Grease (1 lb. can)
- No. 21808 Disc Trimmer: Cuts discs down to smaller sizes as the outer edges are worn out. Takes discs of 9-1/8" maximum diameter and either 7/8" or 1/2" centerhole; trims down to 3" diameter. No. 21753 Replacement Cutter.

SAFETY RULES FOR SANDERS AND GRINDERS

1. Always wear safety goggles or other eye protection when using this tool.
2. Always use accessories that are marked "OK" under the catalog number of your tool as listed on page 5. Use of accessories not compatible with those listed for a particular tool are not recommended and might be hazardous.
3. Before attaching any wheel, check its manufacturer's specifications and be sure that its safe operating speed is higher than the no-load speed of the tool as shown on the nameplate.
4. Before using, inspect each grinding wheel for cracks or flaws. If such a crack or flaw is evident—discard the wheel! The wheel should also be inspected whenever you think the tool may have been dropped.
5. When starting the tool (with a new or replacement wheel installed) hold the tool in a well protected area. If the wheel has an undetected crack or flaw, it should burst in less than one minute. Never start the tool with a person in line with the wheel. This includes the operator.
6. In operation, avoid bouncing the wheel or giving it rough treatment. If this occurs, stop the tool and inspect the wheel.
7. Always use guards with depressed-center or flaring cup grinding wheels.
8. Clean your tool out periodically following the procedure in the maintenance section.

SAVE THESE INSTRUCTIONS

SANDER ACCESSORIES



* Use Koolflex Pads with 4 3/4" Backing Pad for cool, flexible sanding. For maximum flexibility use one Koolflex Pad with corresponding size Abrasive Disc (i.e. 6 3/4" Koolflex Pad with 7" Disc). For more rigid backing use both sizes of Koolflex Pads with 9 1/8" Disc.

Use Phenolic Discs with 3 1/2" Backing Pad. For maximum rigidity combine two or three sizes and proper size abrasive disc. For more flexibility use one or two sizes with 3 1/2" backing disc and proper size abrasive disc.

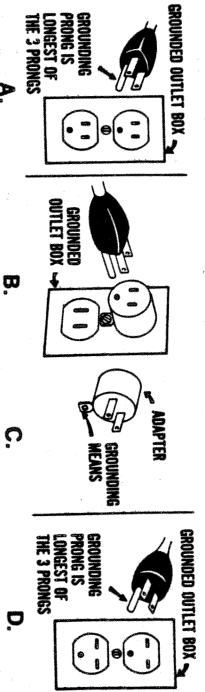
DO NOT use a Koolflex Pad and a Phenolic Disc on the tool at the same time.

CAUTION: See table on next page for proper sizes of accessories to use with your Sander. Use only accessories that are marked "OK" under catalog number of your tool. Instructions for attaching accessories are on pages to follow.

MAINTENANCE OF TOOL

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.



We recommend that you NEVER disassemble the tool or try to do any rewiring in the electrical system. Any such repairs should be performed only by B&D Service Centers or other qualified service organizations. Should you be determined to make a repair yourself, remember that the green colored wire is the "grounding" wire. Never connect this green wire to a "live" terminal. If you replace the plug on the power cord, be sure to connect the green wire only to the grounding (longest) prong on a 3-prong plug. If you use an extension cord, be sure that it is a 3-conductor, grounding type cord. Grounding must be continuous from the tool plug to the grounded receptacle.

MOTOR

Your tool is powered by a Black & Decker built motor. Be sure your power supply agrees with nameplate marking. Volts 50/60 Hz means Alternating Current ONLY. VOLTS DC-60 Hz means it will also operate on Direct Current. Voltage decrease of more than 10% will cause loss of power and over-heating. All B&D tools are factory-tested; if this tool does not operate, check the power supply.

LUBRICATION

Except for the needle roller bearings used at the upper end of the spindle, closed-type, grease-sealed ball bearings are used throughout. These bearings have sufficient lubrication packed in them at the factory to last the life of the bearing. The needle bearings mentioned above receive their lubrication from the grease in the gear case. Gears should be relubricated every 60 to 90 days, depending upon use. This lubrication should only be attempted by experienced power tool repairmen like the mechanics at B&D Service Centers (see TOOLS, ELECTRIC in Yellow Pages). The gear case will be wiped clean and 4 oz. of B&D Lubricant (Cat. No. 60541—1 lb. can) will be placed in the gear case.

CLEANING

Blowing dust and grit out of the main housing by means of an air hose is recommended and may be done as often as dirt is seen collecting in and around the ventilator vents. The motor should be running while air is being blown into the air vents. The Fibre Dust Shield prevents dust and dirt accumulation around the commutator and brushes and should be scraped clean every 300 hours of tool operation. To inspect or clean Dust Shield, first disconnect tool from the power supply. Next, remove the 2 Brush Cover Inspection Plates located in front of the switch handle. Fibre Dust Seal will then be accessible. The Brush Cover Inspection Plates (and the attached screens on the Super-Duty tools) may be cleaned in the following manner: (1) Disconnect tool from power supply; (2) Remove Plates from tool and wash Plates in cleaning fluid; (3) Blow out loose particles from Plates with an air hose.

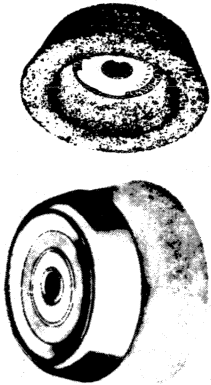
MOTOR BRUSHES

Be sure tool is unplugged before inspecting brushes. Carbon Brushes should be regularly inspected for wear. To inspect brushes, unscrew the plastic brush inspection caps (located in the sides of the motor housing) and the spring and brush assemblies may be withdrawn from the tool. Keep brushes clean and sliding freely in their guides. Carbon brushes have varying symbols stamped into them, and if the brush is worn down to the line closest to the spring, they must be replaced. New brush assemblies are available at Service Centers; see TOOLS, ELECTRIC in the Yellow Pages.

OPERATION (Continued)

FLARING CUP GRINDING WHEELS (Cont.)

When grinding, tilt tool slightly—do not hold Wheel perfectly flat against the work. Avoid bouncing the Wheel or giving it rough treatment, since cracks might develop which would cause the Wheel to fly apart. Always check the Wheel for cracks before using it, especially if tool may have been dropped. Always use a Wheel Guard.



USE OF WIRE CUP BRUSHES

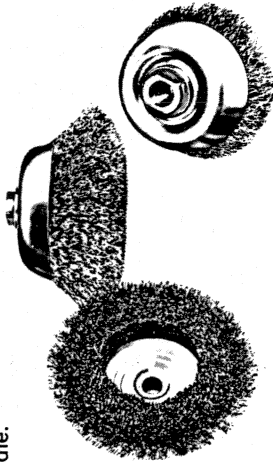
Use Wire Cup Brushes for removing rust, scale, old paint, etc.

CAUTION: See page 5 for proper size of Wire Cup Brushes for your tool. Use of brushes other than those listed on page 5 for a particular tool is not recommended and may be hazardous.

To attach:

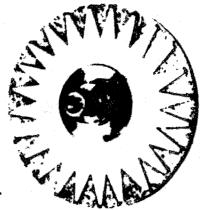
- 1) Disconnect tool from power supply.
- 2) Check rated speed of Wire Cup Brush. Never use a brush with rated speed lower than the speed on the tool nameplate.
- 3) Engage the Spindle Lock.
- 4) Thread Brush firmly onto spindle up against spindle shoulder. Be careful not to run strands of wire into your hand. A heavy rag or flat wrench may be used when tightening the Brush on the spindle.

For best operating results, the tool should be tipped slightly and used with a back and forth sweeping motion along the surface of the work.

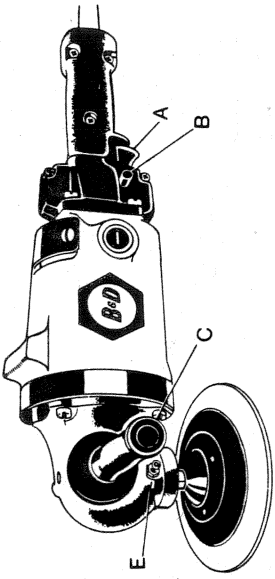


FEATHER-EDGING ATTACHMENT

Feather-edging time is cut over 50% through the use of this modern accessory. Inexpensive paper-backed Abrasive Discs are used and the attachment or removal of disc is fast and easy because of a quick-acting twist-lock Clamp Washer. The Sanding Disc is driven by the friction between itself and a heavy Felt Pad. A serrated Fiber Pad backs up the Felt Pad to give perfect flexibility. When pressure on the Sanding Disc becomes too great, a slipping action between the Disc and the Felt Pad prevents deep scratch lines. Necessity for hand sanding is practically eliminated. The Feather Edging Attachment threads directly on tool spindle in less than a minute and is removed just as easily.



CONTROLS



Trigger Switch & Locking Pin "A" & "B": To start tool, depress trigger "A"; to stop tool, release trigger. To lock trigger in "ON" position for continuous operation, depress trigger and push in locking pin "B" and then release trigger. To release locking mechanism, depress and release trigger. **CAUTION:** Grasp tool firmly with both hands before starting tool.

Auxiliary Side Handle "C" may be attached to either side of the tool.

Spindle Lock Button "E" locks spindle when changing accessories.

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. 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.

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 chart below:

NAMEPLATE RATING - AMPS	TOTAL EXTENSION CORD LENGTH - FEET							
	25	50	75	100	125	150	175	200
0 - 100	18	18	16	16	14	14	12	12
10.1 - 13.0	16	16	14	14	12	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.

CAUTION: When being used on job sites where arc or resistance welding is being performed, the cord set on this tool could be damaged by heavy welding currents using the cord as a parallel return path. To maintain the protection the ground wire provides, the cord should be inspected frequently and replaced as necessary. Avoid unnecessary contact between the metallic exterior of the tool and grounded conductive surfaces.

OPERATION

Without turning tool on, grasp the handles of the tool and pick the tool up, keeping the sanding disc or grinding wheel away from your body. Make sure that you have a firm grip on the handles (NOTE: Side handle can be attached to either side of tool for right or left hand operation), and turn tool "ON". Operate tool without forced effort or unnecessary pressure.

To produce smooth, continuous coverage of the work, advance the tool along the work while using a long, sweeping, back and forth motion. To avoid gouging or removing more material than desired, do not hold the tool in one spot. To avoid leaving swirls on the work, do not use a spiral or circular motion.

OPERATION (Continued)

For Sanders only:

For maximum efficiency, the tool must be positioned so that the sanding disc is at the proper angle to the work. Fig. 1 (marked "RIGHT") illustrates how the tool is tipped slightly in order to let the maximum amount of abrasive contact the work without affecting the smoothness of the sanding action. Fig. 2 and Fig. 3 (marked "WRONG") show incorrect positions which allow either too little or too much abrasive contact. If only the outer edge of the sanding disc is used (as in Fig. 2), a rough cut surface will result. If the sanding disc is pressed flat against the work (as in Fig. 3), the cutting action will be irregular and bumpy, and the tool will be difficult to control. When using Depressed Center Wheels on the Sander, hold the tool so that an angle of 30° to 45° exists between the Depressed Center Wheel and the work (see Fig. 4).

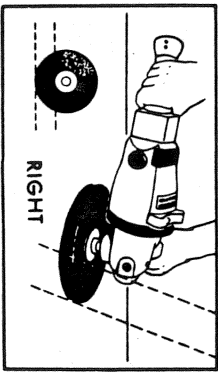


Fig. 1

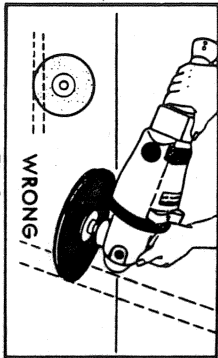


Fig. 2

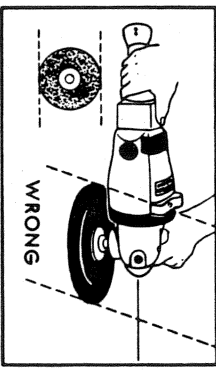


Fig. 3

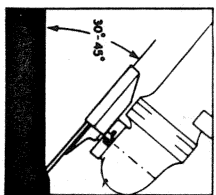


Fig. 4

For Angle Grinders only:

CAUTION: THE 8000 R.P.M. ANGLE GRINDERS USE ONLY DEPRESSED CENTER WHEELS RATED AT 8500 R.P.M. AND ABOVE. NEVER USE ANY OTHER TYPE OF ABRASIVE DEVICE WITH THIS TOOL. ALWAYS BE SURE TO USE THE WHEEL GUARD FURNISHED WITH THE ANGLE GRINDERS.

For best operating results, position the tool so that an angle of 30° to 45° exists between the Depressed Center Wheel and the work (see Fig. 4).

ACCESSORIES

CAUTION: Accessories for use with your Sander are specified in this manual. The use of accessories not listed for a particular tool is not recommended and may be hazardous.

The accessories listed in this manual are available at extra cost from your local dealer, Black & Decker Service Center, or by writing to: Customer Services, Black & Decker (U.S.) Inc., Towson, Maryland 21204

To Install Sanding Discs:

- 1) Place Quick-Change Pad and sanding disc on spindle of tool.
- 2) Screw the Clamp Washer PARTIALLY onto the spindle. (Fig. 5)
- 3) Raise the pad and sanding disc so that the hexagonal exterior of the Clamp Washer engages the hexagonal hub of the Quick-Change Pad.
- 4) With one hand, depress the spindle lock button and hold the button in. Grasp the pad and sanding disc with the other hand, and turn by hand to tighten the entire assembly (Fig. 6).

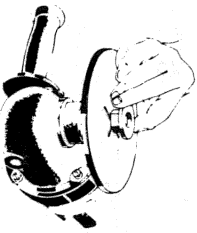


Fig. 5

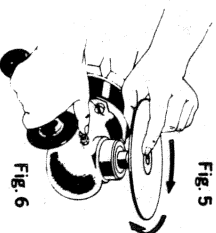


Fig. 6

To remove pad and disc, turn pad and spindle in the direction shown in Fig. 6 to engage Spindle Lock Button, grasp the pad and disc and turn the pad and disc assembly in the opposite direction. **CAUTION:** Do not depress spindle lock button while unit is running.

OPERATION (Continued)

GRINDING WITH DEPRESSED-CENTER GRINDING WHEELS

Depressed Center Grinding Wheels may be used with the proper Guard Assembly for moderate metal removal on flat or contoured surfaces.

CAUTION:

See page 5 for proper size of Depressed Center Grinding Wheels and Guards for your tool. The 8000 RPM Grinders use ONLY Depressed Center Grinding Wheels rated at 8500 RPM and above (Cat. No. 52524). Use of wheels other than those listed on page 5 for a particular tool is not recommended and may be hazardous. Never use Depressed Center Grinding Wheels without the proper guard.

To install Depressed Center Grinding Wheels:

- 1) Be sure tool is disconnected from power supply and switch is in "OFF" position.
- 2) Be sure that Guard Assembly is securely attached to the spindle housing.
- 3) Put the Backing Flange onto the tool spindle.
- 4) Check rated speed on Depressed Center Wheel. Never use wheel with rated speed lower than the speed on the nameplate of the tool.
- 5) Place the Depressed Center Wheel on the tool spindle.
- 6) Thread the Clamp Washer on tool spindle, engage Spindle Lock, and tighten Clamp Washer with Spanner Wrench.

When using a Depressed Center Wheel, hold the tool so that an angle of 30° to 45° exists between the wheel and the work (see Fig. 7).

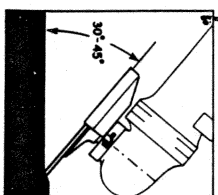


Fig. 7

GRINDING WITH FLARING CUP GRINDING WHEELS

Use Flaring Cup Wheels for heavy metal removal or on flat areas. A 5/8"-11 thread bushing in the wheel threads directly on the Sander spindle. Flaring Cup Wheel Guards provide maximum safety when using Flaring Cup Wheels. Guard fits snugly over Wheel. Guard revolves with the wheel and should be used only with threaded bushing type Wheels.

CAUTION:

See page 5 for proper size of Flaring Cup Wheels and Guards for your tool. The 8000 RPM Grinders use ONLY Flaring Cup Wheels rated at 8500 RPM and above (Cat. No. 24050). Use of wheels other than those listed on page 5 for a particular tool is not recommended and may be hazardous. Never use Flaring Cup Wheels without the proper Guard.

To attach Wheel and Guards:

- 1) Disconnect tool from power supply.
- 2) Check rated speed of Flaring Cup Wheel. Never use a wheel with rated speed lower than the speed on the tool nameplate.
- 3) Engage the Spindle Lock.
- 4) Thread Flaring Cup Wheel (with Wheel Guard) on the spindle. Be sure that wheel is firmly and completely threaded on spindle.