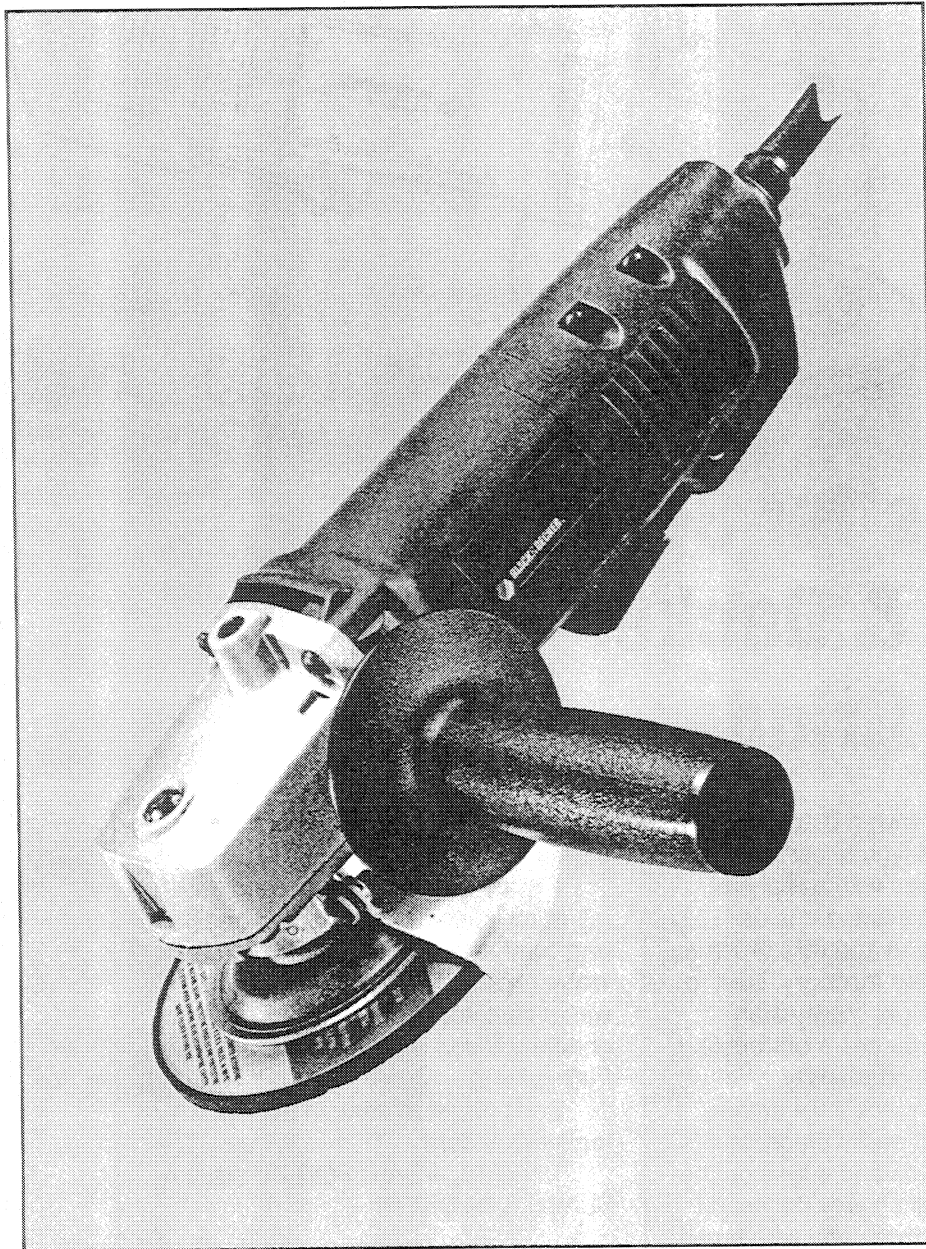


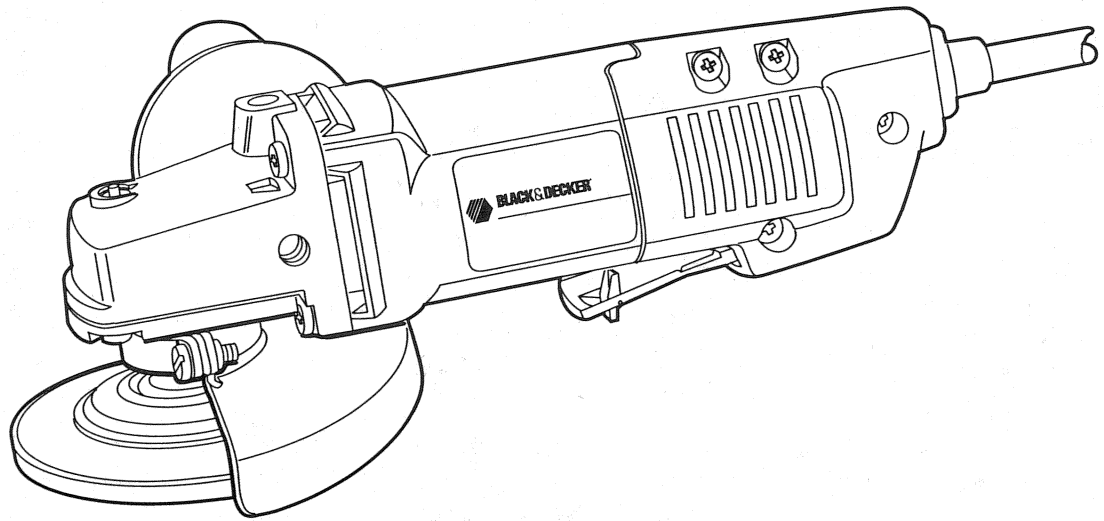


BLACK & DECKER®



Instruction Manual

4" & 4 1/2" Angle Grinders



Thanks for Selecting a Black & Decker Angle Grinder.

If you already own a Black & Decker power tool, you know the pleasures of working with a real pro.

Your new Angle Grinder is designed to grind, sand and wire brush on nearly all metals and masonry. Built to Black & Decker's rigid quality standards, it will give you years of trouble free service and dependability.

Small and compact, it fits in the tightest places, but packs plenty of power to grind welds and edges on the toughest steel, to do heavy duty sanding work in tight spaces and wire brush

with a toughness you'd expect only from much bigger grinders.

Please take the time to read this informative instruction manual and pay particular attention to the safety rules we've provided for your protection. Only with a complete understanding of your grinder will you be able to get the most from it.

Don't forget to send in the owner's registration card.

THANKS, AGAIN FOR BUYING A BLACK & DECKER!



Important Safety Instructions

WARNING: When using Electric Tools, basic safety precautions should always be followed to reduce the risk of fire, 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 operation is dusty.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safe performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
14. **DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories such as blades, bits, cutters.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
16. **AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
17. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked. More detailed extension cord information can be found on page 8.
18. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.
20. **DO NOT OPERATE** portable electric tools near flammable liquids or in gaseous or explosive atmospheres. Motors in these tools normally spark, and the sparks might ignite fumes.

SAVE THESE INSTRUCTIONS FOR FUTURE USE.

Safety Rules For Grinders

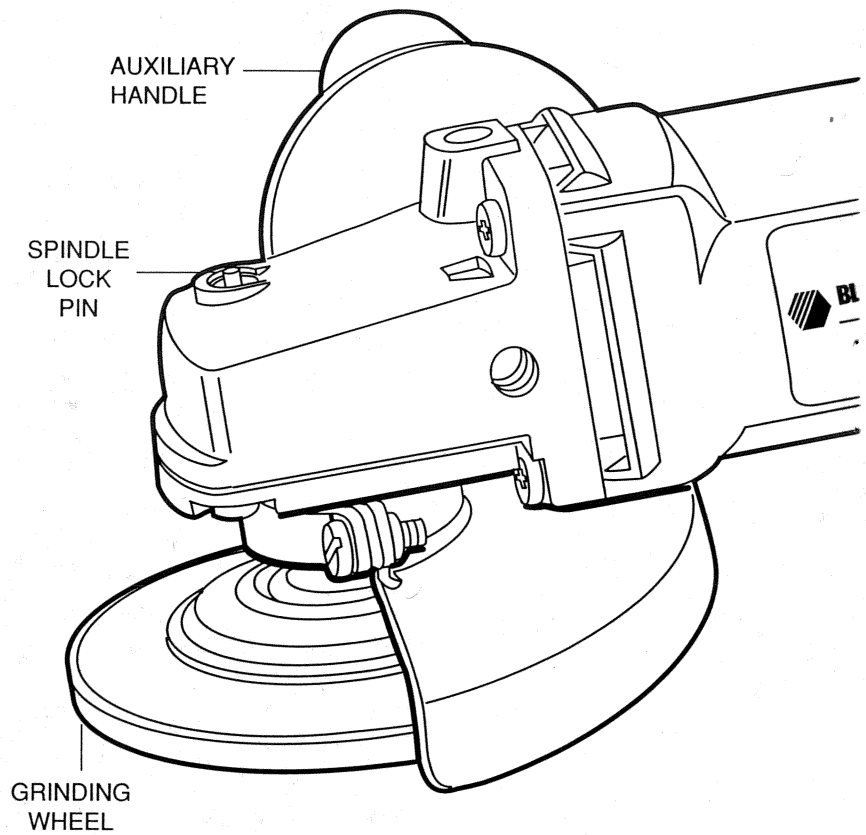
1. Always wear safety goggles or other eye protection when using this tool.
2. When grinding, always keep guard in place.
3. Use only grinding wheels having a maximum operating speed at least as high as "NO LOAD RPM" marked on the tool's nameplate. This precaution also applies to any accessory on any tool.

4. Before using, inspect recommended accessory 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.

NOTE: What appear to be cracks near the wheel hub (both sides) are slits resulting from the manufacturing process.

5. When starting the tool (with a new or replacement wheel installed) hold the tool in a well protected area and let it run for one minute. 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



Double Insulation

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

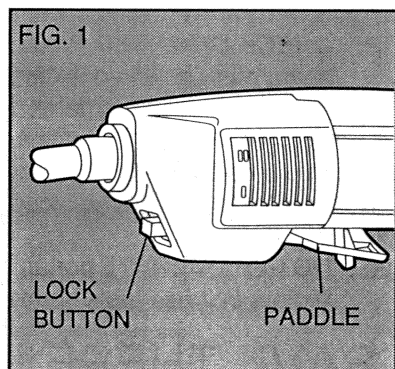
Tools built with this insulation system are not intended to be grounded. As a result, your tool is equipped with a two-prong plug which permits you to use extension cords without concern for maintaining a ground connection. See page 8 for additional extension cord information.

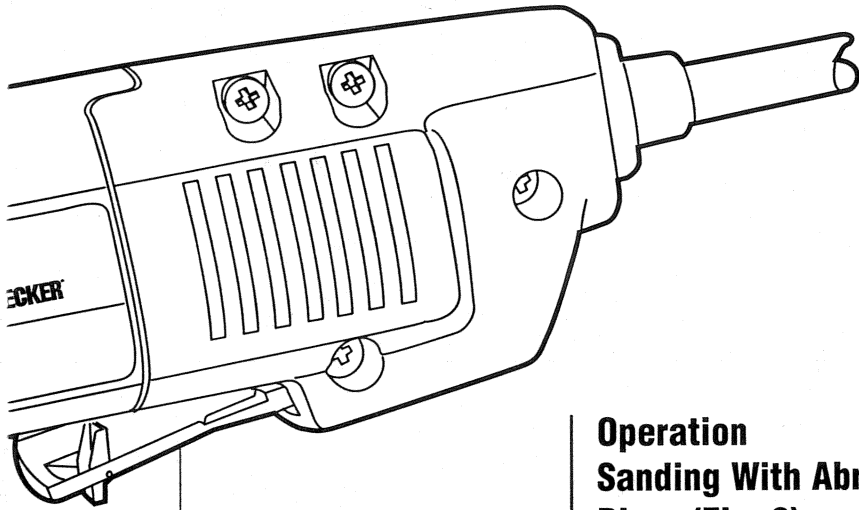
NOTE: DOUBLE INSULATION does not take the place of normal safety precautions when operating this tool. The insulation system is for added protection against injury resulting from a possible electrical insulation failure within the tool.

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

Switch Operation Paddle Switch (Fig. 1)

To start the grinder, depress the paddle by squeezing. To turn the tool off, release the paddle. The switch can be locked on by engaging the lock button located near the rear of the tool while holding the paddle depressed. Always be sure that the tool is not locked on before plugging it in. To turn the tool off when it is locked on, squeeze and release the paddle once.





PADDLE SWITCH

Operation Sanding With Abrasive Discs (Fig. 3)

Sanding accessories shown are available at extra cost.

To install Sanding Discs:

Be sure that the tool is turned off and unplugged. Push the hub of

the Disc Nut through the center of the Sanding Disc, as far as it will go, and also through the Backing Disc. Put the assembled discs on the tool spindle and engage the Disc Nut into the Disc Nut Hub. Thread the assembly clockwise, completely down on the spindle. Engage the lock pin to lock the spindle in place.

When using an abrasive disc, hold the tool so that an angle of 10° to 15° exists between the disc and the work, as shown in Figure 9. If only the outer edge of the sanding disc is pressed flat against the work, the sanding action will be irregular and bumpy, and the tool will be difficult to control.

Auxiliary Handle (Fig. 2)

An auxiliary handle is furnished with your grinder and can be screwed into either side or the top of the front housing. This handle **SHOULD BE USED AT ALL TIMES** to maintain complete control of the tool.

FIG. 2

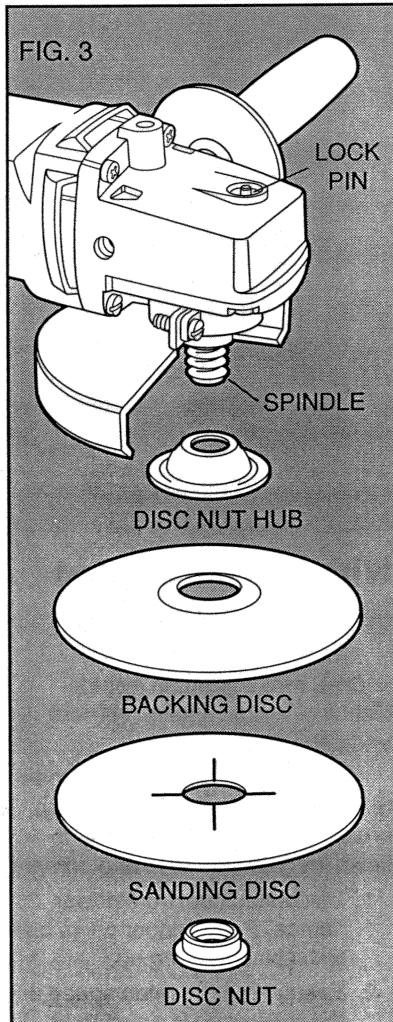
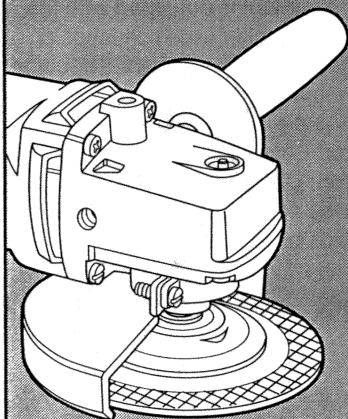
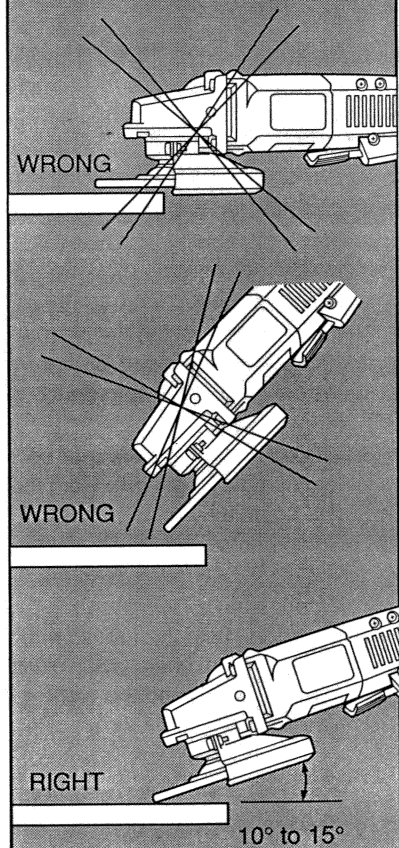


FIG. 4



Removing Disc

Turn Off and Unplug Tool.

Using a cloth or glove to protect your hand, turn the disc assembly counter-clockwise to remove it from the tool spindle. Hold the spindle in place by engaging the Lock Pin.

Grinding Depressed Center Wheels (Fig. 4)

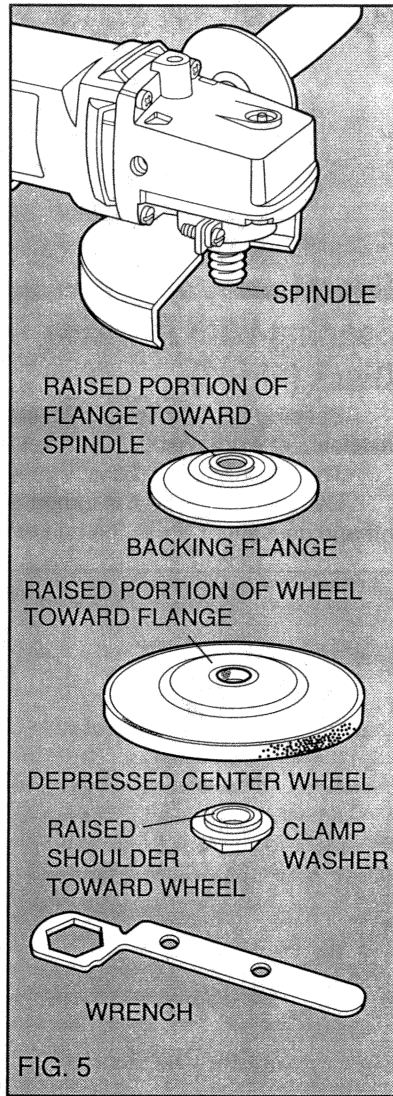
Depressed center wheels may be used for moderate metal removal on flat or contoured surfaces.

CAUTION: Never use Depressed Center Wheels without the proper guard.

To install Depressed Center Wheels:

1. Be sure tool is disconnected from power supply and switch is in "OFF" position.
2. Be sure the guard assembly is securely attached to the spindle housing.
3. Put the backing flange onto the tool spindle as shown.
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 as shown.
6. Thread the Clamp Washer on tool spindle as shown. Hold the tool spindle by engaging the Spindle Lock Pin, and tighten Clamp Washer with Wrench.

When using a Depressed Center Wheel, hold the tool so that an angle of approximately 30° exists between the wheel and the work.



Wire Cup and Knotted Wire Wheel Brushes

Common applications for knotted wire cup brush include cleaning welds, angles, corners, and paint removal.

Usage of of knotted wire wheel brush is the same as the wire cup brush. They can also be used to finish irregular surfaces and corners.

1. Disconnect tool from power source. Rest Grinder on its back with spindle facing up.
2. Ensure that the rated speed of the wire brush is equal to or higher than the rated speed of

the grinder found on the nameplate.

3. Thread brush onto spindle and tighten.

Maintenance of Tool

Cleaning

Blowing dust and grit out of the motor housing using compressed air is a necessary regular maintenance procedure. Dust and grit containing particles from metal grinding often accumulate on interior surfaces and could create an electrical shock hazard if not frequently cleaned out.

CAUTION: Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. Use clean, dry rag only.

Lubrication

B&D tools are properly lubricated at the factory and are ready for use. Tools should be relubricated regularly every sixty days to six months, depending on usage. (Tools used constantly on production or heavy-duty jobs and tools exposed to heat may require more frequent lubrication.) This lubrication should only be attempted by trained power tool repairpersons such as those at B&D Service Centers or in other qualified service organizations.

Motor Brushes

Your tool is equipped with the Black & Decker brush checkpoint system. When the brushes become worn out, the tool will automatically stop and prevent damage to the motor. Brush replacement should be performed by Black & Decker service centers or other qualified service organizations.

Precautions To Take When Sanding Paint

1. Sanding of lead based paint is NOT RECOMMENDED due to the difficulty of controlling the contaminated dust. The greatest danger of lead poisoning is to children and pregnant women.
2. Since it is difficult to identify whether or not a paint contains lead without a chemical analysis, we recommend the following precautions when sanding any paint:

PERSONAL SAFETY

- a. No children or pregnant women should enter the work area where the paint sanding is being done until all clean up is completed.
- b. A dust mask or respirator should be worn by all persons entering the work area. The filter should be replaced daily or whenever the wearer has difficulty breathing.
NOTE: Only those dust masks suitable for working with lead paint dust and fumes should be used. Ordinary painting masks do not offer this protection. See your local dealer for the proper (NIOSH) mask.
- c. NO EATING, DRINKING or SMOKING should be done in the work area to prevent ingesting contaminated paint particles. Workers should wash and clean up BEFORE eating, drinking or smoking. Articles of food, drink, or smoking should not be left in the work area where dust would settle on them.

ENVIRONMENTAL SAFETY

- a. Paint should be removed in such a manner as to minimize the amount of dust generated.
- b. Areas where paint removal is occurring should be sealed with plastic sheeting of 4 mils thickness.
- c. Sanding should be done in a manner to reduce tracking of paint dust outside the work area.

CLEANING AND DISPOSAL

- a. All surfaces in the work area should be vacuumed and thoroughly cleaned daily for the duration of the sanding project. Vacuum filter bags should be changed frequently.
- b. Plastic drop cloths should be gathered up and disposed of along with any dust chips or other removal debris. They should be placed in sealed refuse receptacles and disposed of through regular trash pick-up procedures. During clean up, children and pregnant women should be kept away from the immediate work area.
- c. All toys, washable furniture and utensils used by children should be washed thoroughly before being used again.

Accessories

See your local Black & Decker dealer for a wide array of accessories.

| Accessory Type | Notes | Usages |
|--------------------------|--|---|
| *DEPRESSED CENTER WHEELS | USE GUARD SUPPLIED WITH TOOL | Use for moderate metal & masonry removal on flat or contoured surfaces. |
| SANDING DISCS | | Use for smoothing welds, and sharp edges, and automotive body work. |
| WIRE BRUSHES | MAX. 4" KNOTTED WHEEL MAX. 2 3/4" CUP WHEEL | Use for rust removal and surface preparation before painting. |

*Depressed Center Grinding Wheels must fit within the confines of the guard.

WARNING—To reduce the risk of injury, always use proper guards when grinding and wear eye protection.

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: User Services, Black & Decker (U.S.) Inc., U.S. Power Tools Group, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074-0618

CAUTION: The use of any accessory or attachment other than those recommended in this manual may be hazardous.

Extension Cords

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

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

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

| NAMEPLATE RATING - AMPS | CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS | | | | | | |
|----------------------------|--|----|----|-----|-----|-----|-----|
| | TOTAL EXTENSION CORD LENGTH - FEET | | | | | | |
| | 25 | 50 | 75 | 100 | 125 | 150 | 175 |
| 0 - 10.0 | 18 | 18 | 16 | 16 | 14 | 14 | 12 |
| 10.1 - 13.0 | 16 | 16 | 14 | 14 | 14 | 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.

Important

To assure product SAFETY and RELIABILITY, repairs, maintenance 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 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 tools, your tool is listed by Underwriter's 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®

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