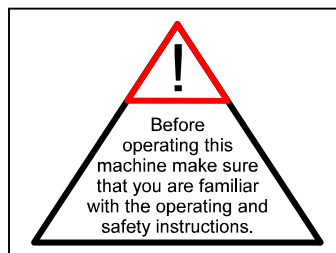


**MODEL LD 3206
CONCRETE GRINDER**



OPERATING MANUAL



GENERAL SAFETY RULES

WARNING! READ AND UNDERSTAND ALL INSTRUCTIONS. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS.

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

ELECTRICAL SAFETY

1. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other).** This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way. Double Insulated ☐ eliminates the need for the three wire grounded power cord and grounded power supply system.
2. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
3. **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
5. **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.

PERSONAL SAFETY

1. **Stay alert, watch what you are doing, and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure switch is OFF before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch ON invites accidents.
4. **Remove adjusting keys or wrenches before turning the tool ON.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

5. Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enable better control of the tool in unexpected situations.

6. Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

TOOLS USE AND CARE

1. Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.

2. Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

3. Do not use tool if switch does not turn it ON or OFF. A tool that cannot be controlled with the switch is dangerous and must be repaired.

4. Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

5. Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

6. Maintain tools with care. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.

7. Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

8. Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel may result in a risk of injury.

2. When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance Section of this manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.









SPECIFIC SAFETY RULES AND SYMBOLS

1. Always use proper guard with grinding wheel. A guard protects operator from broken wheel fragments.

2. Accessories must be rated for at least the speed recommended on the tool warning label. Wheels and other accessories running over rated speed can fly apart and cause injury.

3. Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will also make exposed metal parts of the tool "live" and shock the operator.

4. **Always use an approved guard** with those accessories that require a guard (see ACCESSORIES Section of this manual).
5. **Use proper safety equipment.** Wear safety goggles to protect your eyes and wear a protective mask to minimize breathing in the fine dust created while sanding. **NOTE:** Some wood contains preservatives which can be toxic. Take extra care to prevent inhalation and skin contact when working with these materials.
6. **Sanding of lead-based paint is not recommended.** Lead-based paint should only be removed by a professional.
7. **Do not install woodcarving blade** on this grinder.
8. **WARNING:** There are certain applications for which this tool was designed. FLEX strongly recommends that this tool NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the tool until you have written FLEX and we have advised you.

SYMBOL	DEFINITION
V	volts
A	amperes
Hz	hertz
W	watts
kW	kilowatts
μ F	microfarads
l	liters
kg	kilograms
N/cm ²	newtons per square centimeter
Pa	pascals
h	hours
min	minutes
s	seconds
	alternating current
3 	three-phase alternating current
3N 	three-phase alternating current with neutral
	direct current
n ₀	no load
	alternating or direct current
	Class II Construction
	splash-proof construction
	watertight construction
.../min	revolutions or reciprocation per minute

ADDITIONAL SAFETY RULES FOR PAINT REMOVAL

WARNING: Extreme care should be taken when removing paint. The peelings, residue, and vapors of paint may contain lead, which is poisonous. Exposure to even low levels of lead can cause irreversible brain and nervous system damage; young and unborn children are particularly vulnerable.

Before beginning any paint removal process you should determine whether the paint you are removing contains lead. This can be done by your local health department or by a professional who uses a paint analyzer to check for lead.

LEAD-BASED PAINT SHOULD ONLY BE REMOVED BY A PROFESSIONAL.

Persons removing paint should follow these guidelines:

- 1. KEEP THE WORK AREA WELL VENTILATED.** Open the windows and put an exhaust fan in one of them. Be sure the fan is moving air from inside to outside.
- 2. REMOVE OR COVER** any carpets, rugs, furniture, clothing, cooking utensils and air ducts.
- 3. PLACE DROP CLOTHS** in the work area to catch any paint chips or peelings. Wear protective clothing such as extra work shirts, overalls and hats.
- 4. WORK IN ONE ROOM AT A TIME.** Furnishings should be removed or placed in the center of the room and covered. Work areas should be sealed off from the rest of the dwelling by sealing doorways with drop cloths.
- 5. CHILDREN, PREGNANT OR POTENTIALLY PREGNANT** women and nursing mothers should not be present in the work area until the work is done and all cleanup is complete.
- 6. WEAR A DUST RESPIRATOR** or a dual filter (dust and fume) respirator mask which has been approved by the Occupational Safety and Health Administration (OSHA), the National Institute of Safety and Health (NIOSH), or the United States Bureau of Mines. These masks and replaceable filters are readily available at major hardware stores. Be sure the mask fits. Beards and facial hair may keep the masks from sealing properly. Change filters often. **DISPOSABLE PAPER MASKS ARE NOT ADEQUATE.**
- 7. KEEP FOOD AND DRINK** out of the work area. Wash hands, arms, and face and rinse mouth before eating or drinking. Do not smoke or chew gum or tobacco in the work area.
- 8. CLEAN UP ALL REMOVED PAINT** and dust by wet mopping the floors. Use a wet cloth to clean all walls, sills and any other surfaces where paint or dust is clinging. **DO NOT SWEEP, DRY DUST OR VACUUM.** Use a high phosphate detergent or trisodium (TSP) to wash and mop areas.
- 9. AT THE END OF EACH WORK SESSION** put the paint chips and debris in a double plastic bag, close it with tape or twist ties and dispose of properly.
- 10. REMOVE PROTECTIVE CLOTHING** and work shoes in the work area to avoid carrying dust into the rest of the dwelling. Wash work clothes separately. Wipe shoes off with a wet rag that is then washed with the work clothes. Wash hair and body thoroughly with soap and water.

MOTOR

Many FLEX tools will operate on either D.C., or single phase 25 to 60 cycle A.C. current and voltage within plus or minus 5 percent of that shown on the specification plate on the tool. Several models, however, are designed for A.C. current only. Refer to the specification plate on your tool for proper voltage and current rating.

CAUTION: Do not operate your tool on a current on which the voltage is not within correct limits. Do not operate tools rated A.C. only on D.C. current. To do so may seriously damage the tool.

EXTENSION CORD SELECTION

If an extension cord is used, make sure the conductor size is large enough to prevent excessive voltage drop which will cause loss of power and possible motor damage. A table of recommended extension cord sizes will be found in this section. This table is based on limiting line voltage drop to 5 volts (10 volts for 230 volts) at 150% of rated amperes.

If an extension cord is to be used outdoors it must be marked with the suffix W-A following the cord type designation. For example – SJTW-A to indicate it is acceptable for outdoor use.

RECOMMENDED EXTENSION CORD SIZES FOR USE WITH PORTABLE ELECTRIC TOOLS

		Length of Cord in Feet								
	115V	25 Ft.	50 Ft.	100 Ft.	150 Ft.	200 Ft.	250 Ft.	300 Ft.	400 Ft.	500 Ft.
	230V	50 Ft.	100 Ft.	200 Ft.	300 Ft.	400 Ft.	500 Ft.	600 Ft.	800 Ft.	1000 Ft.
Nameplate Ampere Rating	0-2	18	18	18	16	16	14	14	12	12
	2-3	18	18	16	14	14	12	12	10	10
	3-4	18	18	16	14	12	12	10	10	8
	4-5	18	18	14	12	12	10	10	8	8
	5-6	18	16	14	12	10	10	8	8	6
	6-8	18	16	12	10	10	8	6	6	6
	8-10	18	14	12	10	8	8	6	6	4
	10-12	16	14	10	8	8	6	6	4	4
	12-14	16	12	10	8	6	6	6	4	2
	14-16	16	12	10	8	6	6	4	4	2
	16-18	14	12	8	8	6	4	4	2	2
	18-20	14	12	8	6	6	4	4	2	2

FUNCTIONAL DESCRIPTION

FOREWORD

Your FLEX Disc Sander is designed for numerous sanding and grinding operations when used with appropriate recommended accessories. The Model L 3206 can be used as a grinder when equipped with the appropriate 7" or 9" guard and grinding wheel (see ACCESSORIES section of manual).

Typical applications are smoothing rough boards, removing paint and varnish, auto body sanding, smoothing weld beads, removing gates and flash from castings, removing rust, leveling form seams from concrete, and the like.

TO START AND STOP THE MACHINE

CAUTION: Make sure switch is OFF and power circuit voltage is the same as that shown on the specification plate.

1. Connect machine to power circuit.
2. Grip machine firmly to resist starting torque.
3. Press switch lockout button (A), Fig. 1 and hold.
4. Squeeze switch trigger (B) Fig. 1, to turn tool "ON". When released, the switch will return to the "OFF" position.
5. Release switch lockout button (A) Fig. 1.
6. To lock the switch in the "ON" position press switch lockout button (A), Fig. 1 and hold. Squeeze switch trigger (B) Fig. 1 to start tool, release switch trigger (B) Fig. 1, and release switch lockout button (A) Fig. 1. To release the switch lock: squeeze switch trigger (B) Fig. 1.

CAUTION: Allow machine spindle to stop rotating before setting machine down.

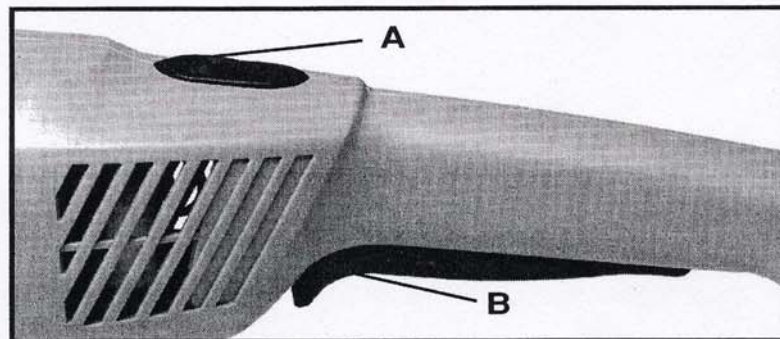


Fig. 1

ASSEMBLY

TO INSTALL AUXILIARY HANDLE

An auxiliary handle (A), Fig. 1A, is furnished with your machine. This handle can be positioned in several locations within the arc shown in Fig. 1A. This handle **SHOULD BE USED AT ALL TIMES** to maintain complete control of the machine.

INSTALLATION:

1. Insert threaded end of handle into handle clamp (A) Fig. 1A.
2. Turn handle clockwise and tighten securely.

CHANGING POSITIONS:

1. Loosen handle by turning 2 full turns counterclockwise.
2. Push in on handle and move handle to desired location.
3. Release handle.
4. Retighten securely.

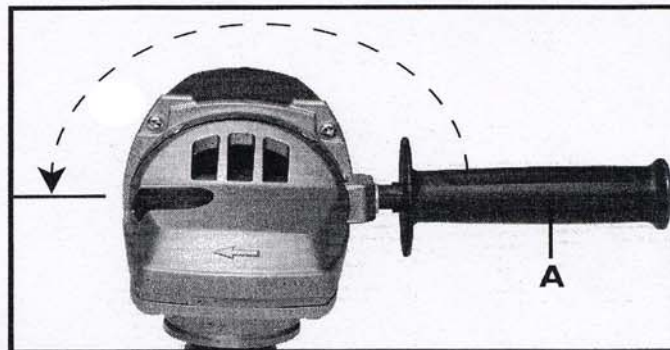


Fig. 1A

TO INSTALL SANDING DISC

1. **CAUTION:** DISCONNECT MACHINE FROM POWER CIRCUIT.
2. Rest machine on its back with spindle facing up.
3. Position inner flange (B) Fig. 2, onto spindle (A), with round hub facing outward, away from machine. Rotate flange until it drops into place on the spindle.
4. Place back-up pad (C) Fig. 2, onto spindle and rotate clockwise until seated.
5. Depress spindle lock button (D) Fig. 2, rotate back-up pad (C) clockwise until spindle lock engages, and firmly tighten back-up pad. Continue to depress spindle lock button.
6. Place sanding disc (E) Fig. 2, on back-up pad and center it.
7. Place retaining nut (F) Fig. 2, through hole in sanding disc. Tighten securely by turning clockwise.

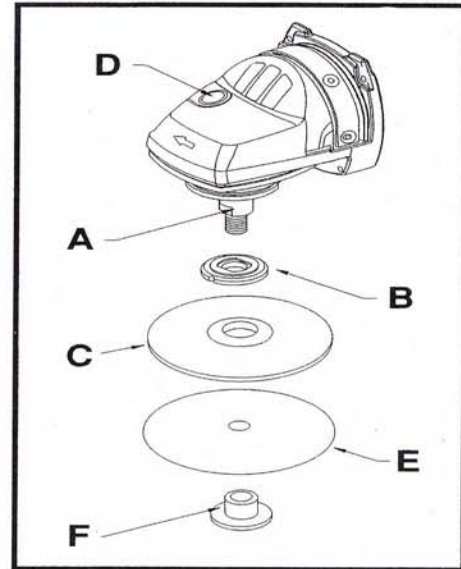


Fig. 2

TO INSTALL WHEEL GUARD (ACCESSORY)

There are 7" or 9" wheel guards available as accessories. (See the ACCESSORIES Section of this manual for specific applications). Both guards are installed and adjusted in the same manner.

WARNING: Always use an approved, and properly adjusted wheel guard where required (see ACCESSORIES Section of this manual).

1. **CAUTION:** DISCONNECT MACHINE FROM POWER CIRCUIT.
2. Rest machine on its back with spindle facing up.
3. Seat guard onto mounting flange. Rotate the guard to a position that will place the guard between the operator and the grinding wheel (or other accessory requiring a guard). Tighten clamp screw (A) Fig. 3, to secure the guard in proper position.

WARNING: Always make sure the wheel guard is positioned between operator and the wheel, so that flying chips or pieces of a wheel that might break will be deflected away from the operator (see Fig. 3).

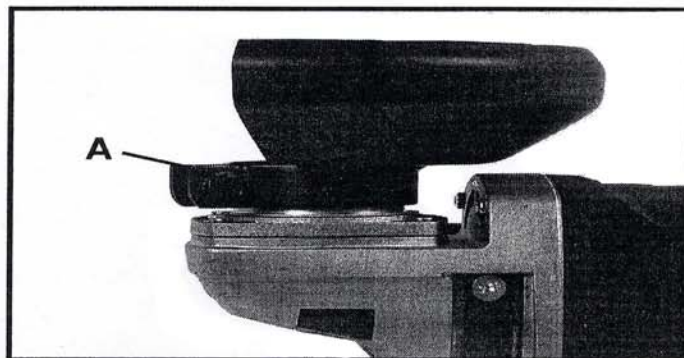


Fig. 3

TO INSTALL GRINDING WHEEL

1. **CAUTION:** DISCONNECT MACHINE FROM POWER CIRCUIT.
2. Rest machine on its back with spindle facing up.
3. Install and adjust the appropriate wheel guard following instructions in TO INSTALL WHEEL GUARD Section of this manual.
4. Place hub of grinding wheel onto spindle and rotate clockwise until spindle begins to turn, see Fig. 4.
5. Depress spindle lock button (D) Fig. 2, and hold while rotating grinding wheel clockwise by hand until spindle lock engages.
6. With spindle engaged securely tighten grinding wheel by turning clockwise. Release spindle lock button.
7. To remove grinding wheel reverse this procedure.

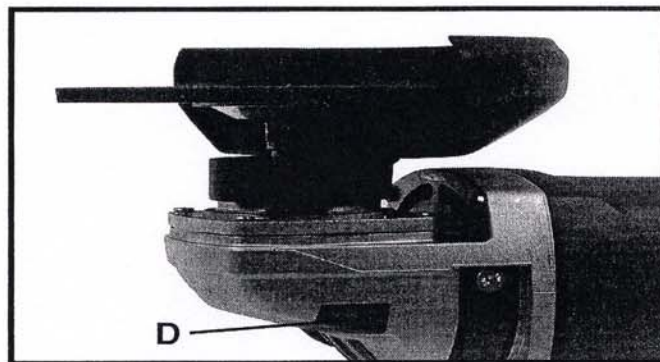


Fig. 4

OPERATION

REAR HANDLE LOCATION

The rear handle (A) Fig. 5, can be placed in three different locations to provide the most comfortable, safest, and least fatiguing position for the operator. As shown in Fig. 5 it is in the center position. It can be rotated to both the left and right of this position.

To reposition handle:

1. Press handle lock button (B) Fig. 5.
2. Start turning the handle in the desired direction.
3. Release the handle lock button and continue turning the handle until it locks into the desired location.

CAUTION: Ensure rear handle is locked into one of the three locations before turning tool on to prevent loss of control, damage to the machine, and bodily injury.

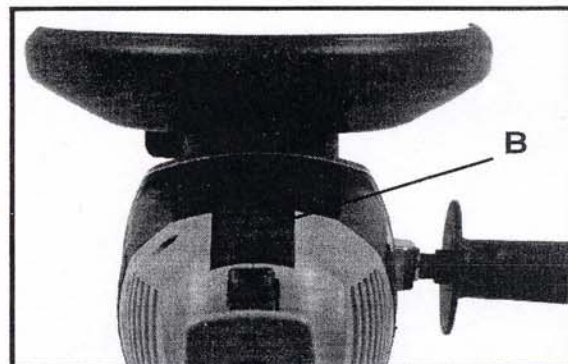


Fig. 5

USING A DISC SANDER

1. **CAUTION:** Secure work to prevent it from moving during the sanding operation. Friction between the sanding disc and work will try to spin work away from sander and may cause bodily injury.
2. **CAUTION:** WEAR SAFETY GLASSES AND DUST MASK.
3. Hold sander firmly by the rear and auxiliary handles, making sure sanding disc is clear of work and foreign objects. Start sander and lower so that sanding disc is FLAT on work surface, Fig. 6.
4. Move sander in long sweeping overlapping strokes as you go back and forth. Do not move sander in a circular motion or stay in one spot too long as this will produce swirls and an uneven finish. The weight of the sander applies sufficient pressure for fast stock removal. Additional pressure will only slow the sander down and decrease removal of stock.
5. LIFT SANDER FROM WORK BEFORE TURNING OFF MOTOR.
6. Always be sure motor has stopped before setting sander down.

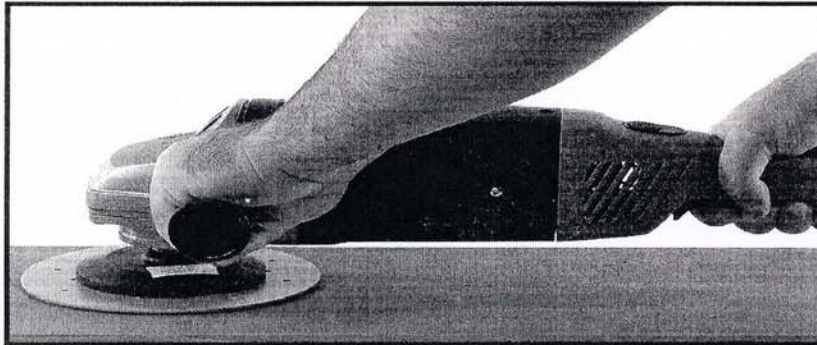


Fig. 6

SANDING TIPS

For rough sanding and quick stock removal, use a coarse grit sanding disc. For a fine finish, use a medium grit disc, followed by a fine grit disc. Do not go directly from a coarse grit to a fine grit, as it is difficult to remove marks left by the coarse grit disc.

USING A DISC GRINDER

Be certain wheel guard and auxiliary handle are installed.

Firmly grip the auxiliary handle and motor housing as shown in Fig. 7. Lift up rear of motor housing so only the front section of grinding wheel contacts the work. Use light pressure. Always lift the grinder off work before starting or stopping motor. The arrow on the front gear housing indicates the direction in which the grinding wheel rotates.

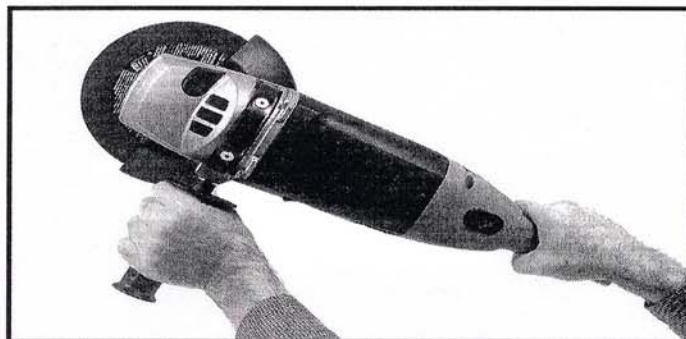


Fig. 7

MAINTENANCE

KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

CAUTION: Wear safety glasses while using compressed air.

FAILURE TO START

Should your tool fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

LUBRICATION

This tool has been lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. No further lubrication is necessary.

BRUSH INSPECTION AND LUBRICATION

For your continued safety and electrical protection, brush inspection and replacement on this tool should ONLY be performed by an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE SERVICE CENTER.

At approximately 100 hours of use, take or send your tool to your nearest Authorized Porter-Cable Service Station to be thoroughly cleaned and inspected; worn parts replaced, when necessary; relubricated with fresh lubricant, if required; reassembled with new brushes; and performance tested.

Any loss of power before the above maintenance check may indicate the need for immediate servicing of your tool. DO NOT CONTINUE TO OPERATE TOOL UNDER THIS CONDITION. If proper operating voltage is present, return your tool to the service station for immediate service.

SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations, including brush inspection and replacement, should ONLY be performed by either an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE SERVICE CENTER. All repairs made by these agencies are fully guaranteed against defective material and workmanship. We cannot guarantee repairs made or attempted by anyone other than these agencies.

Should you have any questions about your tool, feel free to write us at any time. In any communications, please give all information shown on the nameplate of your tool (model number, type, serial number, etc.).

ACCESSORIES

The **Model L 3206 Sander** can be used with various sander accessories available from your industrial supplier. The **Model L 3206 Sander** can also be used as a grinder with the appropriate 7" or 9" wheel guard accessories (as shown in the chart below). ALL ACCESSORIES MUST BE RATED FOR 6,000 RPM (or higher), and GRINDING WHEELS MUST BE USED WITH THE APPROPRIATE FLEX GUARDS (as shown in the following chart).

The following accessories are available from your FLEX Distributor or Service Center.

FLEX CATALOG NO.	DESCRIPTION
265160	7" Wheel Guard
265179	9" Wheel Guard
100080	Retaining Nut