

8" Low Speed 1HP Bench Grinder



Operator's Manual

Record the serial number and date of purchase in your manual for future reference.

Serial Number: _____ Date of purchase: _____

For technical support or parts questions, email techsupport@rikontools.com or call toll free at (877)884-5167

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NOTE: The specifications, photographs, drawings and information in this manual represent the current grinder model when the manual was prepared. Changes and improvements may be made at any time, with no obligation on the part of Rikon Power Tools to modify previously delivered units. Reasonable care has been taken to ensure that the information in this manual is correct, to provide you with the guidelines for the proper safety, assembly and operation of this machine.

This owner's manual is not a teaching aid and is intended to show assembly, adjustments, and general use.

**SAVE THESE INSTRUCTIONS.
Refer to them often.**

CALIFORNIA PROPOSITION 65 WARNING:



WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Your risk from exposure to these chemicals varies, depending on how often you do this type of work. To reduce your exposure, work in a well-ventilated area and with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

For more information go to www.P65Warnings.ca.gov/wood.


SAFETY INSTRUCTIONS

Fully read and understand all of these instructions before assembling and using your new grinder.

IMPORTANT! Safety is the single most important consideration in the operation of this equipment. The following instructions must be followed at all times. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

There are certain applications for which this tool was designed. We strongly recommend that this tool not be modified and/or used for any other application other than that for which it was designed. If you have any questions about its application, do not use the tool until you have contacted us and we have advised you.

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols and the explanations with them deserve your careful attention and understanding. The symbol warnings do not, by themselves, eliminate any danger. The instructions and warnings they give are no substitutes for proper accident prevention measures.

 **WARNING:** Be sure to read and understand all safety instructions in this manual, including all safety alert symbols such as “DANGER,” ”WARNING,” and “CAUTION” before using this tool. Failure to following all instructions listed below may result in electric shock, fire, and/or serious personal injury.

SYMBOL MEANING



SAFETY ALERT SYMBOL: Indicates DANGER, WARNING, OR CAUTION.
May be used in conjunction with other symbols or pictographs.



DANGER: Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.



WARNING: Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE: (Without Safety Alert Symbol) Indicates a situation that may result in property damage.

SAFETY INSTRUCTIONS

GENERAL SAFETY

Operating a Bench Grinder can be dangerous if safety and common sense are ignored. The operator must be familiar with the operation of the tool. Read this manual to understand this Bench Grinder. **DO NOT** operate this Bench Grinder if you do not fully understand the limitations of this tool. **DO NOT** modify this Bench Grinder in any way.

BEFORE USING GRINDER

WARNING:

To avoid serious injury and damage to the tool, read and follow all of the Safety and Operating Instructions before operating the Bench Grinder.

WARNING:

1. Some dust created by using power tools contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- 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 to these chemicals: work in a well ventilated area and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

2. **READ** the entire Owner's Manual. **LEARN** how to use the tool for its intended applications.

3. **GROUND ALL TOOLS.** If the tool is supplied with a 3-prong plug, it must be plugged into a 3-contact electrical receptacle. The 3rd prong is used to ground the tool and provide protection against accidental electric shock. **DO NOT** remove the 3rd prong. See Grounding Instructions on page 7.

4. **AVOID A DANGEROUS WORKING ENVIRONMENT.** **DO NOT** use electrical tools in a damp environment or expose them to rain.

5. **DO NOT** use electrical tools in the presence of flammable liquids or gasses.

6. **ALWAYS** keep the work area clean, well lit, and organized. **DO NOT** work in an environment with floor surfaces that are slippery from debris, grease, and wax.

7. **KEEP VISITORS AND CHILDREN AWAY.** **DO NOT** permit people to be in the immediate work area, especially when the electrical tool is operating.

8. **DO NOT FORCE THE TOOL** to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the tool was intended.

9. **WEAR PROPER CLOTHING.** **DO NOT** wear loose clothing, gloves, neckties, or jewelry. These items can get caught in the machine during operations and pull the operator into the moving parts. The user must wear a protective cover on their hair, if the hair is long, to prevent it from contacting any moving parts.

10. **CHILDPROOF THE WORKSHOP AREA** by removing switch keys, unplugging tools from the electrical receptacles, and using padlocks.

11. **ALWAYS UNPLUG THE TOOL FROM THE ELECTRICAL RECEPTACLE** when making adjustments, changing parts or performing any maintenance.

12. **KEEP PROTECTIVE GUARDS IN PLACE AND IN WORKING ORDER.**

13. **AVOID ACCIDENTAL STARTING.** Make sure that the power switch is in the "OFF" position before plugging in the power cord to the electrical receptacle.

SAFETY INSTRUCTIONS

14. REMOVE ALL MAINTENANCE TOOLS from the immediate area prior to turning “ON” the Bench Grinder.

15. USE ONLY RECOMMENDED ACCESSORIES. Use of incorrect or improper accessories could cause serious injury to the operator and cause damage to the tool. If in doubt, check the instruction manual that comes with that particular accessory.

16. NEVER LEAVE A RUNNING TOOL UNATTENDED. Turn the power switch to the “OFF” position. **DO NOT** leave the tool until it has come to a complete stop.

17. DO NOT STAND ON A TOOL. Serious injury could result if the tool tips over, or you accidentally contact the tool.

18. DO NOT store anything above or near the tool where anyone might try to stand on the tool to reach it.

19. MAINTAIN YOUR BALANCE. DO NOT extend yourself over the tool. Wear oil resistant rubber soled shoes. Keep floor clear of debris, grease, and wax.

20. MAINTAIN TOOLS WITH CARE. Always keep tools clean and in good working order. Keep all blades and tool bits sharp, dress grinding wheels and change other abrasive accessories when worn.

21. EACH AND EVERY TIME, CHECK FOR DAMAGED PARTS PRIOR TO USING THE TOOL. Carefully check all guards to see that they operate properly, are not damaged, and perform their intended functions. Check for alignment, binding or breaking of moving parts. A guard or other part that is damaged should be immediately repaired or replaced.

22. DO NOT OPERATE TOOL WHILE TIRED, OR UNDER THE INFLUENCE OF DRUGS, MEDICATION OR ALCOHOL.

23. SECURE ALL WORK. Use clamps or jigs to secure the work piece. This is safer than attempting to hold the work piece with your hands.

24. STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE WHEN OPERATING A POWER TOOL. A moment of inattention while operating power tools may result in serious personal injury.

25. ALWAYS WEAR A DUST MASK TO PREVENT INHALING DANGEROUS DUST OR AIRBORNE PARTICLES, including wood dust, crystalline silica dust and asbestos dust. Direct particles away from face and body.

Always operate tool in well ventilated area and provide for proper dust removal. Use dust collection system wherever possible. Exposure to the dust may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Allowing dust to get into your mouth or eyes, or lay on your skin may promote absorption of harmful material. Always use properly fitting NIOSH/OSHA approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

26. USE A PROPER EXTENSION CORD IN GOOD CONDITION. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. The table on page 8 shows the correct size to use depending on cord length and nameplate amperage rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the larger diameter of the extension cord. If in doubt of the proper size of an extension cord, use a shorter and thicker cord. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating.
USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG.

SAFETY INSTRUCTIONS

SPECIFIC SAFETY INSTRUCTIONS FOR BENCH GRINDERS

The operation of any grinder or power tool can result in debris being thrown into your eyes, which can result in severe and permanent eye damage. **ALWAYS WEAR EYE PROTECTION.** Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

Basic precautions should always be followed when using your bench grinder. To reduce the risk of injury, electrical shock, or fire, comply with the safety rules listed below:

- 1. ALWAYS USE THE EYE SHIELDS AND WHEEL GUARDS** provided with the grinder.
- 2. REPLACE A CRACKED OR DAMAGED GRINDING WHEEL IMMEDIATELY.** A damaged wheel can discharge debris at a high velocity towards the operator. Carefully handle the grinding wheels since they are abrasive. Prior to replacing a grinding wheel, check it for cracks. **DO NOT** remove the blotter or label on both sides of the grinding wheel. Tighten the spindle nut just enough to hold the grinding wheel firmly to the Bench Grinder. **DO NOT** over-tighten the nut. Excessive clamping force can damage the grinding wheel. Only use the wheel flanges provided with the grinder. When selecting a replacement grinding wheel use only properly sized wheels, and verify that the grinding wheel has a higher R.P.M. rating than the maximum R.P.M. of the Bench Grinder.
- 3. THE DIAMETER OF THE GRINDING WHEELS WILL DECREASE WITH USE.** Adjust the tool rests and spark arrestors to maintain a distance of 1/16" from the wheel.
- 4. DO NOT STAND IN FRONT OF THE BENCH GRINDER WHEN STARTING IT.** Stand to one side of the Bench Grinder and turn it "ON". Wait at the side for one minute until the grinder comes up to full speed. There is always a possibility that debris from a damaged grinding wheel may be discharged towards the operator.
- 5. THE BENCH GRINDER WILL PRODUCE SPARKS AND DEBRIS DURING GRINDING OPERATIONS.** Be sure that there are not any flammable materials in the vicinity. Frequently clean grinding dust from the back of the Bench Grinder.
- 6. NEVER FORCE THE WORK PIECE AGAINST A GRINDING WHEEL,** especially if the wheel is cold. Apply the work piece slowly, allowing the grinding wheel an opportunity to warm up. This will minimize the chance of wheel breakage. **DO NOT** grind using the sides of the grinding wheels. **DO NOT** apply coolant directly to the grinding wheel.
- 7. KEEP ALL WHEEL GUARDS IN PLACE. DO NOT USE THE BENCH GRINDER WITH THE WHEEL GUARDS REMOVED.**
- 8. KEEP THE TOOL RESTS FIRMLY IN PLACE AND TIGHTENED.** Use them to safely position your material for grinding.
- 9. ALWAYS USE A WHEEL DRESSER TO RESURFACE THE FACE OF THE GRINDING WHEEL.**
- 10. DRESS THE GRINDING WHEEL OFTEN.** This will keep the wheel surface flat and free of nicks and residue/glaze.
- 11. REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from grinder before turning it on.
- 12. ALLOW THE GRINDER TO ATTAIN FULL SPEED BEFORE BEGINNING WORK.**
- 13. NEVER STOP THE GRINDER BY FORCING MATERIAL INTO THE WHEEL.** Let the grinder stop rotating on its own.
- 14. SECURE THE BENCH GRINDER** to a stand or workbench to prevent sliding or tipping during use. See page 12.
- 15. FREQUENTLY** clean grinding dust from inside of the guards and beneath the grinder.
- 16. NEVER GRIND SMALL STOCK** without it being properly supported on the tool rests, and held by pliers or clamps.

SAFETY INSTRUCTIONS

17. **DO NOT FORCE THE TOOL** to perform an operation for which it was not designed. It will do a safer and higher quality job by only performing operations for which the tool was intended.

18. **ADDITIONAL INFORMATION** regarding the safe and proper operation of this product is available from:

- Power Tool Institute
1300 Summer Avenue
Cleveland, OH 44115-2851
www.powertoolinstitute.org
- National Safety Council
1121 Spring Lake Drive
Itasca, IL 60143-3201
www.nsc.org
- American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY 10036
www.ansi.org
- ANSI O1.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor regulations
www.osha.gov

19. **SAVE THESE INSTRUCTIONS.** Refer to them frequently and use them to instruct others.

ELECTRICAL SAFETY

WARNING:

THIS TOOL MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.

IN THE EVENT OF A MALFUNCTION OR BREAKDOWN, grounding provides the path of least resistance for electric current and reduces the risk of electric shock. This tool is equipped with an electric cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching electrical receptacle that is properly installed and grounded in accordance with **ALL** local codes and ordinances.

DO NOT MODIFY THE PLUG PROVIDED.

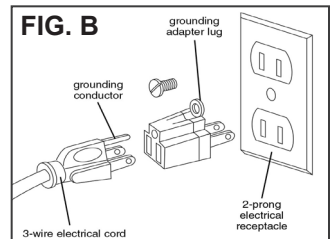
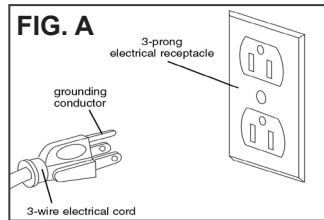
If it will not fit the electrical receptacle, have the proper electrical receptacle installed by a qualified electrician.

IMPROPER ELECTRICAL CONNECTION of the equipment grounding conductor can result in risk of electric shock. The conductor with the green insulation (with or without yellow stripes) is the equipment grounding conductor. **DO NOT** connect the equipment grounding conductor to a live terminal if repair or replacement of the electric cord or plug is necessary.

CHECK with a qualified electrician or service personnel if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

USE ONLY A 3-WIRE EXTENSION CORD THAT HAS A 3-PRONG GROUNDING PLUG AND A 3-POLE RECEPTACLE THAT ACCEPTS THE TOOL'S PLUG. REPLACE A DAMAGED OR WORN CORD IMMEDIATELY.

This tool is intended for use on a circuit that has an electrical receptacle as shown in **FIGURE A**. **FIGURE A** shows a 3-wire electrical plug and electrical receptacle that has a grounding conductor. If a properly grounded electrical receptacle is not available, an adapter as shown in **FIGURE B** can be used to temporarily connect this plug to a 2-contact ungrounded receptacle. The adapter has a rigid lug extending from it that **MUST** be connected to a permanent earth ground, such as a properly grounded receptacle box. **THIS ADAPTER IS PROHIBITED IN CANADA.**



SAFETY INSTRUCTIONS

EXTENSION CORDS

⚠️ WARNING: Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool.

⚠️ WARNING: Check extension cords before each use. If damaged replace immediately. Never use a tool with a damaged cord, since touching the damaged area could cause electrical shock, resulting in serious injury.

Use a proper extension cord. Only use cords listed by Underwriters Laboratories (UL). Other extension cords can cause a drop in line voltage, resulting in a loss of power and overheating of tool. When operating a power tool outdoors, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

MINIMUM RECOMMENDED GAUGE FOR EXTENSION CORDS (AWG)

120 VOLT OPERATION ONLY				
	25' LONG	50' LONG	100' LONG	150' LONG
0 to 6 Amps	18 AWG	16 AWG	16 AWG	14 AWG
6 to 10 Amps	18 AWG	16 AWG	14 AWG	12 AWG
10 to 12 Amps	16 AWG	16 AWG	14 AWG	12 AWG

SPECIFICATIONS

MOTOR POWER	1HP, 120V, S1 5A - S2 30 min 7A, 60Hz, 1Ph, Induction
MOTOR RPM (no load)	1780 RPM
MOTOR ARBOR	5/8" (15.88mm)
ARBOR THREADING	M16 LH / M16 RH
GRINDING WHEEL SIZE	8" Dia. x 1-1/2" Wide (200mm x 40mm)
GRINDING WHEEL GRITS (2)	60 Grit and 120 Grit
GRINDING WHEEL MATERIAL	Vitrified Aluminum Oxide
TOOL RESTS, FLAT (2)	4-5/16" x 1-3/4" (110mm x 45mm)
EYE SHIELDS (2)	Clear Plastic and 2.5x Magnification
SPARK ARRESTORS	Left and Right
ON/OFF SWITCH	Toggle with Safety Lock
DUST PORTS (2)	1-3/16" (31mm) O.D.
LIGHT	LED, 12V / 0.36W
POWER CORD	6 Feet (185mm)
WEIGHT	60 lbs. (27 kg.)
GRINDER BASE (LxW)	9-1/2" x 6-1/2" (240mm x 165mm)
MOUNTING HOLES (2)	7/16" Dia.(12mm), 8-1/4" (210mm) Apart
OVERALL SIZE Approx. (LxWxH)	20" x 10-5/8" x 15-1/2" 510mm x 270mm x 395mm

CARTON CONTENTS

UNPACKING AND CHECKING CONTENTS

This Bench Grinder will require a minimal amount of assembly.

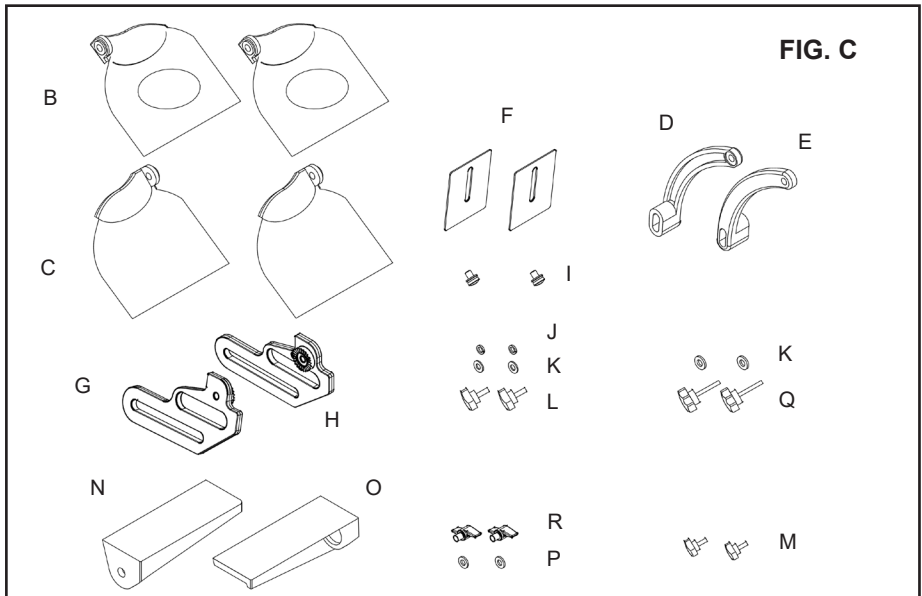
1. Remove parts from all of the cartons and lay them on a clean work surface.

2. Remove any protective materials and coatings from all of the parts and the bench grinder. The protective coatings can be removed by spraying WD-40 on them and wiping it off with a soft cloth. This may need to be redone several times before all of the protective coatings are removed completely.

CAUTION: DO NOT use acetone, gasoline or lacquer thinner to remove any protective coatings.

3. Compare the items to Figure C; verify that all items are accounted for before discarding the shipping box.

WARNING: If any parts are missing, do not attempt to plug in the power cord and turn "ON" the Bench Grinder. The Bench Grinder can only be turned "ON" after all the parts have been obtained and installed correctly.

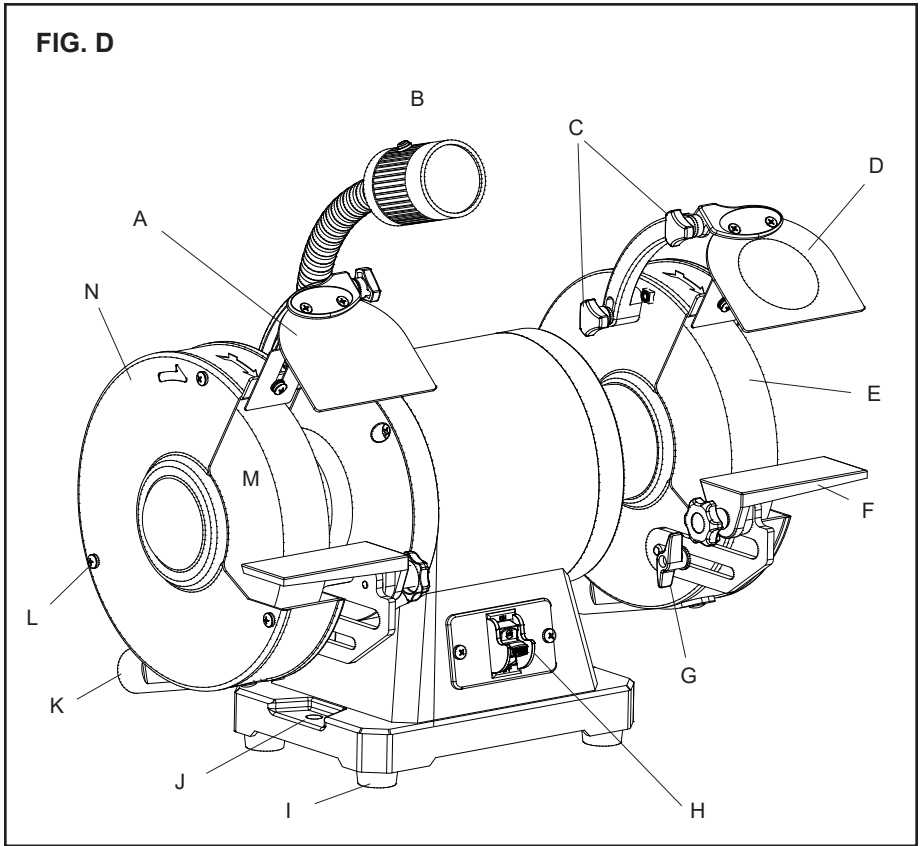


The following items are provided in the 80-820 grinder's shipping box:

- | | |
|--|--|
| A. Grinder (not shown) | J. Spring washer D6 (2) |
| B. Eye shield assembly, 2.5x magnification (2) | K. Flat washer D6 (4) |
| C. Eye shield assembly, plain (2) | L. Eye shield bracket locking knob M6x30 (2) |
| D. Eye shield mounting rod, left | M. Eye shield locking knob M5x10 (2)((2)2) |
| E. Eye shield mounting rod, right | N. Tool rest, left |
| F. Spark arrestors, (2) | O. Tool rest, right |
| G. Tool rest support, left | P. Flat washer D8 (2) |
| H. Tool rest support, right | Q. Tool rest bracket locking knob M6x21 (2) |
| I. Phillips screw assembly M5x8 (2) | R. Tool rest locking knob M8x12 (2) |

NOTE: Full Parts Diagram and Parts List are listed on pages 16 to 19.

OVERVIEW



80-820 8" LOW SPEED 1HP BENCH GRINDER OVERVIEW (Fig. D)

- | | |
|--|--|
| A. Eye Shield Assembly, Left, Clear (x2) | H. On/Off Switch with Removable Key |
| B. LED Work Light | I. Rubber Foot (x4) |
| C. Eye Shield Adjustment Knob (x4) | J. Mounting Hole (x2) |
| D. Eye Shield Assembly, Right, Magnifying (x2) | K. Dust Port (x2) |
| E. 8" x 1-1/2" Grinding Wheel, 120 Grit | L. Wheel Cover Screw (x6) |
| F. Tool Rest (x2) | M. 8" x 1-1/2" Grinding Wheel, 60 Grit |
| G. Tool Rest Adjustment Knobs (x2) | N. Wheel Cover (x2) |

NOTE: Full Parts Explosion and Parts List are listed on pages 16 to 19.

TOOLS REQUIRED FOR ASSEMBLY:

- #2 Phillips Screwdriver



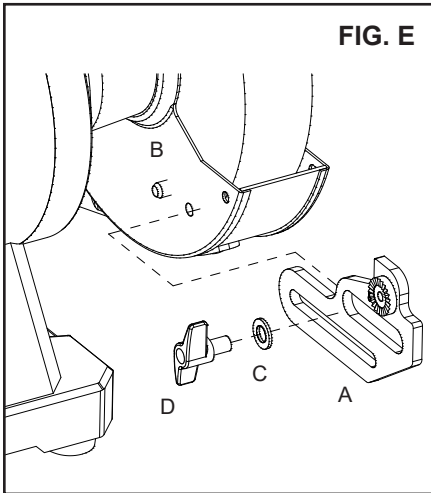
ASSEMBLY INSTRUCTIONS

The Bench Grinder is provided with adjustable left and right positioned two-piece tool rests to lay your workpieces on.

1. **DO NOT** assemble the Bench Grinder until you are sure the tool **IS NOT** plugged in.
2. **DO NOT** assemble the Bench Grinder until you are sure the power switch is in the "OFF" position.
3. **DO NOT** assemble the Bench Grinder until you are sure the grinding wheels are firmly tightened to the Bench Grinder.

TOOL RESTS (Figs. E and F)

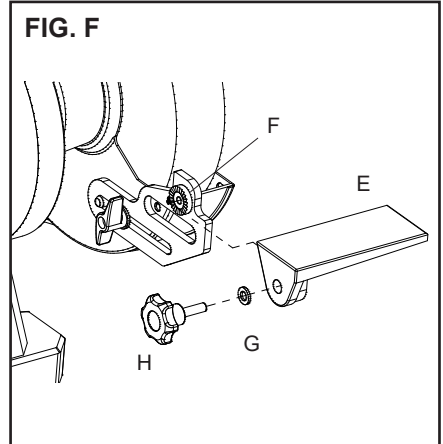
The Bench Grinder is provided with two Tool Rests assemblies for use with the two different grit grinding wheels. The Left Side Tool Rest is and the Right Side Tool Rest are both entirely flat.



1. Assemble the Tool Rest Supports (A) to the inside surface of the Wheel Covers (B) with the Flat Washers (C) and Bracket Locking Knobs (D) as shown. See Figure E.

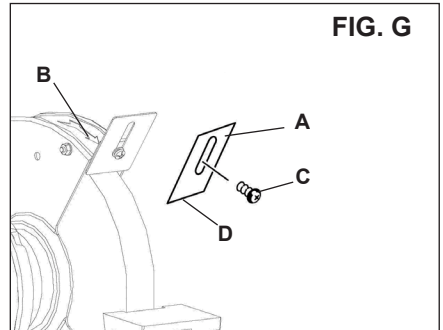
2. Assemble the Tool Rests (E) to the Supports (F) with the supplied Flat Washers (G) and Locking Knobs M8x12 (H) as shown. See Figure F.

3. Adjust each Tool Rest until its inside edge (I) is 1/16" from the grinding wheel. Firmly tighten the locking knobs holding the supports. See Figure F.



SPARK ARRESTORS (Fig. G)

1. Assemble the Spark Arrestors (A) to the front surface of the Wheel Covers (B) with the Phillips Head Screws M5x10 and Washers (C) as shown. See Figure G.
2. Adjust each Spark Arrestor until the lower edge (D) is 1/16" from the grinding wheel. Then firmly tighten the Phillips Head Screws. See Figure G.
3. As the grinding wheel reduces in size from use, re-adjust the spark arrestors so that their lower edges maintain the safe 1/16" spacing from the wheel.



ASSEMBLY INSTRUCTIONS

EYE SHIELDS (Fig. H)

1. Fasten the Safety Eye Shield Assemblies to the Safety Shield Brackets using the Locking Knobs M5x15. Fig. H.

NOTE: The slotted, thick part of the safety shield bracket must face towards the grinding wheel guard.

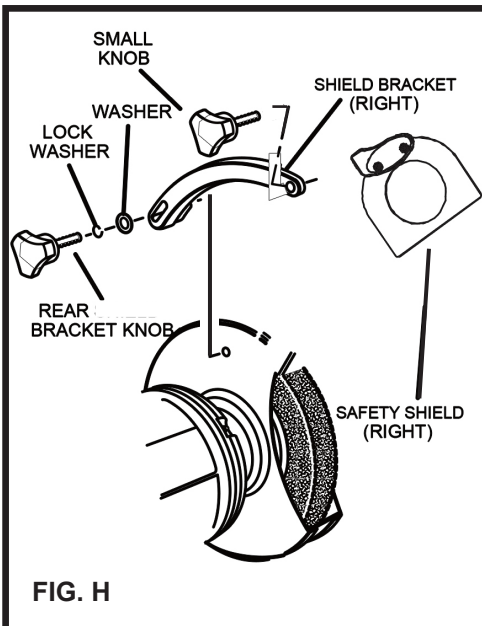
2. Attach the Safety Shield Assembly and Bracket to the Wheel Guard using a Flat Washer, Lock Washer and Rear Bracket Locking Knob M6x30.

3. The eye shield should be positioned over the grinding wheel to protect the user against any sparks or debris that may be thrown during use.

4. Adjust the eye shield bracket and eye shield into the desired position above the grinding wheel, then tighten the knobs.

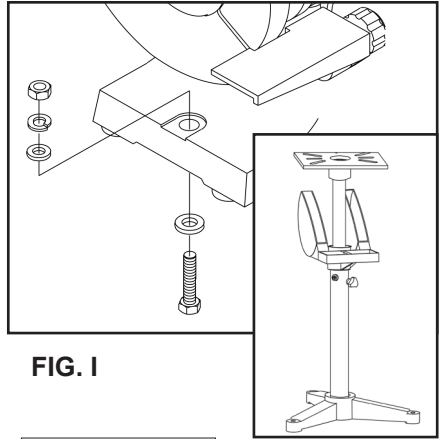
⚠ WARNING:

ALWAYS USE THE EYE SHIELDS AND WHEEL GUARDS provided with the grinder.



PERMANENT MOUNTING (Fig. I)

Use the mounting holes in the base of the grinder to firmly attach grinder to a solid work surface or grinder stand (mounting hardware and stand not included). See Figure I.



⚠ WARNING:

To avoid serious injury, secure the Bench Grinder to a solid work surface. If the Grinder is not permanently mounted to a work surface, and remains portable, the Grinder's base should be temporarily clamped to a table or board/plywood. Make sure that the clamps do not interfere with the tool rests, wheels or hinders the movement of the user and the material being ground during use.

If the Bench Grinder is not securely mounted, it will have the ability to move or tip over during grinding operations and possibly cause the operator's fingers to contact the grinding wheels.

⚠ CAUTION:

ALWAYS WEAR EYE PROTECTION. Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

OPERATING THE BENCH GRINDER

BEFORE USING GRINDER

Operating a Bench Grinder can be dangerous if safety and common sense are ignored. The operator must be familiar with the operation of the tool. Read this manual to understand this Bench Grinder. **DO NOT** operate this Bench Grinder if you do not fully understand the limitations of this tool. **DO NOT** modify this Bench Grinder in any way.

WARNING:

To avoid serious injury and damage to the tool, read and follow all of the Safety and Operating Instructions on pages 3 - 8 before operating the Bench Grinder.

The Bench Grinder is designed for hand held grinding, sharpening, and cleaning operations.

CAUTION:

ALWAYS WEAR EYE PROTECTION!
Hot sparks are produced during grinding operations.

1. Stand to the side of the Bench Grinder and plug in the power cord to a suitable power source.
2. Remain to the side of the Bench Grinder and turn it "ON" by moving the power switch to the up position.
3. Allow the grinding wheels to come up to a steady speed for at least one minute before any grinding is done.
4. Adjust the eye shields. Place the work piece flat on the appropriate tool rest for the desired operation. Firmly hold onto the work piece - use pliers, vise clamps, if necessary.
5. Move the work piece towards the grinding wheel until it lightly touches. Move the work piece back and forth across the front surface of the grinding wheel removing the amount of material desired. Grinding in one spot on the wheel will create uneven wear on the wheel face and require frequent dressing and shorten the life of the wheel.

WARNING:

To avoid serious injury, never grind on the sides of the grinding wheels.

6. Never force the work piece against the grinding wheel, especially if the wheel is cold. Apply the work piece slowly, allowing the grinding wheel an opportunity to warm up. This will minimize the chance of wheel breakage. Do not grind using the sides of the grinding wheels. Do not apply coolant directly to the grinding wheel.
7. If the work piece gets too hot, the operator may place the hot end into water in a quench tray to cool it.
8. After completing the grinding operations, turn "OFF" the Bench Grinder by pushing down on the Power Switch.

CAUTION:

It will take a few minutes for the grinding wheels to come to a complete stop.

9. Unplug the Bench Grinder from the power source. **NOTE:** To prevent unauthorized use of the Bench Grinder, the power switch has a removable locking key. With the power switch in the "OFF" position, pull the locking key out. The Bench Grinder cannot be turned "ON" with the key removed. Insert the locking key to resume grinding operations.

WARNING:

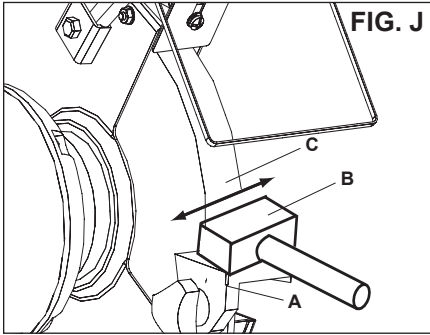
FIRE AND EXPLOSION HAZARD !
DO NOT connect a Dust Collector that is designed for wood dust, shavings or other flammable materials to the grinder. Hot sparks from the grinder may ignite this material.
Use only a Collector designed for capturing metal dust and swarf.

CAUTION:

ALWAYS WEAR EYE PROTECTION.
Everyday eyeglasses are **NOT** safety glasses. **ALWAYS** wear Safety Goggles (that comply with ANSI standard Z87.1) when operating power tools.

OPERATING THE BENCH GRINDER

USING THE WHEEL DRESSER (Fig. J)



A Wheel Dresser (not included) is to be used to remove any forward wobble, buildup up of material on the grinding wheel, remove imperfections, and make the corners of the grinding wheel square. See Figure J.

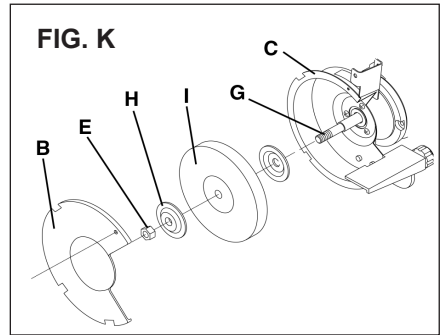
DO NOT use the Wheel Dresser on Wire Wheels (not included) if they are installed on the grinder.

1. Adjust tool rest (A) until it is in the flat horizontal position as shown and 1/16" away from the grinding wheel.
2. Turn "ON" the Bench Grinder. Let the grinding wheel come up to a steady speed for one minute.
3. After the grinding wheel has gotten to a steady speed, place the Wheel Dresser head (B) flat on the Tool Rest.
4. Firmly hold on to the handle of the Wheel Dresser.
5. Move the Wheel Dresser forward until it makes light contact with the grinding wheel (C). After contact has been made, slide the Wheel Dresser side to side across the Tool Rest to dress the grinding wheel until the edges of the grinding wheel are square and the surface is clean.
6. After the dressing the grinding wheel, turn "OFF" the Bench Grinder and let the grinding wheel come to a complete stop. Allow the grinding wheel to cool down for a period of 10 minutes before use.

7. Inspect the grinding wheel for any irregularities that still need to be dressed, or for and damage. If there is damage to the wheel (cracks, major chips missing), replace the wheel immediately.

8. The grinding wheel may now be slightly smaller in diameter after dressing. Re-adjust the tool rests and spark arrestors to maintain a 1/16" clearance to the grinding wheel.

CHANGING THE GRINDING WHEEL (Fig. K)



Due to normal wear, both wheels will need to be replaced occasionally.

1. Turn the power switch OFF and unplug the power cord from its power source.
2. Rotate the eye shield up to access the tool rest.
3. Loosen the tool rest knob and rotate the tool rest away from the grinding wheel.
4. Remove the Wheel Cover (B) by unscrewing the fasteners that hold it in place.
5. Lightly push a wood wedge between the grinding wheel and the guard to keep the shaft from turning. Then use a crescent wrench to remove the arbor hex nut.
6. **NOTE:** The left hand arbor hex nut (E) is left hand threaded and is loosened by rotating it clockwise. The right hand arbor hex nut is right hand threaded and is loosened by rotating it counter-clockwise.

OPERATING THE BENCH GRINDER

(Refer to Fig. K on page 14.)

7. Remove the Outer Wheel Flange (H) and then the abrasive wheel (I) from the arbor shaft (G).

8. **CAUTION:** The new abrasive wheel to be put onto the grinder must have a higher R.P.M. rating than the grinder's motor. The new abrasive wheel must have the correct 8" outer wheel diameter and 5/8" bore diameter as original wheels. The labels on the sides of the abrasive wheel must stay on. **DO NOT** remove these labels. These labels or fiber discs help spread the holding pressure of the tightened nuts on the grinding wheel flanges.

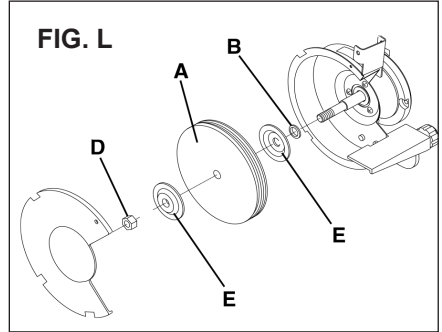
9. Replace the abrasive wheel, outer wheel flange and arbor hex nut. **NOTE:** The left hand arbor hex nut is left hand threaded and is tightened by rotating it counter-clockwise. The right hand arbor hex nut is right hand threaded and is tightened by rotating it clockwise.

CAUTION: **DO NOT OVER TIGHTEN** the arbor hex nut as this may damage the abrasive wheel, wheel flanges and cause serious injury to the operator.

10. Replace the wheel cover and secure it back in place on the grinder with the fasteners that were previously removed (step 4).

11. Run the new wheel at full speed for a few minutes to ensure that it is rotating properly.

WIRE WHEEL or BUFFING WHEEL (Fig. L)



A wire wheel or buffing wheel (A) (not included) can be used with your grinder. Depending on the thickness of the wheel, you will need to add one or more spacers (not included) to allow the arbor hex nut (D) to tighten correctly. Figure L shows the correct placement of the spacer (B).

Note: Spacer (B) should always go onto the arbor shaft first. Always use the wheel flanges (E) that come with the grinder for both wire wheel and buffing wheels. See section **CHANGING THE GRINDING WHEEL** for correct procedure of changing wheels. See page 14.

MAINTENANCE OF THE BENCH GRINDER

WARNING: Turn the power switch "OFF" and unplug the power cord from its power source prior to any maintenance.

LUBRICATION

The Bench Grinder has sealed lubricated bearings in the motor housing that do not require any additional lubrication from the operator.

CLEANING

With the Bench Grinder unplugged, rotate the abrasive wheels slowly and inspect for any damage or trapped debris. Periodically blow areas in and around the grinder to keep the machine and work area clean.

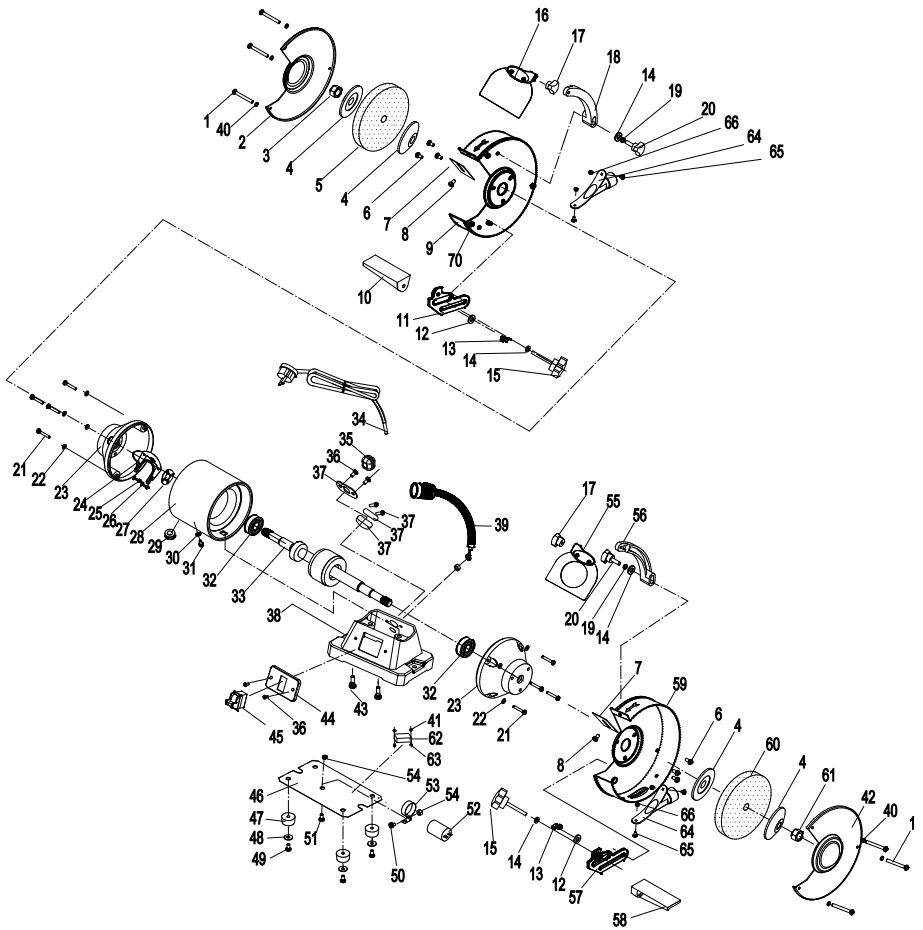
CAUTION: REPLACE the abrasive wheels if there is any damage at all. **FAILURE** to replace a damaged wheel can cause serious injury to the operator. Periodically check all nuts and fasteners to make sure that they are secure.

CAUTION: DO NOT USE FLAMMABLE MATERIALS to clean the Bench Grinder. A clean dry rag or brush is all that is needed to remove dust and debris buildup.

WARNING: Repairs to the Bench Grinder should be performed by trained personnel only. Unauthorized repairs or replacement with non-factory parts could cause serious injury to the operator and damage to the Grinder.

PARTS DIAGRAM

80-820 8" LOW SPEED 1HP BENCH GRINDER



NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts.

For Parts under Warranty,
the Serial Number of your machine is required.

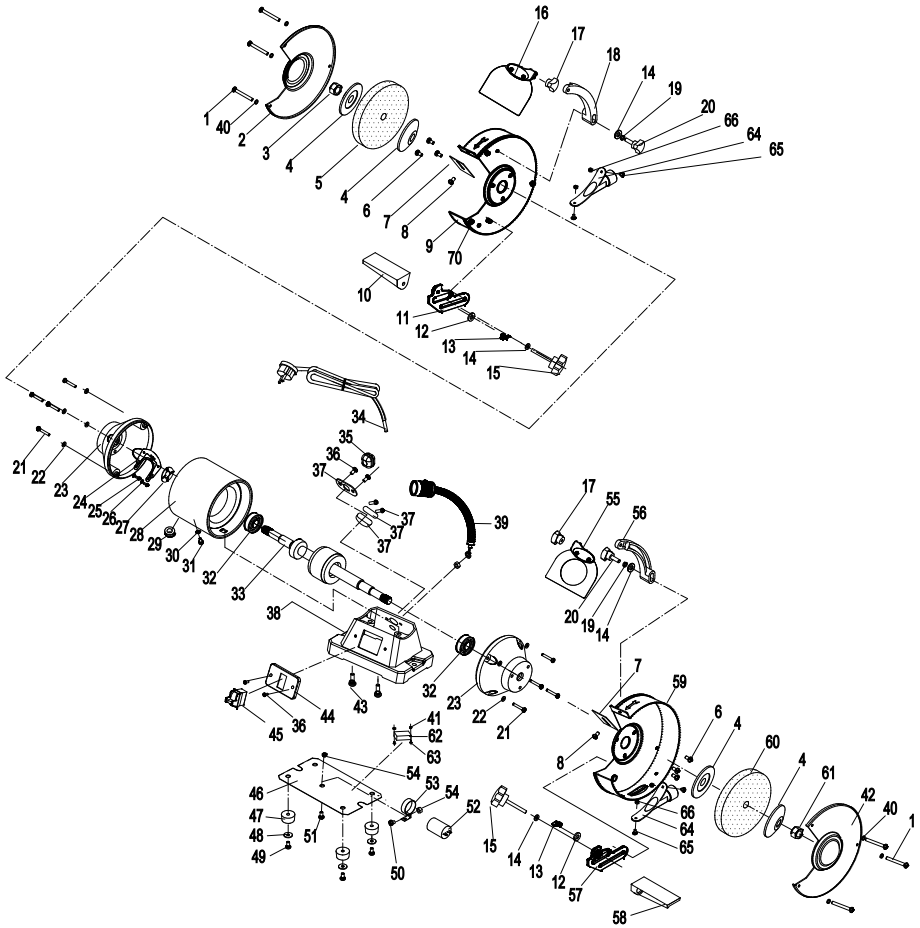
PARTS LIST

KEY NO.	DESCRIPTION	QTY	PART NO.
1	Phillips Screw M5x62	6	P80-820-1
2	Left wheel cover	1	P80-820-2
3	I type hexagon nut M16 left	1	P80-808-3
4	Flange	4	P80-808-4
5	Grinding wheel 60# P200x40x15.88	1	C81-803
6	Phillips Screw+Spring washer M6x18	6	P80-808-6
7	Spark deflector	2	P80-820-7
8	Phillips Screw+Spring washer+Flat washer M5x10	2	P80-808-8
9	Left inner guard	1	P80-820-9
10	Left movable work rest	1	P80-820-10
11	Left fixed work rest	1	P80-820-11
12	Flat washer D8	2	P80-808-12
13	Fixed work rest locking knob M8x12	2	P80-820-13
14	Flat washer D6	4	P80-808-14
15	Bracket locking knob	2	P80-820-15
16	Left eyeshield assembly (plain)	2	P80-808-16
17	Eyeshield locking knob	2	P80-808-17
18	Left eyeshield bracket	1	P80-808-18
19	Spring washer D6	2	P80-808-19
20	Eyeshield bracket locking knob M6x30	2	P80-808-20
21	Phillips Screw M6x25	8	P80-808-21
22	Spring washer D6	8	P80-808-22
23	End cap	2	P80-808-23
24	Centrifugal switch	1	P80-808-24
25	Phillips Screw M4x6	2	P80-808-25
26	Plain washer D4	2	P80-808-26
27	Spring washer	1	P80-808-27
28	Stator	1	P80-820-28
29	Wire bushing	1	P80-808-29
30	Lock washer D4	1	P80-808-30
31	Phillips Screw+Spring washer+Flat washer M4x8	1	P80-808-31
32	Bearing	2	P80-808-32
33	Rotor	1	P80-808-33
34	Plug	1	P80-808-34

CONTINUED ON PAGE 19

PARTS DIAGRAM

80-820 8" LOW SPEED 1HP BENCH GRINDER



NOTE: Please reference the Manufacturer's Part Number when calling for Replacement Parts.

For Parts under Warranty,
the Serial Number of your machine is required.

PARTS LIST

KEY NO.	DESCRIPTION	QTY	PART NO.
35	Cord clip	1	P80-808-35
36	Phillips Screw M5x8	4	P80-808-36
37	Clip plate	1	P80-808-37
38	Base	1	P80-820-38
39	Lamp assembly	1	P80-820-39
40	Spring Washer D5	6	P80-820-40
41	Flange nut M3	2	P80-820-41
42	Right wheel cover	1	P80-820-42
43	Hexagon bolt+spring washer M8x25	2	P80-808-43
44	Switch plate	1	P80-808-44
45	Switch	1	P80-808-45
46	Base plate	1	P80-820-46
47	Rubber feet	4	P80-808-47
48	Big flat washer D5	4	P80-808-48
49	Phillips Screw M5x20	4	P80-808-49
50	Phillips Screw M5x16	1	P80-808-50
51	Phillips Screw M5x10	1	P80-808-51
52	Capacitor	1	P80-808-52
53	Capacitor support	1	P80-808-53
54	Hexagon nut M5	2	P80-808-54
55	Right eyeshield assembly (magnify)	2	P80-808-55
56	Right eyeshield support	1	P80-808-56
57	Right fixed work rest	1	P80-820-57
58	Right movable work rest	1	P80-820-58
59	Right wheel guard	1	P80-820-59
60	Grinding wheel 120# P200x40x15.88	1	C81-805
61	I type hexagon nut M16 Right	1	P80-808-61
62	Lamp transformer	1	P80-820-62
63	Phillips Screw M3x10	2	P80-820-63
64	Dust exhaust port	2	P80-820-64
65	Half round head square neck screw M5X16	4	P80-820-65
66	Flange nut M5	4	P80-820-66
67	Cord clip plate	1	P80-820-67
68	Cord clip base plate	1	P80-820-68
69	Phillips screw M4X16	2	P80-820-69
70	Square nuts M5 - welded to guards	6	x
X	Grinding wheel 80# P200x40x15.88 (NOT SHOWN)	x	C81-804

CONTINUED FROM PAGE 17

TROUBLESHOOTING

TO PREVENT INJURY TO YOURSELF or damage to the Bench Grinder, turn the switch to the "OFF" position and unplug the power cord from the electrical receptacle before making any adjustments.

PROBLEM	LIKELY CAUSE(S)	SOLUTION(S)
Motor does not run	<ol style="list-style-type: none"> 1. Machine not plugged in 2. Power switch in "OFF" position 3. Power switch or cord is faulty 4. Fuse or circuit breaker are open 5. Material wedged between wheel and tool rest or guard 	<ol style="list-style-type: none"> 1. Plug power cord into electrical receptacle 2. Lift switch to "ON" position 3. Replace switch or power cord 4. Overloaded electrical circuit 5. Turn grinder off, unplug power cord and remove material
Motor does not have full power	<ol style="list-style-type: none"> 1. Incorrect line voltage 2. Motor capacitor has failed 	<ol style="list-style-type: none"> 1. Have a qualified electrician check circuit for proper voltage 2. Replace motor capacitor
Motor runs hot	<ol style="list-style-type: none"> 1. Motor is overloaded 2. Poor air circulation around motor 3. Overuse in high ambient temperature room 	<ol style="list-style-type: none"> 1. Reduce pressure on work piece 2. Remove any blockage around motor 3. Reduce runtime to 20 minutes or less
Motor stalls or runs slow	<ol style="list-style-type: none"> 1. Motor is overloaded 2. Incorrect line voltage 3. Motor capacitor has failed 	<ol style="list-style-type: none"> 1. Reduce pressure on work piece 2. Have a qualified electrician check circuit for proper voltage 3. Replace motor capacitor
Fuses blow or circuit breaker trips	<ol style="list-style-type: none"> 1. Motor is overloaded 2. Overloaded electrical circuit 3. Undersized fuse or circuit breaker 4. Defective cord, plug or switch creating a short circuit 5. Undersized or excessive length of extension cord, see page 8 6. Material wedged between wheel and tool rest or guard 	<ol style="list-style-type: none"> 1. Reduce pressure on work piece 2. Reduce the amount of items on circuit 3. Replace with correct fuse or circuit breaker 4. Replace with new parts 5. Use correct size and length of extension cord 6. Turn grinder off, unplug power cord and remove material

CORRECTING EXCESSIVE WHEEL WOBBLE

The performance of your bench grinder can be improved with just a little time performing a few simple tune-up steps. Make sure the grinder is always unplugged during any adjustment or wheel changes.

The large flange washers may not run perfectly true and can be adjusted by making a reference mark on each flange washer and the wheel to record their original location. Next, loosen the shaft nut and slightly rotate one flange washer clockwise and the other counterclockwise.

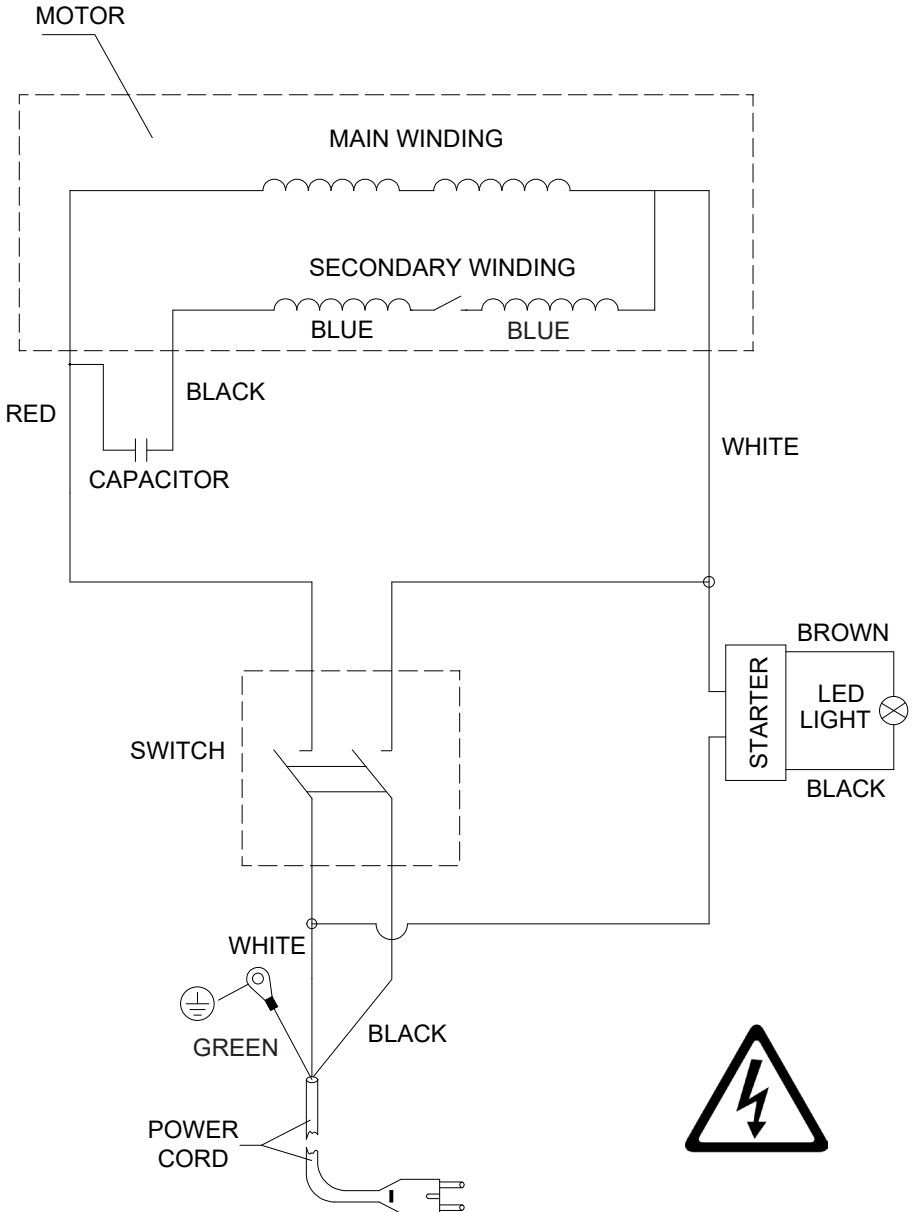
These movements should only be about one-half an inch at a time; then snug up the shaft nut by hand and spin the wheel by hand. Observe any change. This rotation should minimize any oscillation caused by flange washers. Now re-tighten the shaft nuts and dress the wheel. The center bushings supplied by aftermarket grinding wheel manufacturers are designed to roughly center the wheel on the shaft. The flange washers hold the wheel; dressing with a wheel dresser will make the wheel run true.

If adjusting the flange washers does not make the wheel run without side-to-side oscillation, then remove the wheel and flange washers and check the shoulder on the motor shaft at the point where the flange washer seats against it. A slight burr on the edge of the shoulder can stop the flange washer from seating properly. This can be removed by using a file to smooth the edge of the shoulder. Look for any roughness on the surfaces of the flange washers and smooth these spots on sandpaper placed on a flat surface. Then replace the wheel, re-adjust the flange washers, and dress the wheel.

WIRING DIAGRAM

80-820 8" LOW SPEED 1HP BENCH GRINDER

⚠ WARNING: This machine must be grounded. Replacement of the power supply cable should only be done by a qualified electrician. See pages 5, 7 & 8 for additional electrical information.



ACCESSORIES



C81-804 GRINDING WHEEL - 80 Grit

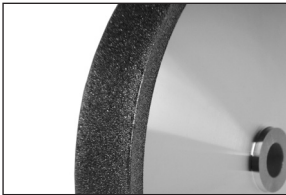
8" Diameter x 1-1/2" Wide 80 Grit grinding wheel for preliminary sharpening of tool edges or shaping of other metal projects. Made of Vitrified Aluminum Oxide abrasives with 5/8" arbor hole. Weighs approximately 7 lbs., so recommended for grinders 1HP and above with speeds not to exceed 3800 RPM (40/M/S).



P80-805-54 DIAMOND FACED WHEEL DRESSER

36-Grit Dresser will keep your abrasive grinding wheels flat for improved sharpening of tool edges. Diamond surface is 1-3/8" x 1/2" with 3-1/2" long handle. (Not for use on CBN wheels)

RIKON's PROseries 8" CBN Sharpening Wheels feature Cubic Boron Nitride abrasives, one of the hardest materials besides diamond! These wheels will put razor sharp edges on your hardened steel tools - woodturning and carving gouges, chisels, plane blades, etc.. Each wheel is precision machined from solid 6061 aluminum, balanced, and electroplated with finely screened CBN abrasives that are ideal for sharpening hardened, heat-treated steel tools. CBN wheels cut quickly with minimum pressure, stay cool and never needs dressing or shaping. Wheels fit onto grinders with 5/8" shafts and work best on low-speed grinders operating below 2,000 RPMs. Note that CBN wheels are not for use with soft carbon steel, aluminum or other soft metals which will ruin the abrasives and void the warranty.



8" x 1" CBN SHARPENING WHEELS

Features 1" wide perimeter surfaces with 1/4" flat side edges. 5/8" arbor holes.

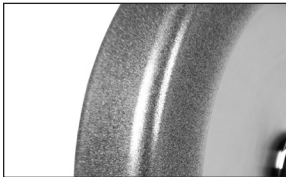
82-1080 80 Grit	82-1350 350 Grit
82-1180 180 Grit	82-1600 600 Grit



8" x 1.5" with Radius CBN SHARPENING WHEELS

Features 1-1/2" wide perimeter surfaces with 1/4" radius curved side edges. 5/8" arbor holes.

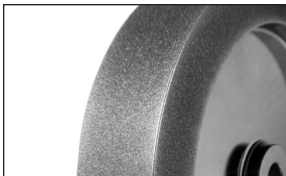
82-5080R 80 Grit	82-5350R 350 Grit
82-5180R 180 Grit	82-5600R 600 Grit



8" x 1.5" with Radius & 1" CBN SHARPENING WHEELS

Features 1-1/2" wide perimeter surfaces with 1/4" radius curved corners and 1" flat side edges. 5/8" arbor holes.

82-6080R 80 Grit	82-6350R 350 Grit
82-6180R 180 Grit	82-6600R 600 Grit



8" x 1.5" CBN SHARPENING WHEELS

Features 1-1/2" wide perimeter surfaces with 1" flat side edges. 5/8" arbor holes.

82-7080 80 Grit	82-7350 350 Grit
82-7180 180 Grit	82-7600 600 Grit

ACCESSORIES



82-1005 PRO SHARPENING SYSTEM

Used with your 8" bench grinder, this System includes the basic set-up for putting perfect, sharp edges on gouges, chisels, scrapers and other blades. The 2 adjustable arms allow for easy setting of different grinding angles for your shop tools. Set includes: Locking Base Assemblies (2), Long V-Arm, Short 90 degree Platform Arm, Tool Rest Platform for Short Arm, Adjustable Lever Handles and Mounting Hardware.

For additional *PRO* Sharpening System Attachments, visit your local RIKON Tool Distributor, or visit www.rikontools.com for more information.

WARRANTY

RIKON

POWER TOOLS®

5-Year Limited Warranty

RIKON Power Tools Inc. ("Seller") warrants to only the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship for a period of five (5) years from the date the product was purchased at retail. This warranty may not be transferred.

This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs, alterations, lack of maintenance or normal wear and tear. Under no circumstances will Seller be liable for incidental or consequential damages resulting from defective products. All other warranties, expressed or implied, whether of merchantability, fitness for purpose, or otherwise are expressly disclaimed by Seller. This five-year warranty does not cover products used for commercial, industrial or educational purposes. The warranty term for these claims will be limited to a two-year period.

This limited warranty does not apply to accessory items such as blades, drill bits, sanding discs, grinding wheels, belts, guide bearings and other related items.

Seller shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, proof of purchase documentation must be provided which has the date of purchase and an explanation of the complaint.

The Seller reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

To register your machine on line, visit RIKON at www.rikontools.com/warranty

To take advantage of this warranty, or if you have any questions, please contact us at 877-884-5167 or email warranty@rikontools.com

RIKON
POWER TOOLS®

80-820



For more information:
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North Andover, MA 01845

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techsupport@rikontools.com