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 chemical 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

⚠️ WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are 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.

⚠️ 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 equipment.

⚠️ WARNING

Safety Instructions For Power Tools

1. KEEP GUARDS IN PLACE and in working order.

2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.

3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

4. DO NOT USE IN DANGEROUS ENVIRONMENT. Do not use power tools in damp or wet locations, or where any flammable or noxious fumes may exist. Keep work area well lighted.

5. KEEP CHILDREN AND VISITORS AWAY. All children and visitors should be kept a safe distance from work area.

6. MAKE WORKSHOP CHILD PROOF with padlocks, master switches, or by removing starter keys.

7. DO NOT FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

8. USE RIGHT TOOL. Do not force tool or attachment to do a job for which it was not designed.

Model G4185 Horizontal Boring Machine
WARNING
Safety Instructions For Power Tools

9. USE PROPER EXTENSION CORD. Make sure your extension cord is in good condition. Conductor size should be in accordance with the chart below. The amperage rating should be listed on the motor or tool nameplate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Your extension cord must also contain a ground wire and plug pin. Always repair or replace extension cords if they become damaged.

Minimum Gauge for Extension Cords

<table>
<thead>
<tr>
<th>AMP RATING</th>
<th>LENGTH 25ft</th>
<th>LENGTH 50ft</th>
<th>LENGTH 100ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6</td>
<td>18</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>7-10</td>
<td>18</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>11-12</td>
<td>16</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>13-16</td>
<td>14</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>17-20</td>
<td>12</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>21-30</td>
<td>10</td>
<td>10</td>
<td>No</td>
</tr>
</tbody>
</table>

10. WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

11. ALWAYS USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.

12. SECURE WORK. Use clamps or a vise to hold work when practical. It’s safer than using your hand and frees both hands to operate tool.

13. DO NOT OVERREACH. Keep proper footing and balance at all times.

14. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. USE RECOMMENDED ACCESSORIES. Consult the owner’s manual for recommended accessories. The use of improper accessories may cause risk of injury.

16. REDUCE THE RISK OF UNINTENTIONAL STARTING. On machines with magnetic contact starting switches there is a risk of starting if the machine is bumped or jarred. Always disconnect from power source before adjusting or servicing. Make sure switch is in OFF position before reconnecting.

17. MANY WOODWORKING TOOLS CAN “KICKBACK” THE WORKPIECE toward the operator if not handled properly. Know what conditions can create “kickback” and know how to avoid them. Read the manual accompanying the machine thoroughly.

18. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

19. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Do not leave tool until it comes to a complete stop.

20. NEVER OPERATE A MACHINE WHEN TIRED, OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL. Full mental alertness is required at all times when running a machine.

21. NEVER ALLOW UNSUPERVISED OR UNTRAINED PERSONNEL TO OPERATE THE MACHINE. Make sure any instructions you give in regards to machine operation are approved, correct, safe, and clearly understood.

22. IF AT ANY TIME YOU ARE EXPERIENCING DIFFICULTIES performing the intended operation, stop using the machine! Then contact our service department or ask a qualified expert how the operation should be performed.
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.

**WARNING**

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.

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.
Grizzly Industrial, Inc. is proud to offer the Model G4185 Horizontal Boring Machine. The Model G4185 is part of Grizzly’s growing family of fine woodworking and metalworking machinery. When used according to the guidelines presented in this manual, you can expect years of trouble-free, enjoyable operation.

The Model G4185 is intended for home and medium-duty professional use. The Model G4185 features cast iron construction for rigidity and strength, a solid cast iron table with dovetailed gibbs and miter slots, a steel base, and a dovetailed miter gauge.

We are also pleased to provide this manual with the Model G4185. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our effort to produce the best documentation possible. If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
C/O Technical Documentation
P.O. Box 2069
Bellingham, WA  98227-2069

Most importantly, we stand behind our machines. If you have any service questions or parts requests, please call or write us at the location listed below.

Grizzly Industrial, Inc.
2406 Reach Road
Williamsport, PA  17701
Phone: (570) 546-9663
Fax: (800) 438-5901
E-Mail: techsupport@grizzly.com
Web Site: http://www.grizzly.com

After Fall 2001:
Grizzly Industrial, Inc.
1203 Lycoming Circle
Pennsdale, PA 17756

The specifications, drawings, and photographs illustrated in this manual represent the Model G4185 as supplied when the manual was prepared. However, owing to Grizzly’s policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. Whenever possible, though, we send manual updates to all owners of a particular tool or machine. Should you receive one, we urge you to insert the new information with the old and keep it for reference.

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

The Model G4185 is shipped from the manufacturer in a carefully packed carton. If you discover the machine is damaged after you’ve signed for delivery, immediately call Customer Service for advice.

When you are completely satisfied with the condition of your shipment, you should inventory its parts.

![WARNING]

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.

![CAUTION]

The G4185 represents a heavy load at 360 pounds. Seek assistance before beginning assembly.

![NOTICE]

Save all containers and packing materials until you are satisfied that your Model G4185 has arrived in good condition. Freight company adjusters will want to inspect those materials in the event that a freight claim must be made.

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.

![NOTICE]

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.
Clean Up

The unpainted surfaces are coated with a waxy oil to protect them from corrosion during shipment. Remove this protective coating with a solvent cleaner or citrus-based degreaser such as Grizzly’s G7895 Degreaser. Avoid chlorine-based solvents as they may damage painted surfaces should they come in contact. Always follow the usage instructions on the product you choose for clean up.

WARNING
Do not use gasoline or other petroleum-based solvents. They have low flash points which make them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur if this warning is ignored.

CAUTION
Many of the solvents commonly used to clean machinery can be toxic when inhaled or ingested. Always work in well-ventilated areas far from potential ignition sources when dealing with solvents. Use care when disposing of waste rags and towels to be sure they do not create fire or environmental hazards. Keep children and animals safely away when cleaning and assembling this machine.

WARNING
Do not smoke while using solvents. A risk of explosion or fire exists and may result in serious personal injury.

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.](image)

![Figure 3. Tighten shelf/support nuts and bolts.](image)
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.

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.

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.

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.
The Model G4185 has a 15¾" wide by 9¾" 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.

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.
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.](image)

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.](image)
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 ¼" to ½". 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

![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 adjustment process. Failure to comply may result in serious personal injury.

![WARNING]
Never place hands under clamp head when air or power is on. Serious personal injury could occur.

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.

Figure 14. Safety shield in place.

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.

Model G4185 Horizontal Boring Machine
**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.

**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 15.** Depth stop assembly.

**Figure 16.** Knurled table height adjustment knob.
Adjusting Gibs

The table gibbs 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](image)
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

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 maintenance process. Failure to comply may result in serious personal injury.

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.
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.
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.

SECTION 8: CLOSURE

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.

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.

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

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.
GRIZZLY MODEL G4185 HORIZONTAL BORING MACHINE

Design Type.................................................................Floor Model

**Overall Dimensions:**
- Table: 15¾" x 9¾"
- Overall Height: 47½"
- Overall Width: 15"
- Overall Depth: 37¼"
- Shipping Weight: 360 Lbs.
- Box Size: 36" L x 20" W x 20 1/2" H
- Footprint: 27½" x 15½"

**Construction:**
- Table: Cast Iron
- Table Vert. Slide: Cast Iron
- Base: Pre-formed Steel

**Capacities:**
- Spindle Travel: 3"
- Maximum Stock Width: 7½"
- Max Strokes Per Minute: 12 @ 90 PSI
- Air Requirements: 0.5 CFM @ 90 PSI
- Bit Capacity: 9/16"
- Speed: 4000 R.P.M.
- Table Travel, Vertical: 3½"

**Motor:**
- Type: TEFC Capacitor Start Induction
- Horsepower: 2 H.P.
- Phase / Cycle: Single Phase / 60 Hz
- Voltage: 220V
- Amps: 12
- R.P.M.: 3450
- Power Transfer: Direct Drive
- Bearings: Shielded & Lubricated Ball Bearings

**Features:**
- Dovetailed Miter Slots
- Pneumatic Spindle Travel
- Dovetailed Vertical Table Ways
- Pneumatic Foot Activator
- Pneumatic Clamp, 2¼" Dia. Pad

**Requires:**
- G5952 2 Spindle Boring Head
- G5953 3 Spindle Boring Head

*Specifications, while deemed accurate, are not guaranteed.*
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>POSSIBLE CAUSE</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor will not start.</td>
<td>1. Low voltage.</td>
<td>1. Check power line for proper voltage.</td>
</tr>
<tr>
<td></td>
<td>2. Open circuit in motor or loose connections.</td>
<td>2. Inspect all lead connections on motor for loose or open connections.</td>
</tr>
<tr>
<td>Motor will not start; fuses or circuit breakers blow.</td>
<td>1. Short circuit in line cord or plug.</td>
<td>1. Inspect cord or plug for damaged insulation and shorted wires.</td>
</tr>
<tr>
<td></td>
<td>2. Short circuit in motor or loose connections.</td>
<td>2. Inspect all connections on motor for loose or shorted terminals or worn insulation.</td>
</tr>
<tr>
<td></td>
<td>3. Incorrect fuses or circuit breakers in power line.</td>
<td>3. Install correct fuses or circuit breakers.</td>
</tr>
<tr>
<td></td>
<td>2. Air circulation through the motor restricted.</td>
<td>2. Clean out motor to provide normal air circulation.</td>
</tr>
<tr>
<td>Motor stalls (resulting in blown fuses or tripped circuit).</td>
<td>1. Short circuit in motor or loose connections.</td>
<td>1. Inspect connections on motor for loose or shorted terminals or worn insulation.</td>
</tr>
<tr>
<td></td>
<td>2. Low voltage.</td>
<td>2. Correct the low voltage conditions.</td>
</tr>
<tr>
<td></td>
<td>3. Incorrect fuses or circuit breakers in power line.</td>
<td>3. Install correct fuses or circuit breakers.</td>
</tr>
<tr>
<td>Machine slows when operating.</td>
<td>1. Applying too much pressure to workpiece.</td>
<td>1. Feed workpiece slower.</td>
</tr>
<tr>
<td></td>
<td>2. Bits are dull.</td>
<td>2. Replace bits.</td>
</tr>
<tr>
<td>Holes do not line up correctly</td>
<td>1. Table is is not adjusted properly.</td>
<td>1. Adjust table.</td>
</tr>
<tr>
<td>Excessive vibration.</td>
<td>1. Boring head not mounted correctly.</td>
<td>1. Remove and remount boring head.</td>
</tr>
<tr>
<td></td>
<td>2. Remove and reinstall bits.</td>
<td></td>
</tr>
<tr>
<td>Ref#</td>
<td>Part#</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>001</td>
<td>P4185001</td>
<td>FIXING PLATE, LEFT</td>
</tr>
<tr>
<td>002</td>
<td>P4185002</td>
<td>FIXING PLATE, RIGHT</td>
</tr>
<tr>
<td>003</td>
<td>P4185003</td>
<td>SUPPORT PLATE, LOWER</td>
</tr>
<tr>
<td>004</td>
<td>PN03M</td>
<td>HEX NUT M8-1.25</td>
</tr>
<tr>
<td>005</td>
<td>PLW04M</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>006</td>
<td>PB09M</td>
<td>HEX BOLT M8-1.25 X 20</td>
</tr>
<tr>
<td>007</td>
<td>P4185007</td>
<td>FIXING SHELF</td>
</tr>
<tr>
<td>008</td>
<td>PB03M</td>
<td>HEX BOLT M8-1.25 X 16</td>
</tr>
<tr>
<td>009</td>
<td>P4185009</td>
<td>MACHINE BODY</td>
</tr>
<tr>
<td>010</td>
<td>PN03M</td>
<td>HEX NUT M8-1.25</td>
</tr>
<tr>
<td>011</td>
<td>PW01M</td>
<td>FLAT WASHER M8</td>
</tr>
<tr>
<td>012</td>
<td>PB09M</td>
<td>HEX BOLT M8-1.25 X 20</td>
</tr>
<tr>
<td>013</td>
<td>P4185013</td>
<td>FRONT COVER PLATE</td>
</tr>
<tr>
<td>014</td>
<td>PB03M</td>
<td>HEX BOLT M8-1.25 X 16</td>
</tr>
<tr>
<td>015</td>
<td>P4185015</td>
<td>SLIDEWAY</td>
</tr>
<tr>
<td>016</td>
<td>PSS01M</td>
<td>SETSCREW M6-1.0 X 10</td>
</tr>
<tr>
<td>017</td>
<td>P4185017</td>
<td>MOTOR SEAT</td>
</tr>
<tr>
<td>018</td>
<td>P4185018</td>
<td>BRONZE BUSHING</td>
</tr>
<tr>
<td>019</td>
<td>P4185019</td>
<td>SLIDING BUSHING</td>
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<tr>
<td>020</td>
<td>P4185020</td>
<td>ROUND HEAD CROSS SCREW</td>
</tr>
<tr>
<td>021</td>
<td>P4185021</td>
<td>DUST GUARD HOSE</td>
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<td>022</td>
<td>P4185022</td>
<td>FIXING BUSHING</td>
</tr>
<tr>
<td>023</td>
<td>PSS01M</td>
<td>SETSCREW M6-1.0 X 10</td>
</tr>
<tr>
<td>024</td>
<td>PSS05M</td>
<td>SETSCREW M5-8 X 10</td>
</tr>
<tr>
<td>025</td>
<td>P4185025</td>
<td>WIRING GROMMET</td>
</tr>
<tr>
<td>026</td>
<td>P4185026</td>
<td>PUSH BUTTON SWITCH</td>
</tr>
<tr>
<td>027</td>
<td>P4185027</td>
<td>ROUND HEAD CROSS SCREW</td>
</tr>
<tr>
<td>028</td>
<td>P4185028</td>
<td>MOTOR</td>
</tr>
<tr>
<td>029</td>
<td>PB07M</td>
<td>HEX BOLT M8-1.25 X 25</td>
</tr>
<tr>
<td>030</td>
<td>PW01M</td>
<td>FLAT WASHER M8</td>
</tr>
<tr>
<td>031</td>
<td>P4185031</td>
<td>LEADING BLOCK</td>
</tr>
<tr>
<td>032</td>
<td>P4185032</td>
<td>ROUND HEAD HEX RING SCREW</td>
</tr>
<tr>
<td>033</td>
<td>P4185033</td>
<td>FIXING SEAT</td>
</tr>
<tr>
<td>034</td>
<td>PLW04M</td>
<td>LOCK WASHER M8</td>
</tr>
<tr>
<td>035</td>
<td>PB07M</td>
<td>HEX BOLT M8-1.25 X 25</td>
</tr>
<tr>
<td>036</td>
<td>PN08M</td>
<td>HEX NUT M10-1.25</td>
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<tr>
<td>037</td>
<td>P4185037</td>
<td>COLLISION PREVENT LEVER</td>
</tr>
<tr>
<td>038</td>
<td>P4185038</td>
<td>SLIDING AIR CYLINDER</td>
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<tr>
<td>039</td>
<td>PB07M</td>
<td>HEX BOLT M8-1.25 X 25</td>
</tr>
<tr>
<td>040</td>
<td>P4185040</td>
<td>AIR PRESSURE JOINT</td>
</tr>
<tr>
<td>041</td>
<td>P4185041</td>
<td>STRAIGHT JOINT (MALE)</td>
</tr>
<tr>
<td>042</td>
<td>P4185042</td>
<td>STRAIGHT JOINT (FEMALE)</td>
</tr>
<tr>
<td>043</td>
<td>P4185043</td>
<td>SPEED ADJUSTING JOINT</td>
</tr>
<tr>
<td>044</td>
<td>PN24M</td>
<td>HEX NUT M12-1.25</td>
</tr>
<tr>
<td>045</td>
<td>P4185045</td>
<td>FLOATING JOINT</td>
</tr>
<tr>
<td>046</td>
<td>PN24M</td>
<td>HEX NUT M12-1.25</td>
</tr>
<tr>
<td>047</td>
<td>P4185047</td>
<td>JOINT LEVER</td>
</tr>
<tr>
<td>048</td>
<td>P4185048</td>
<td>HEX NUT</td>
</tr>
<tr>
<td>049</td>
<td>PW14</td>
<td>FLAT WASHER ⅝&quot;</td>
</tr>
<tr>
<td>050</td>
<td>P4185050</td>
<td>SAFETY GUARD</td>
</tr>
</tbody>
</table>

Model G4185 Horizontal Boring Machine
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.
1. How did you learn about us?

___Advertisement
___Catalog
___World Wide Web
___Other

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

___American Woodworker
___Cabinetmaker
___Family Handyman
___Fine Homebuilding
___Fine Woodworking
___Home Handyman
___Journal of Light Construction
___Old House Journal
___Popular Mechanics
___Popular Science
___Popular Woodworking
___Other

3. Which of the following woodworking/remodeling shows do you watch?

___Backyard America
___Home Time
___The American Woodworker
___Other

4. What is your annual household income?

___$20,000-$29,999
___$30,000-$39,999
___$40,000-$49,999
___$50,000-$59,999
___$60,000-$69,999
___$70,000-$79,999
___$80,000-$89,999
___$90,000 +

5. What is your age group?

___20-29
___30-39
___40-49
___50-59
___60-69
___70 +

6. How long have you been a woodworker?

___0 - 2 Years
___2 - 8 Years
___8 - 20 Years
___20+ Years

7. How would you rank your woodworking skills?

___Simple
___Intermediate
___Advanced
___Master Craftsman

8. What stationary woodworking tools do you own? Check all that apply.

___Air Compressor
___Band Saw
___Drill Press
___Drum Sander
___Dust Collector
___Horizontal Boring Machine
___Jointer
___Lathe
___Mortiser
___Other
___Panel Saw
___Planer
___Power Feeder
___Radial Arm Saw
___Shaper
___Spindle Sander
___Table Saw
___Vacuum Veneer Press
___Wide Belt Sander

9. How many of your woodworking machines are Grizzly? __________

10. Which benchtop tools do you own? Check all that apply.

___1" x 42" Belt Sander
___6" - 8" Grinder
___5" - 8" Drill Press
___Mini Lathe
___8" Table Saw
___10" - 12" Thickness Planer
___8" - 10" Horizontal boring machine
___Scroll Saw
___Disc/Belt Sander
___Spindle/Belt Sander
___Mini Jointer
___Other

11. How many of the machines checked above are Grizzly? __________

12. Which portable/hand held power tools do you own? Check all that apply.

___Belt Sander
___Orbital Sander
___Biscuit Joiner
___Palm Sander
___Circular Saw
___Portable Planer
___Detail Sander
___Saber Saw
___Drill/Driver
___Reciprocating Saw
___Miter Saw
___Router
___Other

13. What machines/supplies would you like Grizzly Industrial to carry?

___12" Table Saw
___Radial Arm Saw
___12" Jointer
___Panel Saw
___Combination Planer/Joiner
___Brass Hardware
___Paint & Finishing Supplies
___Lumber
___Contractor's Supplies
___Other

14. What new accessories would you like Grizzly Industrial to carry?

___Builders Hardware
___Hand Tools
___Fasteners
___Wood Components
___Other

15. What other companies do you purchase your tools and supplies from?

__________________________________________________________
__________________________________________________________
__________________________________________________________

16. Do you think your purchase represents good value?

___Yes
___No

17. Would you recommend Grizzly Industrial to a friend?

___Yes
___No

18. Would you allow us to use your name as a reference for Grizzly customers in your area? Note: We never use names more than three times.

___Yes
___No

19. Comments:

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
Send a Grizzly Catalog to a friend:

Name__________________________________________
Street__________________________________________
City__________________ State______ Zip________