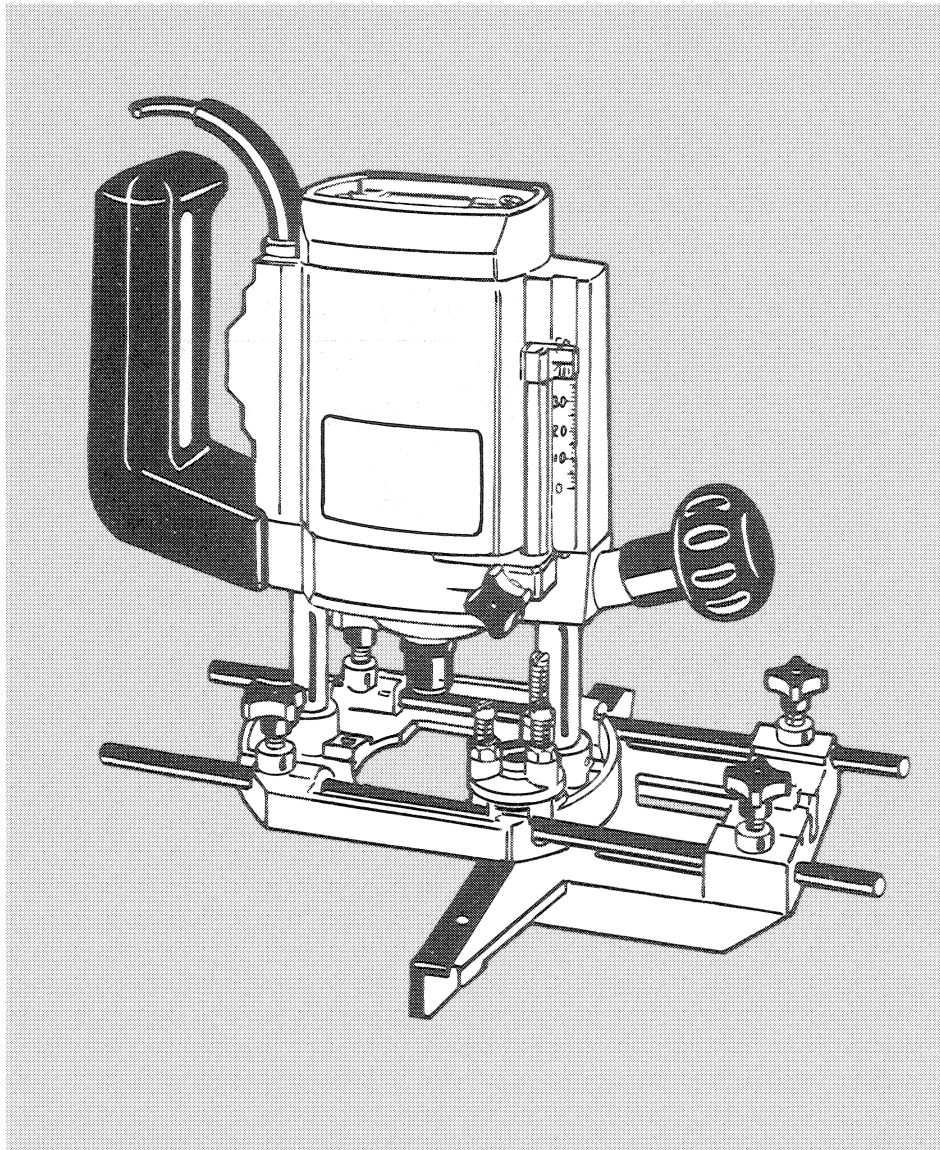


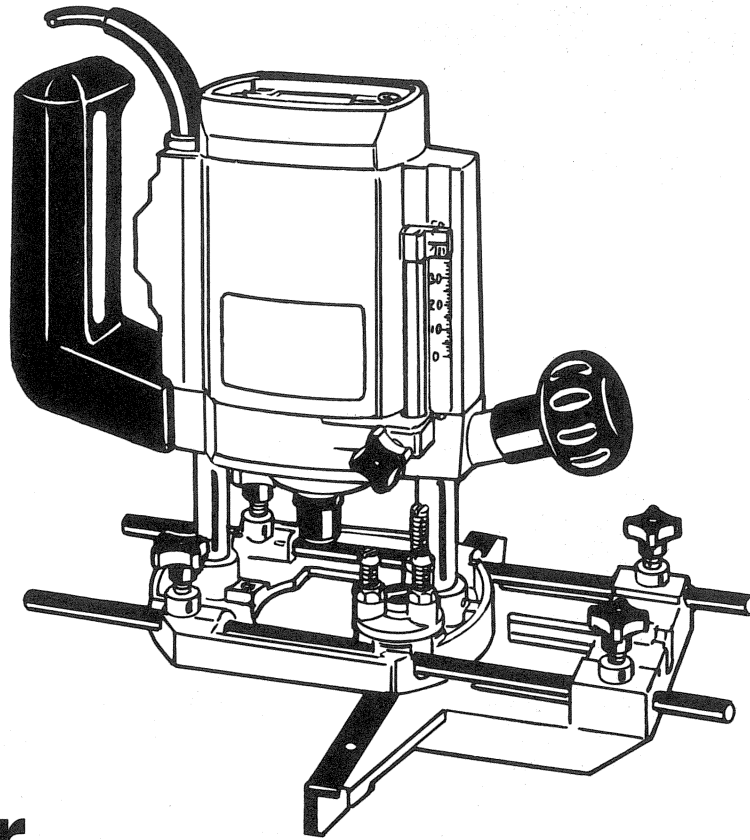
**ELU**™

WOODWORKING TOOLS BY  
**BLACK & DECKER**



# Instruction Manual

**Plunge Cut Routers**  
**3303, 3304**



# Thanks for buying an ELU Plunge Cut Router.

If you already own an ELU power tool, you know the pleasures of working with a real pro. Built to ELU's traditional standards for high quality and durability and backed by Black & Decker's extensive service network, you've got an excellent value that will serve you well for years to come.

Please take the time to read this informative manual and pay particular attention to the safety rules we've provided for your protection.

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

Thanks again for buying Black & Decker!

**ELU**<sup>TM</sup>  
WOODWORKING TOOLS BY  
**BLACK & DECKER**

## Important Safety Instructions

**WARNING:** When using Electric Tools, basic safety precautions should always be followed to reduce 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 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 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**

## Double Insulation

Your unit is **DOUBLE-INSULATED** to give you added safety. This means that it is 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 unit is equipped with a two-prong plug which permits you to use extension cords without concern for maintaining a ground connection.

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

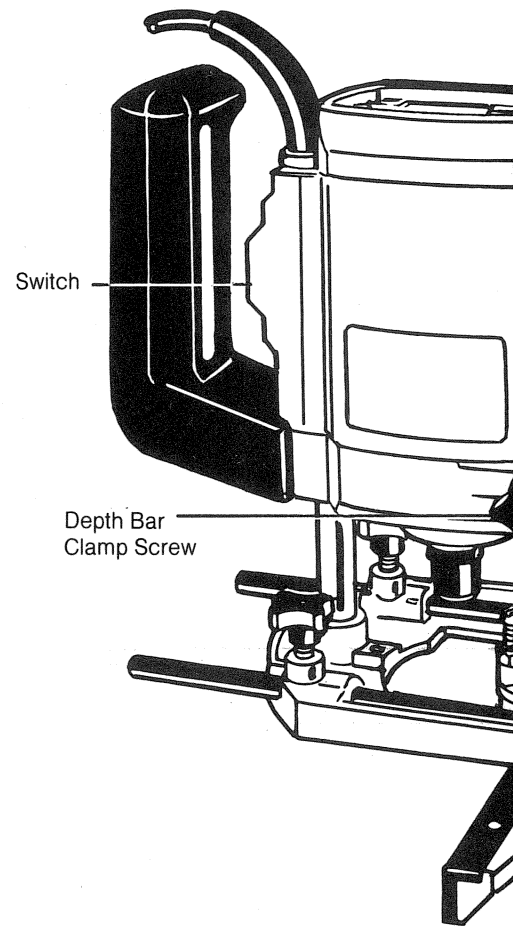
**CAUTION:** When servicing all tools, **USE ONLY IDENTICAL REPLACEMENT PARTS.** Repair or replace damaged cords.

## Motor

Your ELU tool is powered by an ELU-built motor. Be sure your power supply agrees with the nameplate marking.

Volts 50/60 Hz or "AC only" means your tool must be operated only with alternating current and never with direct current.

Voltage decrease of more than 10% will cause loss of power and overheating. All ELU tools are factory tested; if this tool does not operate, check the power supply.



## 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.). 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 to make up the total length, be sure each individual extension contains at least the minimum wire size.

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

NAMEPLATE RATING-AMPS	CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS							
	TOTAL EXTENSION CORD LENGTH- FEET							
	25	50	75	100	125	150	175	200
0 - 10.0	18	18	16	16	14	14	12	12
10.1 - 13.0	16	16	14	14	14	12	12	12
13.1 - 15.0	14	14	12	12	12	12	12	—

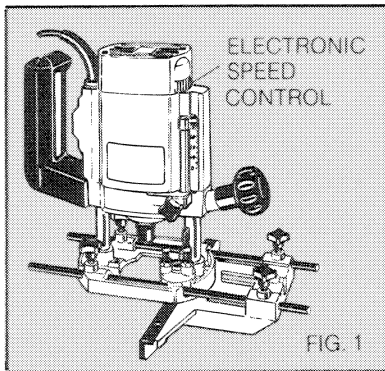
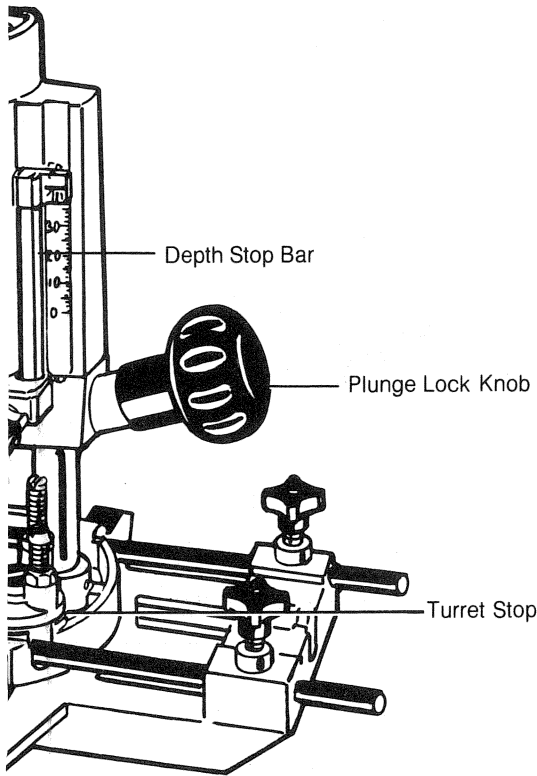
Before using an extension cord, inspect it for loose or exposed wires, damaged insulation, and defective fittings. Make any needed repairs or replace the cord if necessary.

## Special Instructions For Electronic Router Cat. #3304

You have just purchased a portable router which incorporates a state of the art electronic motor control. The control system governs the motor to give you easy start-up, smooth cutting, and higher power output. These unique capabilities give you a router which is responsive to your needs.

The electronic motor control system has two basic features (Fig. 1).

- A. Ramp start - when you turn on the router, you will notice that it does not have the jerk from the rapid acceleration of the motor. This router has a starting circuit which accelerates the motor up to speed smoothly, without jerking, and allows you to maintain easier control of the router during the start-up period.



B. Constant speed cutting - as you load the router, the selected cutting speed does not slow down during normal use. The electronic control governs the motor and gives you a consistent finish to your work. Only under very heavy loading will the speed of the unit fall below the governed speed.

To set the router speed (from 8,000 RPM to 24,000 RPM) rotate the speed control wheel shown in Figure 1. The higher the number the higher the speed. The numbers on the wheel are for reference only and do not indicate any particular speed.

The lower the speed setting, the slower the router runs. Lower speed settings may be useful for making fine cuts in softer materials, where control of the unit may be of greater importance.

Router bits larger than 1/4" diameter are not recommended when routing soft woods on the lowest speed setting.

## Operating Instructions For The Router

### PREPARATION FOR USE

The motor in this router is relatively high-powered (750 Watts, max.). Despite this, it is advisable to cut deep grooves or remove large amounts of material in two or more passes.

### TECHNICAL DATA

Model	3303, 3304
Voltage	120
Speed	24,000 r.p.m.
Insulation	double insulated
Column	spring loaded twin column
Plunging stroke	50 mm (1-15/16")
Routing depth	0-50 mm adjustable
Cutter mounting	precision collet, size 1/4"
Cutter cap routing	max. 30 mm (1-3/16") (shallow)
Rotary depth stop	3 stage depth position

### IMPORTANT NOTE

**NEVER TIGHTEN COLLET NUT IF THERE IS NO CUTTER IN THE COLLET. COMPRESSING COLLET TOO MUCH MIGHT RESULT IN IT BEING DAMAGED.**

### TO CHANGE COLLET

**THE COLLET IS SECURED IN THE COLLET NUT BY MEANS OF THE ANNULAR SPRING. A STRONG PULL WILL RELEASE THE COLLET FROM THE NUT THE NEW COLLET SHOULD THEN BE INSERTED IN THE NUT AND BE PUSHED IN.**

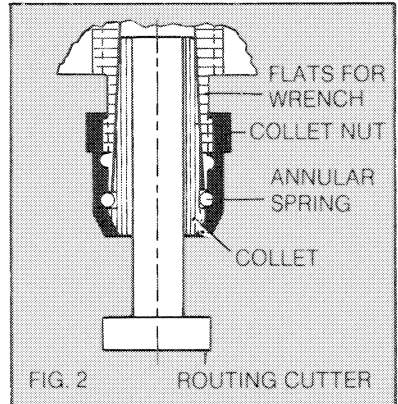
### INSTALLING ROUTER BITS (TURN OFF AND UNPLUG ROUTER)

To install a router bit, first open the collet by loosening (counterclockwise) the collet nut. Use the supplied wrenches if necessary. Insert the shaft of the desired bit into the collet as far as it will go and then pull it out about 1/16". Hold the router shaft with one of the wrenches and firmly tighten the collet nut with the other.

Reverse the process to remove bits. Always be sure to turn off and unplug the router when installing or removing bits.

**CAUTION: Router Bits Are Sharp ... Use Care In Handling Them.**

The front face of the collet must always be flush with the face of the nut. If this is not the case, remove the assembly from the machine and press the collet into the collet nut so that it is held by the spring with the faces flush.



### SETTING DEPTH OF CUT USING DEPTH STOP (FIG. 3) (TURN OFF AND UNPLUG ROUTER)

Loosen the Depth Bar Clamp Screw and the Plunge Lock Knob. Push the router down until the cutter contacts the workpiece and tighten the Plunge Lock Knob.

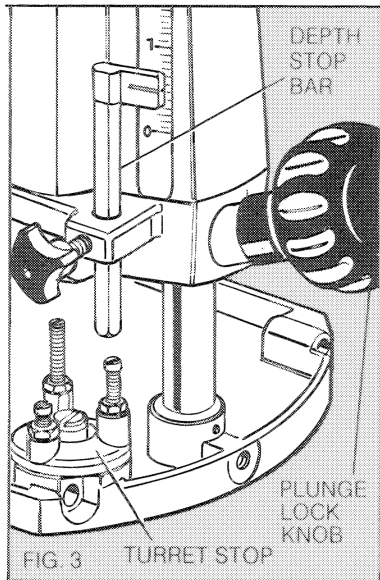
Raise the Depth Stop Bar until the distance between the lower end of the bar and the selected screw in the Turret Stop is equal to the desired depth of cut. Tighten the Depth Bar Clamp Screw and loosen the Plunge Lock Knob. (The tool will spring up.)

The depth of cut will be equal to the distance between the bolt on the turret stop and the end of the depth stop bar. The depth of cut can be gauged by using the graduated scale.

When several cuts are to be made at different depths in the material, the three bolts on the turret stop are adjusted accordingly.

**NOTE:** The Turret Stop can be adjusted so that the Depth Stop Bar does not contact any screw head. To adjust any screw in the Turret Stop, use the wrench supplied and loosen the lock nut. Turn the screw as desired and retighten the lock nut.

The Depth Stop Bar can be removed from the tool for free hand cutting.



## Switch

### TO SWITCH ON THE MACHINE

The switch positions are indicated by red markings on and off.

**Note:** Always pull the plug on the cord set out of its receptacle when changing a cutter or fitting the accessories in order to avoid any chance of an accident.

## Operation

After setting the cutting depth as described on page 5, locate the router such that the bit is directly over the place you will be cutting. With the router running, lower the unit smoothly down into the workpiece. (**DO NOT JAM THE ROUTER DOWN**) When the tool reaches the pre-set depth, tighten the Plunge Lock Knob. When you have finished routing, loosen the knob and let the spring lift the router directly out of the workpiece.

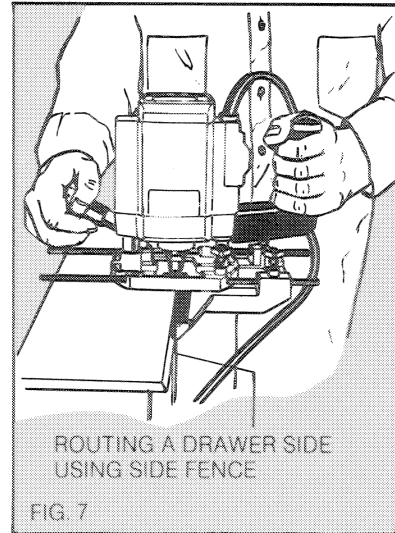
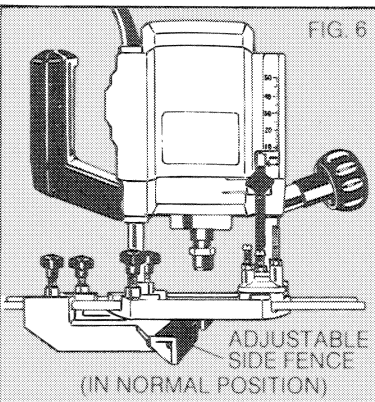
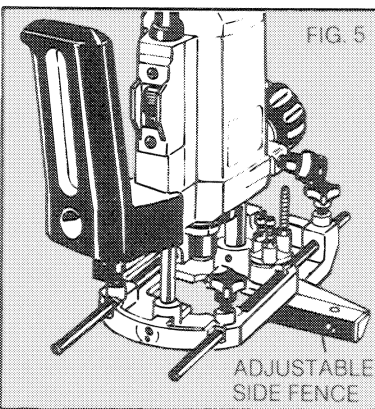
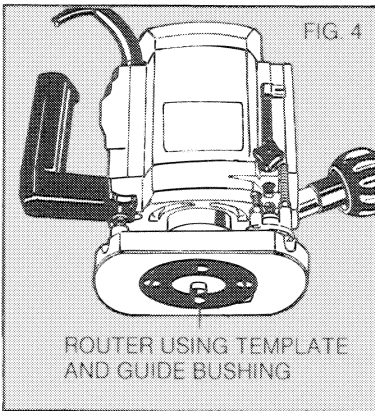
### GENERAL (FIGS. 4, 5, 6, 7)

All common routing tasks can be performed with ease with the Plunge Cut Router: Grooving, rabbeting, recessing, veining, and profiling on all types of wood and plastic.

Always feed the router opposite to the direction in which the cutter is rotating.

The router should be moved in a clockwise direction when working round a template, or routing free-hand.

Only carbide-tipped cutters should be used on panels faced with plastic laminates.



## Accessories

Black & Decker offers a wide array of router bits and other accessories to enhance the versatility of your router. Visit your local Black & Decker Service Center where recommended accessories can be purchased.

If you need assistance in locating recommended accessories for your tool, contact:

Black & Decker (U.S.) Inc.  
User Services Department  
10 North Park Drive  
P.O. Box 857  
Hunt Valley, MD 21030-0857

Recommended accessories for your tool are available at extra cost from your local Black & Decker Service Center. The use of any other accessories or attachments may be hazardous. If you have any questions concerning which accessories are recommended, contact Black & Decker at the above address.

## Important

To assure product SAFETY and RELIABILITY, repairs maintenance and adjustment, (including brush inspection and replacement) should be performed by qualified service organizations, always using ELU replacement parts.

ELU products are serviced by Black & Decker company owned Service Centers.

## Notes

## **Commercial/Industrial Use Warranty**

ELU 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.

Like most Black & Decker products your tool is listed by Underwriters Laboratories to ensure that it meets stringent safety requirements.

This symbol on the nameplate means the product is listed by Underwriters Laboratories, Inc.



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