MODEL G9717
6" BENCH GRINDER
OWNER'S MANUAL

(For models manufactured since 03/00)

(FOR MODELS MANUFACTURED SINCE 03/00) #BL8859 PRINTED IN CHINA

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ 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, 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.

Table of Contents

INTRODUCTION

Contact Info

We stand behind our machines! If you have questions or need help, contact us with the information below. Before contacting, make sure you get the **serial number** and **manufacture date** from the machine ID label. This will help us help you faster.

Grizzly Technical Support
1815 W. Battlefield
Springfield, MO 65807
Phone: (570) 546-9663
Email: techsupport@grizzly.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Grizzly Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

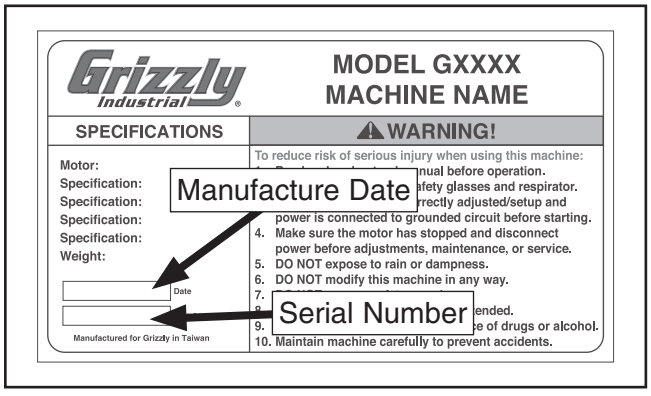
Manual Accuracy

We are proud to provide a high-quality owner's manual with your new machine!

We made every effort to be exact with the instructions, specifications, drawings, and photographs in this manual. Sometimes we make mistakes, but our policy of continuous improvement also means that **sometimes the machine you receive is slightly different than shown in the manual**.

If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at **www.grizzly.com**.

Alternatively, you can call our Technical Support for help. Before calling, make sure you write down the **Manufacture Date** and **Serial Number** from the machine ID label (see below). This information is required for us to provide proper tech support, and it helps us determine if updated documentation is available for your machine.



Identification

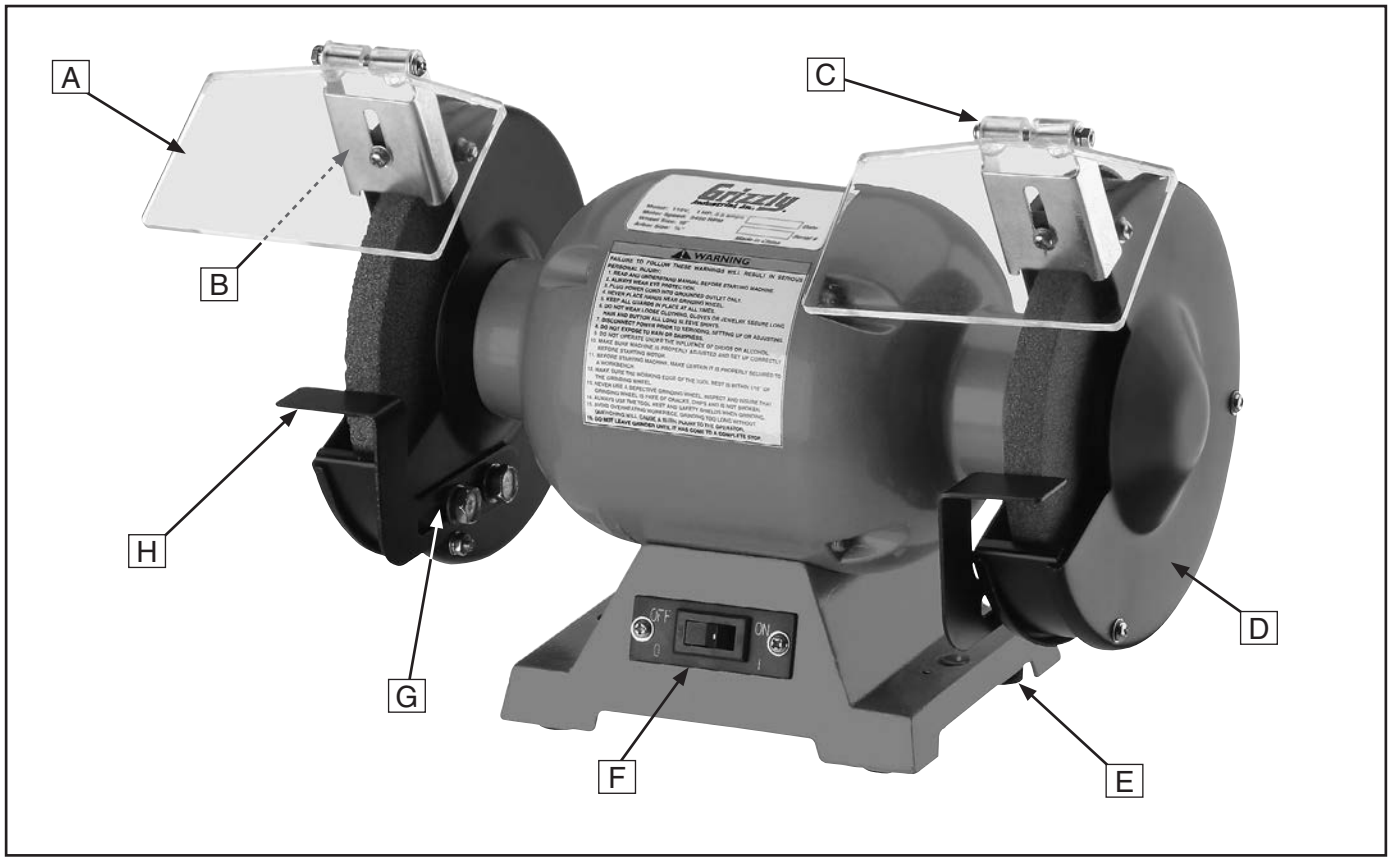
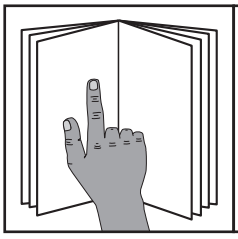


Figure 1. Model G9717 identification.

A. Adjustable Chip Shield
B. Adjustable Spark Arrestor
C. Spark Shield Hinge Assembly
D. Grinding Wheel Cover
E. Rubber Foot
F. ON/OFF Toggle Switch
G. Work Rest Adjustment Slide
H. Work Rest



⚠WARNING

To reduce your risk of serious injury, read this entire manual BEFORE using machine.

MACHINE DATA SHEET

Customer Service #: (570) 546-9663 • To Order Call: (800) 523-4777 • Fax #: (800) 438-5901

MODEL G9717 6" BENCH GRINDER

Overall Dimensions:

Height	10¼"
Width	16"
Depth	8¼"
Net Weight	18 lbs.
Footprint	5⅜" x 7"

Shipping Dimensions:

Type	Cardboard Over Styrofoam
Weight	19 lbs.
Width/Depth/Height	15" x 9" x 10" in.

Electrical:

Switch	ON/OFF Rocker Switch
Switch Voltage	110V
Cord Length	6 ft.
Cord Gauge	16 AWG
Recommended Breaker Size	15A
Plug	Yes

Main Specifications:

Spindle Diameter	½"
Grinding Wheel Grit	36 & 60
Grinding Wheel Size (Diameter x Bore x Width)	6" x ½" x ⅝"
Grinding Wheel Range (Diameter x Width)	6" x (½" to ¾")
Grinding Wheel Material	Aluminum Oxide
Wheel Speed	3450 RPM

Motor:

Type	TEFC Capacitor-Start Induction
Horsepower	⅓ HP
Phase/Voltage	Single/110V
Amps	3A
Cycle/RPM	60 Hz/3450 RPM

Other:

Country of Origin	China
Warranty	1 Year
Serial Number Location	Machine ID Label
Assembly Time	10 Minutes

Features:

Rocker Type ON/OFF Switch
Powder Coated Paint
Included 36-Grit Aluminum Oxide Grinding Wheel
Included 60-Grit Aluminum Oxide Grinding Wheel

SECTION 1: SAFETY

For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.

⚠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, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

NOTICE **This symbol is used to alert the user to useful information about proper operation of the machine.**

Safety Instructions for Machinery

⚠WARNING

OWNER'S MANUAL. Read and understand this owner's manual BEFORE using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are NOT approved safety glasses.

⚠WARNING

WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. Always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly BEFORE operating machine.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine ***OFF*** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

DAMAGED PARTS. Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace BEFORE operating machine. For your own safety, DO NOT operate machine with damaged parts!

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at (570) 546-9663.

Additional Safety for Grinders

⚠WARNING

Serious injury or death can occur from impact injuries. Rotating grinding wheels can easily remove skin, or entanglement/amputation injuries can occur from being caught in moving parts or in-running pinch points. Flying sparks can ignite explosive or flammable materials. To minimize risk of getting hurt or killed, anyone operating machine MUST completely heed hazards and warnings below.

SAFE MOUNTING & WORK AREA. An unsecured grinder may become dangerously out of control during operation. Before use, verify grinder is FIRMLY secured in a location free of explosive or flammable materials.

STARTING GRINDER. If a wheel is damaged, it will usually fly apart shortly after start-up. To protect yourself, always stand to side of grinder when turning it ***ON*** and allow it to run for at least one minute before standing in front of it.

VISUAL INSPECTION. Verify that grinding wheels are free of cracks, chips, or dents in wheel surface before installing. Do not use wheel if it has any of these problems or it could break apart during operation.

RING TEST. Perform a "ring test" on grinding wheels before installation to ensure they are safe to use. A wheel that does NOT pass ring test may break or fly apart during operation.

WHEEL SPEED RATING. Wheels operated at a faster speed than rated for may break apart during operation. Before mounting a new wheel, be sure wheel RPM rating is equal or higher than speed of grinder. Never use unmarked wheels.

VIBRATING WHEEL. Never use a wheel that vibrates. Replace wheel or shaft bearings immediately.

SPARK DEFLECTOR GAP. Keep gap between end of spark deflector and grinding wheel between ⅛" and ¼". If the gap is larger, excessive sparks and abrasives can be expelled toward the operator.

SPINDLE NUT. Only tighten wheel spindle nut enough to drive wheel and prevent slippage.

EYE SHIELDS. Place eye shields close to grinding wheel and re-adjust as wheel wears down.

TOOL REST POSITION. If tool rest is too far away from wheel, workpiece may be pulled down, causing loss of control and pulling your hand into grinding wheel. Keep tool rest within ⅛" from wheel when operating. Replace grinding wheel when tool rest gap is wider than ⅛" and no additional adjustment can be made.

HAND & WHEEL CONTACT. Keep a firm grip on workpiece and position your hands a safe distance away when grinding. Anticipate when workpiece will heat up, and cool it before it becomes too hot to hold, or use an appropriate clamp. Avoid wearing gloves as they may get caught in grinding wheel and cause even more serious entanglement injuries.

WHEEL FLANGES. Only use flanges included with grinder when mounting wheels. Other flanges may not properly secure wheel and cause an accident. Do not use warped or damaged flanges, and always use paper discs (blotters) between wheels and flanges to reduce risk of flanges cracking wheel when tightened.

EYE, FACE, & LUNG PROTECTION. Grinding ejects small particles at a high rate of speed. These particles can cause blindness, skin injuries or respiratory damage. ALWAYS wear approved clothing, safety goggles, face shield, and a respirator for type of grinding to be done.

SIDE & TOP GRINDING. Grinding on side of wheels can cause them to crack and burst—unless wheel is rated for side grinding. Grinding on top of wheels greatly increases risk of workpiece kickback. Always grind on downward part of wheel.

SECTION 2: POWER SUPPLY

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.

⚠WARNING

Electrocution, fire, shock, or equipment damage may occur if machine is not properly grounded and connected to power supply.

Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 110V..... 3 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the specified circuit requirements.

⚠WARNING

Serious injury could occur if you connect machine to power before completing setup process. DO NOT connect to power until instructed later in this manual.

110V Circuit Requirements

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

Nominal Voltage 110V, 115V, 120V
Cycle ..... 60 Hz
Phase ..... Single-Phase
Power Supply Circuit ..... 15 Amps

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

⚠CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.

Note: *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel to ensure circuit is properly sized for safe operation.*

Grounding & Plug Requirements

This machine MUST be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current.

This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. DO NOT modify the provided plug!

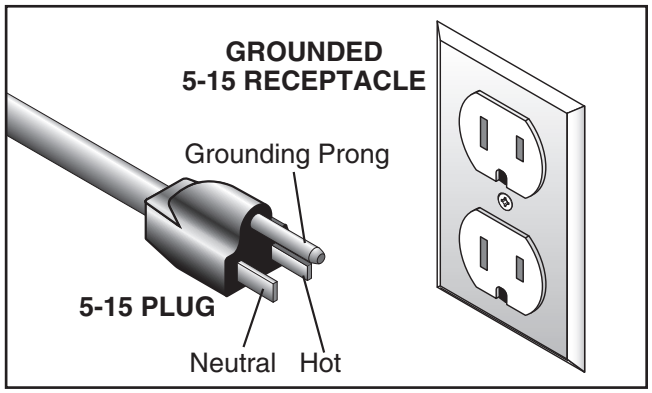
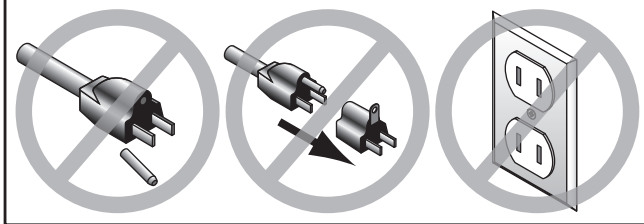


Figure 2. Typical 5-15 plug and receptacle.

⚠CAUTION



SHOCK HAZARD!

Two-prong outlets do not meet the grounding requirements for this machine. Do not modify or use an adapter on the plug provided—if it will not fit the outlet, have a qualified electrician install the proper outlet with a verified ground.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

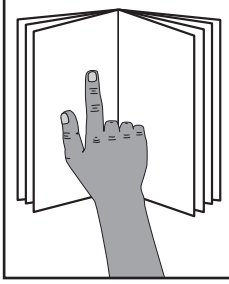
We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must be in good condition and contain a ground wire and matching plug/receptacle. Additionally, it must meet the following size requirements:

Minimum Gauge Size .....14 AWG
Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SETUP



⚠WARNING

This machine presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the machine!

⚠WARNING

Wear safety glasses during the entire setup process!

⚠WARNING

SUFFOCATION HAZARD!

Keep children and pets away from plastic bags or packing materials shipped with this machine. Discard immediately.

Needed for Setup

The following are needed to complete the setup process, but are not included with your machine.

Description	Qty
• Safety Glasses	1
• Wrench 8mm	1
• Wrench 14mm	1
• Phillips Screwdriver #2	1
• Screwdriver Phillips #2	1
• 3/8" Mounting Fasteners	2

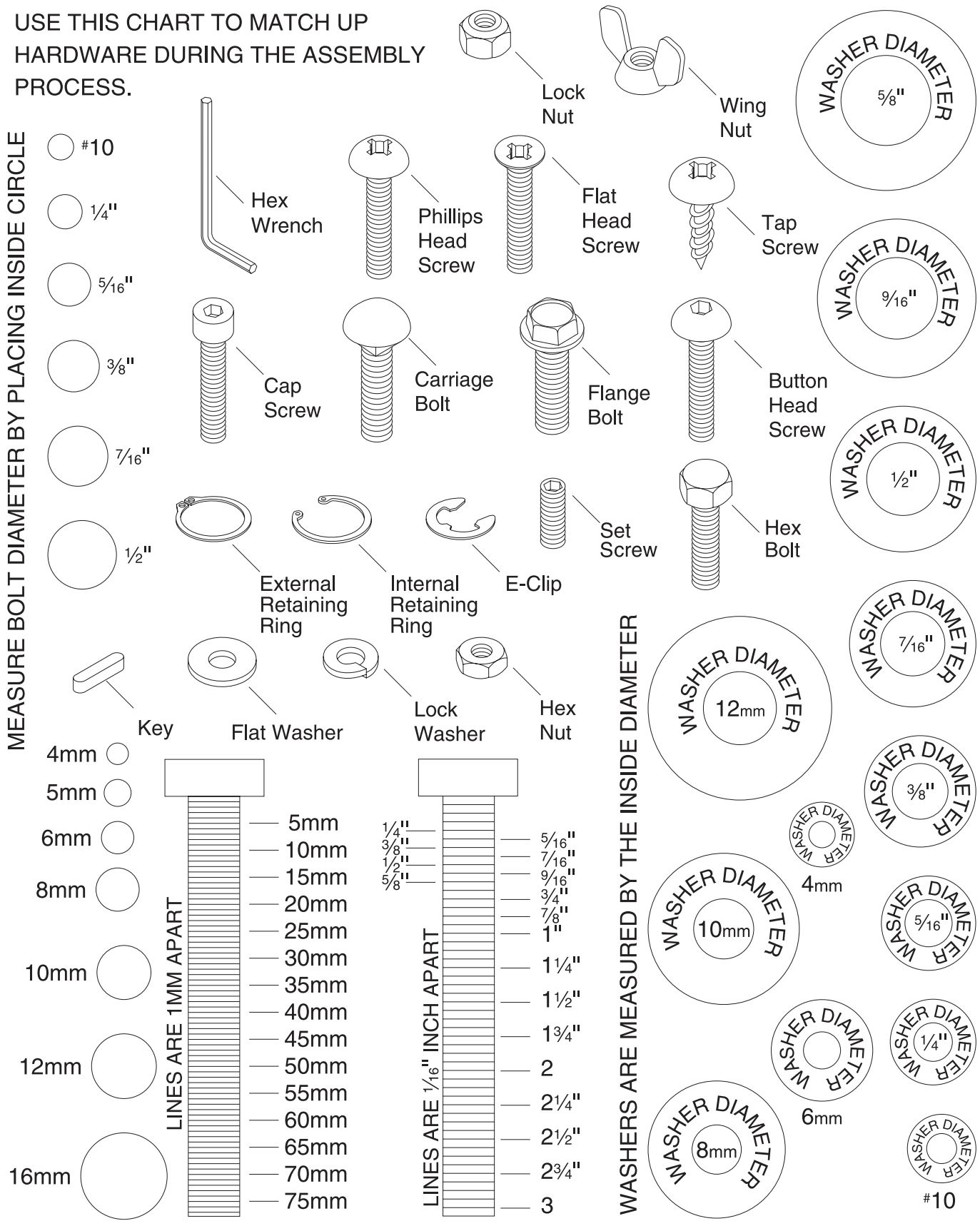
Unpacking

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. ***If items are damaged, please call us immediately at (570) 546-9663.***

IMPORTANT: Save all packaging materials until you are completely satisfied with the machine and have resolved any issues between Grizzly or the shipping agent. *You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your machine later.*

Hardware Recognition Chart

USE THIS CHART TO MATCH UP HARDWARE DURING THE ASSEMBLY PROCESS.



Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

If any non-proprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Inventory (Figure 3): **Qty**

A. Spark Arrestors 2
B. Phillips Head Screws M5-.8 X 8 (Arrestor). 2
C. Lock Washers 5mm (Arrestor) 2
D. Flat Washers 5mm (Arrestor) 2
E. Chip Shields 2
F. Phillips Head Screws M5-.8 X 45 (Chip Shield) 2
G. Flat Washers 5mm (Chip Shield) 4
H. Lock Washers 5mm (Chip Shield)..... 2
I. Hex Nuts M5-.8 X 45 (Chip Shield)..... 2
J. Work Rests (Left and Right) .....1 Ea.
K. Hex Bolts M8-1.25 x 9.5 (Work Rests) 4
L. Lock Washers 8mm (Work Rests)..... 4
M. Flat Washers 8mm (Work Rests) 4
N. Grinding Wheel 36-Grit (Pre-installed)..... 1
O. Grinding Wheel 60-Grit (Pre-installed)..... 1

NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

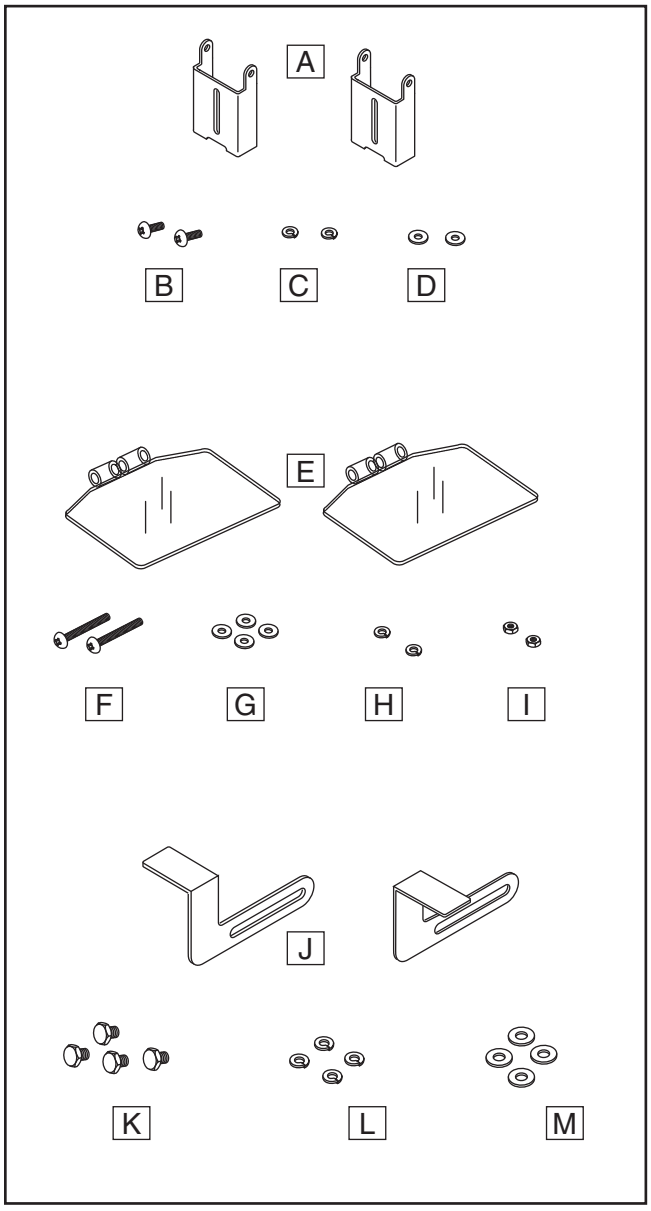


Figure 3. Inventory.

Cleanup

The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine's unpainted surfaces.

There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer's instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

Before cleaning, gather the following:
- Disposable rags
- Cleaner/degreaser (WD•40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

Basic steps for removing rust preventative:

1. Put on safety glasses.

2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.

3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.

4. Repeat **Steps 2–3** as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.

NOTICE

Avoid chlorine-based solvents, such as acetone or brake parts cleaner, that may damage painted surfaces.

Site Considerations

Workbench Load

Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

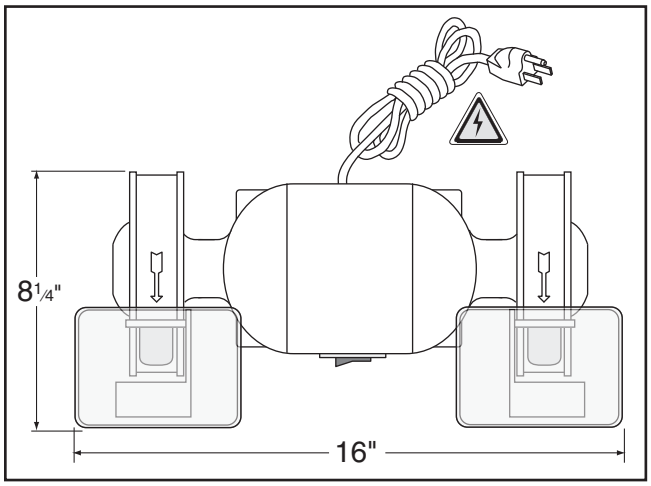
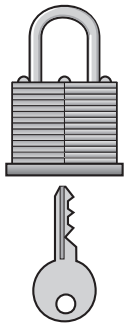


Figure 4. Minimum working clearances.



⚠CAUTION

Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.

Mounting

Number of Mounting Holes 2
Diameter of Mounting Hardware..... 3/8"

The grinder must be mounted to a solid surface to prevent unexpected movement during operation that could result in injury or property damage.

Below are three of the most common options for mounting grinders. Keep in mind that no single grinder height is acceptable for all users. Poor posture, such as hunching over or having to rest a foot on the edge of a crate or workbench shelf for better comfort, can lead to lower back and neck strain—especially if grinding is to be done for extended periods of time.

Through Mount with Rubber Feet

Mounting with rubber feet allows for quieter operation and less workbench vibration. The feet are typically compressed about 25%. Locking hex nuts must be used to prevent the mounting bolts from loosening.

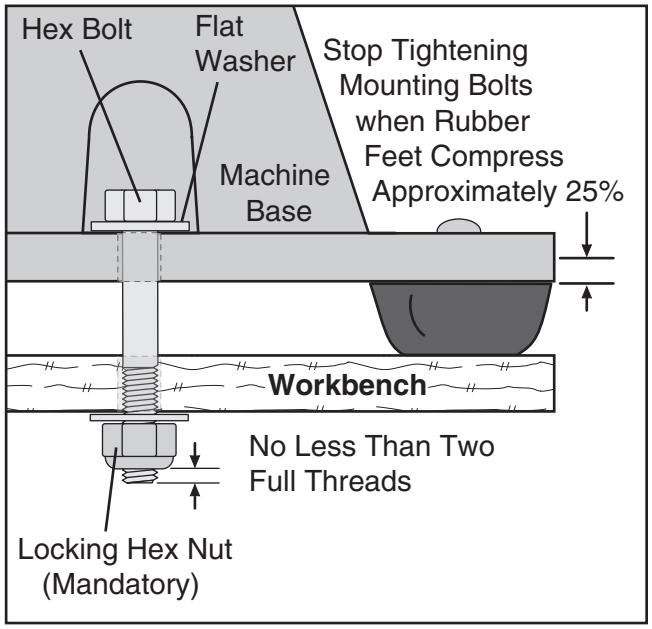


Figure 5. "Through Mount" with rubber feet installed.

Through Mounting

This is a common mounting selection for large grinders where maximum rigidity is required to prevent creating an out-of-round grinding wheel from workpiece hop. Generally the rubber feet are omitted in rigid mounting.

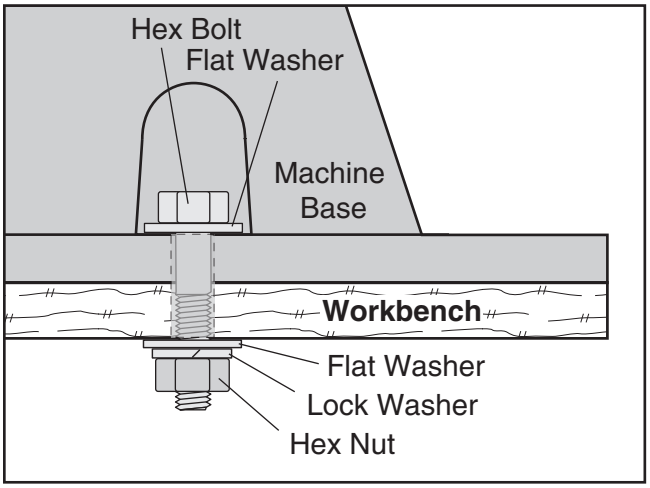


Figure 6. Through mount using nuts and bolts for maximum rigidity when grinding.

Surface Mounting

Popular for smaller fractional HP grinders is the . Lag screws are installed into pre-drilled holes in the table top. Sometimes glue is applied to serve as thread lock to keep fasteners in place from vibration. Rubber feet are omitted for this rigid mounting.

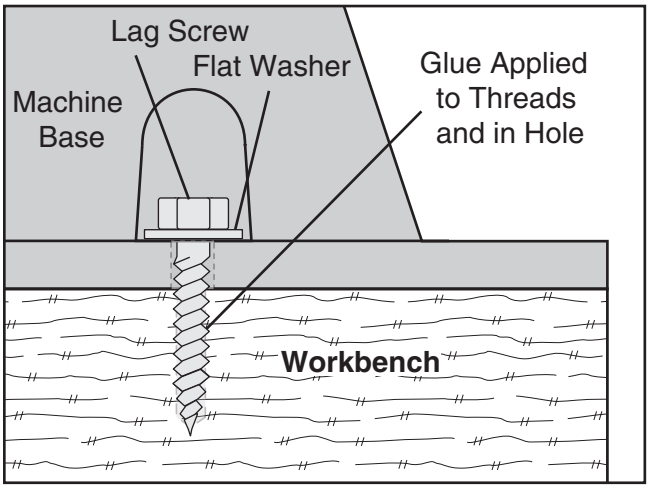


Figure 7. Surface mount using lag screws.

Assembly

Deflector, Shield, & Rest Installation

Using the hardware from the Inventory list on **Page 12**; assemble the tool rest and eye shield as they are shown in **Figure 8**.

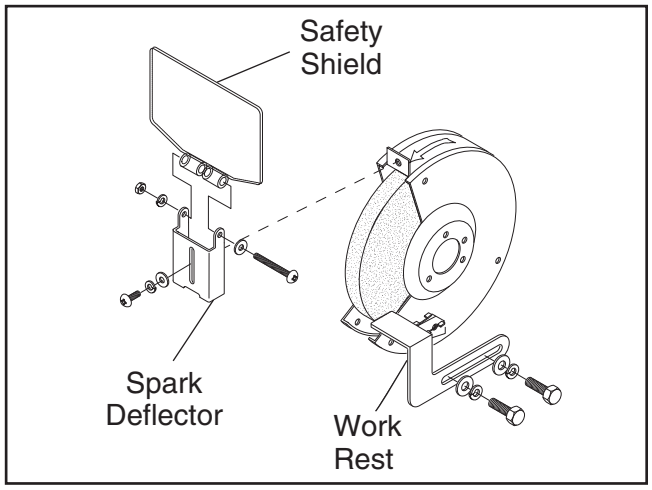


Figure 8. Deflector, chip guard, and work rest installation.

Spark Deflector Adjustment

The spark deflector traps burning grinding slag within the grinding wheel housing to give it time extinguish and cool. As the wheel wears, the spark deflector is adjusted closer to the grinding wheel to maintain a safety gap of 1/8"–1/4" (see **Figure 9**). When the gap reaches 1/4" and no adjustment remains, replace the grinding wheel. Otherwise as the gap increases the amount of sparks and slag that is emitted toward the operator will increase also.

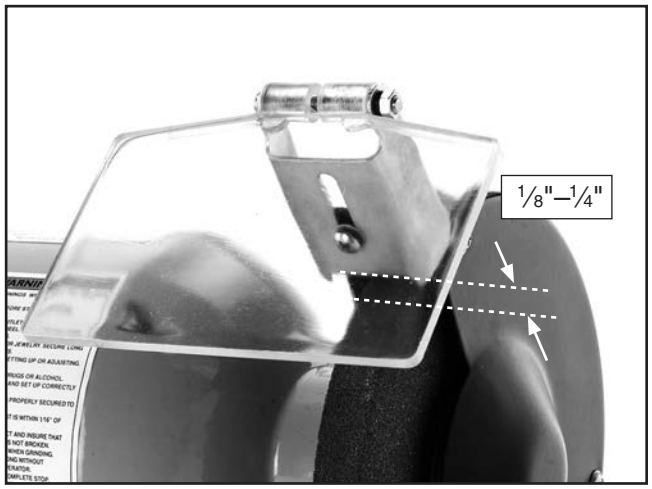


Figure 9. Spark deflector gap.

Work Rest Adjustment

The work rest serves as a fixed table to stabilize the workpiece when grinding, and must always be in position when using the grinder. As the grinding wheel wears, the work rest is adjusted closer to the grinding wheel to maintain a safety gap of 1/16"–1/8" (see **Figure 8**). When the gap reaches 1/8" and no spark arrestor adjustment remains, replace the grinding wheel. Otherwise as the gap increases the likelihood that a workpiece or a finger can be trapped between the wheel and work rest.

Figure 10. Work rest gap.

NOTICE

Depending on bonding type, some grinding wheels must be replaced before the spark arrestor or the work rest reach their final adjustment. The reason is that as the diameter of a grinding wheel is reduced, so does the available surface speed. Grinding under these conditions can lead to an even faster abrasive loss and poor grinding results.

Power Connection

After you have completed all previous setup instructions and circuit requirements, the machine is ready to be connected to the power supply.

To avoid unexpected startups or property damage, use the following steps whenever connecting or disconnecting the machine.

Connecting Power

1. Turn the machine power switch **OFF**.

2. Insert the power cord plug into a matching power supply receptacle. The machine is now connected to the power source.

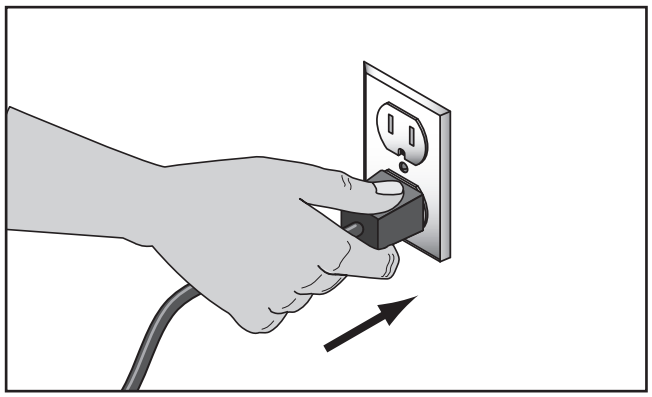


Figure 11. Connecting power.

Disconnecting Power

1. Turn the machine power switch **OFF**.

2. Grasp the molded plug and pull it completely out of the receptacle. Do not pull by the cord as this may damage the wires inside.

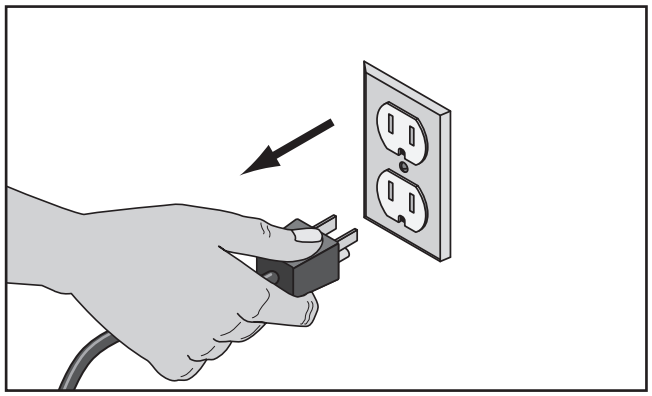


Figure 12. Disconnecting power.

Test Run

Once the assembly is complete, test run your bench grinder to make sure it runs properly and can be put into service.

The test run consists of verifying the following: 1) The motor powers up and runs correctly, and 2) that no major vibration exists.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the bench grinder immediately, then review **Troubleshooting** on **Page 24**.

If you still cannot remedy a problem, contact our Tech Support at (570) 546-9663 for assistance.

To test run the bench grinder:

1. Connect the bench grinder to the power source.

2. Make sure you have read the safety instructions at the beginning of the manual and that the grinder is setup properly.

3. Make sure all tools and objects used during setup are cleared away from the area.

4. Stand to the side of the grinder, and verify that it is operating correctly by turning it ***ON***.

   —When operating correctly, the bench grinder runs smoothly with little or no vibration or rubbing noises.

   —Investigate and correct strange or unusual noises or vibrations before operating the bench grinder further. Always disconnect a machine from power when investigating or correcting potential problems.

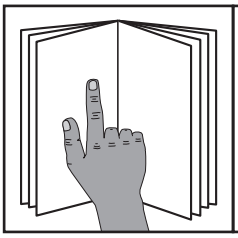
5. Turn the bench grinder ***OFF***.

SECTION 4: OPERATIONS

Operation Overview

The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand.

Due to the generic nature of this overview, it is **not** intended to be an instructional guide. To learn more about specific operations, read this entire manual, seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.

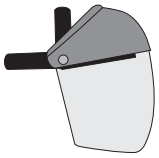


⚠WARNING

To reduce your risk of serious injury, read this entire manual BEFORE using machine.

⚠WARNING

Eye and face injuries and respiratory problems can occur while operating this tool. Wear personal protective equipment to reduce your risk from these hazards.



NOTICE

If you are not experienced with this type of machine, WE STRONGLY RECOMMEND that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

To complete a typical operation, the operator does the following:

1. Examines the workpiece to make sure it is suitable for grinding.
2. Inspects, performs a "ring test", and installs the correct grinding wheel for the type of workpiece grinding.
3. Verifies/adjusts the work rest so it is perpendicular to the grinding wheel and the gap is 1/16" to 1/8".
4. Verifies/adjusts the spark arrestor and wheel gap is between 1/8" to 1/4".
5. Positions the eye shield for safety, and connects the grinder to power.
6. Double checks that no combustibles or flammable materials are near and removes all potential ignition hazards.
7. Ensures that the ON/OFF switch is in the ***OFF*** position, and connects the grinder to power.
8. Puts on safety goggles, face shield, and respirator.
9. Stands aside, starts the grinder, and allows it to reach full speed.
10. Places the workpiece on the work rest and positions it for grinding.
11. Using just enough force to allow the wheel to warm up evenly and get the job done, the operator gradually feeds the workpiece into the grinding wheel and moves the workpiece left and right to prevent grooves in the wheel.
12. Quenches the workpiece as required to prevent surface hardening or temper loss.
13. Stops the bench grinder.

⚠WARNING

DO NOT use this grinder with a liquid cooling system required for wet grinding wheel operations. The electrical system is not waterproof. Ignoring this warning can lead to electrocution.

Some workpieces are not suitable for grinding on a bench grinder. **Before grinding, inspect all workpieces for the following:**

- ***Hard Workpiece:*** Workpieces that are made of stone, carbide, stainless steel, ceramics, glass, or have hardened welds will wear out most general grade grinding wheels quickly. If hard materials are to be ground, you must install the correct type of grinding wheel.

- ***Soft Workpiece:*** Workpieces that are made of aluminum, brass, lead, and other nonferrous metals will load up in the grinding wheel and render the abrasive useless. Grinding wood, plastics, rubber, fiberglass, or other soft materials can also cause the same problem and lead to wheel overheating and burst during use if ignored. To restore a loaded grinding wheel surface redress with a dressing tool.

- ***Flexible/Unstable Workpiece:*** Grinding on the side or the ends of cable, chain, or round workpieces creates the hazard of workpiece twist or grab leading to entanglement with the wheel or shaft. This hazard and must be avoided.

- ***Loose Parts:*** Make sure that the workpiece is free of any parts like springs, pins, balls, or other components that may loosen or dislodge during grinding, and hit the operator.

- ***Strength:*** Make sure that the workpiece is strong enough to be ground. Should it break, the broken piece may dig into the wheel and cause kickback or severe injury.

Wheel Selection

The Model H9717 only accepts Type 1 wheels with a ½" bore.

Aluminum oxide and silicon carbide wheels are marked in a somewhat uniform manner by all major manufacturers. Understanding these markings will help you understand the capabilities of various wheels. Always refer to the manufacturer's grinding recommendations when selecting a wheel for your project.

The basic format for wheel numbering is:

Prefix	Abrasive Type	Grit Size	Grade	Bond Type
1	A	60	L	V

The **Prefix** is the manufacturer's designation for a particular wheel type (eg, Type 1 wheels).

The most common **Abrasive Types** used are 'A' for Aluminum Oxide, 'C' for Silicon Carbide, and occasionally 'SG' for Seeded Gel.

The **Grit Size** is a number that refers to the size of the abrasive grain in the wheel. The lower the number, the coarser the wheel. Ten is a very coarse wheel for roughing and 220 is usually the upper range for fine finish work.

Grade is an indication of the hardness of the wheel—'A' being the softest and 'Z' being the hardest.

Bond Type refers to the type of bonding material used to hold the abrasive material. Most general purpose wheels will have a 'V' indicating Vitrified Clay is used. Vitrified Clay provides high strength and good porosity. The other common bond type is 'B' for resin where synthetic resins are used. These are used to grind cemented carbide and ceramic materials.

Note: *There may be other numbers inserted that have meaning for a particular type of wheel. Refer to the manufacturer's technical data for a complete explanation.*

Wheel Removal & Installation

Before installing any wheel, perform a “ring test” ti make sure it is free of cracks. Never use a wheel which is suspected of having cracks, is damp, or if there are visual chips, nicks or dents in the wheel surface. Refer to the in-depth safety warnings in the **Safety Section** before installing the wheel.

To remove and install a grinding wheel:

1. DISCONNECT MACHINE FROM POWER!

2. Remove the three Phillips head screws and nuts which go through the outer guard.

3. Remove the outer guard and rim guard. See **Figure 4**.

4. Use a ¾" or 19mm open end wrench on the nut which holds the wheel on the spindle. Hold the wheel from turning with the other hand. Note that the wheel on the left hand side of the machine is a left hand thread, so loosening it will require turning it clockwise.

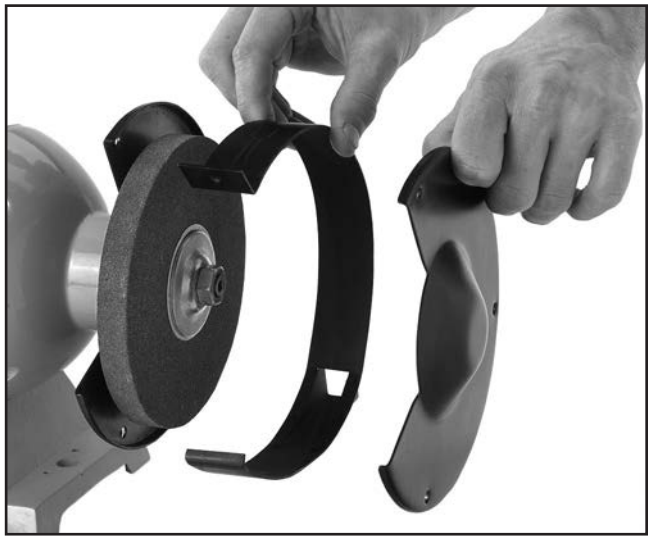


Figure 13. Wheel guard components.

5. Remove the outer wheel flange and the paper disc.

6. Pull the wheel free from the spindle. There will also be a paper disc and a wheel flange on the back side of the wheel. Always make certain there is a paper or fiber disc between the wheel flanges and the wheel itself, this helps to spread the rotational forces across the inner area of the wheel. See **Figure 5**.

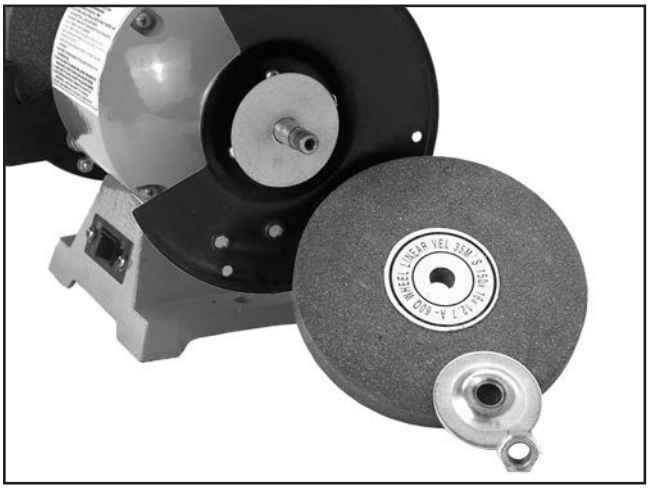


Figure 14. Grinding wheel assembly.

⚠CAUTION

NEVER install a grinding wheel without paper or fiber discs between the wheel and the flange. Omitting the discs can put uneven stress on the wheel, causing it to crack when the nut is tightened and possibly fly apart.

7. Mount new wheel in the reverse order. First a wheel flange, a paper disc, the wheel, a paper disc, a wheel flange and finally the nut itself. Tighten the nut snugly but do not over tighten. Over-tightening can crack the wheel.

8. While standing clear of the line of rotation, run a new wheel for at least 1-2 minutes. If a wheel does have defects it will generally fail as soon as it gets up to full speed.

⚠CAUTION

Warped wheel flanges can contribute to grinding wheel breaking and flying apart. Never use warped wheel flanges. Always check flanges before re-installing grinding wheel.

Wheel Inspection

Do not assume that a wheel is in sound condition just because it is new—often damage can occur in shipping, with age, or with exposure to moisture. Inspect every wheel for damage.

First, do a **Visual Inspection**. Look for any cracks, chips, nicks or dents in the surface of the wheel. If you see any of these, DO NOT use the wheel.

Second, do a **Ring Test,** by following **Steps 1-5** below. This test will give you an indication of any internal damage that may not be obvious during a visual inspection.

Always be sure to use a wheel that is rated for 3450 RPM or greater.

To perform a ring test:

1. Make sure the wheel that you test is clean and dry; otherwise, you may get false results.

2. If size permits, balance the wheel with your finger in the hole. If this is not possible, hang the wheel in the air with a piece of cord or string looped through the hole in the center.

3. At the spots shown in **Figure 15**, gently tap the wheel with a light non-metallic device such as the handle of a screwdriver or a wooden mallet.

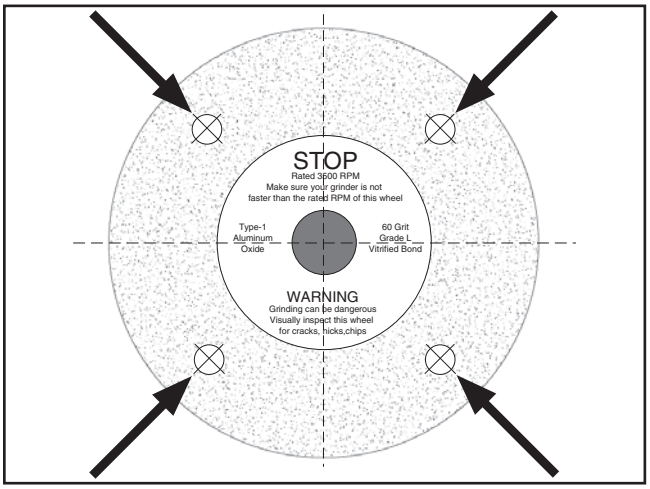


Figure 15. Tapping locations when performing a ring test.

4. An undamaged wheel will emit a clear metallic ring or “ping” sound in each of these spots. A damaged wheel will respond with a dull thud that has no clear tone.

—If you determine from the ring test that the wheel is damaged, DO NOT use it!

SECTION 5: ACCESSORIES

Aluminum Oxide Grinding Wheels -Type 1
Model G7408—6" x ¾" (½" Bore) 24-Grit
Model G7409—6" x ¾" (½" Bore) 36-Grit
Model G7410—6" x ¾" (½" Bore) 46-Grit
Model G7411—6" x ¾" (½" Bore) 60-Grit

Figure 16. Replacement grinding wheels.

Buffing Wheels
D2504—Spiral Sewn 6" x 40 Ply (½" Bore)
D2507—Spiral Sewn 6" x 60 Ply (½" Bore)
D2513—Loose Muslin 6" x 40 Ply (½" Bore)
D2514—Loose Muslin 6" x 50 Ply (½" Bore)
D2515—Airway Hard 6" x ½" (½" Bore)
D2518—Airway Soft 6" x ½" (½" Bore)

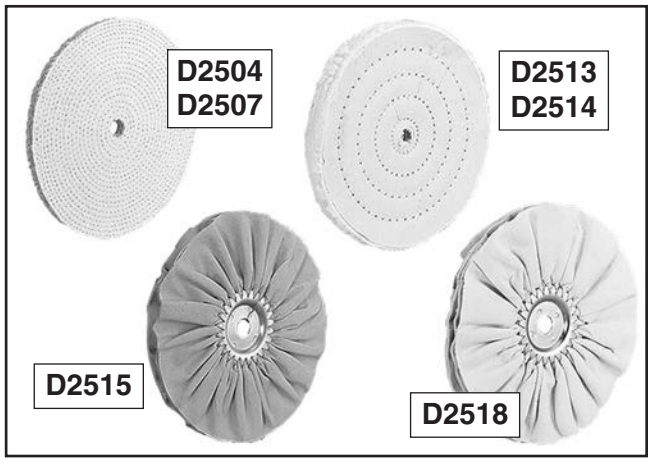


Figure 17. Buffing wheels.

Steel Wire Wheels
Model D2287—Knotted Steel Wire Wheel
6" x 1" (½" Bore) 0.020" Wire Dia.
Model D2284—Brass Coated Wire Wheel
6" x 1" (½" Bore) 0.0125" Wire Dia.

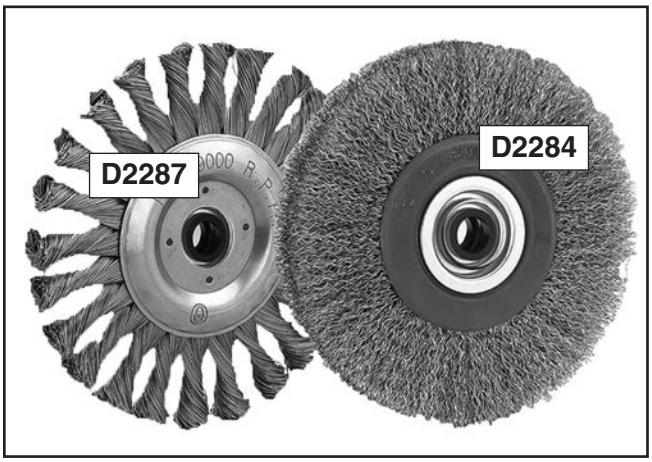


Figure 18. Wire wheels.

Basic Eye Protection

T20501—Face Shield Crown Protector 4"
T20502—Face Shield Crown Protector 7"
T20503—Face Shield Window
T20451—"Kirova" Clear Safety Glasses
T20452—"Kirova" Anti-Reflective S. Glasses
H7194—Bifocal Safety Glasses 1.5
H7195—Bifocal Safety Glasses 2.0
H7196—Bifocal Safety Glasses 2.5

Figure 19. Assortment of basic eye protection.

Model H5944—#0 Wheel Dresser
Model H5945—#1 Wheel Dresser
Model H5946—#2 Wheel Dresser
Exposes new grains for aggressive cutting on all types of grinding wheels. Star wheels and discs are hardened steel. Cast iron handle provides stabilizing mass for better control.

Figure 20. Rotary type dressing tools.

H5891—½ Carat Diamond Dresser
H5892—¾ Carat Diamond Dresser
Industrial diamond for dressing grinding wheels. 8¼" long round body with knurled grip for maximum control. Includes protective rubber end cap.

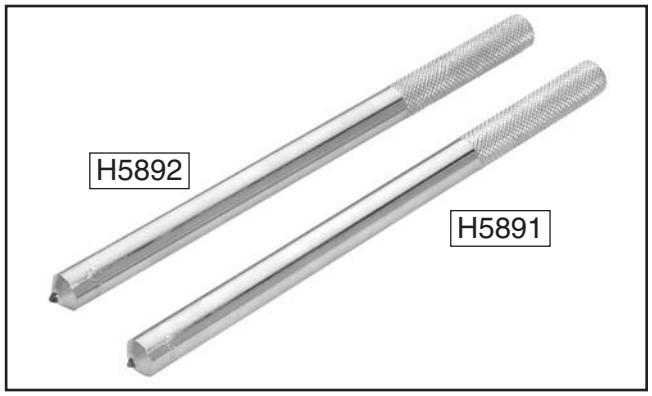


Figure 21. Diamond dressing tools.

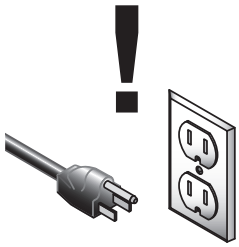
G7120—Heavy-Duty Grinder Stand
This is one of the most stable bench grinder stands on the market. Once you have one, you'll wonder how you ever got along without it. 32½" high. Universal mounting plate may require modifications for some bench grinders. 49 lbs.

Figure 22. Model G7120 Heavy-Duty Grinder Stand.

H8362—Super Heavy-Duty Birch Workbench
This Super Heavy-Duty Workbench has a solid 3" thick top that measures 72" long by 36" wide, and stands 38" above the floor. The end vise measures 17¾" wide and has a 7" opening capacity. Stable laminated birch provides strength and durability. Approximate shipping weight: 348 lbs.

Figure 23. H8362 Super Heavy-Duty Birch Workbench.

SECTION 6: MAINTENANCE



⚠WARNING

Always disconnect power to the machine before performing maintenance. Failure to do this may result in serious personal injury.

Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section. Routinely check the condition of the following items and repair or replace as necessary:

- Cracked or loose grinding wheel.
- Loose mounting bolts.
- Worn switch.
- Worn or damaged cords and plugs.
- Any other condition that could hamper the safe operation of this machine.

Grinding Wheels

The grinding wheel should be inspected before every use. Use the ring test method noted in **Wheel Inspection** on **Page 20** to verify the structural integrity. Take care in storing grinding wheels to keep them free from potential damage by being dropped or having other items drop on them.

Replace the wheel when the spark arrestor or work rest has no more adjustment and the gap has exceeded the safe limit.

Wheel Dressing

Depending on the type of grinding you do, the grinding wheel may require periodic dressing.

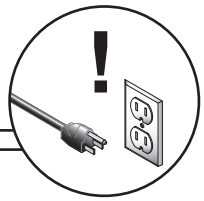
Several different kinds of wheel dressing devices are available (see **Page 22**). Dressing restores the abrasive quality of the wheel surface and squares up the wheel edge.

Refer to the instructions that accompany your dressing accessory for complete details on how to properly dress a wheel.

SECTION 7: SERVICE

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** *Please gather the serial number and manufacture date of your machine before calling.*

Troubleshooting



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Motor will not start; fuses or circuit breakers blow.	1. Switch is at fault. 2. Open circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power supply. 4. Start capacitor is at fault. 5. Short circuit in motor or loose connections.	1. Replace switch. 2. Inspect/repair all lead connections on motor for loose or open connections. 3. Install correct fuses or circuit breakers. 4. Replace start capacitor. 5. Inspect all connections on motor for loose or shorted terminals or worn insulation.
Motor over-heats, stalls (resulting in blown fuses or tripped circuit).	1. Motor overloaded. 2. Short circuit in motor or loose connections.	1. Slow down feed rate of workpiece. 2. Inspect connections on motor for loose or shorted terminals or worn insulation.

Grinder Operations

Symptom	Possible Cause	Possible Solution
Wavy condition on surface of workpiece.	1. Machine vibrating. 2. Wheel face uneven. 3. Workpiece is not held in place firmly. 4. Wheel is too hard.	1. Make sure machine is securely mounted on a solid surface. 2. Dress the grinding wheel. 3. Use a holding device to firmly retain the workpiece. 4. Use softer wheel, or reduce the feed rate.
Lines on surface of workpiece.	1. Impurity on wheel surface. 2. Workpiece not being held tightly.	1. Dress the grinding wheel. 2. Use a holding device to firmly retain the workpiece.
Burning spots or cracks in the workpiece.	1. Improper type of grinding wheel. 2. Improper feed rate.	1. Try a wheel that is softer style or a coarser grit. 2. Slow down the rate of movement of the workpiece into wheel.
Wheel dulls quickly, grit falls off.	1. Depth of cut too great. 2. Wheel is too soft. 3. Wheel diameter too small. 4. Bad wheel dress.	1. Slow down the rate of movement of the workpiece into wheel. 2. Wheel too soft for the material being ground, select harder bond. 3. Replace the wheel. 4. Dress the wheel.
Wheel clogs and workpiece shows burn marks.	1. Wheel is too hard. 2. Feed rate too slow. 3. Bad wheel dress. 4. Wrong material is being ground.	1. Wheel too hard for the material being ground, select softer bond. 2. Increase the rate of movement of the workpiece into wheel. 3. Dress the wheel. 4. Grind ferrous metals only.

SECTION 8: WIRING

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (570) 546-9663 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. **Note:** *Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.*

⚠WARNING
Wiring Safety Instructions

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

MODIFICATIONS. Modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire. This includes the installation of unapproved aftermarket parts.

WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

CIRCUIT REQUIREMENTS. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components.

MOTOR WIRING. The motor wiring shown in these diagrams is current at the time of printing but may not match your machine. If you find this to be the case, use the wiring diagram inside the motor junction box.

CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

EXPERIENCING DIFFICULTIES. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (570) 546-9663.

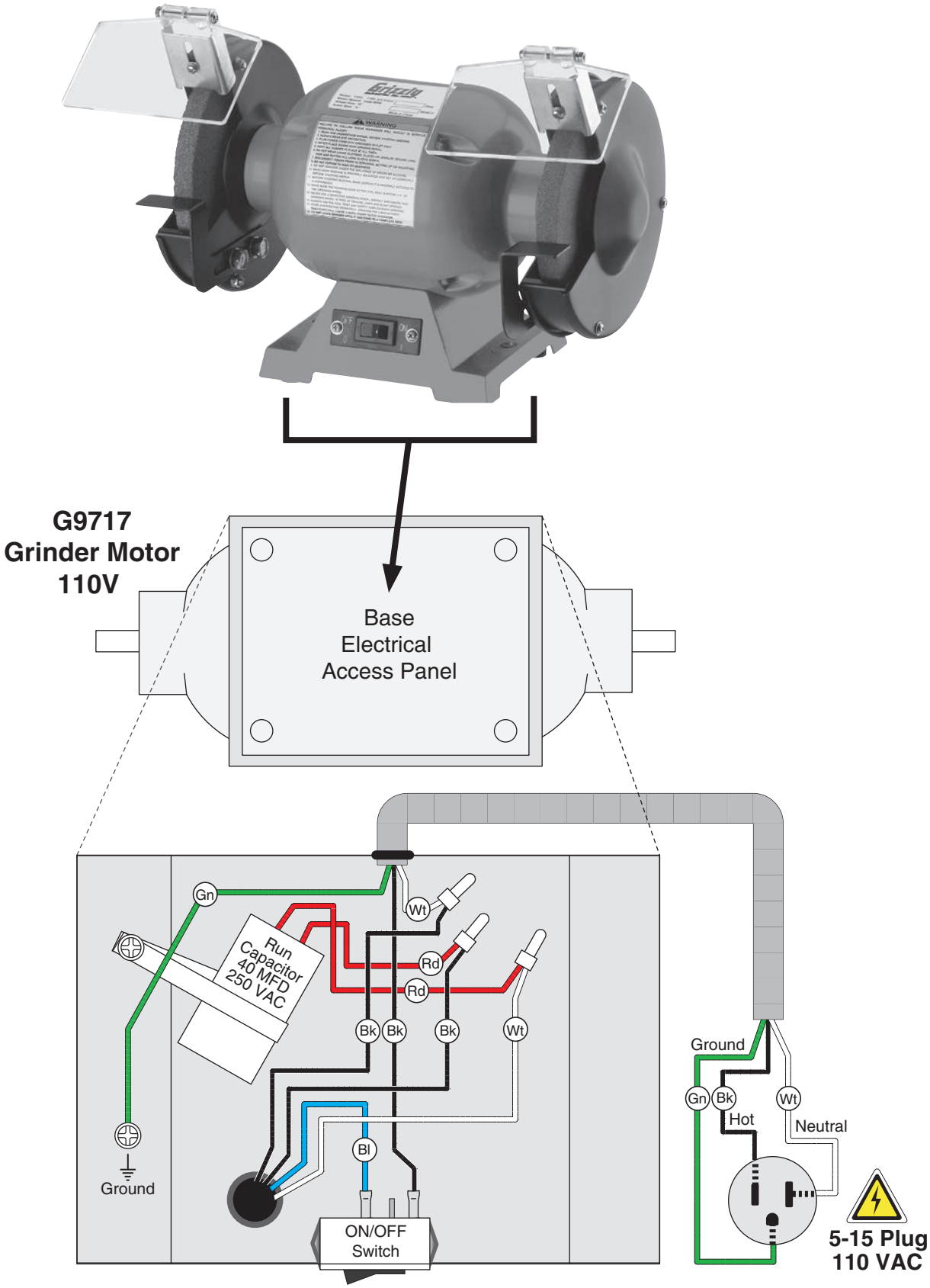
NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.grizzly.com.

COLOR KEY

BLACK	Bk	BLUE	Bl	YELLOW	Yl	LIGHT BLUE	Lb
WHITE	Wt	BROWN	Br	YELLOW GREEN	Yg	BLUE WHITE	Bw
GREEN	Gn	GRAY	Gy	PURPLE	Pu	TURQUOISE	Tu
RED	Rd	ORANGE	Or	PINK	Pk		

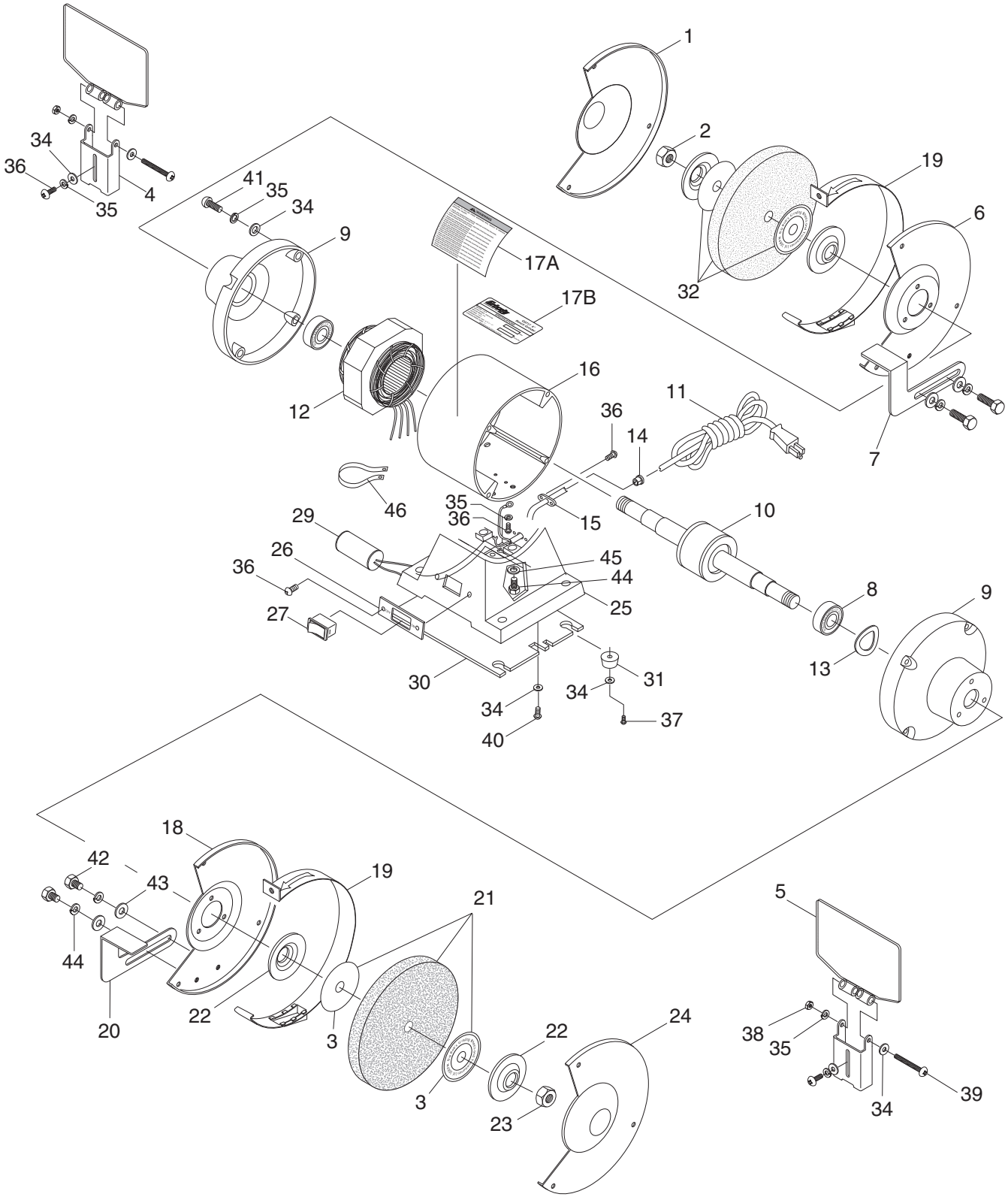
Wiring Diagram



STOP *READ ELECTRICAL SAFETY ON PAGE 25!*

SECTION 9: PARTS

Main Breakdown



Main Parts List

REF	PART #	DESCRIPTION
1	P9717001	WHEEL COVER LH OUTER
2	P9717002	SPINDLE NUT LH M12-1.75 X 22
3	P9717003	WHEEL DISC
4	P9717004	SPARK ARRESTOR
5	P9717005	EYE SHIELD
6	P9717006	WHEEL COVER LH INNER
7	P9717007	WORK REST LH
8	P6202	BALL BEARING 6202ZZ
9	P9717009	BEARING HOUSING
10	P9717010	ROTOR
11	PWRCRD110L	POWER CORD 16AWG X 3C X 73"L
12	P9717012	STATOR
13	P9717013	WAVY WASHER Z02
14	P9717014	STRAIN RELIEF
15	P9717015	MOUNTING PLATE
16	P9717016	MOTOR BODY
17A	P9717017A	WARNING LABEL
17B	P9717017B	NAMEPLATE LABEL
18	P9717018	WHEEL COVER RH INNER
19	P9717019	WHEEL RIM GUARD
20	P9717020	WORK REST RH
21	P9717021	GRINDING WHEEL A-60Q
22	P9717022	WHEEL FLANGE

REF	PART #	DESCRIPTION
23	P9717023	SPINDLE NUT RH M12-1.75 X 22
24	P9717024	WHEEL COVER RH OUTER
25	P9717025	BASE
26	P9717026	SWITCH PROTECTOR
27	P9717027	SWITCH
29	PC040F	R CAPACITOR 40M 250V 1-3/8 X 2-3/8
30	P9717030	BASE PLATE
31	P9717031	RUBBER FOOT
32	P9717032	GRINDING WHEEL A-36Q
34	PW02M	FLAT WASHER 5MM
35	PLW01M	LOCK WASHER 5MM
36	PS05M	PHLP HD SCR M5-.8 x 8
37	PS07M	PHLP HD SCR M4-.7 X 8
38	PN06M	HEX NUT M5-0.8
39	PS54M	PHLP HD SCR M5-.8 X 45
40	PS09M	PHLP HD SCR M5-.8 X 10
41	PS08M	PHLP HD SCR M5-.8 X 12
42	PB06M	HEX BOLT M8-1.25 X 12
43	PW01M	FLAT WASHER 8MM
44	PLW04M	LOCK WASHER 8MM
44A	PB18M	HEX BOLT M6-1 X 15
45	PW03M	FLAT WASHER 6MM
46	P9717046	CAPACITOR MOUNTING STRAP

⚠WARNING

Safety labels help reduce the risk of serious injury caused by machine hazards. If any label comes off or becomes unreadable, the owner of this machine MUST replace it in the original location before resuming operations. For replacements, contact (800) 523-4777 or www.grizzly.com.

Grizzly Industrial, Inc. WARRANTY CARD

Name _____

Street _____

City _____ State _____ Zip _____

Phone # _____ Email _____

Model # _____ Order # _____ Serial # _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. ***Of course, all information is strictly confidential.***

1. How did you learn about us?

____ Advertisement ____ Friend ____ Catalog
____ Card Deck ____ Website ____ Other:

2. Which of the following magazines do you subscribe to?

____ Cabinetmaker & FDM
____ Family Handyman
____ Hand Loader
____ Handy
____ Home Shop Machinist
____ Journal of Light Cont.
____ Live Steam
____ Model Airplane News
____ Old House Journal
____ Popular Mechanics
____ Popular Science
____ Popular Woodworking
____ Precision Shooter
____ Projects in Metal
____ RC Modeler
____ Rifle
____ Shop Notes
____ Shotgun News
____ Today's Homeowner
____ Wood
____ Wooden Boat
____ Woodshop News
____ Woodsmith
____ Woodwork
____ Woodworker West
____ Woodworker's Journal
____ Other:

3. What is your annual household income?

____ $20,000-$29,000 ____ $30,000-$39,000 ____ $40,000-$49,000
____ $50,000-$59,000 ____ $60,000-$69,000 ____ $70,000+

4. What is your age group?

____ 20-29 ____ 30-39 ____ 40-49
____ 50-59 ____ 60-69 ____ 70+

5. How long have you been a woodworker/metalworker?

____ 0-2 Years ____ 2-8 Years ____ 8-20 Years ____ 20+ Years

6. How many of your machines or tools are Grizzly?

____ 0-2 ____ 3-5 ____ 6-9 ____ 10+

7. Do you think your machine represents a good value? _____Yes _____No

8. Would you recommend Grizzly Industrial to a friend? _____Yes _____No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?
Note: *We never use names more than 3 times.* _____Yes _____No

10. Comments: _____

_____

_____

_____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

Place
Stamp
Here

GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069

FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name_____

Street_____

City_____State_____Zip_____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

WARRANTY & RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We 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, contact us by mail or phone and give us all the details. We will then issue you a "Return Number,'' which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.