

3 IN. BENCH GRINDER

Item Number W50003

OWNERS MANUAL



⚠ WARNING!

READ, UNDERSTAND AND FOLLOW ALL INSTRUCTIONS AND WARNINGS BEFORE OPERATING THIS TOOL. FAILURE TO DO SO MAY RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE AND WILL VOID WARRANTY.

Some dust created by power sanding contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. An example of this type of chemical is lead from lead based paints, Crystalline Silica from bricks and cement or other masonry, Arsenic and Chromium from chemically treated lumber. Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure: work in a well ventilated area and work with approved safety equipment, such as dusk masks that are specially designed to filter out microscopic particles.

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Please read these instructions carefully and retain them for future use.

On occasion, after printing of our literature is completed, our manufacturers may make changes and/or modifications to merchandise which will not be reflected in this manual. Although we strive to maintain complete and accurate information, it is possible in some instances, that the product may differ slightly from printed specifications. Illustrations are intended for reference only. Actual merchandise may vary. Wilmar is not responsible for typographical errors.

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SAFETY INFORMATION

Carefully read through the entire owner's manual before operating your bench grinder. Keep manual with important records for safety instructions, operating procedures and warranty.

⚠ WARNING: When using electrical tools, machines or equipment, basic safety precautions should always be followed to minimize the risk of fire, electrical shock or personal injury to yourself and others.

BEFORE USING YOUR BENCH GRINDER

- **READ THE ENTIRE MANUAL.**
- **GROUND ALL TOOLS.** Any tool supplied with a 3-prong plug must be plugged into a 3-contact electrical receptacle. The 3rd prong is used to ground the tool and provide protection against accidental electrical shock. Never remove the third prong.
- **AVOID DANGEROUS ENVIRONMENTS.** Do not use power tools near gasoline or other flammable materials, in damp or wet locations or expose them to rain. Keep work area well lit. Normal sparking of the motor or sparking from grinding metal could ignite fumes.
- **KEEP WORK AREA CLEAN.** Messy areas and cluttered work benches invite personal injury and or property damage.
- **KEEP CHILDREN AND VISITORS AWAY.** All children should be kept away from the work area. Maintain a safe distance for any person near the work area. Adults near the work area must wear safety glasses. DO NOT let children handle the power tool or extension cord.
- **DRUGS, ALCOHOL, MEDICATION.** Operating any tool or equipment under the influence of drugs, alcohol, and or medication can cause personal injury to yourself and others.
- **WEAR PROPER APPAREL.** Remove your jewelry before using tool. DO NOT wear loose clothing, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non skid footwear and non-electrically conductive gloves are highly suggested while working. Wear protective hair covering to contain long hair.
- **PROTECT YOUR EYES.**

The operation of any power tool can result in foreign objects being thrown into the eyes which can result in severe eye damage. Always wear eye protection during power tool operation. Eyeglasses are not always safety glasses.
- **BE RESPONSIBLE FOR YOUR HEARING AND BREATHING.** Wear hearing protection during extended periods of operation. Protect your lungs by wearing a clean face or dust mask.
- **GUARD AGAINST ELECTRICAL SHOCK.** Avoid body contact with grounded surfaces such as pipes, radiators, ovens, stoves and refrigerator enclosures.
- **USE THE RIGHT TOOL.** Use tools properly and for its intended task. DO NOT force a small tool to do the job of a heavy duty tool. Using the right tool to do the right job will do the job intended and safer.
- **CHECK DAMAGED PARTS.** Before use of a tool it should be carefully checked to assure that it will operate properly and perform its intended function. Check for misalignment or binding of moving parts, breakage of parts, mounting, or any other conditions that may affect its operation. A guard or other part that is damaged should be properly replaced.

- **AVOID UNINTENTIONAL STARTING.** Be sure that your power tool is in the "OFF" position before plugging it into a power cord or electrical receptacle.
- **STORE ALL MAINTENANCE TOOLS** away from the immediate area prior to turning "ON" your bench grinder.
- **DO NOT OVERREACH.** Proper footing and balance is a must at all times while using the tool. Unstable support may lead to personal injury.
- **NEVER LEAVE TOOL RUNNING UNATTENDED.**

ALWAYS turn the power to the "OFF" position and do not leave the tool until it comes to a complete stop.
- **USE RECOMMENDED ACCESSORIES.** Consult the owners manual for recommended accessories. The use of improper accessories may cause risk of injury to yourself and others.
- **ALWAYS MAKE SURE THE TOOL IS IN THE "OFF" POSITION AND UNPLUGGED** from the electrical receptacle when making adjustments, changing parts or performing any maintenance,
- **KEEP PROTECTIVE GUARDS IN PLACE AND IN PROPER WORKING CONDITION.**
- **MAINTAIN TOOLS WITH CARE.** Tools function better and safer when kept clean and in good working condition. Keeping the tool clean, dry, free of grime will add to its life and performance.
- **EXTENSION CORD GUIDELINES.** Use only 3-wire extension cords that have 3-prong grounding type plugs and 3 prong receptacles that accept the tool's plug. Only UL listed extension cords should be used with this product. Improper use of extension cords may cause inefficient operation of your tool which can result in overheating. Be sure your extension cord is rated to allow sufficient flow to the motor. Refer to guide below for minimum gauge for extension cords.

EXTENSION CORD LENGTH	WIRE SIZE (A.W.G.)
Up to 25 feet	18
26 to 50 feet	16
51 to 100 feet	14

The use of an extension cord heavy enough to carry the current a tool will draw is very important. Especially when the power source is of great distance. A extension cord that is insufficient will cause a drop in line voltage, resulting in power loss and causing the motor to overheat. When the project requires you to be outdoors, use an extension cord designed for outdoor use. The letters "WA" are indicated on the jacket of the cord.

ELECTRICAL REQUIREMENTS

CONNECTING TOOL TO POWER SOURCE OUTLET

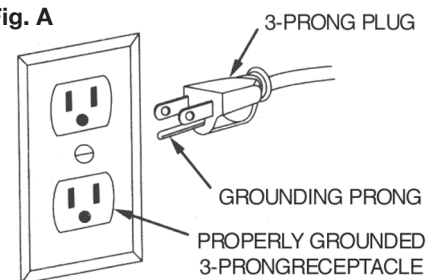
This machine source must be grounded while in use to protect the operator from electric shock. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green (with or without yellow stripes) is the equipment grounding conductor. If repair or replacement of the electric cord or plug is necessary, DO NOT connect the equipment - grounding conductor to a live terminal.

DO NOT MODIFY THE PLUG PROVIDED. If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to if the tool is properly grounded.

To avoid electrical shock to yourself and damage to the bench grinder, use proper circuit protection. The Bench grinder is factory wired for 115V, 60 Hz operation. Connect to a 115V, 15 amp branch circuit and use a 15 amp time delay fuse or circuit breaker. The electrical circuit can not have any wire size less than #12. To avoid shock or fire, replace power cord immediately if it is damaged in any way.

Fig. A



This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Figure A. The tool has a grounding plug that looks like the one also shown in Figure A. DO NOT modify the plug provided if it will not fit the outlet. Have the proper outlet installed by a professional electrician.

⚠ WARNING: If not properly grounded, this power tool can incur the potential hazard of electrical shock particularly when used in damp locations or in proximity to plumbing. If an electrical shock occurs, there is the potential of a secondary hazard such as your hands contacting the grinder tool.

SPECIFICATIONS

Motor:	120V @ 60Hz 0.8 amps (startup), 0.7 amps (no load), 0.8 amps (with load)
No Load RPM:	0 to 10,000 RPM
Cord Info:	5 ft., 3-prong ground
Grinding Wheels:	1-3 x 3/4 in. 80 Grit Grinding Stone 1-3 x 3/4 in. Fiber Wheel
Arbor:	0.39 in. (10mm) Diameter
Flex Shaft:	31 in. long
Flex Shaft Collet:	1/8 in. Diameter
Flex Shaft Bit:	1/8 in. Assorted stone bits
Features:	Variable Speed Dial Flex shaft wrench set

Specifications are subject to change without notice

CONTENTS

- 3 in. Bench Grinder
- 31 in. Flex Shaft
- Wrench
- 3 in. 80 Grit Grinder Stone
- 3 in. Fiber Wheel
- 10 Assorted 1/8 in. Stone Bits
- 2 Eye Shields w/ attachment hardware

REPLACEMENT PARTS

Fiber Wheel	W50003-5
Eye Shield	W50003-19
80 grit grinding Wheel	W50003-38
Flexible Shaft assy.	W50003-41
Power Switch	W50003-43
Switching Knob	W50003-46

BENCH GRINDER SAFETY

USE THE WHEEL GUARDS AND SAFETY EYE SHIELDS that are provided with your bench grinder.

USE ONLY GRINDING WHEELS that are rated at higher RPM than the maximum RPM of your bench grinder.

CRACKED OR DAMAGED GRINDING WHEELS. Replace immediately cracked or damaged grinding wheels that can give out debris at a high speed. Handle the grinding wheel carefully since they are abrasive. Check the replacement wheel for cracks prior to installing. **DO NOT** remove the label or blotter on both sides of the grinding wheel. The spindle nut should be tightened just enough to hold the wheel firmly to your bench grinder. It is possible to damage the grinding wheel with too much clamping force.

DO NOT use the bench grinder if the flange nut or clamp nut is missing or if the spindle shaft is bent.

GRINDING WHEELS will get smaller with use. The distance between the work rest and wheel must be periodically adjusted to 1/16 in.

DO NOT START GRINDER when the grinding wheel is in contact with the workpiece.

GENTLY apply the workpiece against the grinding wheel when starting your project. A sudden impact can damage the wheel. The use of slight pressure is best when starting to grind. The use of too much pressure too quickly on a cold wheel can cause damage to the wheel.

DO NOT STAND directly in front of the bench grinder when starting. When turning the bench grinder to the "ON" position, stand to one side. There is always the possibility of debris discharged toward the operator.

INSPECT TOOL CORDS AND EXTENSION CORDS. If damaged, have repaired or replaced immediately. Know their location, keep them well away from the grinding wheel.

BENCH GRINDERS will emit sparks and produce debris. **DO NOT** use power tools where flammable gas or liquids exist. Clean your bench grinder and area of grinding dust.

KEEP IN MIND. Stay alert and aware of what you are doing. The slightest mistake can cause personal injury and or property damage.

YOUR BENCH GRINDER MUST be securely mounted to a suitable workspace before operating. (hardware not included)

PLAN YOUR PROJECT. Avoid awkward operations and hand positions where a sudden slip could cause personal injury. Hold the workpiece firmly and keep body parts a safe distance from grinding wheels.

WHEEL GUARDS, KEEP THEM IN PLACE. **DO NOT** operate the bench grinder with the wheel guards removed.

KEEP TOOL RESTS FIRMLY TIGHTENED.

WHEN GRINDING ANY METALS, the grinder can produce sparks which may land on your clothing, or hit your face. You should use a full face mask and appropriate protective clothing. Also ensure that you are not operating the grinder around flammable materials or liquids. Always make sure the safety shields and wheel guards are in place at all time.

MAKE SURE the grinding wheels are of the proper speed (RPM) rating for the grinder.

FREQUENTLY QUENCH THE WORKPIECE in water to prevent overheating; be careful not to get water on the bench grinder.

USE THE TOOL REST to steady the work piece. If the tool rest is not used, the torque of the spinning grinding wheel may pull the workpiece from your hands.

DO NOT USE aluminum oxide wheels when grinding nonferrous metals such as aluminum and brass. Use silicon carbide wheels for nonferrous metals.

WHEN BUFFING MATERIAL, always hold the material on the lower side of the buffing wheel. Always keep fingers clear of the grinding wheel and the tool rest.

NOTE: Performance of this tool may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.

⚠ WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



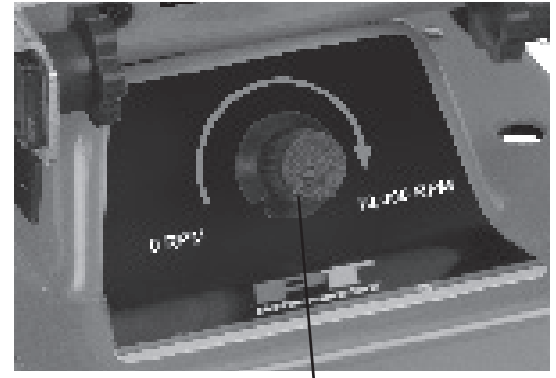
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OPERATION

Turning the Bench Grinder ON and OFF

1. Insert the Plug into an electrical outlet.
2. Turn the speed control Knob clockwise to turn the motor ON and adjust its speed.
3. To turn OFF, turn the Knob counterclockwise until it clicks.
4. Never leave the bench grinder running unattended.
Always turn off the tool when not in use.



Speed Control Knob

⚠ WARNING: The grinding wheel can fly apart and cause injury.

Grinding wheels must always be checked for cracks or imperfections. This is done with the ring test. Tap the wheel gently near the outer rim with the handle of a screwdriver. You should hear a clear bell-like ring. If a dull thud occurs, do not use the wheel. The wheel may be damaged and could come apart during operation.

1. Always bring the workpiece into the wheel gently, without jarring.
2. The workpiece will quickly become heated, therefore frequent quenching in water is required.
3. When grinding high speed steels such as drill and tool bits, avoid high temperature buildup as this can affect the temper of the steel.
4. For small workpieces such as drill bits or chisels, avoid applying pressure to the wheel at a high angle that could cause the workpiece to become lodged between the tool rest and the wheel.

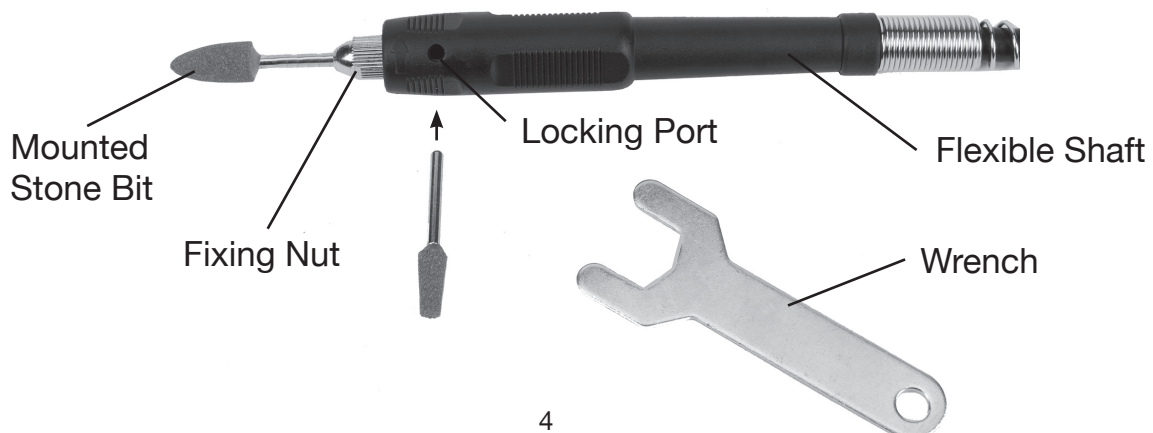
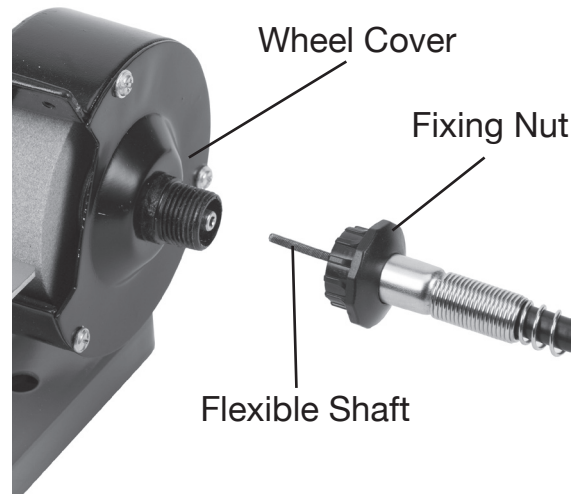
Grinding with the Flex Shaft

1. Secure the Flex Shaft into the right side Wheel Cover.
Align and insert exposed shaft into wheel cover.
2. Tighten the Flex Shaft connector nut onto the Wheel Cover making sure not to cross thread the nut.

To insert a rotary bit into the wand end of the flex shaft:

1. Locate the Locking Port just under the directional indicator arrow on the end of wand.
2. Turn the end of the shaft to align the shaft locking hole with locking port.
3. Use the shaft end of another bit or a small screwdriver to insert into port and secure the shaft.
4. Insert desired bit into the 1/8 in. chuck and use provided wrench to tighten chuck.
5. Remove tool or bit from locking port. Your wand is now ready to be used.

CAUTION: When Flex Shaft is connected the rotary bit is active whenever the grinder is turned on. Make sure the grinding stone is not in contact with anything that might be damaged or cause harm.



Dressing the Grinding Wheel

Note: New wheels frequently are not true and during operation will often become grooved, glazed (build up), out of round, or misshapen. You will need a grinding wheel dresser for this operation (not included).

1. Stand to the side of the wheel for this operation.
2. If the wheel is new let it run for a minute with no load. If the wheel runs straight and true, you will not need to dress it prior to operation. If it does not, proceed with the following instructions.
3. If you are using a "pistol grip" dresser, grip the handle firmly with one hand and the arm of the dresser with the other. Allow the wheel to reach full speed. Use the tool rest to support your hand and the dresser, and evenly apply the dresser to all surfaces of the wheel. The wheel can be dressed in a few minutes.
4. If you are using an "inline" dresser, hold the handle firmly, put the dresser on the tool rest so that its wheels can move freely (i.e., the exposed part of the wheel should be facing up). Let the wheel reach full speed and apply the dresser evenly to all surfaces.

