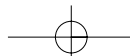


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# Instruction Manual

## 4287-220

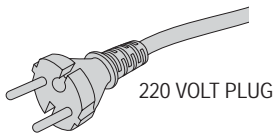
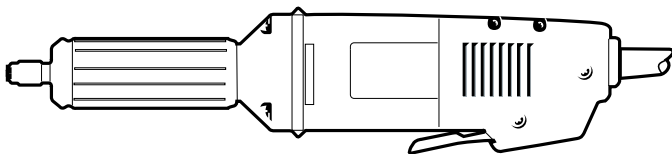
### Die Grinder

## Getting the most out of your tool.

Please take time to read this manual and pay particular attention to the safety rules we've provided for your protection. If you have any questions about your tool please call:

**1-800-9-BD TOOL**  
**(1-800-923-8665)**

**4287-220 1 1/2" (38mm) Die Grinder**



## IMPORTANT SAFETY INSTRUCTION

**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

### 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 added protection against injury resulting from a possible electrical insulation failure within the tool.

**CAUTION: WHEN SERVICING USE ONLY IDENTICAL REPLACEMENT PARTS.** Repair or replace damaged cords.

## Safety Instructions For All Tools

- **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- **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. Do not use tool in presence of flammable liquids or gases.
- **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, and refrigerator enclosures.
- **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
- **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
- **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- **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.
- **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.
- **USE SAFETY GLASSES.** Also use face or dust mask if operation is dusty.
- **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- **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.
- **DON'T OVERREACH.** Keep proper footing and balance at all times.
- **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if dam-

aged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean and free from oil and grease.

- **DISCONNECT OR LOCK OFF TOOLS** when not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
- **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is off when plugging in.
- **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

### Minimum Gage for Cord Sets

| Volts         | Total Length of Cord in Feet |        |         |                 |    |
|---------------|------------------------------|--------|---------|-----------------|----|
|               | 0-25                         | 26-50  | 51-100  | 101-150         |    |
| 120V          | 0-50                         | 51-100 | 101-200 | 201-300         |    |
| 240V          | 0-50                         | 51-100 | 101-200 | 201-300         |    |
| Ampere Rating |                              | AWG    |         |                 |    |
| More Than     | Not more Than                |        |         |                 |    |
| 0 -           | 6                            | 18     | 16      | 16              | 14 |
| 6 -           | 10                           | 18     | 16      | 14              | 12 |
| 10 -          | 12                           | 16     | 16      | 14              | 12 |
| 12 -          | 16                           | 14     | 12      | Not Recommended |    |

- **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and marked.
- **STAY ALERT.** Watch what you are doing. Use common sense.

not operate tool when you are tired.

- **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.

## SAVE THESE INSTRUCTIONS

### Additional Safety Instructions for Grinders

- **ALWAYS WEAR EYE PROTECTION.**
- **KEEP GUARDS IN PLACE.**
- Use only grinding wheels having a maximum operating speed at least high as "No Load RPM" marked on the tool's nameplate.
- Before using, inspect recommended accessory for cracks or flaws. If such a crack or flaw is evident, discard the accessory. The accessory should also be inspected whenever you think the tool may have been dropped.
- 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.
- In operation, avoid bouncing the wheel or giving it rough treatment. If this occurs, stop the tool and inspect the wheel.
- **ALWAYS USE GUARDS** with depressed center wheels or flaring cup grinding wheels.

- Clean your tool out periodically.
- **CAUTION:** Some wood contains preservatives such as copper chromium arsenate (CCA) which can be toxic. When sanding these materials extra care should be taken to avoid inhalation and minimize skin contact.

## SAVE THESE INSTRUCTIONS

### Motor

Your B&D tool is powered by a B&D built motor. Be sure your power supply agrees with the nameplate marking. Voltage decrease more than 10% will cause loss of power and overheating. All B&D tools are factory tested; if this tool does not operate, check the power supply.

### Paddle Switch

(Figure 1) To start grinder, slide the paddle to the rear of the tool while you are depressing it at the same time. 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 the tool in. To turn the tool off when it is locked on, squeeze and release the paddle once.

### Operation

#### To install grinding wheels:

1. TURN OFF TOOL AND DISCONNECT FROM POWER SUPPLY
2. Remove mounting nut by turning it counterclockwise (when facing outer side of wheel). The spindle can be held stationary

holding a wrench on the flats provided on the exposed portion of the spindle

3. Only tighten arbor nut sufficiently to drive the wheel without slippage.
4. 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 tool with a person in line with the wheel. This includes the operator.

**CAUTION:** Grasp tool firmly with both hands before starting tool.

Put the work in a vise or clamp it securely. Use a face mask over the nose and mouth if the operation raises dust. Treat the wheel with respect...do not jam the wheel into the work or use unnecessary pressure. Grind only on the face of the wheel (Figure 2), unless you have a special wheel specifically made to permit grinding on the side of the wheel.

## 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 filing 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 every sixty days to six months depending on usage. Tools constantly used on production or heavy duty jobs and tools exposed to heat may require more frequent lubrication. This lubrication should only be performed by B&D repair technicians.

## Motor Brushes

(For tools with external brush caps)

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 your local service center.

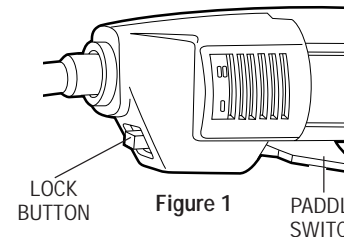
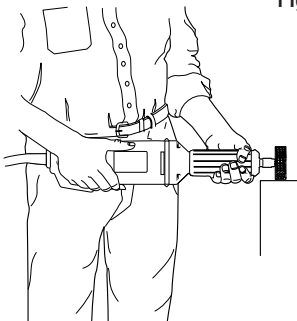
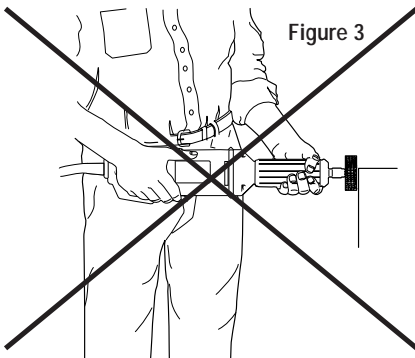


Figure 2



RIGHT

Figure 3



WRONG

## Accessories

Recommended accessories for use with your tool are available extra cost from your distributor or local service center.

**CAUTION:** The use of any non-recommended accessory may be hazardous.

If you need assistance in locating any accessory call **1-800-9-TOOL**

(1-800-923-8665) or contact Black & Decker (U.S.) Inc., Consumer Services Department, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074.

### Accessories for 5" & 6" Straight Grinders

Cotton Buffing Wheels

Grinding Wheels (Use guard supplied with tool)

### Accessory for Die Grinders

Mounted Stones & Points

**WARNING:** To reduce the risk of injury, always use proper guard when grinding and wear eye protection.

## **IMPORTANT!**

To assure product safety and reliability, particularly for double insulated tools, repairs, maintenance and adjustment (excluding maintenance described in this manual) should be performed by B&D service centers or authorized service centers, using identical B&D replacement parts.

**Every B&D tool is of the highest quality.**  
**If you wish to contact us regarding this product, please call toll free between 8:00am and 8:00pm ET, seven days a week:**

**1-800-9-BD TOOL**  
(1-800-923-8665)

### ***One Year Free Maintenance***

All B&D tools for Industry and Construction are covered under a one year free maintenance program where B&D will inspect your tool for safety and provide necessary maintenance or repairs, including normal wear and tear parts, for one year, FREE OF CHARGE.

### ***Full Warranty***

All B&D tools for Industry and Construction are warranted to be free of any defects in materials or workmanship. Upon thorough examination of tool, B&D will repair or replace, at our option, any product that is determined to be defective.

### ***Conditions***

The service/safety check and the warranty do not apply to: repairs made or attempted by anyone other than an authorized B&D service location; misuse, abuse, neglect, improper application of the tool; missing parts; or normal wear and tear (after first year of ownership). Please return the complete unit, transportation prepaid, to any B&D factory owned or B&D authorized service center location (list provided with tool or see Yellow Pages under "Tools Electric").