

Grizzly *Industrial, Inc.*®

HORIZONTAL BORING MACHINE MODEL G4185 INSTRUCTION MANUAL



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PRINTED IN TAIWAN

 **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.

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SECTION 1: SAFETY

For Your Own Safety, Read Instruction Manual Before Operating this Power Tool

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.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



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.

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 power tool. When tool is not being used, disconnect power, and store in out-of-reach location to prevent unauthorized use—especially around children. Make workshop kid proof!

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

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

DISCONNECT POWER FIRST. Always disconnect tool 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.

ELECTRICAL SAFETY. Tool plug must match outlet. Double-insulated tools have a polarized plug (one blade is wider than the other), which must be plugged into a polarized outlet. Never modify plug. Do not use adapter for grounded tools. Use a ground fault circuit interrupter if operation is unavoidable in damp locations. Avoid touching grounded surfaces when operating tool.

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 avoid accidental slips, which could cause loss of workpiece control. Wear hard hat as needed.

HAZARDOUS DUST. Dust created while using tools 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, and connect tool to an appropriate dust collection device 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. Never leave adjustment tools, chuck keys, wrenches, etc. in or on tool—especially near moving parts. Verify removal before starting!

INTENDED USAGE. Only use tool for its intended purpose. Never modify or alter tool for a purpose not intended by the manufacturer or serious injury or death may result!

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

SAFE HANDLING. Firmly grip tool. To avoid accidental firing, do not keep finger on switch or trigger while carrying.

SECURING WORKPIECE. When required, use clamps or vises to secure workpiece. A secured workpiece protects hands and frees both of them to operate the tool.

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

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

FORCING TOOLS. Use the right tool for the job, and do not force it. It will do the job safer and better at the rate for which it was designed.

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

MAINTAIN WITH CARE. Keep cutting tool edges sharp and clean. Follow all maintenance instructions and lubrication schedules to keep tool in good working condition. A tool that is improperly maintained could malfunction, leading to serious personal injury or death. Only have tool serviced by qualified service-personnel using matching replacement parts.

CHECK DAMAGED PARTS. Regularly inspect tool for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating tool.

MAINTAIN POWER CORDS. When disconnecting cord-connected tools from power, grab and pull the plug—NOT the cord. Carrying or pulling the cord may damage 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, sharp edges, moving parts, and wet/damp locations. Damaged cords increase risk of electrocution.

UNATTENDED OPERATION. Never leave tool running while unattended. Turn tool off and ensure all moving parts completely stop before walking away.

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.

WARNING

Additional Safety Instructions For Horizontal Boring Machines

- 1. DO NOT OPERATE WITH DULL OR BADLY WORN BITS.** Dull bits require more effort to use and are difficult to control. Inspect bits before each use.
- 2. NEVER POSITION FINGERS OR THUMBS IN LINE WITH THE AIR-POWERED CLAMP.** Serious personal injury could occur.
- 3. DO NOT OPERATE THIS HORIZONTAL BORING MACHINE WITHOUT GUARDS IN PLACE.**
- 4. WHEN REPLACING BITS,** make sure they are properly inserted and tightened.
- 5. BORING SHOULD ALWAYS BE FULLY SUPPORTED** by the table or some type of support fixture.
- 6. ALWAYS FEED BITS EVENLY AND SMOOTHLY.** Do not force bit while boring.
- 7. BIT(S) SHOULD BE RUNNING AT FULL SPEED** before beginning to bore.
- 8. ALL INSPECTIONS, ADJUSTMENTS, AND MAINTENANCE ARE TO BE DONE WITH THE POWER OFF AND THE MACHINE DISCONNECTED FROM THE POWER SOURCE.** Wait for all moving parts to come to a complete stop.
- 9. HABITS – GOOD AND BAD – ARE HARD TO BREAK.** Develop good habits in your shop and safety will become second-nature to you.

CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

SECTION 2: CIRCUIT REQUIREMENTS

220V Operation

The Model G4185 has a 2 H.P., 3450 R.P.M. motor which requires a 220V single-phase circuit. The cord set enclosed does not have a plug as the style of plug you require will depend upon the type of service you currently have or plan to install. The motor will safely draw about 12 amps at 220V under load. If you operate the Model G4185 on any circuit that is already close to its capacity, it might blow a fuse or trip a circuit breaker. However, if an unusual load does not exist, and power failure still occurs, have the circuit inspected by a qualified electrician.



Circuit Load

When operating at 220V, we recommend using a NEMA-style 6L-15 plug and outlet. See **Figure 1**. You may also “hard-wire” the machine directly to your panel, provided you place a disconnect switch near the machine. Check the electrical codes in your area for specifics on wiring requirements.

Under normal use, the motor draws approximately 12 amps at 220V. We recommend a 15 amp circuit breaker for 220V operation. This should be satisfactory for normal use while providing enough protection against circuit damage caused by power surges.

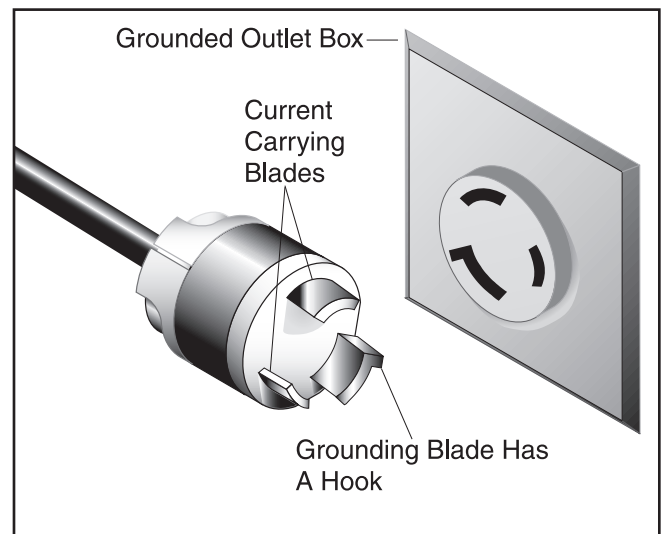


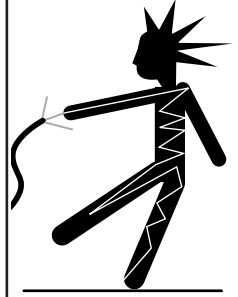
Figure 1. Typical 220V 3-prong plug and outlet



Grounding

In the event of an electrical short, grounding provides electric current a path of least resistance to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor which must be properly connected to a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Improper connections of the electrical-grounding conductor can result in risk of electric shock. The conductor with green or green and yellow striped insulation is the electrical-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment grounding conductor to a live terminal.

	<p>⚠ WARNING</p> <p>This equipment must be grounded. Verify that any existing electrical outlet and circuit you intend to plug into is actually grounded. Under no circumstances should the grounding pin from any three-pronged plug be removed. Serious injury may occur.</p>
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Extension Cords

We do not recommend the use of extension cords on 220V equipment. It is much better to arrange the placement of your equipment and the installed wiring to eliminate the need for extension cords. Should it be necessary to use an extension make sure the cord is rated Hard Service (grade S) or better. Refer to the chart in **Section 1: Safety Instructions** to determine the minimum gauge for the extension cord. The extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords when they become worn or damaged.



Wiring Diagram

Your Model G4185 comes pre-wired for 220 volt operation. A wiring diagram is provided at the back of this manual should it be necessary to repair or revise the wiring. Always utilize a qualified electrician when doing any electrical work on this equipment.

⚠ CAUTION

We have covered some basic electrical requirements for the safe operation of your machine. These requirements are not necessarily comprehensive. You must be sure that your particular electrical configuration complies with local and state codes. Ensure compliance by checking with your local municipality or a licensed electrician.




SECTION 3: GENERAL INFORMATION

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.

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		⚠ WARNING!	
Motor:		To reduce risk of serious injury when using this machine:	
Specification:		Read the manual before operation.	
Specification:		Wear safety glasses and respirator.	
Specification:		Make sure the motor is properly adjusted/setup and	
Specification:		power is connected to grounded circuit before starting.	
Weight:		4. Make sure the motor has stopped and disconnect	
		power before adjustments, maintenance, or service.	
		5. DO NOT expose to rain or dampness.	
		6. DO NOT modify this machine in any way.	
		7.	
		8.	
		9.	
		10. Maintain machine carefully to prevent accidents.	
Manufactured for Grizzly in Taiwan			

Manufacture Date []

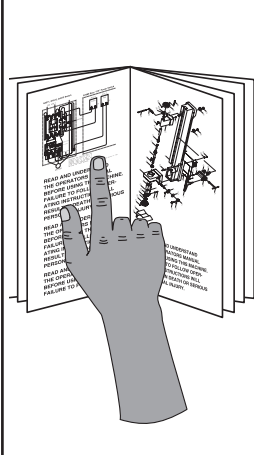
Serial Number []

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



⚠ WARNING

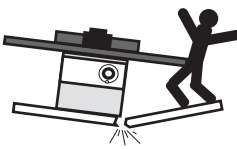
Read the manual before assembly and operation. Become familiar with the machine and it's operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.




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.*

	<p>⚠ WARNING</p> <p>If moving this machine up or down stairs, the machine must be dismantled and moved in smaller pieces. Make sure floor and stair structures are capable of supporting the combined weight of the machine parts and the people moving them.</p>
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	<p>⚠ CAUTION</p> <p>The G4185 represents a heavy load at 360 pounds. Seek assistance before beginning assembly.</p>
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Piece Inventory

After all the parts have been removed from the carton, you should have:

- 2 Sides
- 1 Front
- 2 Lower Stand Braces
- 1 Shelf/Inner Brace
- Motor (Mounted On Unit)
- Horizontal Boring Machine Unit
- Table
- Guard
- Air Clamp Pedal and Guard
- Miter Gauge
- Hardware Bag

In the event that any parts are missing, we will be happy to replace them. Contact our Customer Service number for assistance. If any non-proprietary parts such as nuts, bolts or washers are missing, we will be happy to replace these too, but for the sake of expediency, these items can be obtained at your local hardware store.

<p>NOTICE</p> <p>A full parts list and breakdown can be found toward the end of this manual. For easier assembly, or to identify specific parts, please refer to the detailed illustrations at the end of the manual.</p>
--



Clean Up

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

FLOOR LOAD

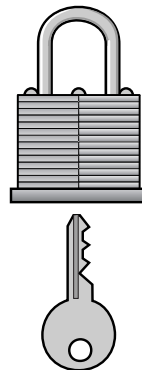
Your Model G4185 represents a moderate weight load in a small footprint. Most commercial or home shop floors should be sufficient to carry the weight of the Model G4185. If you question the strength of your floor, you can opt to have it reinforced by a qualified contractor.

WORKING CLEARANCES

Working clearances can be thought of as the distances between machines and obstacles that allow safe operation of every machine without limitation. Consider existing and anticipated machine needs, size of material to be processed through each machine, and space for auxiliary stands and/or work tables. Also consider the relative position of each machine to one another for efficient material handling. Be sure to allow yourself sufficient room to safely run your machines in any foreseeable operation.

LIGHTING AND OUTLETS

Lighting should be bright enough to eliminate shadows and prevent eye strain. Electrical circuits should be dedicated or large enough to handle combined motor amp loads. Outlets should be located near each machine so power or extension cords are not obstructing high-traffic areas. Be sure to observe local electrical codes for proper installation of new lighting, outlets, or circuits.



CAUTION

Make your shop “child safe.” Ensure that your workplace is inaccessible to youngsters by closing and locking all entrances when you are away. Never allow visitors in your shop when assembling, adjusting or operating equipment.

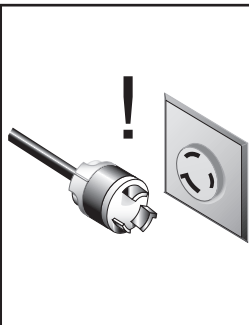


SECTION 4: ASSEMBLY

Beginning Assembly

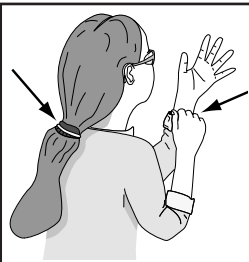
⚠️ WARNING

All die-cut metal parts have a sharp edge (called “flashing”) on them after they are formed. This is removed at the factory. Sometimes, though, a bit of flashing might escape inspection. Please examine the edges of all die-cut metal parts before handling them or serious injury may occur.



⚠️ WARNING

Disconnect power to the machine when performing any maintenance, assembly or adjustments. Failure to do this may result in serious personal injury.



⚠️ WARNING

Keep loose clothing rolled up and out of the way of machinery and keep hair pulled back.



⚠️ WARNING

Wear safety glasses during the entire assembly process. Failure to comply may result in serious personal injury.

Most of your Model G4185 has been assembled at the factory, but some parts must be assembled or installed after delivery. We have organized the assembly process into steps. Please follow along in the order presented here.

TOOLS REQUIRED: You will need 12mm, 13mm and 14mm open end wrenches and a Phillips® screwdriver.



Base

To begin the base assembly, keep the parts within easy reach. To ease assembly, build the base on a bench and then place it on the floor.

1. Place the base side (either one) on your bench.
2. Attach each of the two bottom braces to the front of the base using (4) M8 flat washers, M8-1.25 hex nuts and M8-1.25 x 15 hex bolts. Do not over tighten. The flange on each brace faces out. See **Figure 2**.

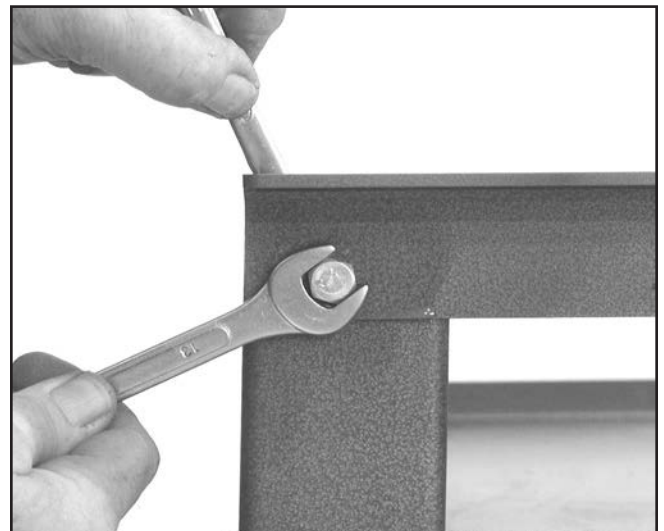


Figure 2. Tightening base bottom braces.



Figure 3. Tighten shelf/support nuts and bolts.

3. Install the support shelf using (6) M8-1.25 x 20 hex bolts, M8-1.25 hex nuts and M8 flat washers. See **Figure 3**.
4. Attach the front panel to the top of the base using (2) M8-1.25 x 15 hex bolts and M8-1.25 hex nuts. See **Figure 4**.



Figure 4. Attach front panel.

5. Set the base on the floor.



Unit To Base

1. Place the horizontal boring machine on the base using an engine hoist or get assistance. See **Figure 5**.

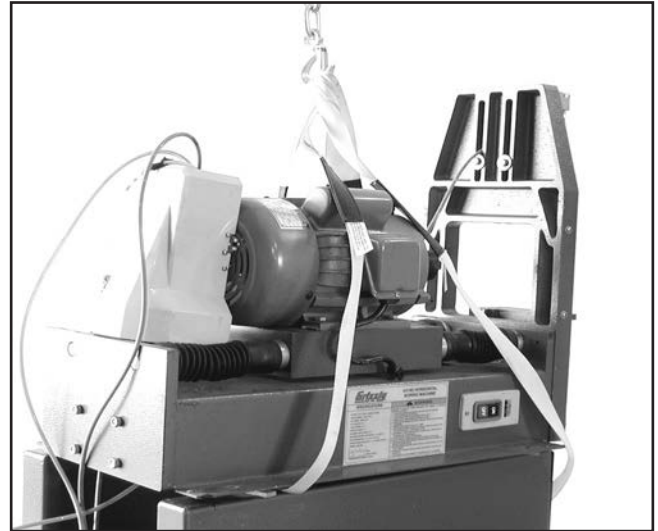


Figure 5. Shows the use of lifting straps.

2. Insert small chocks of wood at four points (two per side) on the base top edges so lift straps can be easily removed. Tap the chocks out once straps are removed. See **Figure 6**.



Figure 6. Chock in place so lift strap can be removed.

3. Secure the horizontal boring machine base to the stand with (4) M8-1.25 x 20 hex bolts, M8-1.25 hex nuts and M8 flat washers.



Table

The Model G4185 has a 15 $\frac{3}{4}$ " wide by 9 $\frac{3}{4}$ " deep table with dovetailed miter gauge slots. To install the table:

1. Loosen the bolts that come already inserted in the threaded holes on the underside of the table.
2. Center the table and start retightening the bolts, one at a time.
3. Tighten the bolts securely and make sure the table is in the desired position. See **Figure 7**.



Figure 7. Tightening the table bolts.



Installing Guard

The Model G4185 comes with a sheetmetal guard that helps keep hands away from moving parts. This guard must be in place during operation of the machine.

1. Remove the Phillips® head screws that are in the machine at the guard mounting position.
2. Place the guard and fasten screws on one side, leaving screws slightly loose.
3. Insert screws on the other side and tighten all screws fully. See **Figure 8**.



Figure 8. Tightening guard screws.



Checking Air Lines

The Model G4185 uses air pressure to clamp workpieces. Air consumption is .5 cubic feet per minute (CFM). All air lines should be checked for possible crimping damage in shipping or unpacking.

Check air lines in all areas that pass over rigid materials, such as cast iron and sheetmetal. Also check where curves in the lines are tight. If there is any sign of wear or crimping, replace the appropriate air hose. See **Figure 9**.

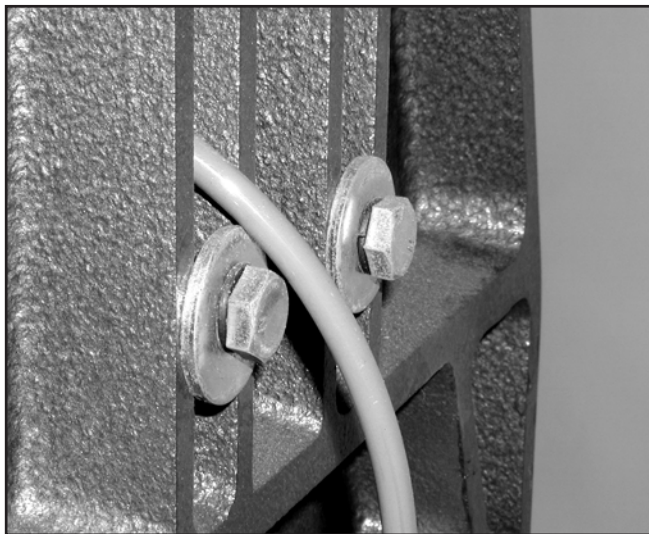


FIGURE 9. Air lines that pass over cast iron corners and other tight radii should be free of kinks.



Miter Gauge

The miter gauge for the Model G4185 is a dovetailed type. It must be inserted into the dovetailed grooves on the edge of the table. See **Figure 10**.

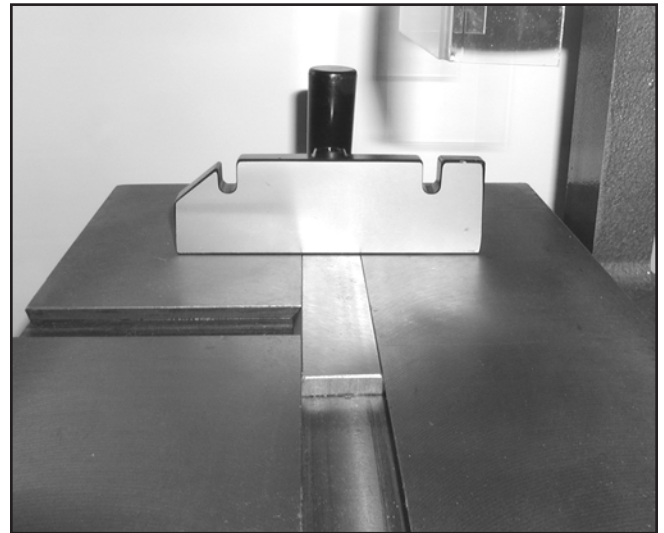


Figure 10. Miter gauge in its slot.



Spindle Head

The Model G4185 accepts either of two optional boring heads, the two spindle Model G5952 and the three spindle Model G5953. The boring heads in turn accept screw-in drill bits in sizes from 1/4" to 1/2". The boring heads and bits must be purchased separately from the Grizzly catalog.

The Model G4185 spindle is the mounting point for the boring head. When installing the boring head onto the motor spindle, make sure the flat notched sides of the motor spindle seat into the notches in the boring head mounting sleeve. See **Figure 11**. With the boring head snugly pushed onto the motor spindle, tighten the locking collar with an open end wrench.

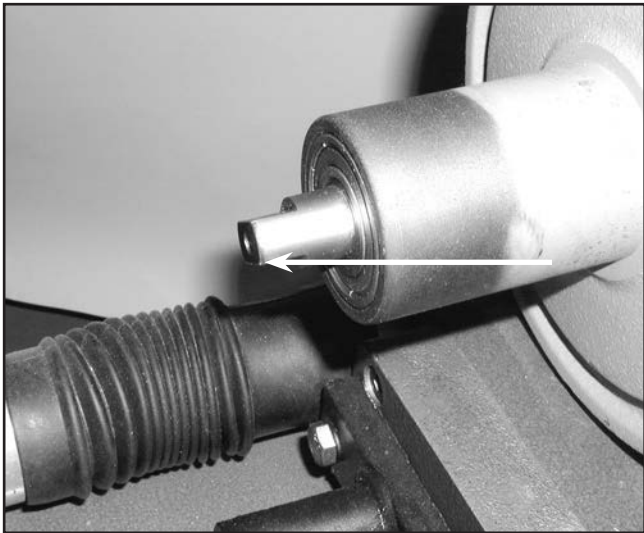
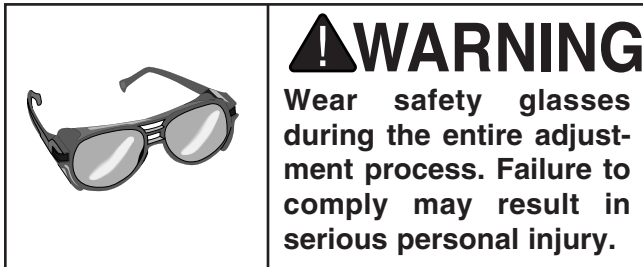
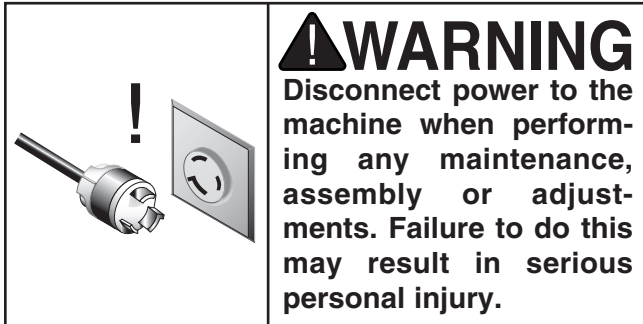


Figure 11. Flat notches on motor spindle fit into flat notches in the boring head mounting sleeve.



SECTION 5: ADJUSTMENTS

General



The primary control switches are the power switch and the pedal actuator. See Figure 12 and Figure 13.



Figure 12. Power switch.



Figure 13. Pedal assembly safety cover.

The pedal clamp actuator can be placed for greatest ease of use. The clamp is an important safety and convenience feature on the Model G4185, but hands must never be placed under the clamp face when there is power to the machine. See Figure 14.

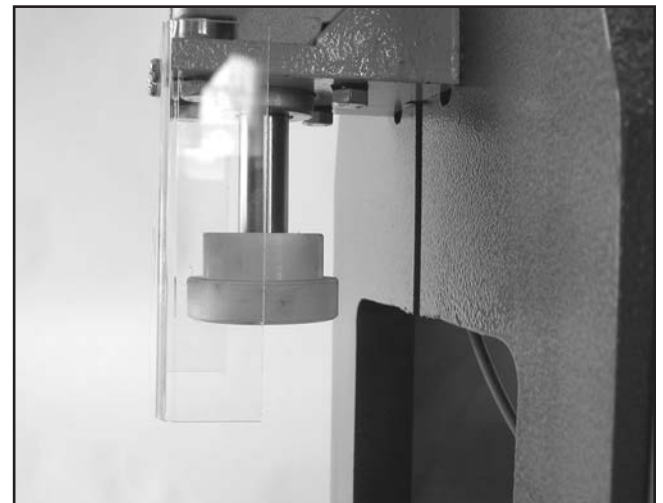
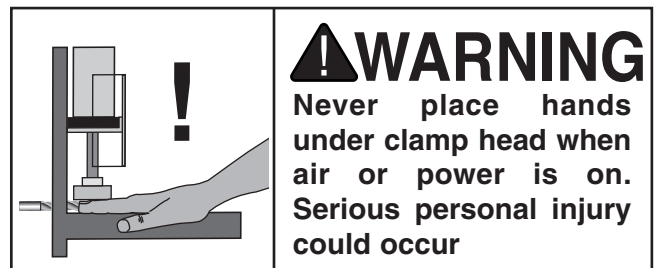


Figure 14. Safety shield in place.



Depth of Cut

Correct depth adjustment is made using the knurled screw that forms part of the depth stop. See **Figure 15**.

1. **Disconnect the horizontal boring machine from the power source.**
2. Loosen the locking nut.
3. Set depth by rotating the knurled knob to desired depth.
4. Retighten the locking nut.

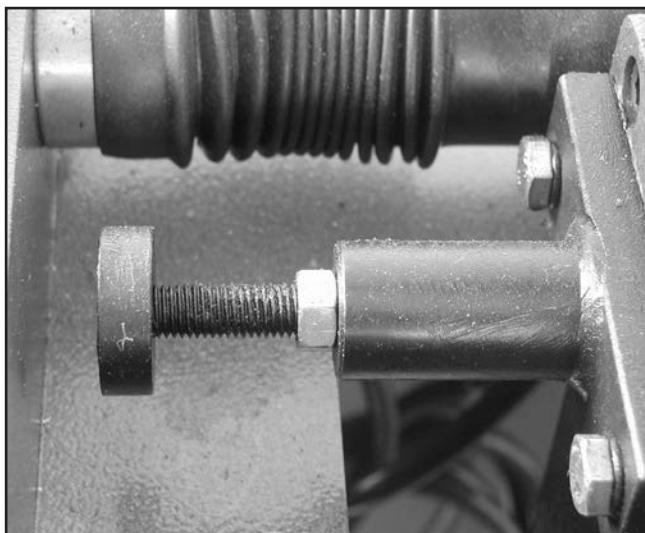


Figure 15. Depth stop assembly.



Table Height

The table height is adjustable over a 3½" range.

To adjust table height:

1. **Disconnect the horizontal boring machine from the power source.**
2. Use the knurled knob to move the table on its dovetailed ways. See **Figure 16**.

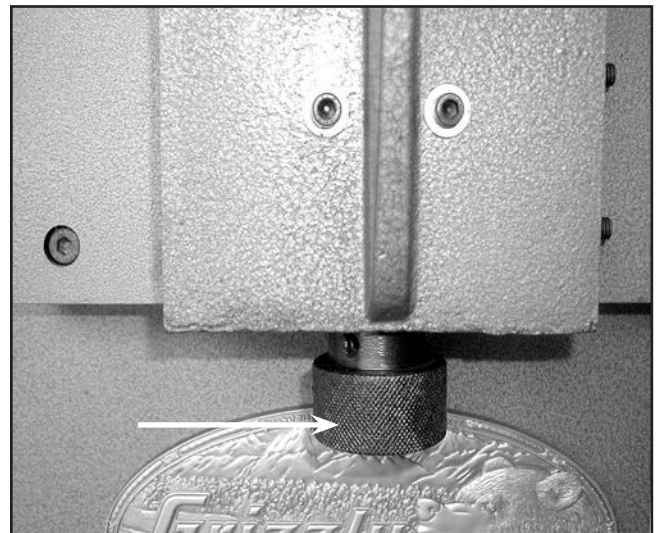


Figure 16. Knurled table height adjustment knob.



Adjusting Gibs

The table gibs may eventually wear so that adjustment is needed.

1. Check vertical movement first.
2. Loosen lock nuts on the right side of the gib. See **Figure 17**.
3. Adjust hex screws until side to side play is eliminated.
4. Tighten lock nuts to set adjustment.

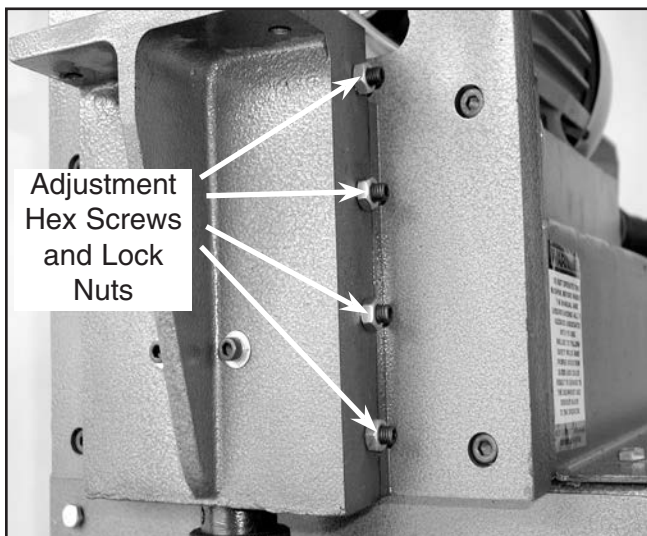
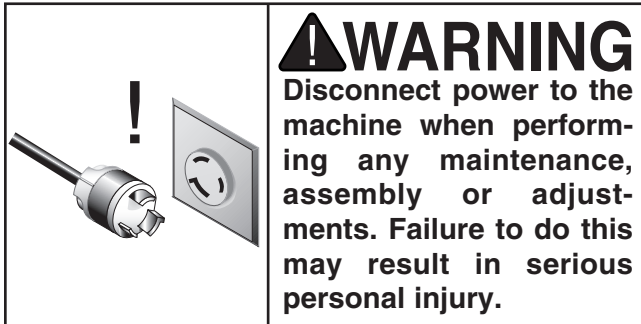


Figure 17. Gibs for table adjustment



SECTION 6: OPERATIONS

Test Run



Once assembly is complete and adjustments are done to your satisfaction, you are ready to test run the machine. Turn on the power supply at the main panel and make sure the air supply is activated. Press the START button. Make sure that your finger is poised on the paddle switch, just in case there is a problem. Press the foot pedal to activate the hold down clamp. The machine should run smoothly, with little or no vibration or rubbing noises. Strange or unnatural noises should be investigated and corrected before operating the machine further.

If you cannot easily locate the source of an unusual noise or vibration, contact our service department for help.



General Info

Here are a few simple things you can do to increase the predictability of your horizontal boring machine's performance:

1. Use the right bit for the job. Bits are the screw-in type and are specifically made for horizontal boring machines.
2. Never rush a drilling procedure. Extra care during set up will ensure satisfactory results.
3. Maintain your horizontal boring machine in top condition. See **Section 7** of this manual for maintenance procedures.
4. Always use a test piece of wood to check your set up. Only when desired results are achieved should you use your expensive lumber.



Boring Bits

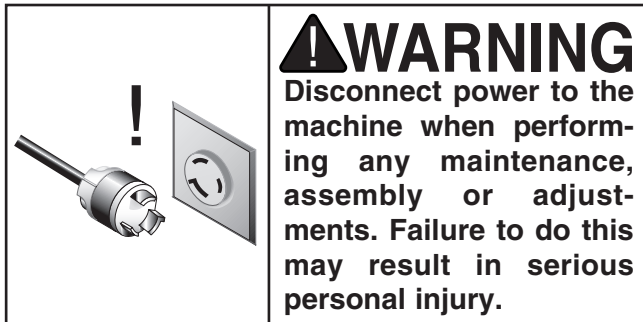
A horizontal boring machine bit requires proper care.

1. Store the bits so their sharp points and flutes are protected. A wooden or plastic box that keeps bits from touching one another works best.
2. Keep bits clean and rust free.
3. Have bits sharpened as soon as they show any signs of dulling.



SECTION 7: MAINTENANCE

General



Regular periodic maintenance on your Model G4185 will ensure its optimum performance. Make a habit of inspecting your machine each time you use it. Check for the following conditions and repair or replace when necessary:

1. Loose mounting bolts.
2. Worn switch.
3. Worn or damaged cords and plugs.
4. Damaged motor spindle.
5. Any other condition that could hamper the safe operation of this machine.

Tables

The nonpainted surfaces on the Model G4185 should be protected against rust and pitting. Wiping the machine clean after every use ensures that wood dust will not trap moisture against bare metal surfaces.

Some woodworkers recommend using automotive paste wax on exposed steel and cast iron surfaces. The wax provides a layer of protection, as well as reducing friction between lumber and the table, making cuts faster and smoother. Avoid waxes that contain silicone or other synthetic ingredients. These materials can find their way into lumber that is being worked, and can make staining and finishing difficult. If you use paste wax, make sure that it is 100% Carnauba wax.



Lubrication

Since all bearings are shielded and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them.



SECTION 8: CLOSURE

The following pages contain general machine data, parts diagrams/lists, a troubleshooting guide and Warranty/Return information for your Model G4185.

If you need parts or help in assembling your machine, or if you need operational information, we encourage you to call our Service Department. Our trained service technicians will be glad to help you.

If you have comments dealing specifically with this manual, please write to our Bellingham, Washington location using the address in **Section 3 Introduction**.

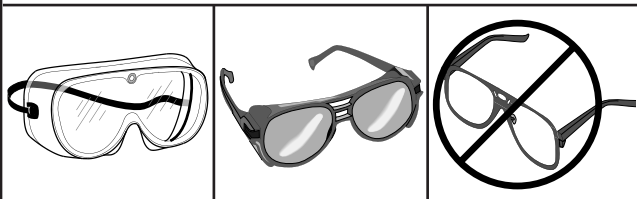
We have included some important safety measures that are essential to this machine's operation. While most safety measures are generally universal, Grizzly reminds you that each workshop is different and safety rules should be considered as they apply to your specific situation.

We recommend you keep a copy of our current catalog for complete information regarding Grizzly's warranty and return policy. If you need additional technical information relating to this machine, or if you need general assistance or replacement parts, please contact the Service Department listed in **Section 3 Introduction**.

Additional information sources are necessary to realize the full potential of this machine. Trade journals, woodworking magazines, and your local library are good places to start.

WARNING

Operating this equipment creates the potential for flying debris to cause eye injury. Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses only have impact resistant lenses, they are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).



WARNING

The Model G4185 was specifically designed for horizontal boring operations. **DO NOT MODIFY AND/OR USE THIS MACHINE FOR ANY OTHER PURPOSE.** Modifications or improper use of this tool will void the warranty. If you are confused about any aspect of this machine, **DO NOT** use it until all your questions have been answered or serious personal injury may occur.

WARNING

Like all power tools, there is danger associated with the Model G4185. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.





MACHINE DATA SHEET

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

MODEL G4185 HORIZONTAL BORING MACHINE

Product Dimensions:

Weight..... 360 lbs.
 Width (side-to-side) x Depth (front-to-back) x Height..... 15 x 37-1/4 x 47-1/2 in.
 Footprint (Length x Width)..... 15-1/2 x 27-1/2 in.

Shipping Dimensions:

Type..... Wood Slat Crate
 Content..... Machine
 Weight..... 346 lbs.
 Length x Width x Height..... 19 x 36 x 30 in.
 Must Ship Upright..... Yes

Electrical:

Power Requirement..... 220V, Single-Phase, 60 Hz
 Prewired Voltage..... 220V
 Full-Load Current Rating..... 12A
 Minimum Circuit Size..... 15A
 Connection Type..... Cord & Plug
 Power Cord Included..... Yes
 Power Cord Length..... 8 ft.
 Power Cord Gauge..... 14 AWG
 Plug Included..... No
 Recommended Plug Type..... 6-15
 Switch Type..... Paddle Safety Switch w/Removable Key

Motors:

Main

Horsepower..... 2 HP
 Phase..... Single-Phase
 Amps..... 12A
 Speed..... 3450 RPM
 Type..... TEFC Capacitor-Start Induction
 Power Transfer Direct Drive
 Bearings..... Shielded & Permanently Lubricated

Main Specifications:

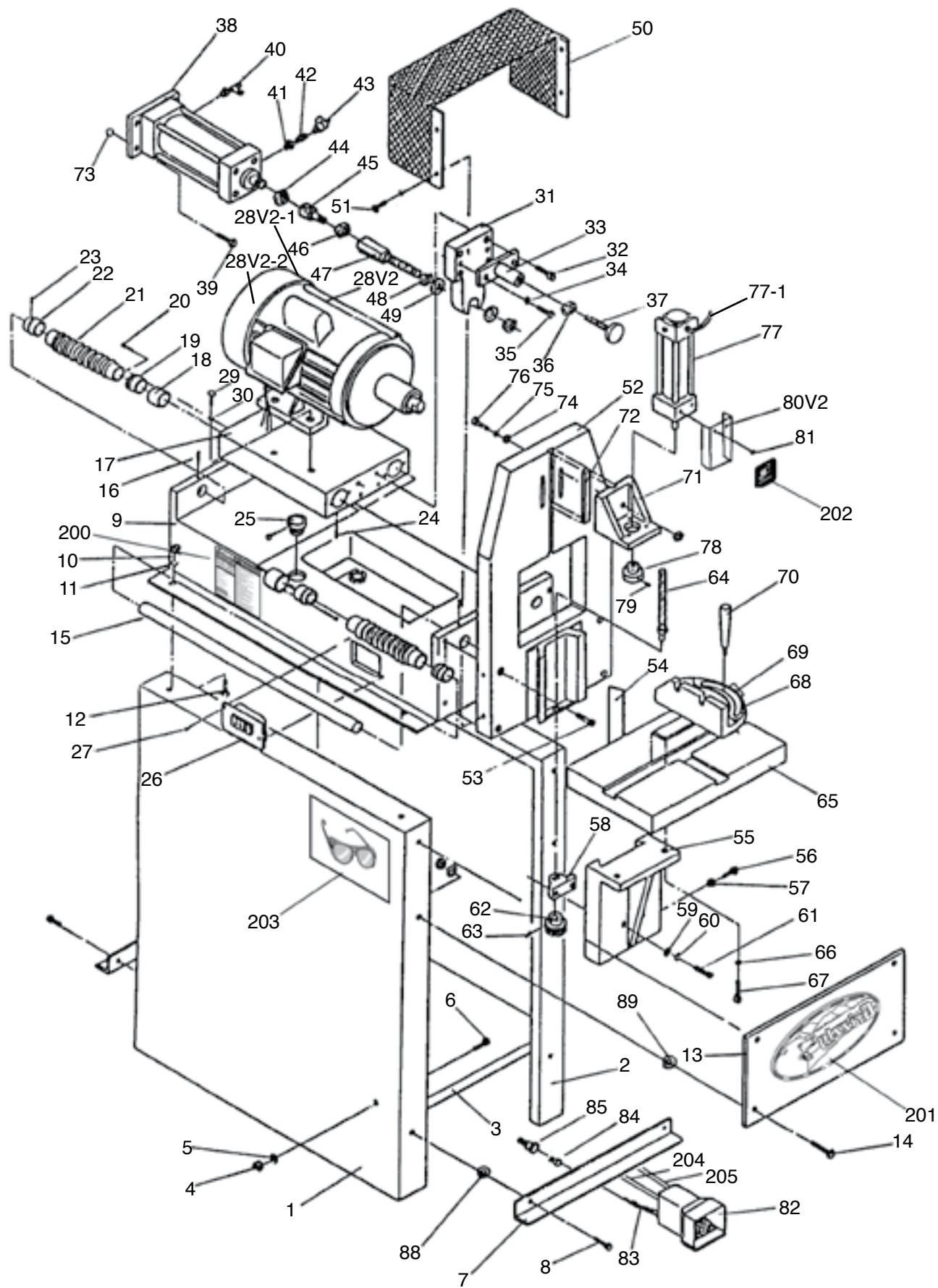
Operation Information

Spindle Travel..... 3 in.
 Spindle RPM..... 3450
 Maximum Strokes Per Minute..... 12 at 90 PSI
 Maximum Stock Width..... 7-1/2 in.
 Drill Bit Type..... RH Threads
 Bit Cap..... 9/16 in.
 Air Requirements..... 0.5 CFM at 90 PSI

TROUBLESHOOTING

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.*

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Motor will not start.	<ol style="list-style-type: none"> 1. Low voltage. 2. Open circuit in motor or loose connections. 	<ol style="list-style-type: none"> 1. Check power line for proper voltage. 2. Inspect all lead connections on motor for loose or open connections.
Motor will not start; fuses or circuit breakers blow.	<ol style="list-style-type: none"> 1. Short circuit in line cord or plug. 2. Short circuit in motor or loose connections. 3. Incorrect fuses or circuit breakers in power line. 	<ol style="list-style-type: none"> 1. Inspect cord or plug for damaged insulation and shorted wires. 2. Inspect all connections on motor for loose or shorted terminals or worn insulation. 3. Install correct fuses or circuit breakers.
Motor overheats.	<ol style="list-style-type: none"> 1. Motor overloaded. 2. Air circulation through the motor restricted. 	<ol style="list-style-type: none"> 1. Reduce load on motor. 2. Clean out motor to provide normal air circulation.
Motor stalls (resulting in blown fuses or tripped circuit).	<ol style="list-style-type: none"> 1. Short circuit in motor or loose connections. 2. Low voltage. 3. Incorrect fuses or circuit breakers in power line. 4. Motor overloaded. 	<ol style="list-style-type: none"> 1. Inspect connections on motor for loose or shorted terminals or worn insulation. 2. Correct the low voltage conditions. 3. Install correct fuses or circuit breakers. 4. Reduce load on motor.
Machine slows when operating.	<ol style="list-style-type: none"> 1. Applying too much pressure to workpiece. 2. Bits are dull. 	<ol style="list-style-type: none"> 1. Feed workpiece slower. 2. Replace bits.
Holes do not line up correctly	<ol style="list-style-type: none"> 1. Table is is not adjusted properly. 	<ol style="list-style-type: none"> 1. Adjust table.
Excessive vibration.	<ol style="list-style-type: none"> 1. Boring head not mounted correctly. 	<ol style="list-style-type: none"> 1. Remove and remount boring head. 2. Remove and reinstall bits.



REF	PART #	DESCRIPTION
1	P4185001	FIXING PLATE LEFT
2	P4185002	FIXING PLATE RIGHT
3	P4185003	SUPPORT PLATE, LOWER
4	P4185004	HEX NUT M8-1.25
5	P4185005	LOCK WASHER 8MM
6	P4185006	HEX BOLT M8-1.25 X 20
7	P4185007	FIXING SHELF
8	P4185008	HEX BOLT M8-1.25 X 16
9	P4185009	MACHINE BODY
10	P4185010	HEX NUT M8-1.25
11	P4185011	FLAT WASHER 8MM
12	P4185012	HEX BOLT M8-1.25 X 20
13	P4185013	FRONT COVER PLATE
14	P4185014	HEX
15	P4185015	SLIDEWAY
16	P4185016	SET SCREW M6-1 X 10
17	P4185017	MOTOR SEAT
18	P4185018	BRONZE BUSHING
19	P4185019	SLIDING BUSHING
20	P4185020	ROUND HD CROSS SCR M5-.8 X 3.5
21	P4185021	DUST GUARD HOSE
22	P4185022	FIXING BUSHING
23	P4185023	SET SCREW M6-1 X 10
24	P4185024	SET SCREW M5-.8 X 10
25	P4185025	STRAIN RELIEF 5/8" TYPE-2 ST
26	P4185026	GRIZZLY SAFETY PADDLE SWITCH
27	P4185027	PHLP HD SCR M5-.8 X 8
28V2	P4185028V2	MOTOR 2HP 220V 1-PH V2 10.18
28V2-1	P4185028V2-1	MOTOR FAN V2 10.18
28V2-2	P4185028V2-2	MOTOR FAN COVER V2 10.18
29	P4185029	HEX BOLT M8-1.25 X 25
30	P4185030	FLAT WASHER 8MM
31	P4185031	LEADING BLOCK
32	P4185032	CAP SCREW M8-1.25 X 25
33	P4185033	FIXING SEAT
34	P4185034	LOCK WASHER 8MM
35	P4185035	HEX BOLT M8-1.25 X 25
36	P4185036	HEX NUT M10-1.25
37	P4185037	COLLISION PREVENT LEVER
38	P4185038	SLIDING AIR CYLINDER
39	P4185039	HEX BOLT M8-1.25 X 25
40	P4185040	AIR PRESSURE JOINT
41	P4185041	MALE STRAIGHT JOINT
42	P4185042	FEMALE STRAIGHT JOINT
43	P4185043	SPEED ADJUSTING JOINT
44	P4185044	HEX NUT M12-1.25
45	P4185045	FLOATING JOINT
46	P4185046	HEX NUT M12-1.25
47	P4185047	JOINT LEVER
48	P4185048	HEX NUT M14-2

REF	PART #	DESCRIPTION
49	P4185049	FLAT WASHER 58
50	P4185050	SAFETY GUARD
51	P4185051	SEMI-RND HEX RING SCREW
52	P4185052	LIFTING BODY
53	P4185053	CAP SCREW M8-1.25 X 40
54	P4185054	SLIDING SPACER
55	P4185055	LIFTING SEAT
56	P4185056	SET SCREW M8-1.25
57	P4185057	HEX NUT M8-1.25
58	P4185058	NUT SEAT
59	P4185059	FLAT WASHER 6MM
60	P4185060	LOCK WASHER 6MM
61	P4185061	HEX BOLT M6-1 X 25
62	P4185062	KNOB 60MM
63	P4185063	SET SCREW M8-1.25 X 10
64	P4185064	LIFTING SCREW M12-1.75 X 185
65	P4185065	WORKING TABLE
66	P4185066	FLAT WASHER 8MM
67	P4185067	HEX BOLT M8-1.25 X 25
68	P4185068	SLIDING SPACER
69	P4185069	ANGLE GAUGE
70	P4185070	LOCK HANDLE M8-1.25 X 2.5
71	P4185071	AIR CYLINDER FIXING SEAT
72	P4185072	KEY 8 X 7 X 35
73	P4185073	HEX NUT M8-1.25
74	P4185074	FLAT WASHER 8MM
75	P4185075	LOCK WASHER 8MM
76	P4185076	HEX BOLT M8-1.25 X 30
77	P4185077	HOLDING DOWN CYLINDER
77-1	P4185077-1	HOLD DOWN CYLINDER AIR HOSE
78	P4185078	HOLDING DOWN BLOCK
79	P4185079	SET SCREW M8-1.25 X 10
80V2	P4185080V2	DUST GUARD W/BACKET V2.08.09
81	P4185081	ROUND HEAD CROSS SCREW
82	P4185082	FOOT SELECTOR SWITCH
83	P4185083	AIR PRESSURE HOSE
84	P4185084	QUICK JOINT (MALE)
85	P4185085	QUICK JOINT (FEMALE)
88	P4185088	HEX NUT M8-1.25
89	P4185089	HEX NUT M8-1.25
90	P4185090	ELBOW FITTING
91	P4185091	METAL FITTING
92	P4185092	HEX BOLT M8-1.25 X 25
200	P4185200	WARNING LABEL/MACHINE ID
201	P4185201	SMALL GRIZZLY NAMEPLATE
202	P4185202	PINCH WARNING LABEL
203	P4185203	SAFETY GLASSES WARNING LABEL
204	P4185204	HOSE FOOT TO PEDAL TO BORING HOOD
205	P4185205	HOSE FOOT TO PEDAL TO COMPRESSOR

NOTES



WARRANTY AND 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.



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
- Card Deck
- Friend
- Website
- Catalog
- Other:

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

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

3. What is your annual household income?

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

4. What is your age group?

- 20-29
- 50-59
- 30-39
- 60-69
- 40-49
- 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: _____

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



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City _____ State _____ Zip _____

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