

READ THIS FIRST



Model G1035/G1035P

*****IMPORTANT UPDATE*****

For Machines Mfg. Since August, 2013, &
Owner's Manual Revised June, 2012

For questions or help with this product contact Tech Support at (570) 546-9663 or techsupport@grizzly.com

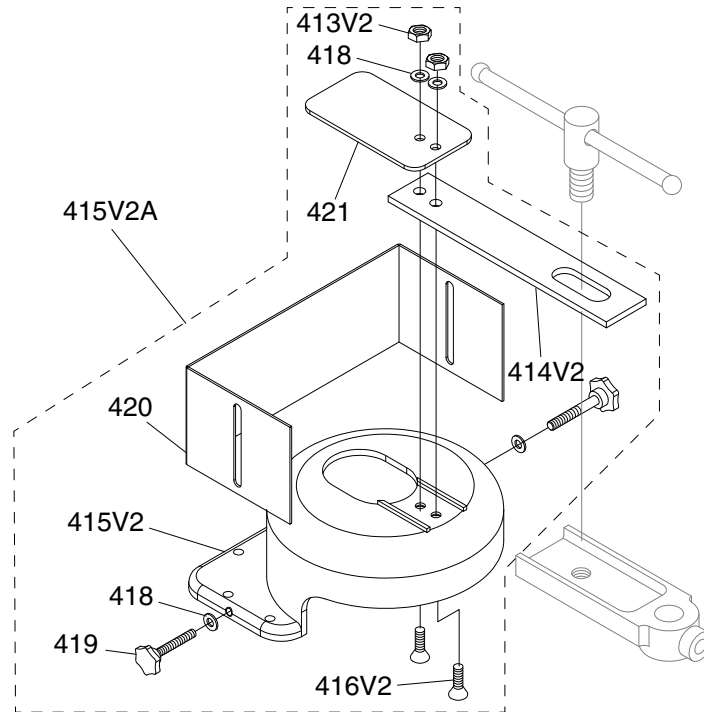
The following change was recently made to this machine since the owner's manual was printed:

- Added a front and top safety guard to the main safety guard.

Aside from this information, all other content in the owner's manual applies and **MUST** be read and understood for your own safety. **IMPORTANT: Keep this update with the owner's manual for future reference.**

For questions or help, contact our Tech Support at (570) 546-9663 or techsupport@grizzly.com.

Added Parts



REF	PART #	DESCRIPTION
413V2	PN05	HEX NUT 1/4-20
414V2	P1035414V2	EXTENSION BAR V2.08.13 (G1035)
414V2	P1035P414V2	EXTENSION BAR V2.08.13 (G1035P)
415V2	P1035415V2	MAIN SAFETY GUARD V2.08.13 (G1035)
415V2	P1035P415V2	MAIN SAFETY GUARD V2.08.13 (G1035P)
415V2A	P1035451V2A	SAFETY GUARD ASSEMBLY V2.08.13 (G1035)
415V2A	P1035P415V2A	SAFETY GUARD ASSEMBLY V2.08.13 (G1035P)

REF	PART #	DESCRIPTION
416V2	PFH12	FLAT HD SCR 1/4-20 X 1
418	PW06	FLAT WASHER 1/4
419	P1035419	KNOB BOLT 1/4-20 X 1/2
420	P1035420	FRONT SAFETY GUARD (G1035)
420	P1035P420	FRONT SAFETY GUARD (G1035P)
421	P1035421	TOP SAFETY GUARD PLASTIC



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Assembly

Perform the instructions below instead of those on **Page 18** of the owner's manual to properly assemble and attach the safety guard assembly.



To assemble and attach the safety guard:

1. Attach the shaft mount bracket (see **Figure 1**) to the back of the table with the (2) pre-installed hex bolts and lock washers.

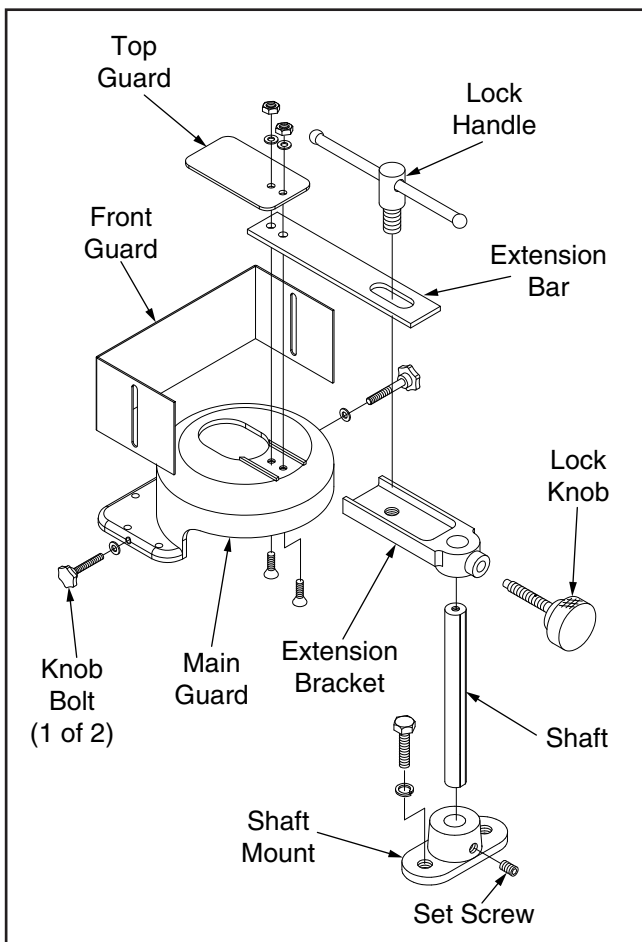


Figure 1. Safety guard assembly.

2. Insert the shaft into the bracket so the flat surface faces toward the rear, then secure it with the set screw.
3. Slide the extension bracket onto the shaft and secure with the lock knob.
4. Sandwich the extension bar between the top safety guard and the main safety guard, then secure the components with (2) $\frac{5}{16}$ "-18 x $\frac{3}{4}$ " flat head screws, (2) $\frac{5}{16}$ " flat washers, and (2) $\frac{5}{16}$ "-18 hex nuts, as illustrated in **Figure 1**.
5. Attach the front safety guard to the sides of the main safety guard with (2) $\frac{1}{4}$ "-20 x $\frac{1}{2}$ " knob bolts and (2) $\frac{1}{4}$ " flat washers.
6. Secure the extension bar to the extension bracket with the lock handle to finish the assembly.

Operation

During operation, raise or lower the front safety guard so that it is as close to the workpiece as possible without interfering with workpiece travel past the cutter.

Always use the included safety guard or some type of guard when performing shaping operations.



Grizzly ***Industrial, Inc.***®

MODEL G1035/G1035P **1½ HP SHAPER** **OWNER'S MANUAL**

(For models manufactured since 04/10)



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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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INTRODUCTION


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.

		MODEL GXXXX	
		MACHINE NAME	
SPECIFICATIONS		⚠ WARNING!	
Motor:		To reduce risk of serious injury when using this machine:	
Specification:		Read manual before operation.	
Specification:		Wear safety glasses and respirator.	
Specification:		Make sure the motor has stopped and disconnect power before adjustments, maintenance, or service.	
Specification:		DO NOT expose to rain or dampness.	
Weight:		DO NOT modify this machine in any way.	
		ended.	
		Use of drugs or alcohol.	
		10. Maintain machine carefully to prevent accidents.	
Manufactured for Grizzly in Taiwan			

Manufacture Date (indicated by an arrow pointing to the date field)

Serial Number (indicated by an arrow pointing to the serial number field)

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

Machine Description

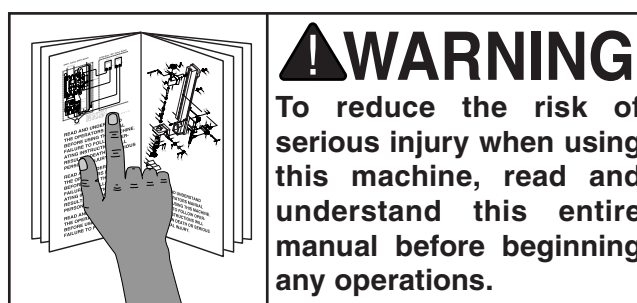
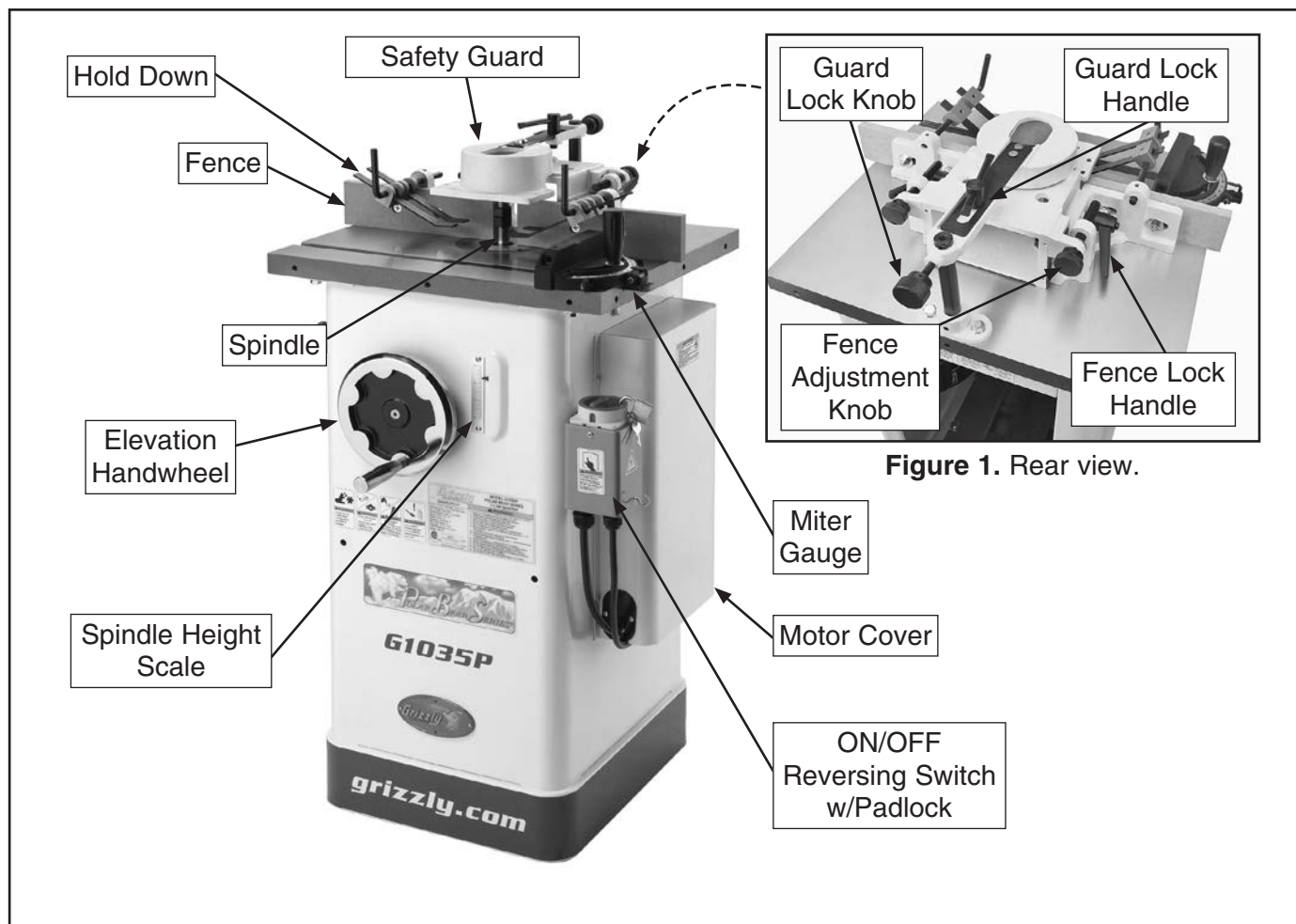
The Model G1035/G1035P is intended for home and medium-duty professional use. This shaper incorporates a 1½ HP, 120V/240V single-phase motor, with full forward/reverse capabilities. It also operates at either 7,000 or 10,000 RPM for maximum versatility. Other features include a precision-ground cast-iron table, hold-downs, and ½" and ¾" Interchangeable spindles.

A number of optional accessories for the Model G1035/G1035P are available through Grizzly. They include an extended table wing, a dust collection connector, a router bit spindle, and a heavy-duty mobile base.

The only difference between the G1035 and G1035P is the paint color.



Components & Terminology





MACHINE DATA SHEET

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

MODEL G1035/G1035P 1-1/2 HP SHAPER

Product Dimensions:

Weight..... 195 lbs.
Width (side-to-side) x Depth (front-to-back) x Height..... 22 x 25 x 40-1/2 in.
Footprint (Length x Width)..... 17-1/2 x 15-1/2 in.

Shipping Dimensions:

Type..... Cardboard Box
Content..... Machine
Weight..... 221 lbs.
Length x Width x Height..... 24 x 24 x 42 in.
Must Ship Upright..... Yes

Electrical:

Power Requirement..... 120V or 240V, Single-Phase, 60 Hz
Prewired Voltage..... 120V
Full-Load Current Rating..... 12A at 120V, 6A at 240V
Minimum Circuit Size..... 15A at 120V, 15A at 240V
Connection Type..... Cord & Plug
Power Cord Included..... Yes
Power Cord Length..... 6 ft.
Power Cord Gauge..... 14 AWG
Plug Included..... Yes
Included Plug Type..... 5-15 for 120V
Recommended Plug Type..... 6-15 for 240V
Switch Type..... Lockable Forward/Reverse

Motors:

Main

Horsepower..... 1.5 HP
Phase..... Single-Phase
Amps..... 12A/6A
Speed..... 3450 RPM
Type..... TEFC Capacitor-Start Induction
Power Transfer Belt Drive
Bearings..... Shielded & Permanently Lubricated

Main Specifications:

Operation Info

Max. Cutter Height..... 2-1/2 in.
Max. Cutter Diameter..... 5 in.
Spindle Sizes..... 1/2, 3/4 in.
Spindle Lengths..... 2-3/4, 3-1/2 in.
Exposed Spindle Length..... 3-1/8 in.
Spindle Cap. Under the Nut..... 2, 2-1/2 in.
Spindle Speeds..... 7000, 10,000 RPM
Spindle Travel..... 3 in.
Spindle Openings..... 1-1/4, 3-1/2, 5 in.



Table Info

Number of Table Inserts.....	2
Table Insert Sizes I.D.....	1-1/4, 3-1/2 in.
Table Insert Sizes O.D.....	3-1/2, 5 in.
Table Counterbore Diameter.....	5 in.
Table Counterbore Depth.....	7/16 in.
Table Size Length.....	20-1/4 in.
Table Size Width.....	18 in.
Table Size Thickness.....	1-1/4 in.
Floor to Table Height.....	33-1/2 in.
Table Fence Length.....	21-1/2 in.
Table Fence Width.....	1/2 in.
Table Fence Height.....	2-3/4 in.

Miter Gauge Info

Miter Angle.....	0 – 60 deg. L/R
Miter Gauge Slot Type.....	Straight Slot
Miter Gauge Slot Width.....	3/4 in.
Miter Gauge Slot Height.....	3/8 in.

Construction

Table.....	Precision-Ground Cast Iron
Body Assembly.....	Cast Iron
Cabinet.....	Formed Steel
Fence.....	Cast Iron with Wood
Miter Gauge.....	Cast Iron
Guard.....	Cast Iron
Spindle Bearings.....	Shielded & Permanently Lubricated
Paint Type/Finish.....	Powder Coated

Other

Mobile Base.....	D2260A
------------------	--------

Other Specifications:

Country of Origin	Taiwan
Warranty	1 Year
Approximate Assembly & Setup Time	30 Minutes
Serial Number Location	ID Label on Center of Stand
ISO 9001 Factory	No
Certified by a Nationally Recognized Testing Laboratory (NRTL)	Yes

Features:

Cast-Iron Miter Gauge & Starting Pins
Precision-Ground Cast-Iron Table
Green Powder Coated Paint on Cabinet
Independently Adjustable Cast-Iron Fence with Wood Facing
Precision Wheel Adjustment
Two Spindle Speeds
Sealed Ball Bearing Movement
Interchangeable Spindles
Hold Down Springs
Steel Cabinet Type Stand
Vertical Spindle Lock



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.



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.

Safety Instructions for Machinery



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.



WARNING

Additional Safety for Shapers

GUARDING FROM CUTTER EXPOSURE: When setting up cuts, take every possible step to reduce operator exposure to the cutter to prevent laceration or amputation injuries. These steps include but are not limited to: Keeping the unused portion of the cutter below the table, using the smallest table insert allowed by cutter, adjusting fences as close as practical to the cutter on both sides, using a properly installed box guard, and securing the guard as close to the workpiece as possible. *Keep the provided guard or other protective devices between your hands and the cutter at all times!*

KEEPING HANDS SAFE: Never pass your hands near or directly over or in front of the cutter. As one hand approaches the 6-inch radius point, move it in an arc motion away from the cutter to the outfeed side and reposition that hand more than 6 inches beyond the cutter. Do not use awkward hand positions.

SMALL WORKPIECES: There is a risk when shaping a small workpiece that it will slip between the fence boards and draw the operator's hand into the spinning cutter. Keep fingers away from revolving cutter—use fixtures when necessary. Where practical, shape longer stock and cut to size.

TESTING FOR CLEARANCE: If the spinning cutter should contact the fence, guard, or insert, the resulting flying debris presents injury hazards. Unplug the shaper, and always rotate the spindle by hand to test any new setup for proper cutter clearance before starting the shaper.

SAFE CUTTER INSTALLATION: A tight spindle nut reduces the risk of the cutter or rub collars flying off during operation. Always make sure that the quill key and the spindle keyway are aligned. Always use both spindle nuts and make sure they are tight.

CUTTER POSITIONING: Keep the cutters on the underside of the workpiece whenever possible to reduce operator exposure to the moving cutter.

AVOIDING CUTTER AND WORKPIECE GRAB: Moving the workpiece into the cutter in the same direction as it is rotating will aggressively pull the workpiece from your hands and could draw them into the cutter. Always make sure the cutter is rotating in the correct direction before starting shaper, and always feed the workpiece against the rotation of the cutter.

PREPARING A WORKPIECE: Always "square up" a workpiece before you run it through the shaper. A warped workpiece is difficult to process and increases the risk of an accident. Always inspect the workpiece before shaping. The danger of kickback is increased when the stock has knots, holes, or foreign objects in it.

AVOIDING AN OVERLOAD: Removing too much material in one pass increases the risk of the workpiece kicking back toward the operator. Never attempt to remove too much material in one pass. Several light passes are safer and give a cleaner finish.

SAFELY FEEDING A WORKPIECE: We recommend using some type of fixture, jig, or hold-down device to safely support the workpiece when feeding. ALWAYS use a push stick when shaping small or narrow workpieces. Use an outfeed support table if shaping long workpieces to make sure that they remain supported during the entire cutting procedure.

SAFETY GUARDS. To reduce the risk of unintentional contact with the rotating cutter, ALWAYS make sure the cutter safety guard and a properly dimensioned box guard are correctly installed before beginning operation.

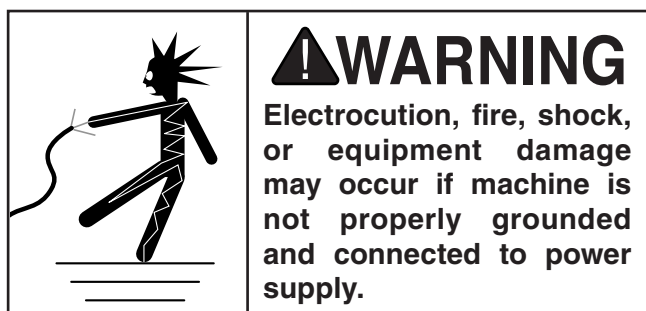
CONTOUR SHAPING: When shaping contoured work and using a rub collar, NEVER start shaping at a corner. See the rub collar section in the manual. Use the overhead safety guard when the adjustable fence is not in place.



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.



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 120V 12 Amps

Full-Load Current Rating at 240V 6 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.

Circuit Information

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.*

Circuit Requirements for 120V

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

Nominal Voltage 120V
Cycle 60 Hz
Phase Single-Phase
Circuit Rating 15 Amps
Plug/Receptacle NEMA 5-15

Circuit Requirements for 240V

This machine can be converted to operate on a power supply circuit that has a verified ground and meets the requirements listed below. (Refer to **Voltage Conversion** instructions for details.)

Nominal Voltage 240V
Cycle 60 Hz
Phase Single-Phase
Circuit Rating 15 Amps
Plug/Receptacle NEMA 6-15



Grounding 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.

For 120V operation: This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug (see following figure). The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances.

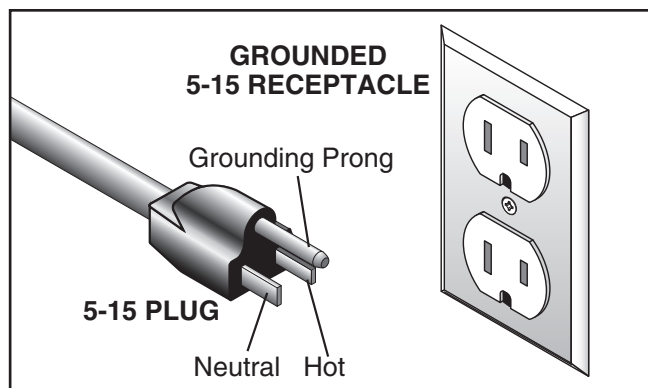


Figure 3. Typical 5-15 plug and receptacle.

For 240V operation: The plug specified under “Circuit Requirements for 240V” on the previous page has a grounding prong that must be attached to the equipment-grounding wire on the included power cord. The plug must only be inserted into a matching receptacle (see following figure) that is properly installed and grounded in accordance with all local codes and ordinances.

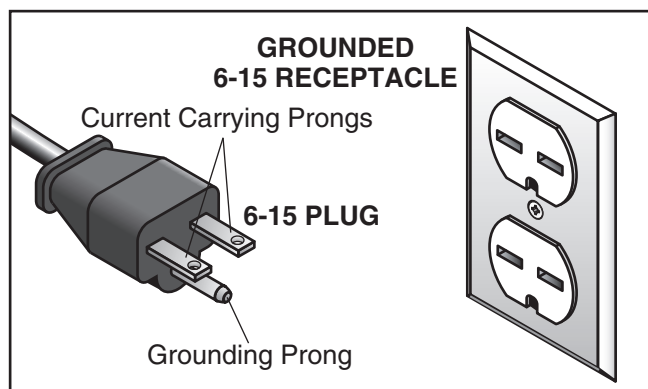


Figure 4. Typical 6-15 plug and receptacle.

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.

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 Size14 AWG
Maximum Length (Shorter is Better).....50 ft.



Voltage Conversion

The voltage conversion **MUST** be performed by an electrician or a qualified service personnel.

The voltage conversion procedure consists of rewiring the motor and installing the correct plug. A wiring diagram is provided on **Page 49** for your reference.

IMPORTANT: If the diagram included on the motor conflicts with the one on **Page 49**, the motor may have changed since the manual was printed. Use the diagram included on the motor junction box cover instead.

Items Needed

Qty

- Phillips Head Screwdriver #2 1
- Electrical Tape As Needed
- Wire Nut (14 AWG x 1) 1
- Plug 6-15 1

To convert the Model G1035/G1035P to 240V:

1. DISCONNECT SHAPER FROM POWER!
2. Cut off the included plug.
3. Open the motor junction box, then loosen the terminal screws indicated in **Figure 5**. Remove the wires connected to those terminals.

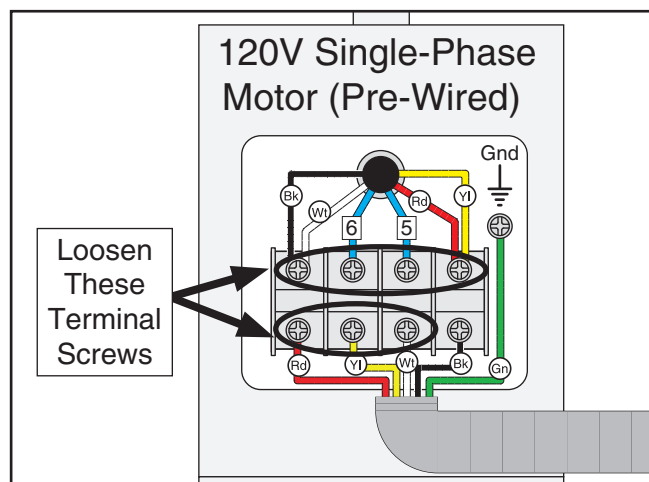


Figure 5. Locations to loosen terminal screws.

4. Connect the motor wires, as shown in **Figure 6**.
5. Connect the white wire from the #6 terminal on the switch with a wire nut. Once snug, wrap electrical tape around the wire nut and the connected wire, to reduce the likelihood of the wire nut vibrating loose during motor operation.

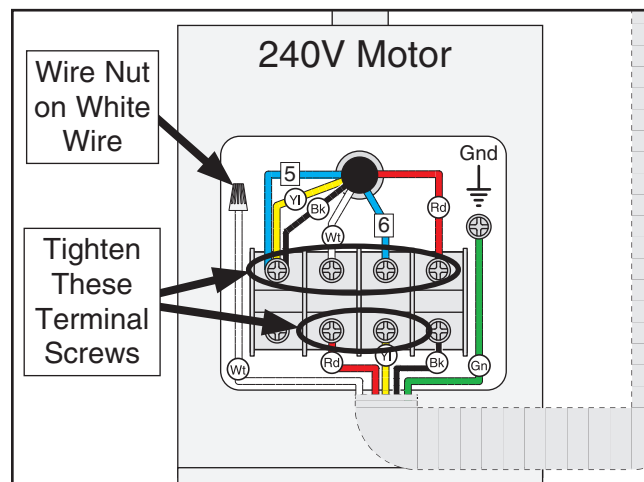


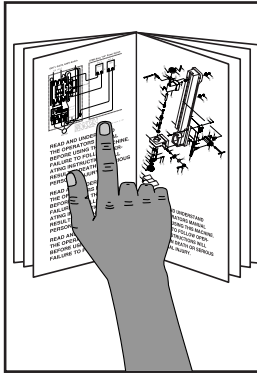
Figure 6. Motor rewired for 240V.

6. Close and secure the motor junction box.
7. Install a 6-15 plug on the end of the cord, according to the instructions and wiring diagrams provided by the plug manufacturer.

—If the plug manufacturer did not include instructions, the wiring of a generic NEMA 6-15 plug is illustrated in the **Wiring** section on **Page 49**.

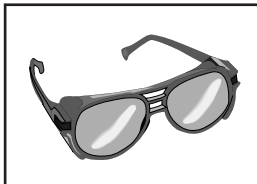


SECTION 3: SETUP



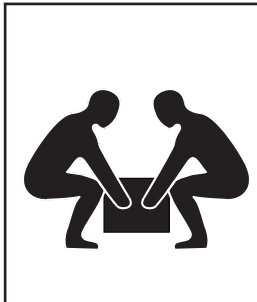
!WARNING

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

This machine and its components are very heavy. Get lifting help or use power lifting equipment such as a forklift to move heavy items.

Needed for Setup

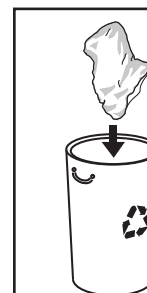
The following are needed to complete the setup process, but are not included with your machine.

Description	Qty
• Additional Person	1
• Safety Glasses	1
• Cleaner/Degreaser (Page 38)	As Needed
• Disposable Shop Rags.....	As Needed
• Forklift.....	1
• Straightedge 12" or longer	1
• Open End Wrench 10mm.....	1
• Hex Wrench 3, 4, 8mm	1 Each
• Screwdriver Phillips #2	1
• Screwdriver Flat Head #2.....	1
• Dust Collection System (Optional)	1
• Dust Hose 3" (Optional)	1
• Hose Clamps 3" (Optional).....	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.*



!WARNING

SUFFOCATION HAZARD!
Immediately discard all plastic bags and packing materials to eliminate choking/suffocation hazards for children and animals.



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.

Box 1: (Figure 7)	Qty
A. Shaper Unit	1
B. FWD/REV Switch	1

Box 2: (Figure 8)	Qty
C. Fence Assembly	1
D. Fence Faces	2

Box 3 (Figure 9):	
E. Handwheel	1
F. Handle for Handwheel	1
G. Miter Gauge	1
H. Drawbar & Nut	1
I. Spindle 1/2"	1
J. Spindle Nuts 1/2"	2
K. Spindle Washers 1/2"	2
L. Spindle 3/4"	1
M. Spindle Nuts 3/4"	2
N. Spindle Washers 3/4"	2
O. Spacer Set	8
P. Spindle Wrench Set	2
Q. Starting Pins	3
R. Hold-Downs	4
S. Hold Down Bars	2
T. Hold Down Brackets	4
U. Safety Guard	1
V. Extension Bracket	1
W. Shaft Mount Bracket	1
X. Extension Bar	1
Y. Safety Guard Shaft	1
Z. Open-End Wrench 12 x 14	1
AA. Hex Wrench 5mm	1
AB. Hardware Bag (Not Shown)	1
—Set Screws 1/4"-20 x 3/8"	4
—Hex Nuts 1/4"-20	2
—Flat Head Screws 1/4"-20 x 5/8"	2
—Flat Washers 5/16"	4
—Flat Head Screws 5/16"-18 x 1 1/2"	4
—Hex Nuts 5/16"	4

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 7. Box 1 inventory.

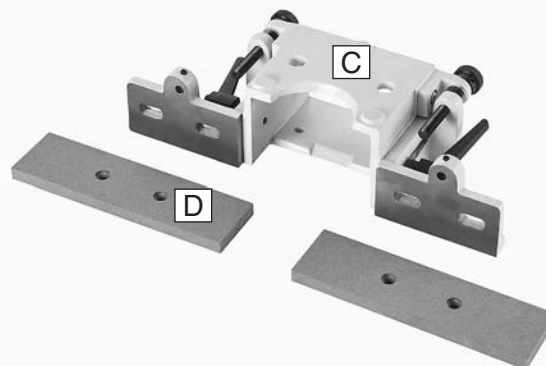


Figure 8. Box 2 inventory.

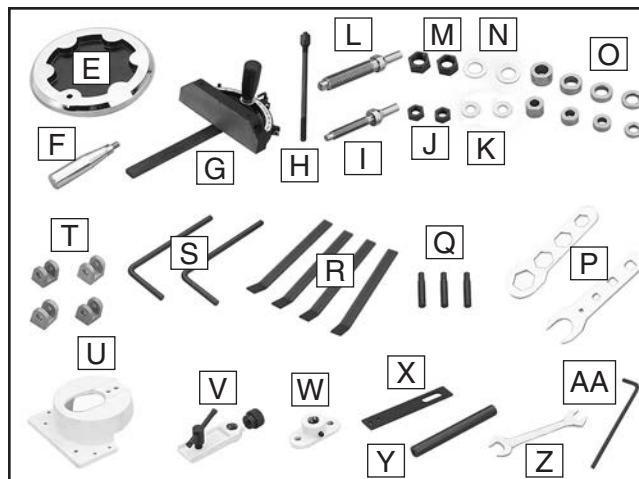


Figure 9. Box 3 inventory.



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.

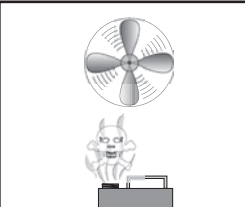
Before cleaning, gather the following:

- 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.

	<p>! WARNING</p> <p>Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery.</p>
--	---

	<p>! CAUTION</p> <p>Many cleaning solvents are toxic if inhaled. Only work in a well-ventilated area.</p>
--	--

<p>NOTICE</p> <p>Avoid chlorine-based solvents, such as acetone or brake parts cleaner, that may damage painted surfaces.</p>
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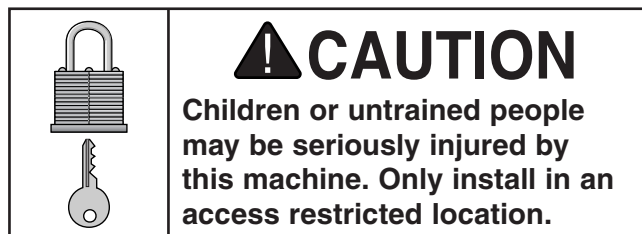
Site Considerations

Weight Load

Refer to the **Machine Data Sheet** for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation

Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. **See below for required space allocation.**



Physical Environment

The physical environment where the machine is operated is important for safe operation and longevity of machine components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°–104°F; the relative humidity range exceeds 20%–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation

Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave enough space around machine to disconnect power supply or apply a lockout/tagout device, if required.

Lighting

Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

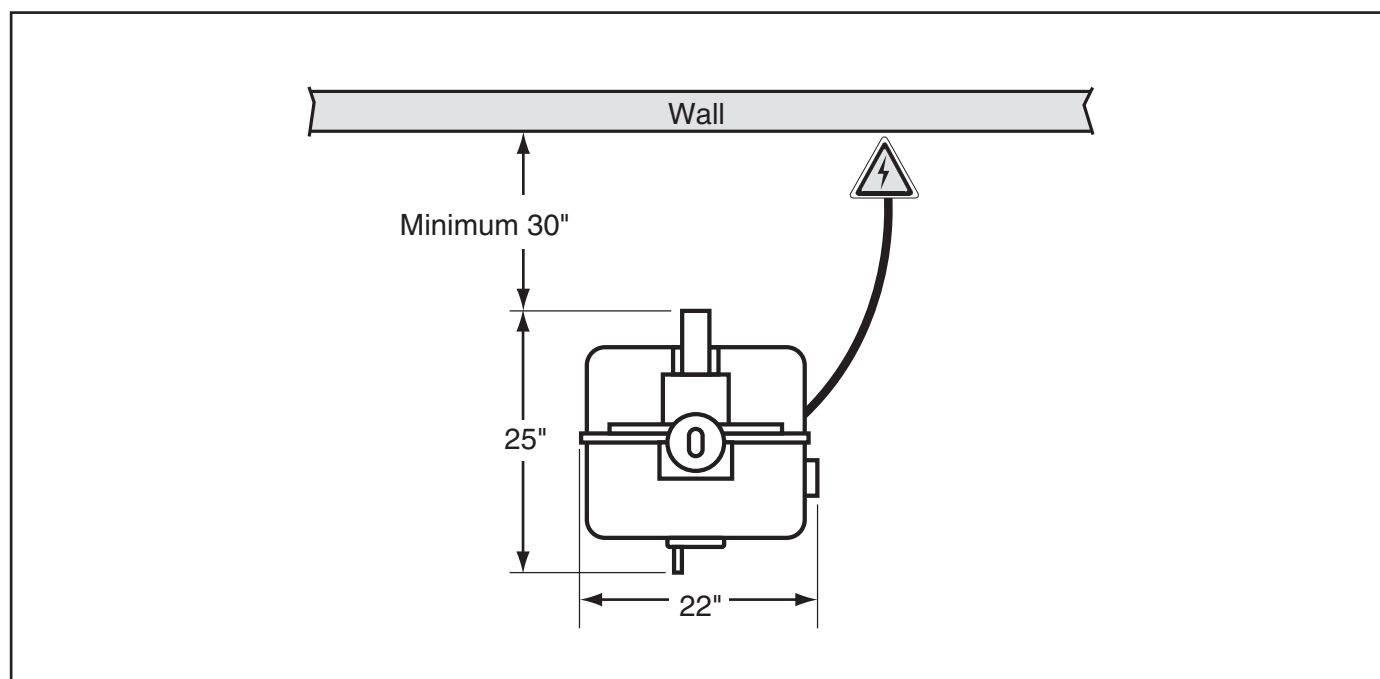


Figure 10. Minimum working clearances.



Assembly

Most of your Model G1035/G1035P has been assembled at the factory, but some parts must be assembled or installed after delivery.

The Model G1035/G1035P is equipped with motor braces to prevent damage to the motor during shipping. These braces are intended to be removed before operation.

To assemble the shaper:

1. Remove the motor cover and rear cover from the shaper cabinet by removing screws that hold them in place.
2. Using a 12mm wrench, remove the six hex bolts, hex nuts and flat washers and the two motor braces shown in **Figure 11**.

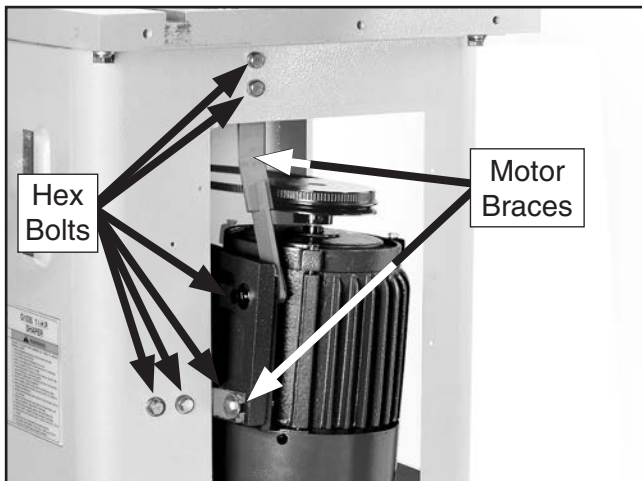


Figure 11. Motor braces and hex bolts.

3. Remove the power switch cords, the FWD/REV switch and grommet through the motor cover opening, as shown in **Figure 12**.



Figure 12. Removing switch from cabinet.

4. Install the grommet plate, as shown in **Figure 13**, using the screws and nuts already mounted on the motor cover.



Figure 13. Installing grommet.

5. Re-install the two hex bolts and washers removed in **Step 2** onto the motor.
6. Re-install the motor cover.
7. Remove the shipping notice tag from the cabinet so you can mount the FWD/REV switch in the next step.



8. Mount the FWD/REV switch to the cabinet, as shown in **Figure 14**, using the screws already mounted in the cabinet at that location.



Figure 14. Mounting switch to cabinet.

9. Re-install the remaining fasteners removed in **Step 2**.
10. Re-install the rear cover.

11. Slide the handwheel onto the handwheel shaft shown in **Figure 15**.

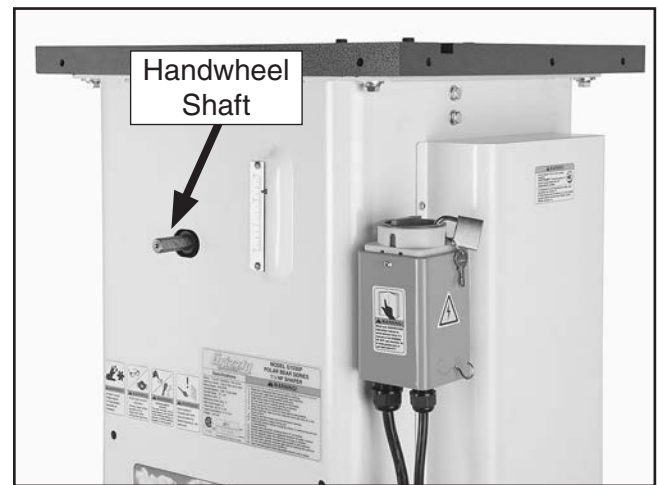


Figure 15. Location of handwheel shaft.

12. Tighten the handwheel set screw against the flat part of the handwheel shaft.
13. Thread the handle into the handwheel, and tighten the nut on the handle against the handwheel.



Spindle

The Model G1035/G1035P comes with 1/2" & 3/4" spindles. Each spindle is sized to work efficiently with cutters and spacers that have 1/2" or 3/4" bores. The spindles must be inserted correctly and remain stationary in order to produce quality work. When installing and changing spindles, make sure the spindle seats snugly and that there is enough drawbar threaded into the bottom of the spindle to safely secure it in place.

!WARNING

Incorrect assembly can allow the spindle and cutter to fly off the machine, which could cause injury or death. Make certain the spindle is properly assembled before operating the shaper. If you are uncertain of any aspect of this assembly, please review these instructions again or contact our Technical Support.

To install a spindle:

1. Remove the hex nuts from the spindle.
2. Thread the drawbar approximately 10-15 turns into the bottom of the spindle. The drawbar has two threaded ends. One of them remains exposed (see **Figure 16**).

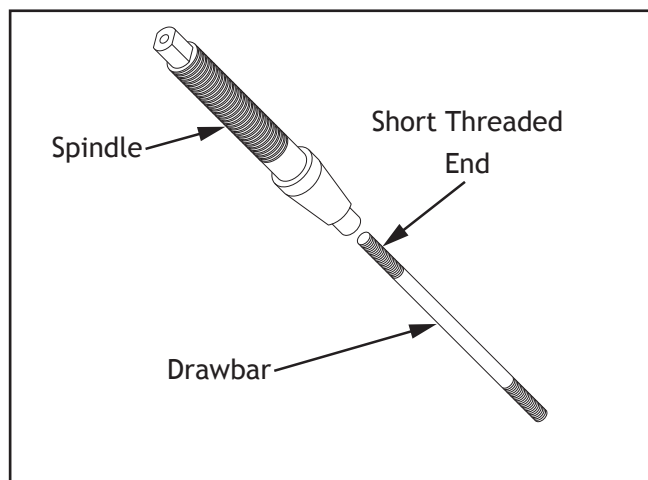


Figure 16. Spindle and drawbar.

3. Place the spindle/drawbar into the spindle cartridge at the top of the table. Line up the keyway on the spindle with the locating pin at the top of the spindle cartridge (see **Figure 17**). You will feel the spindle seat itself.

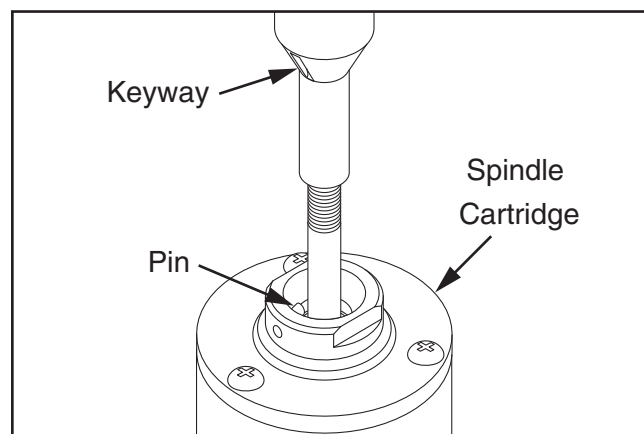


Figure 17. Dropping the spindle into place.

!CAUTION

Make sure the spindle keyway and pin are aligned and properly seated before tightening the drawbar nut. Improper assembly can create an unsafe condition and possible injury to the operator.

4. Thread the drawbar nut, tapered side up, onto the bottom of the drawbar (see **Figure 18**).

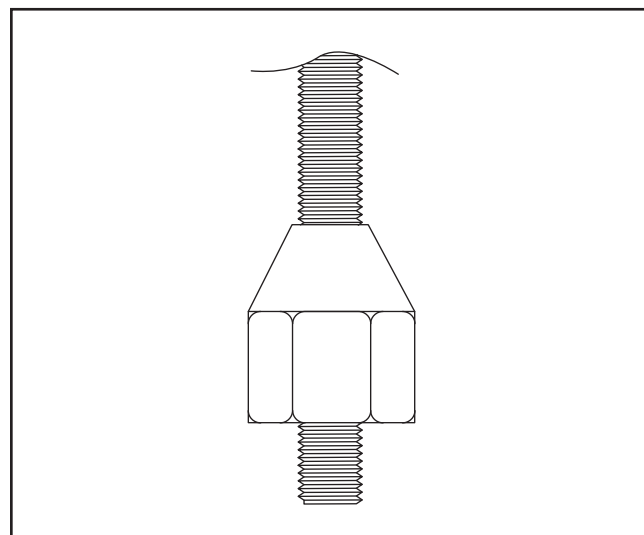


Figure 18. Nut threaded onto drawbar.



5. Place the spindle wrench on top of the spindle, so it fits over the head of the spindle. Place a 14mm wrench on the drawbar nut (see **Figure 19**).

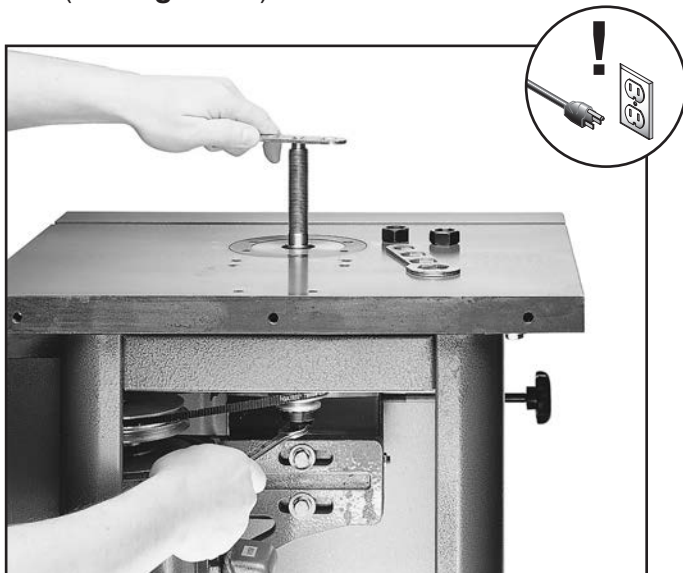


Figure 19. Tightening the drawbar nut.

6. Hold the spindle in place and tighten the drawbar nut. **DO NOT** use excessive force.

Table Inserts

The Model G1035/G1035P is supplied with two inserts that give you three possible diameter openings in the shaper table surface. Use the smallest opening that a particular cutter will allow. This offers more support for the workpiece and reduces the amount of chips that can fall into the machine.

The correct spindle opening also allows any unused part of the cutter to remain below the table surface—thus increasing operator protection.

There is one aluminum insert and one cast iron insert. The cast iron table insert must be flush with the top of the table.

To adjust the cast iron insert:

1. Remove the aluminum insert and remove the three Phillips head screws that hold the cast iron insert in place.
2. Using a straightedge and a screwdriver, turn the barrel screws clockwise or counterclockwise to level the cast iron insert with the table, as shown in **Figure 20**.

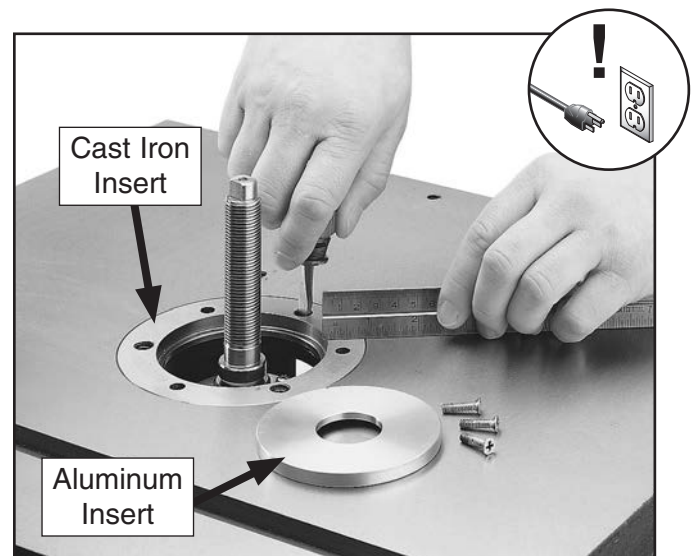


Figure 20. Leveling the cast iron insert.

3. Replace and tighten the Phillips head screws, replace the aluminum insert, and inspect with a straightedge.



Fence Assembly

To install the fence assembly:

1. Attach the fence assembly to the table, as shown in **Figure 21**, with the cap screws and washers already mounted to the table.

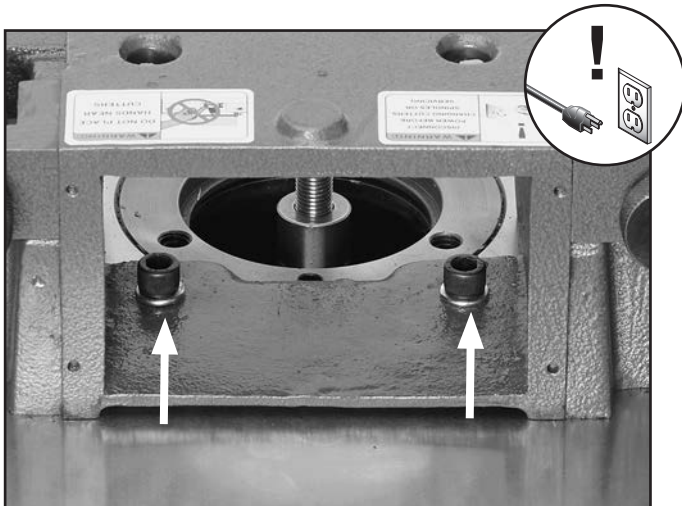
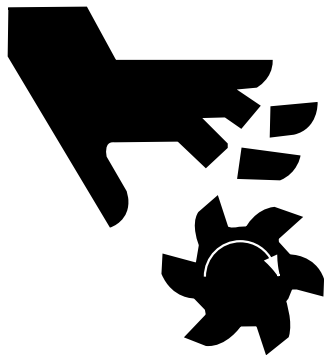


Figure 21. Fence assembly attachment location.

Safety Guard

! WARNING



All guards **MUST** be installed on your shaper before operating it. Shapers are dangerous machines that can quickly cause serious injury if some kind of guard is not used. To protect yourself, read and follow the entire manual carefully and do additional research on shop made guards and safety jigs.

There are other methods to protect yourself, in addition to the safety guard. However, some type of safety guard must be used at all times.

To assemble the safety guard:

1. Attach the shaft mount bracket (see **Figure 22**) to the back of the table with the hex bolts and lock washers already mounted to the table.

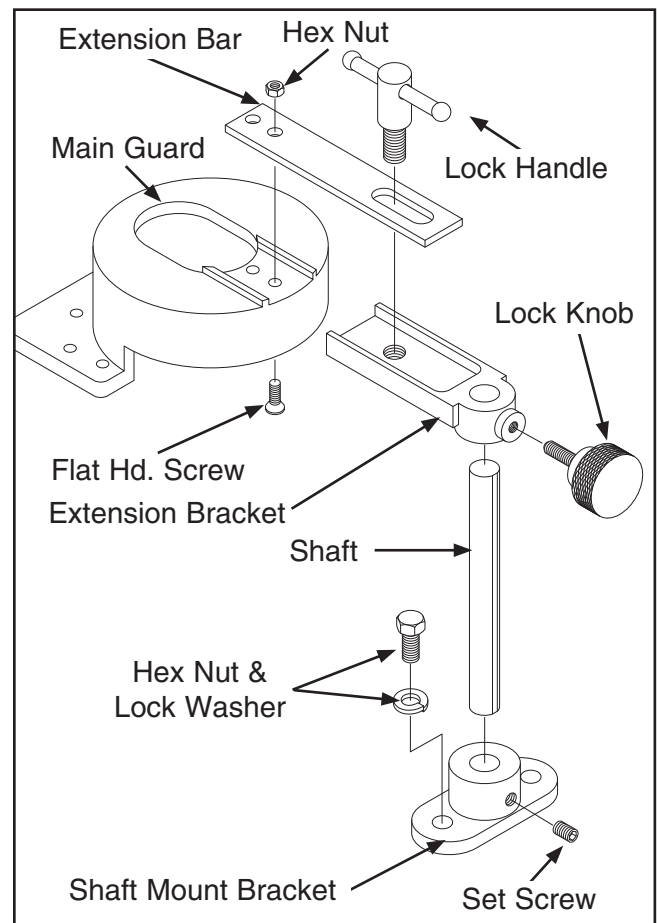


Figure 22. Guard assembly.

2. Insert the shaft (see **Figure 22**) into the bracket so the flat surface faces away from the machine.
3. Slide the extension bracket (see **Figure 22**) through the shaft and secure it with the lock knob.



- Using the two $\frac{1}{4}$ " - 20 x $\frac{5}{8}$ " flat head screws and hex nuts, tightly secure the extension bar to the main guard (see **Figure 22** on **Page 20**).
- Attach the guard assembly to the shaft assembly and tighten the lock handle.

Note: To provide additional protection for your hands, you **MUST** build a box guard and mount it to the safety guard. (Refer to **Box Guards** on **Page 29**).

Hold-Downs

Hold-downs are used to hold the workpiece flat on the table and snug against the fence, as shown in **Figure 25**.

To assemble the hold-downs:

- Slide two hold-down brackets onto each of the hold-down bars (one on the short arm, one on the long arm), as shown in **Figure 23**.

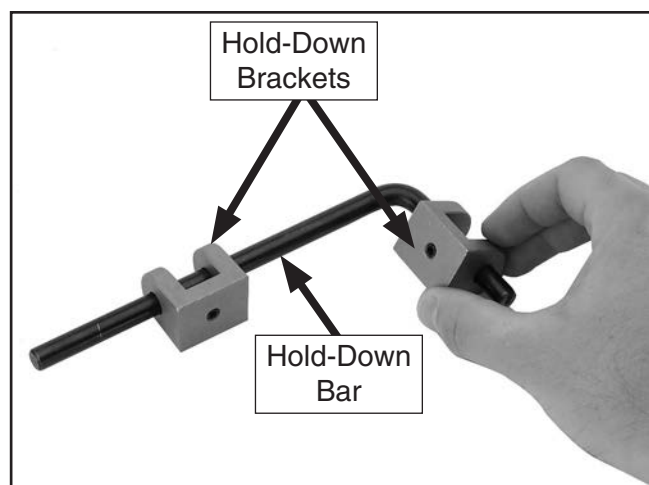


Figure 23. Brackets on hold-down bar.

- Slide the long arm of the hold-down bars through the holes in the cast iron fence brackets, as shown in **Figure 24**.

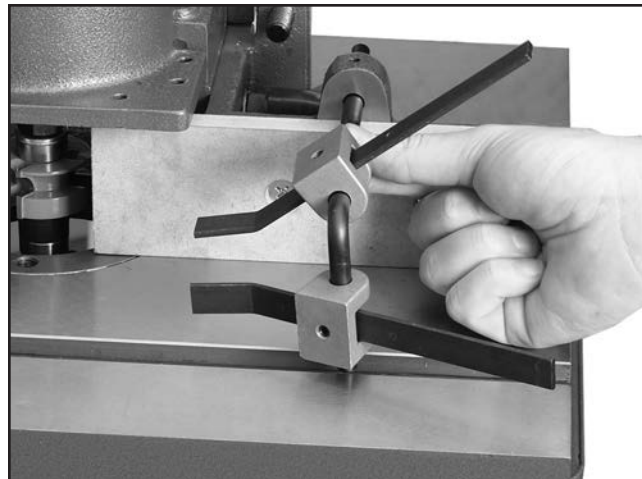


Figure 24. Inserting hold-down bar into fence bracket.

- Partially screw the $\frac{1}{4}$ "-20 x $\frac{3}{8}$ " set screws into the hold-down brackets.
- Slide each hold-down between a hold down bracket and hold down bar as shown in **Figure 25**.

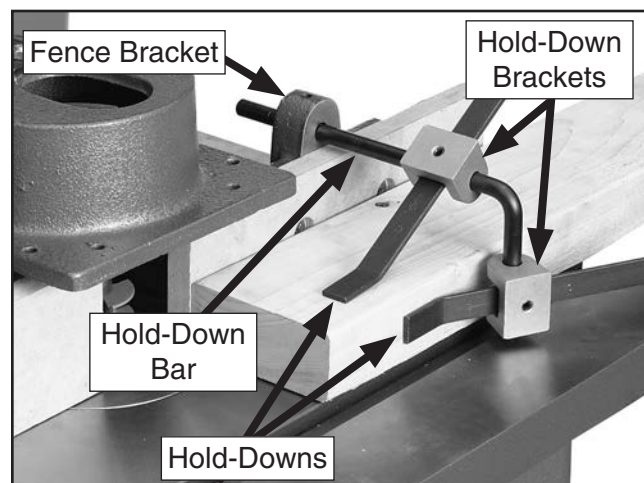


Figure 25. Use hold-downs from both sides.

- Position the hold-downs according to the size of your workpiece.
- Tighten the set screws in the fence brackets and the hold-down brackets to fix the position of the hold-downs.

Remove the hold-down assembly when not in use.



Dust Collection

⚠ CAUTION

We recommend **NOT** operating the Model G1035/G1035P without an adequate dust collection system. This machine creates substantial amounts of wood dust while operating. Failure to use a dust collection system can result in short and long-term respiratory illness.

Recommended CFM at Dust Port: 400 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must consider these variables: (1) CFM rating of the dust collector, (2) hose type and length between the dust collector and the machine, (3) number of branches or wyes, and (4) amount of other open lines throughout the system. Explaining how to calculate these variables is beyond the scope of this manual. Consult an expert or purchase a good dust collection "how-to" book.

To connect a dust collection hose:

1. Connect the optional Model G4840 (see **Figure 26**) to the back of the fence assembly, then fit a 3" dust hose over the dust hood and secure in place with a hose clamp.

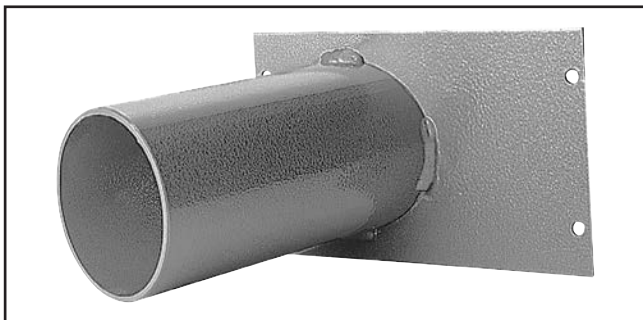


Figure 26. The Model G4840 dust hood. (Check with the current Grizzly catalog or www.grizzly.com to purchase.)

2. Tug the hose to make sure it does not come off. **Note:** A tight fit is necessary for proper performance.

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.

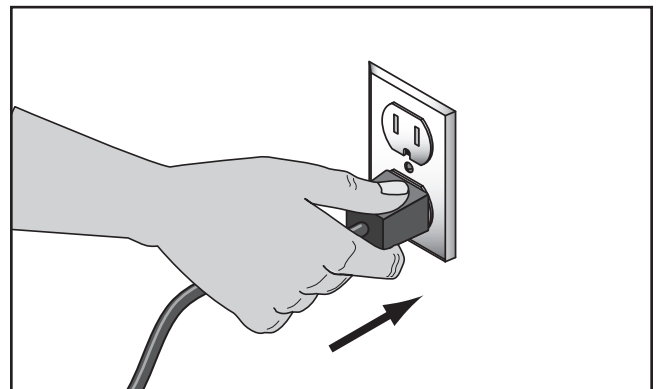


Figure 27. Connecting power.

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.

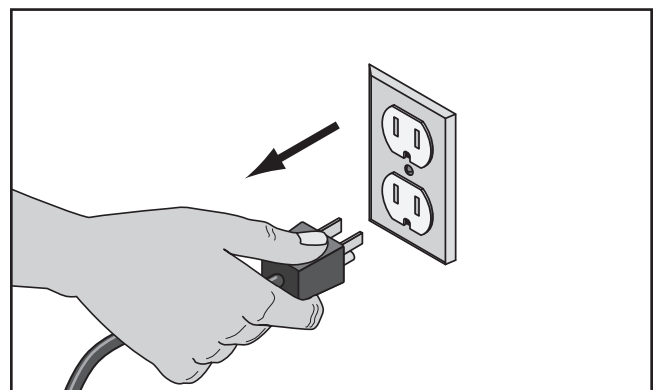


Figure 28. Disconnecting power.



Test Run

Once the assembly is complete, test run your machine to make sure it runs properly and is ready for regular operation.

The test run consists of verifying that the motor powers up and runs correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 42**.

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

To test run the machine:

1. Make sure you have read the safety instructions at the beginning of the manual and that the machine is setup properly.
2. Make sure all tools and objects used during setup are cleared away from the machine.
3. Make sure the spindle switch is in the OFF (center) position.
4. Connect the machine to power.
5. Verify that the machine is operating correctly by moving the spindle switch to either the forward (FOR) or reverse (REV) position.

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

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

6. Move the spindle switch to the OFF position, wait for the spindle to come to a complete stop, then repeat **Step 5** for the opposite direction.
7. Turn the spindle **ON** and **OFF** in the same direction and notice the direction it is turning.

Note: *When the spindle switch is in the forward position, the spindle should turn counterclockwise as viewed from above. The opposite is true when the switch is in the reverse position.*

—If the spindle rotation direction and position of the spindle switch (before you turned the machine OFF) do not match, disconnect the machine from power, then switch wires #5 and #6 inside the motor wiring junction box (refer to the **Wiring Diagram** on **Page 49**).

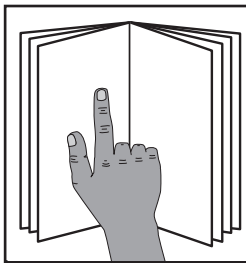


SECTION 4: OPERATIONS

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.

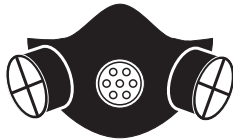


!WARNING

To reduce the risk of serious injury when using this machine, read and understand this entire manual before operating.

!WARNING

Damage to your eyes and lungs could result from using this machine without proper protective gear. Always wear safety glasses and a respirator when operating this machine.



NOTICE

If you have never used this type of machine or equipment before, **WE STRONGLY RECOMMEND** that you read books, review industry trade 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 cutting.
2. Installs the cutter onto the spindle and adjusts the spindle height for the operation.
3. Correctly adjusts the safety guard and fence boards for the operation and locks them in place.
4. Checks the outfeed side of the machine for proper support and to make sure the workpiece can safely move past the cutter without interference from other objects.
5. Places the workpiece on the infeed side of the machine and stabilizes it with hold-downs, jigs, or other safety workpiece holding devices.
6. Wears safety glasses and a respirator, and locates push sticks if needed.
7. Starts the machine.
8. Verifies cutter rotation and feed directions.
9. Holds the workpiece firmly and flatly against both the table and fence, and then pushes the workpiece past the cutter at a steady and controlled rate until the workpiece moves completely beyond the cutter.
10. Stops the machine.

The operator is very careful to keep the workpiece firmly against the table and fence during the entire cut, while also keeping his hands well away from the spinning cutter.



Basic Controls

Refer **Figures 29–30** and read the following descriptions below to become familiar with the basic controls of your shaper.

Forward/Reverse Switch: Starts, stops and reverses spindle rotation.

Spindle Height Lock: When tightened, secures the height position of the spindle.

Spindle Elevation Handwheel: Raises or lowers the spindle and the attached cutter.

Spindle Height Scale: Displays the height position of the spindle in inches.



Figure 29. ON/OFF Forward/reverse switch.

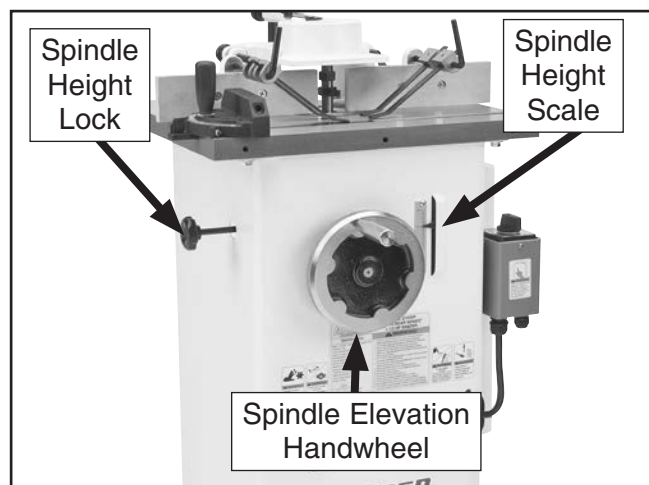


Figure 30. Elevation handwheel/scale and spindle height lock.

Disabling & Locking Switch

The FWD/REV reversing switch can be disabled and locked with a padlock. While the padlock is inserted through the hole on the switch, as shown in **Figure 31**, the motor cannot be started, which reduces the risk of accidental startup by children or unauthorized users.

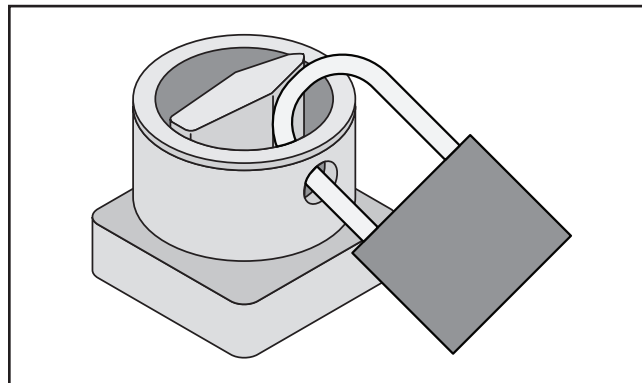


Figure 31. FWD/REV switch locked with the padlock to prevent the motor from starting.

⚠ WARNING

Children or untrained people can be seriously injured by this machine. This risk increases with unsupervised operation. To help prevent unsupervised operation, disable and lock the switch before leaving machine unattended! Place key in a well-hidden or secure location.

NOTICE

The padlock shaft diameter is important to the disabling function of the switch. With any padlock used to lock the switch, test the switch after installation to ensure that it is properly disabled.

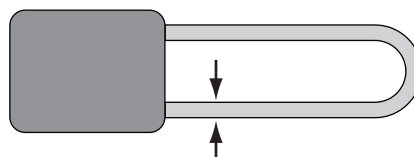


Figure 32. Minimum lock shaft requirements.



Workpiece Inspection

Some workpieces are not safe to cut or may require modification before they are safe to cut.

Before cutting, inspect all workpieces for the following:

- **Material Type:** This machine is intended for cutting natural and man-made wood products, laminate covered wood products, and some plastics. Cutting drywall or cementitious backer board creates extremely fine dust and may reduce the life of the bearings. This machine is NOT designed to cut metal, glass, stone, tile, etc.; cutting these materials with a table saw may lead to injury.
- **Foreign Objects:** Nails, staples, dirt, rocks and other foreign objects are often embedded in wood. While cutting, these objects can become dislodged and hit the operator, cause kickback, or break the cutter, which might then fly apart. Always visually inspect your workpiece for these items. If they can't be removed, DO NOT cut the workpiece.
- **Large/Loose Knots:** Loose knots can become dislodged during the cutting operation. Large knots can cause kickback and machine damage. Choose workpieces that do not have large/loose knots or plan ahead to avoid cutting through them.
- **Wet or "Green" Stock:** Cutting wood with a moisture content over 20% causes unnecessary wear on the blades, increases the risk of kickback, and yields poor results.
- **Excessive Warping:** Workpieces with excessive cupping, bowing, or twisting are dangerous to cut because they are unstable and often unpredictable when being cut. DO NOT use workpieces with these characteristics!
- **Minor Warping:** Workpieces with slight cupping can be safely supported if the cupped side is facing the table or the fence. On the contrary, a workpiece supported on the bowed side will rock during a cut and could cause kickback or severe injury.

Cutter Rotation Direction

Most cutters are designed to rotate counterclockwise and mill the stock from underneath the workpiece, which provides a safety barrier between the spinning cutter and the operator. In this case, the workpiece is fed past the cutter from right to left—against the cutter rotation (see the illustration in **Figure 33**).

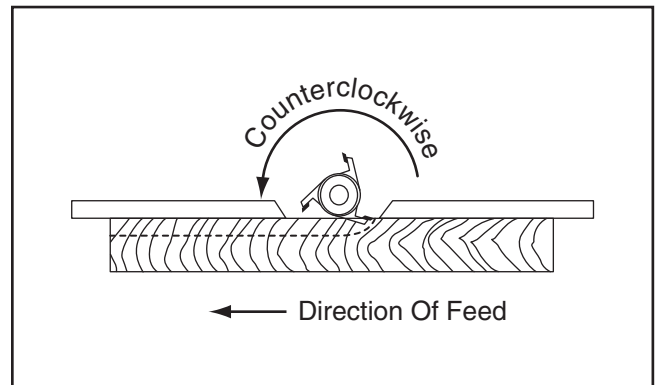


Figure 33. Cutter rotating counterclockwise.

However, some cutters are designed to shape from the top of the workpiece, which exposes the operator to the spinning cutter and increases the risk of operator injury. To avoid this hazard, mount this type of cutter upside-down on the spindle, reverse the spindle rotation, then feed the workpiece past the cutter from left to right. Refer to **Cutter Installation** on **Page 27** for detailed instructions.

⚠ WARNING

ALWAYS check the direction of the cutter rotation before beginning operation and **ALWAYS** feed the stock into the cutter **AGAINST** the cutter rotation. Feeding stock **WITH** the rotation of the cutter could pull the workpiece from your hands and draw your hands into the spinning cutter, resulting in serious personal injury.



Speed Changes

The Model G1035/G1035P Shaper is equipped with a special high speed V-belt. It is designed to withstand the vibration and sudden shock loads associated with the operation of a shaper.

To change spindle speeds:

1. DISCONNECT SHAPER FROM POWER!
2. Loosen the two motor mount hex bolts and slide the motor right toward the spindle assembly. DO NOT take the bolts out.
3. Move the V-belt to a sheave on the motor and spindle pulleys to select the desired speed (see **Figure 34**).

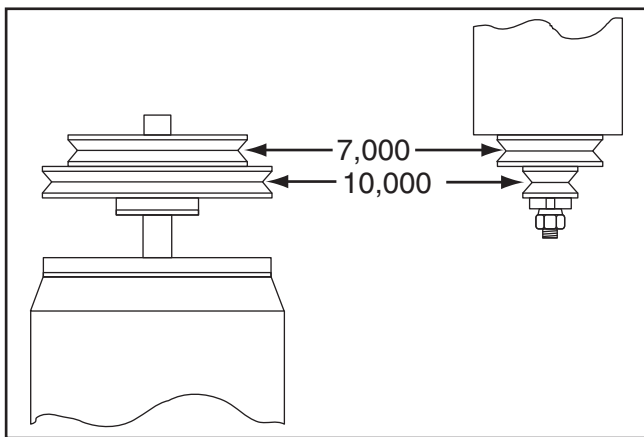


Figure 34. Speed change belt positions.

4. Slide the motor to the left to tighten the belt. When the belt is properly tensioned, there should be approximately $\frac{1}{4}$ " of deflection in the center of the belt when you press it with your thumb.
5. Tighten all the hex bolts.
6. Spin the pulley to ensure proper tracking.

Cutter Installation

The model G1035/G1035P operates at speeds of 7,000 and 10,000 RPM. Large cutters ($3\frac{1}{2}$ " or greater) must be operated at the slower speed. Always use the largest spindle size possible, (and never use a cutter bore more than one size larger than the spindle size).

To install a cutter:

1. DISCONNECT SHAPER FROM POWER!
2. Loosen the knurled lock knob on the extension bracket and temporarily move the safety guard out of the way.
3. If needed, place an appropriate spacer or collar at the base of the spindle for support.
4. Place the cutter on the spindle. Make sure the rotation is correct for your application.
5. Use spacers or collars to suit your particular application.
6. Place a spindle washer above the cutter and screw on the nut and locknut, as shown in **Figure 35**.

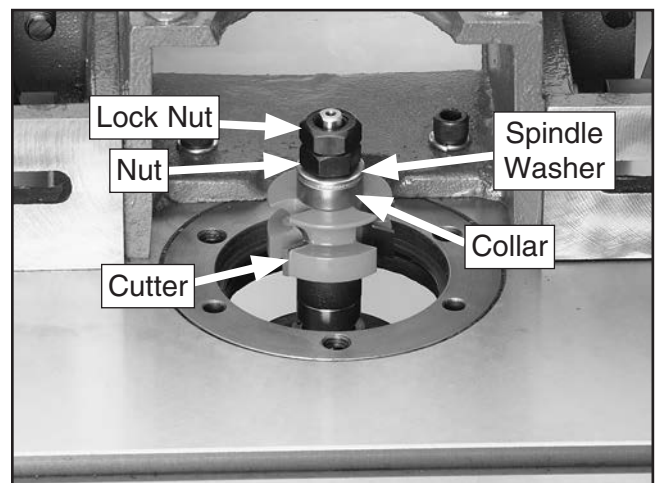


Figure 35. Cutter and fasteners.



7. Tighten the nuts while holding the spindle stationary. Use a wrench on the notches at the top of the spindle for leverage, as shown in **Figure 36**.
8. Replace the main guard.

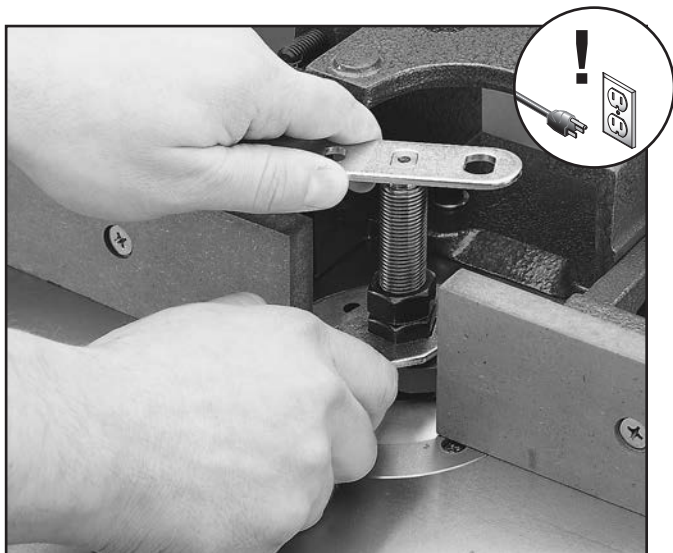


Figure 36. Tightening spindle nuts.

Spindle Height

To adjust the cutter height:

1. Loosen the spindle height lock (see **Figure 37**).
2. Move the spindle up or down with the elevation handwheel until the desired position is obtained.
3. Lock the spindle into position.



Figure 37. Spindle height lock.

Fence Adjustment

The fence is a two-piece adjusting system. Each fence is independently adjustable to compensate for different cutting thicknesses and special shaping applications. One turn of a fence knob moves each fence approximately $\frac{5}{64}$ " (.078").

To adjust the fence:

1. Loosen the fence lock handle (see **Figure 38**).

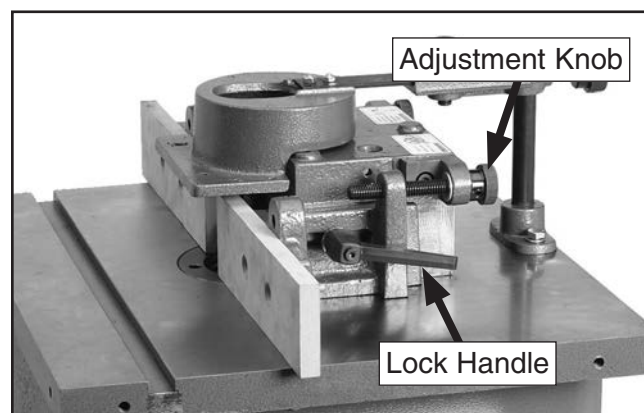


Figure 38. Fence adjustments.

2. Turn the fence adjustment knob (see **Figure 38**) until the fence is set to the desired position.
3. Tighten the fence lock handle.

*More detailed information concerning fence adjustments is covered in **Straight Shaping** on **Page 30**.*



Box Guards

You must use a box guard (see **Figure 39**) while shaping workpieces to provide additional protection for your hands. However, Grizzly Industrial is not able to provide a box guard with your shaper due to variables beyond our control, including the dimensions and orientation of your workpiece. Since we cannot provide a box guard for all possible applications, you must build one.

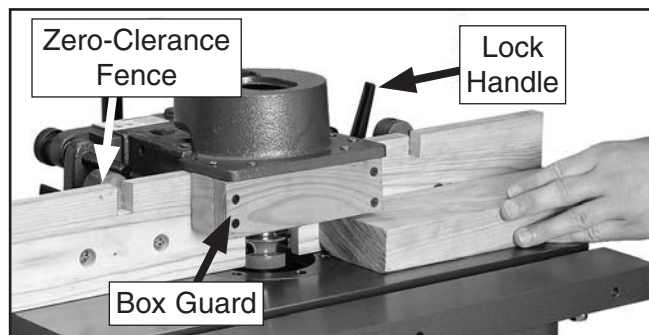


Figure 39. Example of a box guard with a zero-clearance fence.

The thickness of your workpiece will determine the height of the box guard. Therefore, you will need to build a separate box guard for each workpiece of a different thickness. A box guard can be used with or without a zero-clearance fence, as shown in **Figure 39**. (Refer to **Page 32** for instructions on making a zero-clearance fence).

The box guard attaches to the safety guard with screws (see **Figure 41, Step 3**) and should be used with hold-downs (see **Figure 40**) or feather boards to support the workpiece.

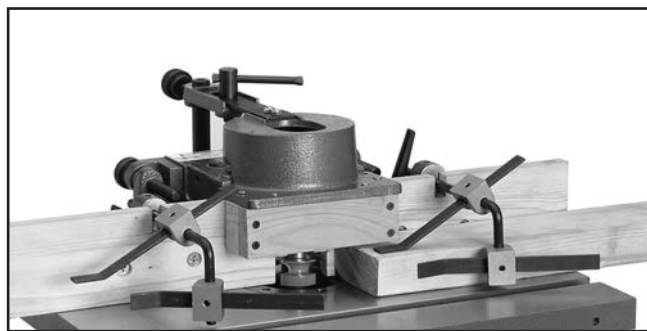


Figure 40. Example of a box guard and zero clearance fence using hold-downs.

Figure 41 illustrates the basic steps for building a box guard and attaching it to the safety guard. However, this is just an example, and a wide range of box guard configurations can be built to fit your specific application.

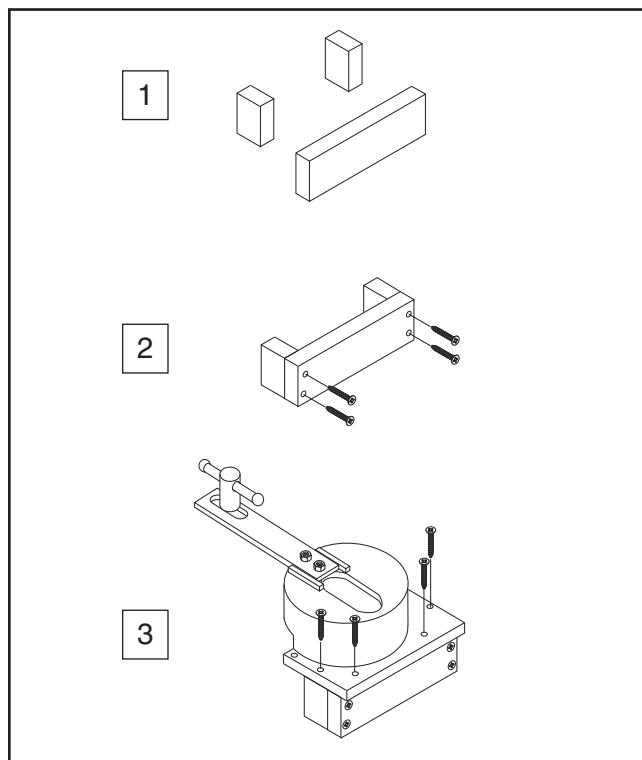


Figure 41. Example demonstrating one way to build a box guard.

Straight Shaping

The fence assembly is a two-piece, independently adjustable system. When removing material from the whole face of your workpiece, the outfeed fence can be adjusted to provide support for the workpiece as it passes over the cutter. It may also be set up for partial face removal.

WARNING

Attempting to operate the shaper without proper knowledge of the machine could cause serious injury or death! Read through the entire manual carefully before attempting to make any cuts with your shaper.

When removing material from the entire board face, observe the following steps:

1. Loosen the locking handles that hold the fences in place (see **Figure 42**).

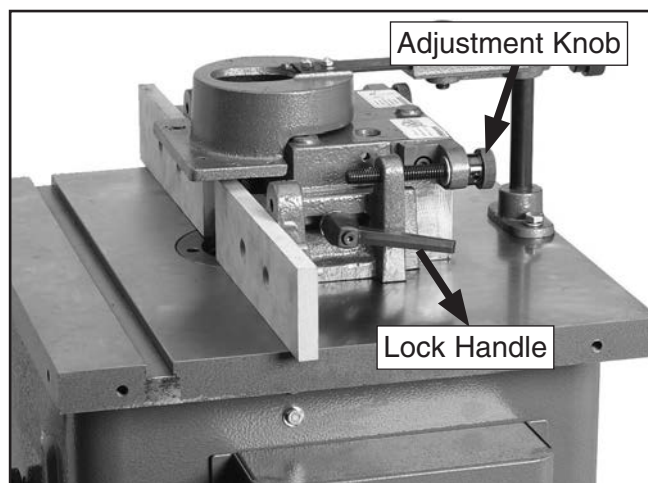




Figure 42. Fence adjustments.

2. Adjust the infeed fence by turning the knurled adjustment knob until the workpiece contacts the cutter in the desired location.
3. A test piece can help determine the best setting. Select the wood for the test piece that most closely resembles the actual workpiece.



WARNING

All guards **MUST** be installed on your shaper before operating it. Shapers are dangerous machines that can quickly cause serious injury if some kind of guard is not used. To protect yourself, read and follow the entire instruction manual carefully and do additional research on shop made guards and safety jigs.



4. Lock the infeed fence in position with the lock handle.
5. Turn the shaper **ON** and advance a test sample of the desired cut about 8", then stop. Swing the test piece away from the cutter and turn the machine **OFF**.
6. When the cutter comes to a complete stop, adjust the outfeed fence to support the new profiled edge, as shown in **Figure 43**.

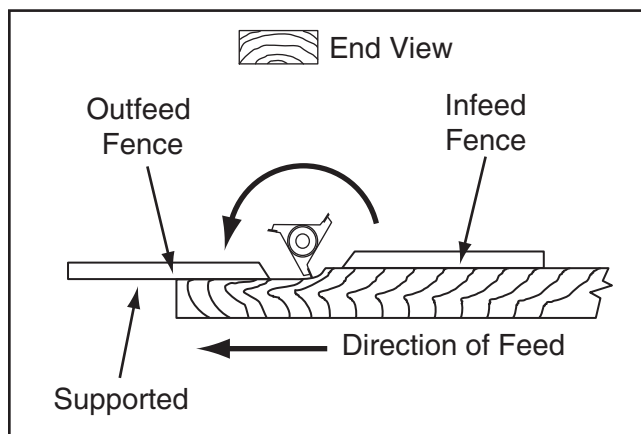


Figure 43. Support workpiece as it is fed.



WARNING

The miter gauge should not be used to feed material along the fence face when edge shaping. Use a push stick and hold-downs to keep the workpiece in position. The fence may not always be perfectly parallel to the miter slot; therefore, using the miter gauge can cause binding and possible kickback of the workpiece towards the operator. Serious personal injury could occur if this happens.

WARNING

The sound of this machine when it is running may be less than that of other devices such as a dust collector, which may be running at the same time. Because of this, it may be difficult to determine if the machine is *ON* merely by listening. It is necessary to make certain that this machine is *OFF* before attempting any setup or adjustments. Otherwise, serious personal injury could occur.

If the face of the workpiece will only be partially removed, observe the following steps:

1. Tighten the wood facing.
2. Adjust the infeed fence to approximately the desired depth of cut and lock the infeed fence in place.
3. Use a straightedge to adjust the outfeed fence to the same plane as the infeed fence and lock the outfeed fence in place.
4. Set the right and left wood faces to barely clear the cutter. This allows the maximum support possible for the workpiece while passing the cutter.
5. Run a test piece through the shaper (see **Figure 44**).

NOTICE

Always cut the end grain first when putting an edge around the perimeter of your workpiece to minimize tearout (see **Figure 45**).

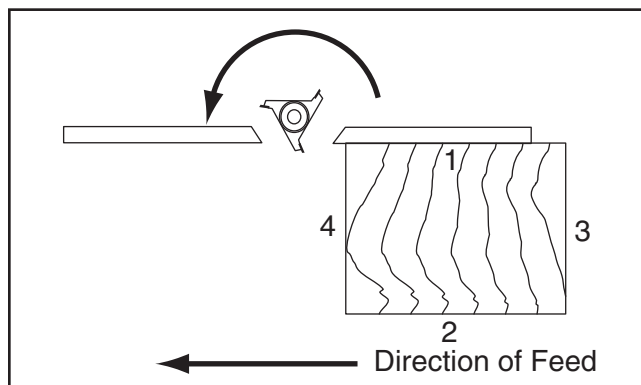


Figure 45. Cut end grain first.

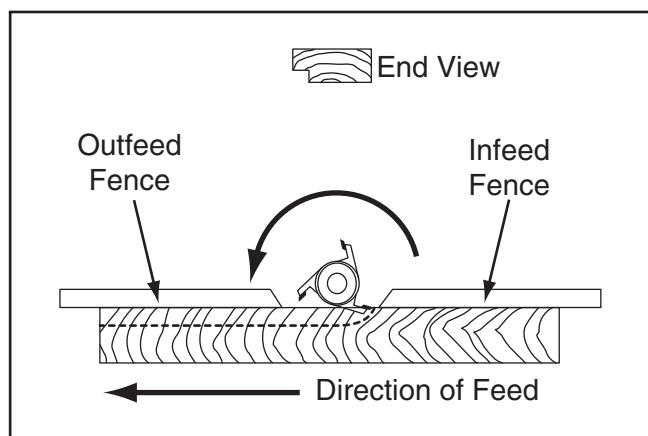


Figure 44. Partial feed fence adjustment.



Shaping Small Stock

Shaping small stock is inherently dangerous on a shaper. Consider making a zero-clearance fence (see **Figure 46**) to provide more support than a standard fence and reduce tearout on narrow or fragile stock.

⚠ CAUTION

Always use hold-downs or featherboards when shaping small or narrow stock. These devices will keep your hands away from the spinning cutterhead and support stock sufficiently to allow a safe and effective cut. Failure to follow this warning may lead to severe personal injury.

To make a zero-clearance fence:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the wood facing and fasteners on the fences.
3. Place a 1 x 4 over the fence mounts and mark and drill four holes for securing the board to the mounts.
4. Transpose an outline of the spindle, cutter, and its components onto the board, leaving room for moving parts so they will not hit the board.
5. Using a bandsaw, cut out the outline.
6. Cut notches in the top of the board for attaching hold-downs (**Figure 46**), secure it to the fence mounts with the fasteners removed in **Step 2**.

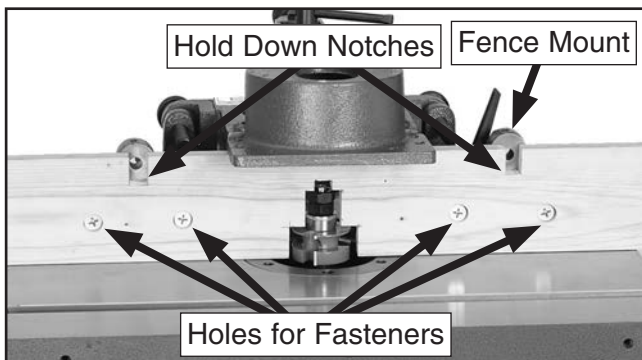


Figure 46. Example of a zero clearance fence.

Rub Collars

Rub collars are used when shaping curved or irregular workpieces, such as arched doors or round table tops, and to limit the depth of your cut.

There are two types of rub collars—solid and ball-bearing. We recommend using ball bearing collars and we carry an extensive line that is designed for use with Grizzly shapers. See our current catalog or website for listings.

Rub collars may be used in any of the following positions:

1. **Rub collar below the cutter:** When the rub collar is placed below the cutter, as shown in **Figure 47**, the progress of the cut can be observed. However, any unintentional movement may lift the workpiece into the cutter, damaging your work and creating a dangerous situation. *We DO NOT recommend using the rub collar in this position.*

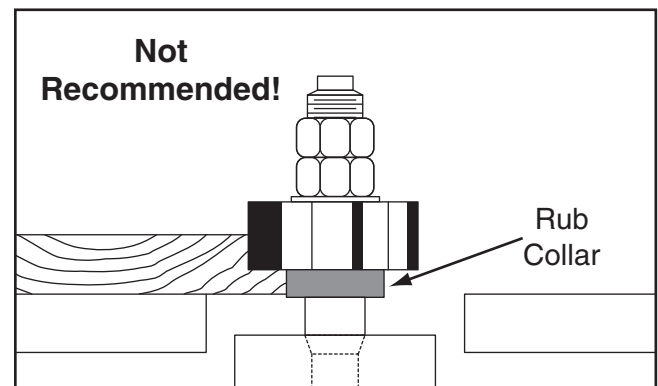


Figure 47. Cutting with rub collar below cutter.



2. **Above the cutter:** When the rub collar is used above the cutter, the cut cannot be seen (see **Figure 48**). This offers some advantage—the stock is not affected by slight variations in thickness and accidental lifting will not damage the workpiece. Simply correct any change in height by repeating the operation.

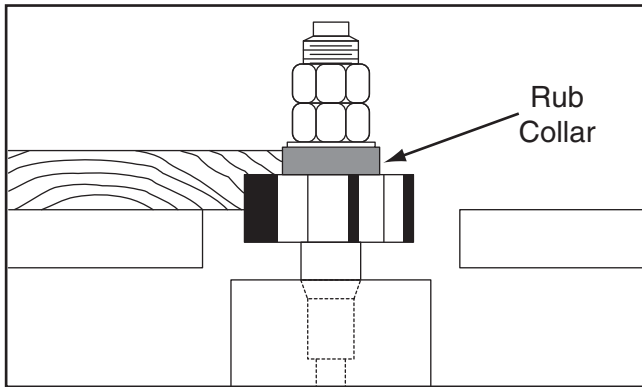


Figure 48. Cutting with rub collar above cutter.

3. **Between two cutters:** Using a rub collar between two cutters has the distinct advantage of performing two cuts at once or eliminating the need to change cutters for two different operations (see **Figure 49**). Notice that part of the edge is left uncut. The uncut portion rides on the rub collar.

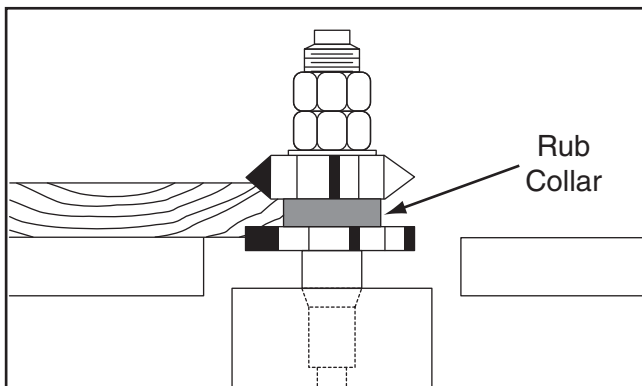


Figure 49. Using rub collar between cutters.

Irregular Shaping

WARNING

Freehand shaping greatly increases the chance that the operator may lose control of the workpiece, which could result in serious personal injury. Therefore, a starting pin or support **MUST** be used to start an irregular shaping operation.

Irregular or freehand shaping takes a high degree of skill and dexterity. The fence assembly is not used in irregular shaping, so rub collars must be used. (See **Rub Collars** on **Page 32**).

When doing freehand work, a starting pin must be used. The purpose of the starting pin is to support the workpiece during the beginning of the cut. Your shaper is supplied with a starting pin that can be placed in one of the holes located in the shaper table. The work should be placed in the starting position using the starting pin for support, as shown in **Figure 50**.

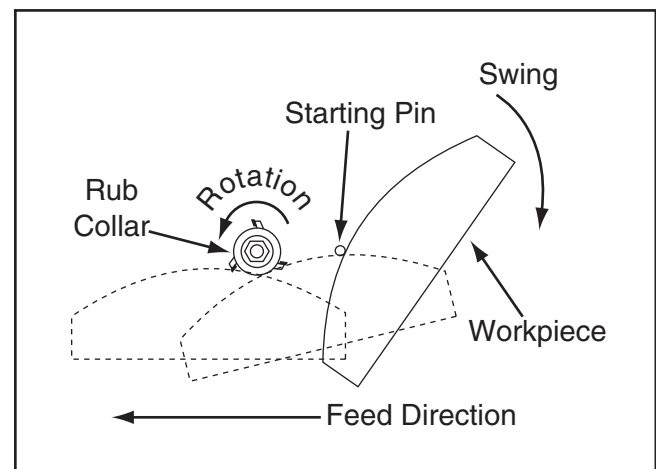


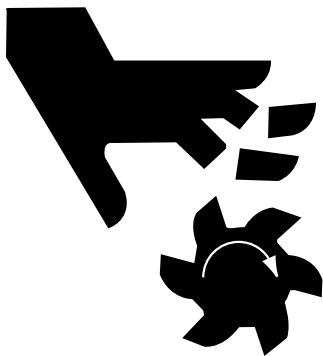
Figure 50. Using a starting pin for irregular shaping.

Next, swing the work into the cutter while holding the workpiece firmly against the starting pin. After the cut has been started, the work should be swung away from the starting pin and is supported just by the rub collar, as shown by the broken line positions shown in **Figure 50**.

ALWAYS FEED AGAINST THE ROTATION OF THE CUTTER.



! WARNING



All guards **MUST** be installed on your shaper before operating it. Shapers are dangerous machines that can quickly cause serious injury if some kind of guard is not used. To protect yourself, read and follow the entire manual carefully and do additional research on shop made guards and safety jigs.

To use a starting pin:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the fence assembly.
3. Install the appropriate cutter for your application (see **Cutter Installation** on Page 27).
4. Check the cutter rotation (see **Cutter Rotation Direction** on Page 26).
5. Adjust the spindle height to align the cutter to the workpiece.
6. Insert a starting pin (see **Figure 51**) into the table surface, using the pin location that best supports your work.



Figure 51. Inserting starting pin.

7. Use some type of hold-down fixture and guard when doing freehand work (see **Figure 52**).

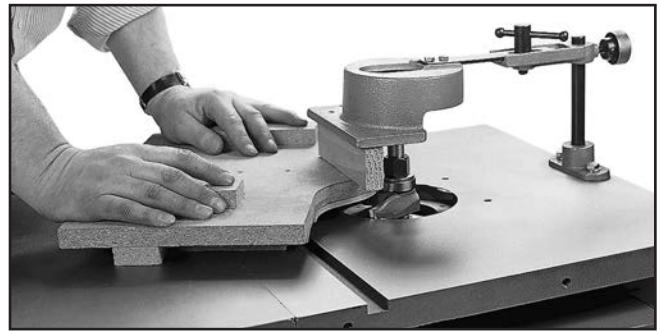


Figure 52. Use guard when doing freehand work. (Portion of guard removed for clarity.)

8. Make a sample cut on a piece of scrap wood.
9. If everything is correct, feed your workpiece along the cutter, using firm pressure to keep your work against the rub collar. Only feed against the cutter rotation.

! CAUTION

Incorrectly feeding stock—feeding with the rotation of the cutter—creates a potentially uncontrollable feed situation and may pull stock from your hands. This can result in serious personal injury.

Sometimes the starting pin will not be in the most advantageous position. If so, firmly clamp a board in the desired position to act as a starting pin (see **Figure 53**). Some type of pivot point **must be** used. Notice in **Figures 52 & 53** the operator is not exposed to the cutting edge of the cutter. Cutters are removing material from the bottom of the workpiece.

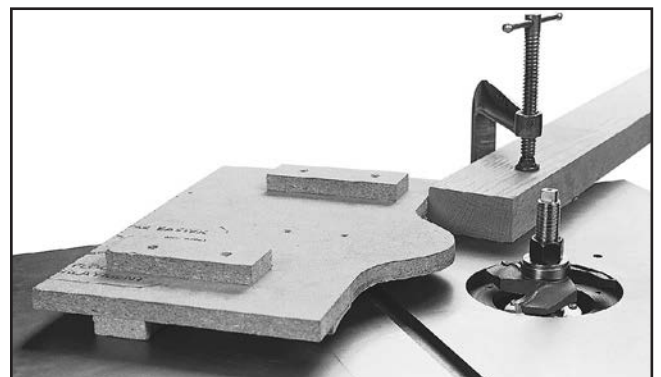


Figure 53. Use starting pin substitute when needed. (Guard removed for clarity.)



Pattern Work

When using a pattern, the rub collar can be positioned either above, below, or between cutters.

The pattern is usually used when the entire edge is to be shaped or when many duplicate pieces are needed. Pattern work is particularly useful when rough cutting irregular shapes oversize and then shaping the edge in a simple two-step operation. A pattern can be incorporated into a fixture by way of adding toggle clamps, hand holds, or other safety devices.

You have greater flexibility when choosing the correct diameter rub collar for pattern work than for non-pattern work. As shown in **Figure 54**, the position of the pattern determines the depth of cut. In other words, the pattern size is dependent upon the inter-relationship of cutting circle, the desired amount of material removed and the rub collar size.

The cutting circle is the given in the equation, while the pattern and the rub collar size are the variables. Changing one or both of these will change the amount of material removed. Planning ahead, you can best decide which rub collars are best suited for your application.

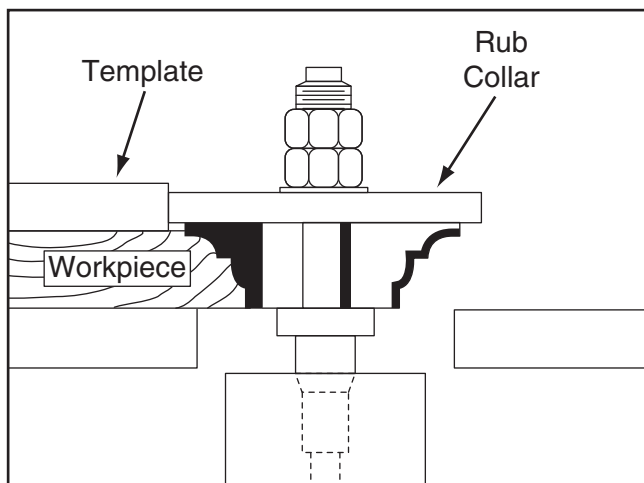


Figure 54. Using a template and a rub collar for pattern shaping.

When making a pattern, jig, or fixture, here are a few things to consider:

1. Use a material that will smoothly follow the rub collar or fence.
2. Secure the workpiece (on the three sides that will not be cut) with toggle clamps, or fasten the workpiece to the jig with wood screws.
3. Make the jig stable, using proven methods and materials, and fasten the hand holds for operator comfort and safety.
4. Secure the workpiece on three sides with toggle clamps or fasten the workpiece to the fixture with wood screws. Make sure they do not protrude through the workpiece.
5. Ensure that clamps and hidden screws do not come into contact with the cutter.
6. Design your fixture so that all cutting occurs underneath the workpiece.
7. Always consider the cutting circle and rub collar diameter for the correct depth of cut when designing the pattern.
8. Make sure the workpiece rests flat on the table, not on the fixture.
9. Remember, there is tremendous cutting force on the workpiece. Fixtures must be solid, stable and the workpiece must be firmly secured.

NOTICE

Use care in designing and making fixtures. Clamps and screws cannot touch the cutter, and the fixtures must be stable in use, with the workpiece resting on the shaper table, not on the fixture. The workpiece must be fixed securely to the jig.



SECTION 5: ACCESSORIES

⚠ WARNING

Some aftermarket accessories can be installed on this machine that could cause it to function improperly, increasing the risk of serious personal injury. To minimize this risk, only install accessories recommended for this machine by Grizzly.

NOTICE

Refer to the newest copy of the Grizzly Catalog for other accessories available for this machine.

Call 1-800-523-4777 To Order

G3362—Rub Collar $\frac{3}{4}$ "/Set "A", 5 PC Set
G3363—Rub Collar $\frac{3}{4}$ "/Set "B", 5 PC Set

If you do any kind of irregular shaping, these rub collars are a must! Rub collars are used for shaping curved work such as cathedral doors as well as many custom shapes. They are also used for limiting the depth of cut (same principal as router bits with guide bearings). Use them below, in between or above cutters.



Figure 55. G3362 Rub Collar Set.

G8683Z—Shop Fox Mini Mobile Base

Don't let the little size of this one fool you. It shares the same design concepts as its two bigger brothers, giving you an amazing 600 lb. load capacity in one small package!

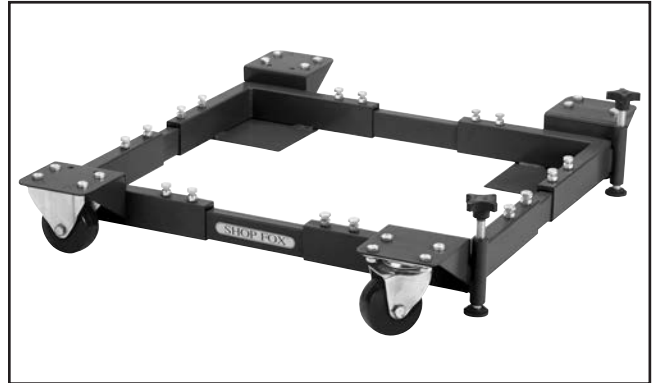


Figure 56. G8683Z Mini Mobile Base.

G1706—Cast Iron Wing

Cast Iron Wing (20" x 10") for use with the Model G1035/G1035P.



Figure 57. G1706 Cast Iron Wing.

G1705—Bit Spindle

Router bit spindle for use with our G1035 1½ HP Shaper. For $\frac{1}{4}$ " and $\frac{1}{2}$ " shank bits.

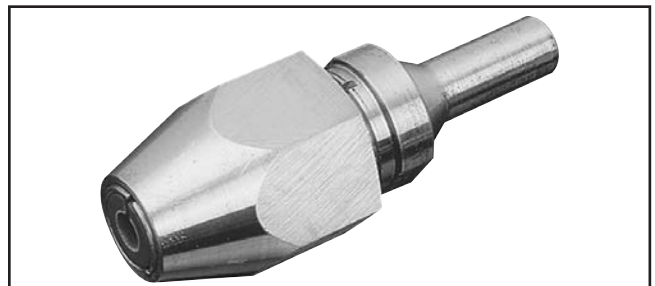


Figure 58. G1705 Bit Spindle.



G4840—3" Dust Hood

This dust hood connects the G1035 to any 3" dust collection hose. Attaches to blade guard.

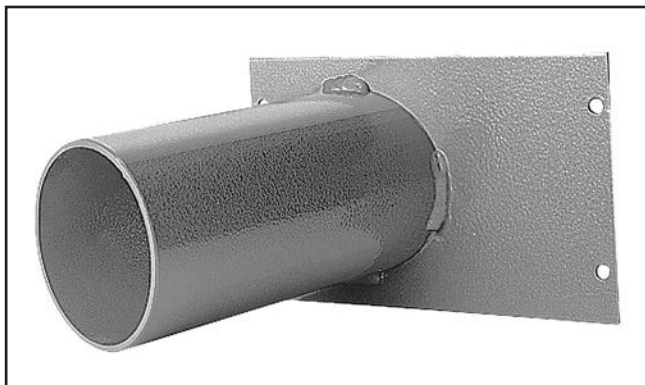


Figure 59. G4840 Dust Hood.

G4220—3" D x 6" Flexible Hose

Figure 60. 3" x 6" Flexible Hose.

G2973—3" Wire Hose Clamp

Hose clamps are used to connect flexible piping to dust hoods, blast gates and fittings. These Wire Hose Clamps measure 3" diameter.



Figure 61. 3" Wire Hose Clamp.

G1519—4" x 3" Reducer

We carry hose diameters for many different applications. 3" and 4" x 6" hose sections are great for connecting dust collection fittings.



Figure 62. 4" x 3" Reducer.

G4173—Baby Power Feeder

If you do any kind of hand ripping or milling, you know what a big chore it can be especially with longer and wider stock. For those of you who want to increase production, upgrade or add on an extra stock feeder, we have one that will match virtually any application and budget.



Figure 63. G4173 Power Feeder.

Call 1-800-523-4777 To Order



G3030—Shaper Handbook

Roger Cliffe and Michael Holtz show you the potential of your shaper. Hundreds of techniques are explored in vivid detail and clear step-by-step instructions. There are tips on freehand shaping as well as jig and fixture shaping. 256 pages.

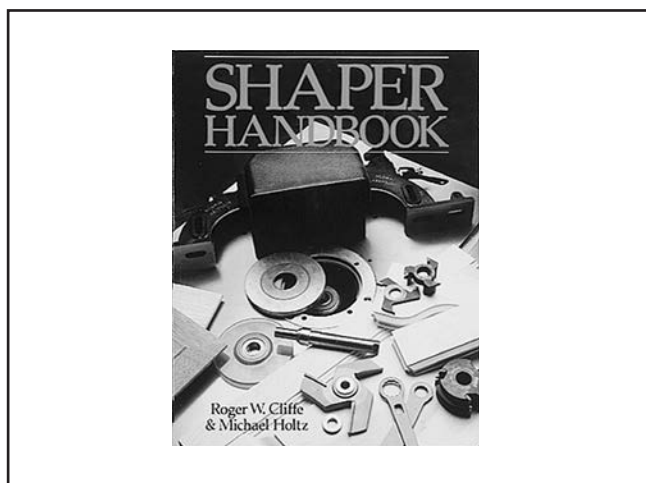


Figure 64. G3030 Shaper Handbook.

G5562—SLIPIT® 1 Qt. Gel

G5563—SLIPIT® 12 oz Spray

G2871—Boeshield® T-9 12 oz Spray

G2870—Boeshield® T-9 4 oz Spray

H3788—G96® Gun Treatment 12 oz Spray

H3789—G96® Gun Treatment 4.5 oz Spray



Figure 65. Recommended products for protecting unpainted cast iron/steel part on machinery.

Call 1-800-523-4777 To Order

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

T20456—DAKURA Safety Glasses, Black/Clear



Figure 66. Eye protection assortment.

H2499—Small Half-Mask Respirator

H3631—Medium Half-Mask Respirator

H3632—Large Half-Mask Respirator

H3635—Cartridge Filter Pair P100

Wood dust has been linked to nasal cancer and severe respiratory illnesses. If you work around-dust everyday, a half-mask respirator can be a lifesaver. Also compatible with safety glasses!



Figure 67. Half-mask respirator with disposable cartridge filters.



SECTION 6: MAINTENANCE



Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check:

- Clean and protect the unpainted top surfaces.
- Check/tighten loose mounting bolts.
- Check/replace damaged or worn cutters.
- Check/repair worn or damaged wires.
- Check/resolve any other unsafe condition.

Weekly Check:

- Clean the inside of the cabinet.
- Check the V-belt condition and tension (see **Page 41**).

Monthly Check:

- Lubricate the spindle slide and leadscrew (see **Page 40**).

Cleaning

Cleaning the Model G1035/G1035P is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it.

Unpainted Cast Iron

Protect the unpainted cast iron surfaces on the table by wiping the table clean after every use—this ensures moisture from wood dust does not remain on bare metal surfaces.

Keep tables rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9 (see **Section 5: Accessories** on **Page 36** for more details).



Lubrication

Since all bearings are sealed and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them. However, the spindle slide and leadscrew do need lubrication.

To lubricate the spindle slide and leadscrew:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the rear cover.
3. Use the spindle height handwheel to lower the spindle all the way, then access the elevation assembly through the rear of the cabinet (see **Figure 68**).

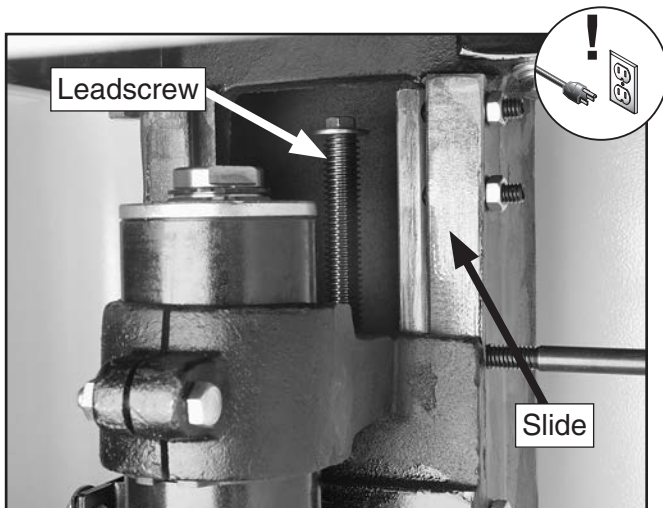


Figure 68. Spindle slide and leadscrew.

4. Use mineral spirits, shop rags, and a stiff brush to clean away grease and built-up grime from the surfaces of both slides and the threads of the leadscrew, then apply a thin coat of multi-purpose grease to these surfaces.
5. Fully raise and lower the spindle to distribute the grease.
6. Re-install the rear cover.

Spindle Bearings

Should a bearing fail, your shaper will develop a noticeable rumble, which will increase when the machine is put under load. If the bad bearing is not replaced, it will eventually seize—possibly doing damage to other parts of the machine. Bearings are standard sizes and can be replaced through Grizzly.

Tools Needed

Wrench or Socket 12mm 1

Qty

To replace the spindle bearings:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the rear cover.
3. Remove the V-Belt (refer to **V-Belt Tension & Replacement on Page 41**).
4. Loosen the hex bolt on the spindle cartridge bracket (see **Figure 69**).

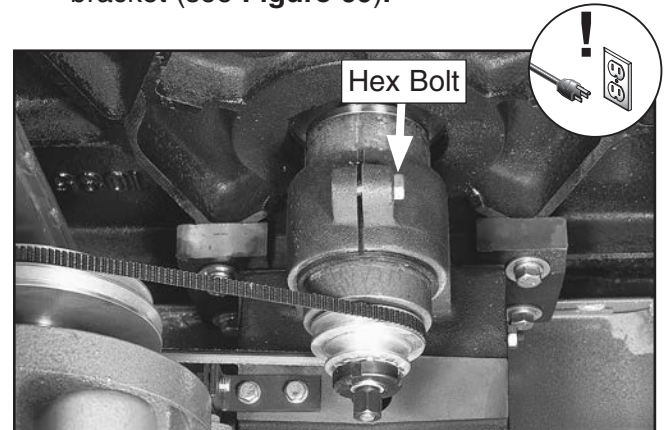


Figure 69. Bolt on spindle slide.

5. The bearing housing will drop down. If you need to spread the spindle slide casting more, use a flat head screwdriver.

⚠ CAUTION

Carefully spread the casting to reduce the risk of the bearing housing falling and pinching fingers. To reduce damage, place a pad underneath the housing. The casting will break if too much pressure is applied.



6. Remove the spindle and replace the bearings inside the bearing housing. If you need pointers regarding bearing replacement, call Technical Support.
7. To slide the housing back in, reverse the procedure. Make sure the hex bolt is tightened securely.
8. Re-install the rear cover.

V-Belt Tension & Replacement

The V-belt transfers power from the motor to the spindle. If the V-belt does not have the proper tension or is damaged in any way, the shaper will not operate optimally and unnecessary wear on the moving parts will occur. Regularly check the V-belt tension and replace it when necessary.

Tools Needed	Qty
Wrench or Socket 14mm	1

To tension the V-belt:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the rear cover.
3. Loosen the two hex bolts holding the motor mount to the spindle slide (see **Figure 70**). Do not remove the bolts completely.



Figure 70. Location of motor mount hex bolts.

—If the V-belt is cracked, excessively worn, or damaged, slide the motor to the right, then replace the V-belt.

4. To tension the V-belt, slide the motor to the left until the V-belt is snug, then tighten the bolts. The amount of V-belt deflection between the pulleys should be approximately 1/4" when moderate pressure is applied, as shown in **Figure 71**.

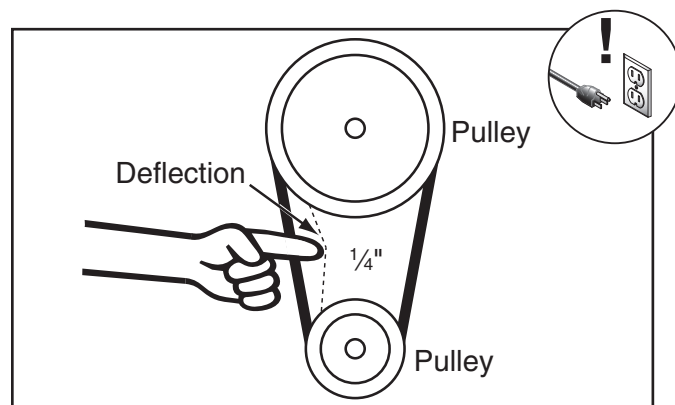


Figure 71. Checking V-belt tension.

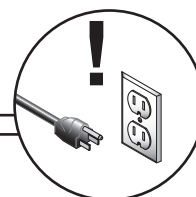
5. When the V-belt is adjusted properly, tighten the motor mount hex bolts.
6. Check to make sure the V-belt is correctly aligned on both pulleys (refer to **Pulley Alignment** on **Page 45** for detailed instructions).
7. Re-install the rear cover.



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
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> 1. Switch disabling lock installed. 2. Power supply switched OFF or at fault. 3. Plug/receptacle at fault/wired wrong. 4. Motor connection wired wrong. 5. Wall circuit breaker tripped. 6. Wiring open/has high resistance. 7. Start capacitor at fault. 8. Spindle switch at fault. 9. Motor at fault. 	<ol style="list-style-type: none"> 1. Remove switch disabling lock. 2. Ensure power supply is ON/has correct voltage. 3. Test for good contacts; correct the wiring. 4. Correct motor wiring connections (Page 49). 5. Ensure circuit size is correct/replace weak breaker. 5. Check/fix broken, disconnected, or corroded wires. 7. Test/replace if faulty. 8. Replace switch. 9. Test/repair/replace.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Workpiece material not suitable for machine. 2. Fence/jig loose or misaligned. 3. V-belt slipping. 4. Motor wired incorrectly. 5. Plug/receptacle at fault. 6. Pulley slipping on shaft. 7. Motor bearings at fault. 8. Machine undersized for task. 9. Motor overheated. 10. Spindle switch at fault. 11. Motor at fault. 	<ol style="list-style-type: none"> 1. Only cut wood/ensure moisture is below 20%. 2. Adjust fence/jig. 3. Tension/replace V-belt (Page 41). 4. Wire motor correctly (Page 49). 5. Test for good contacts/correct wiring. 6. Replace loose pulley/shaft. 7. Test/repair/replace. 8. Use correct, sharp cutter; reduce feed rate/depth of cut. 9. Clean motor, let cool, and reduce workload. 10. Test/replace switch. 11. Test/repair/replace.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component loose. 2. Cutter at fault. 3. V-belt worn or loose. 4. Spindle at fault. 5. Pulley loose. 6. Motor mount loose/broken. 7. Machine incorrectly mounted. 8. Motor fan rubbing on fan cover. 9. Motor bearings at fault. 	<ol style="list-style-type: none"> 1. Inspect/replace damaged bolts/nuts, and re-tighten. 2. Replace damaged cutter. 3. Tension/replace V-belt (Page 41). 4. Tighten loose spindle; replace defective spindle or spindle cartridge. 5. Realign/replace shaft, pulley, set screw, and key. 6. Tighten/replace. 7. Tighten mounting bolts; relocate/shim machine. 8. Fix/replace fan cover; replace loose/damaged fan. 9. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.



Symptom	Possible Cause	Possible Solution
Workpiece is burned when cut.	<ol style="list-style-type: none"> 1. Dull cutter. 2. Too slow of a feed rate. 3. Pitch build-up on cutter. 4. Cutter rotating in the wrong direction. 5. Taking too deep of a cut. 	<ol style="list-style-type: none"> 1. Replace cutter or have it professionally sharpened. 2. Increase feed speed. 3. Clean cutter with a blade and bit cleaning solution. 4. Reverse the direction of the cutter rotation. 5. Make several passes of light cuts.
Fuzzy grain.	<ol style="list-style-type: none"> 1. Wood may have high moisture content or surface wetness. 2. Dull cutter. 	<ol style="list-style-type: none"> 1. Check moisture content and allow to dry if moisture is more than 20%. 2. Replace or have cutter professionally sharpened.
Chipping.	<ol style="list-style-type: none"> 1. Knots or conflicting grain direction in wood. 2. Nicked or chipped cutter. 3. Feeding workpiece too fast. 4. Taking too deep of a cut. 5. Cutting against the grain of the wood. 	<ol style="list-style-type: none"> 1. Inspect workpiece for knots and grain direction; only use clean stock. 2. Replace the cutter, or have it professionally sharpened. 3. Slow down the feed rate. 4. Take a smaller depth of cut. (Always reduce cutting depth when working with hard woods.) 5. Cut with the grain of the wood.
Divots in the edge of the cut.	<ol style="list-style-type: none"> 1. Inconsistent feed speed. 2. Inconsistent pressure against the fence and rub collar. 3. Fence not adjusted correctly. 	<ol style="list-style-type: none"> 1. Move smoothly or use a power feeder. 2. Apply constant pressure. 3. Adjust fence.



Table Insert Adjustment

The aluminum table insert is held in place by a cast iron insert ring, which should be adjusted level with the table top. This is necessary to avoid the workpiece catching on the insert or ring during operation, causing an unsafe condition and poor cutting results.

Tools Needed	Qty
Phillips Screwdriver #2	1
Standard Screwdriver #2	1
Precision Straightedge	1

To make the insert and insert ring level with the table top:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the table insert, then remove the three Phillips screws that secure the insert ring to the table top.

Note: Notice that there is a barrel screw underneath each of the Phillips screws (see **Figure 72**).



Figure 72. Insert ring barrel screw.

3. Lay a precision straightedge across the insert ring and the table, then adjust the barrel screws until the insert ring is level with the table top in all directions (see **Figure 73**).

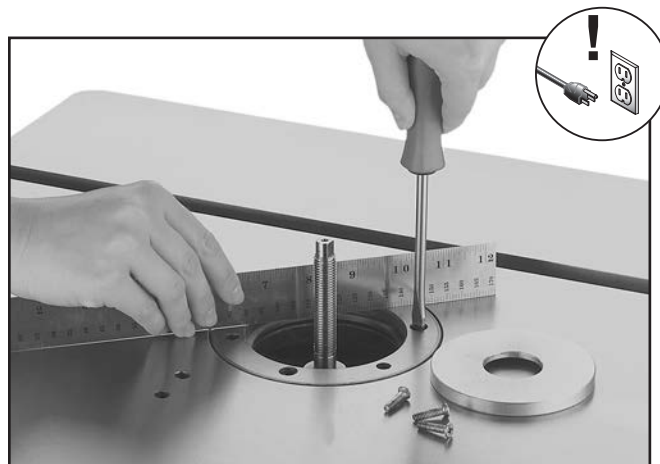


Figure 73. Leveling the insert ring.

4. Replace the Phillips screws, but do not over-tighten them.
5. Replace the table insert, then use the straight-edge to re-check the inserts. If necessary, repeat this procedure until both the insert ring and table insert are completely level with the table top in all directions.



Fence Board Alignment

For safe and accurate shaping, the fence boards must be parallel with one another so that they properly support the workpiece through the entire cutting operation.

Tools Needed	Qty
Phillips Screwdriver #2	1
Precision Straightedge 24"	1
Shims.....	As Needed

To make the fence boards parallel:

1. DISCONNECT SHAPER FROM POWER!
2. Make sure the fence boards are even with each other, then place the straightedge against both fence boards, as shown in **Figure 74**.

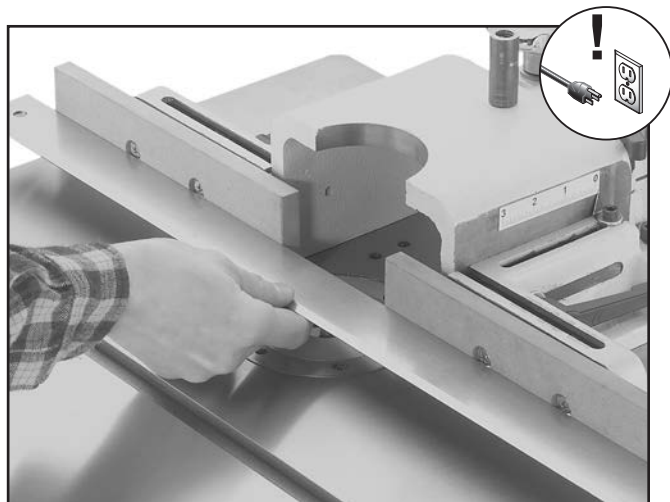


Figure 74. Example of aligning fence boards.

- If there is a gap between the straightedge and the fence boards, use shims as needed between the fence boards and the mounting brackets to make the boards completely parallel with each other along their entire length.

Pulley Alignment

Pulley alignment is important to the performance of your shaper. If the pulleys are just slightly out of alignment, the shaper may suffer from power loss and decreased V-belt life. When the pulleys are parallel and aligned with each other, they are said to be coplanar—in the same plane.

Checking Pulley Coplanarity

Tools Needed	Qty
Precision Straightedge	1

To check the alignment of the pulleys:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the rear cover.
3. Hold the straightedge up to the pulleys to determine if they are both aligned and parallel, as shown in **Figure 75**.



Figure 75. Checking pulley alignment.

- If the pulleys are not parallel or aligned with each other, perform the appropriate steps in the following procedures.



Adjusting Pulleys Parallel

Tools Needed	Qty
Precision Straightedge	1
Phillips Screwdriver #2	1
Wrench or Socket 12mm	1
Wrench or Socket 14mm	1

To make the pulleys parallel:

1. DISCONNECT SHAPER FROM POWER!
2. Remove the motor cover from the cabinet, then loosen the two motor mounting hex bolts that are behind the motor mount (see **Figure 76**).

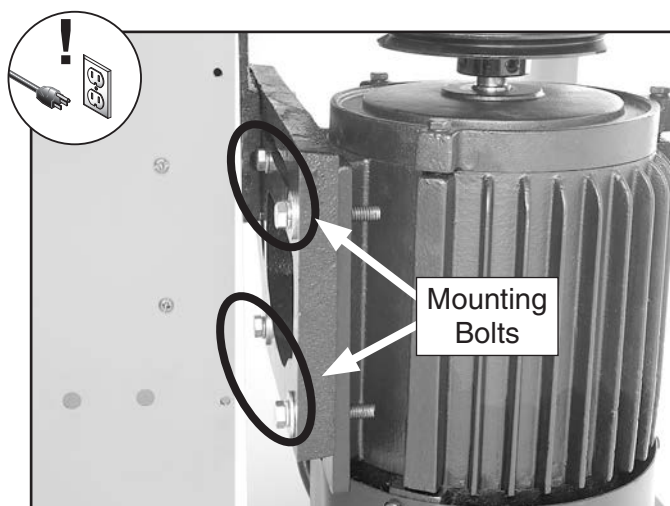


Figure 76. Motor mounting bolts location.

3. Reach into the rear of the cabinet and loosen the two motor mount hex bolts directly under the spindle cartridge.
4. Using the straightedge as a guide, rotate the motor assembly until the motor pulley is parallel with the spindle pulley, then re-tighten the four motor mount hex bolts.

Aligning Pulleys

Tools Needed	Qty
Precision Straightedge	1
Wrench or Socket 12mm	1

To align the pulleys:

1. DISCONNECT SHAPER FROM POWER!
2. Reach into the rear of the cabinet, then loosen the hex bolt on the spindle cartridge bracket, as shown in **Figure 77**.
3. Using the straightedge as a guide, adjust the height of the spindle cartridge until the pulleys are aligned, then re-tighten the hex bolt.

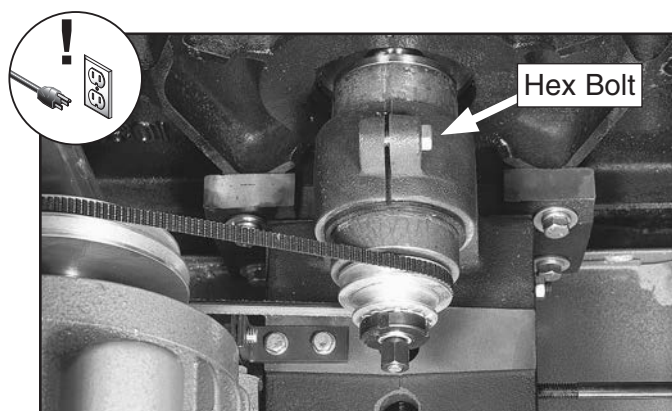


Figure 77. Spindle cartridge bracket hex bolt.

Tip: You can also loosen the two set screws on the motor pulley, raise or lower the motor pulley so it is aligned with the spindle pulley, then tighten the set screws.

4. Replace the motor cover and rear cover before reconnecting the machine to power.



Gib Adjustment

The gib controls the smoothness of the slide movement, as well as the run out or end play of the spindle. Tightening the gibs too much will make it hard to adjust the height of the spindle and cause excessive wear on the slide. Loosening the gibs too much will introduce spindle end play and cause poor cutting results and excessive wear on the spindle bearings.

Checking Gib Adjustment

1. DISCONNECT SHAPER FROM POWER!
2. Use the spindle height handwheel to raise the spindle to its highest position.
—If it is difficult to turn the handwheel or you feel resistance from the spindle slide, the gibs may need to be loosened.
3. Use the spindle height lock to hold the spindle in place, then attempt to wiggle the top of the spindle. If there is movement, the gibs may need to be tightened.

Adjusting the Gibs

Tools Needed	Qty
Wrench 12mm	1
Hex Wrench 4mm.....	1

To adjust the gibs:

1. DISCONNECT SHAPER FROM POWER!
2. Loosen the jam nuts on the gib adjustment set screws (see **Figure 78**).

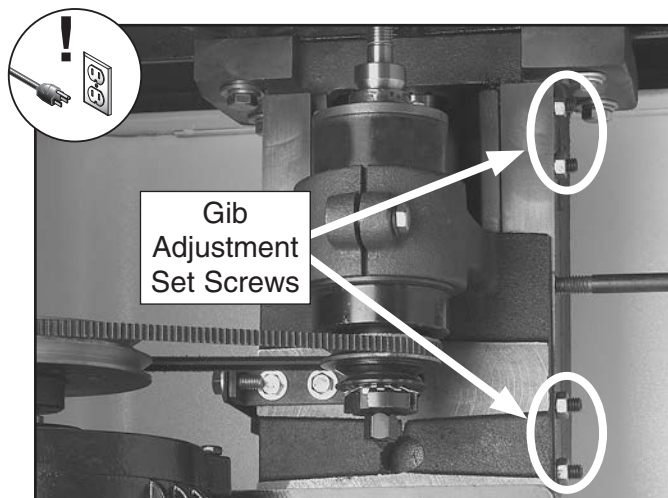


Figure 78. Gib adjustment screws.

3. Evenly adjust the set screws small amounts, then test the results.
4. When you are satisfied with the gib adjustment, re-tighten the jam nuts without turning the set screws.
5. Re-check the gib adjustment. If necessary, repeat this procedure.



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 after-market 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		BLUE		YELLOW		LIGHT BLUE	
WHITE		BROWN		YELLOW GREEN		BLUE WHITE	
GREEN		GRAY		PURPLE		TURQUOISE	
RED		ORANGE		PINK			



Wiring Diagram

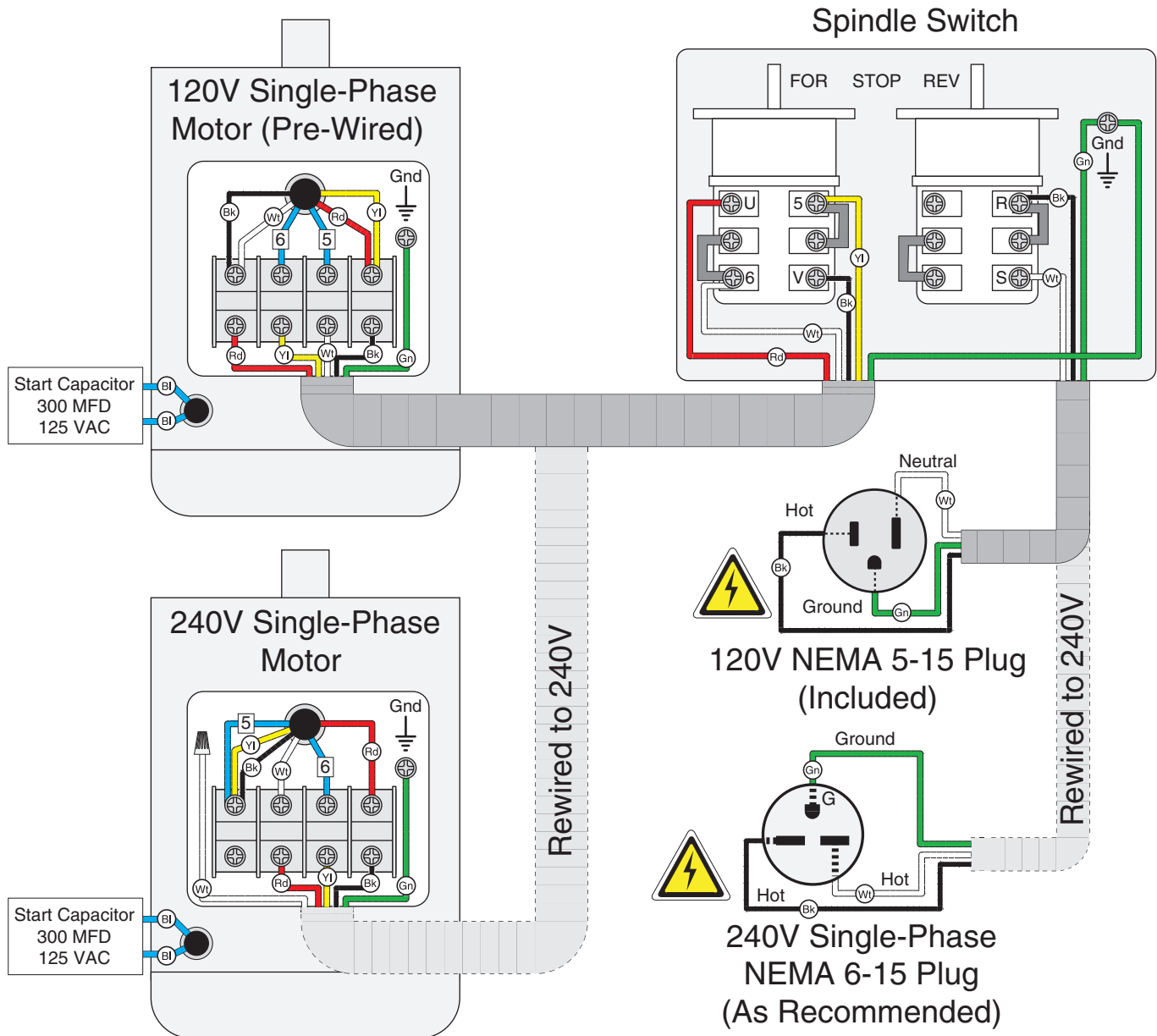


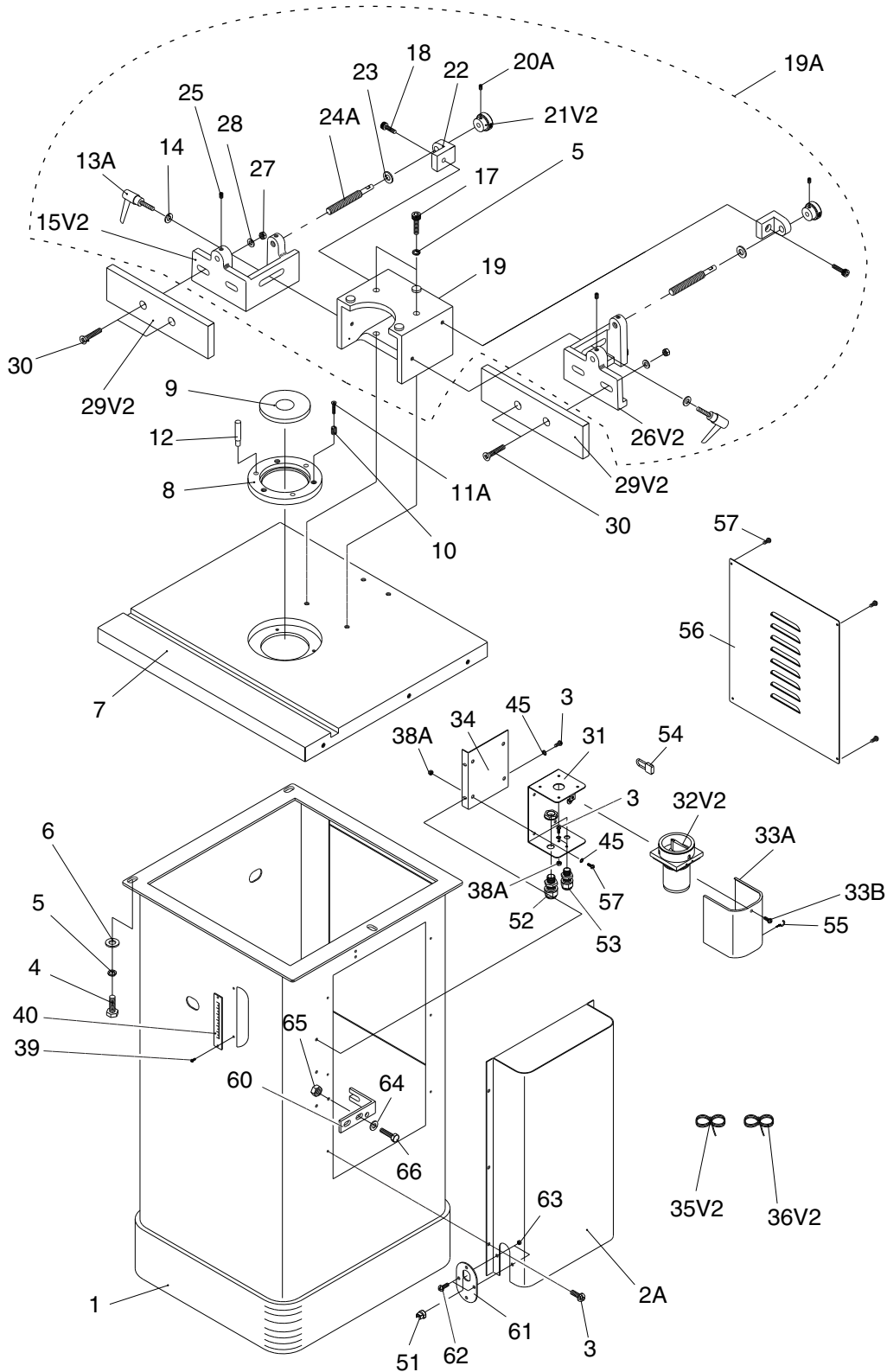
Figure 79. FWD/REV switch wiring.



Figure 80. 120V motor wiring.

SECTION 9: PARTS

Main



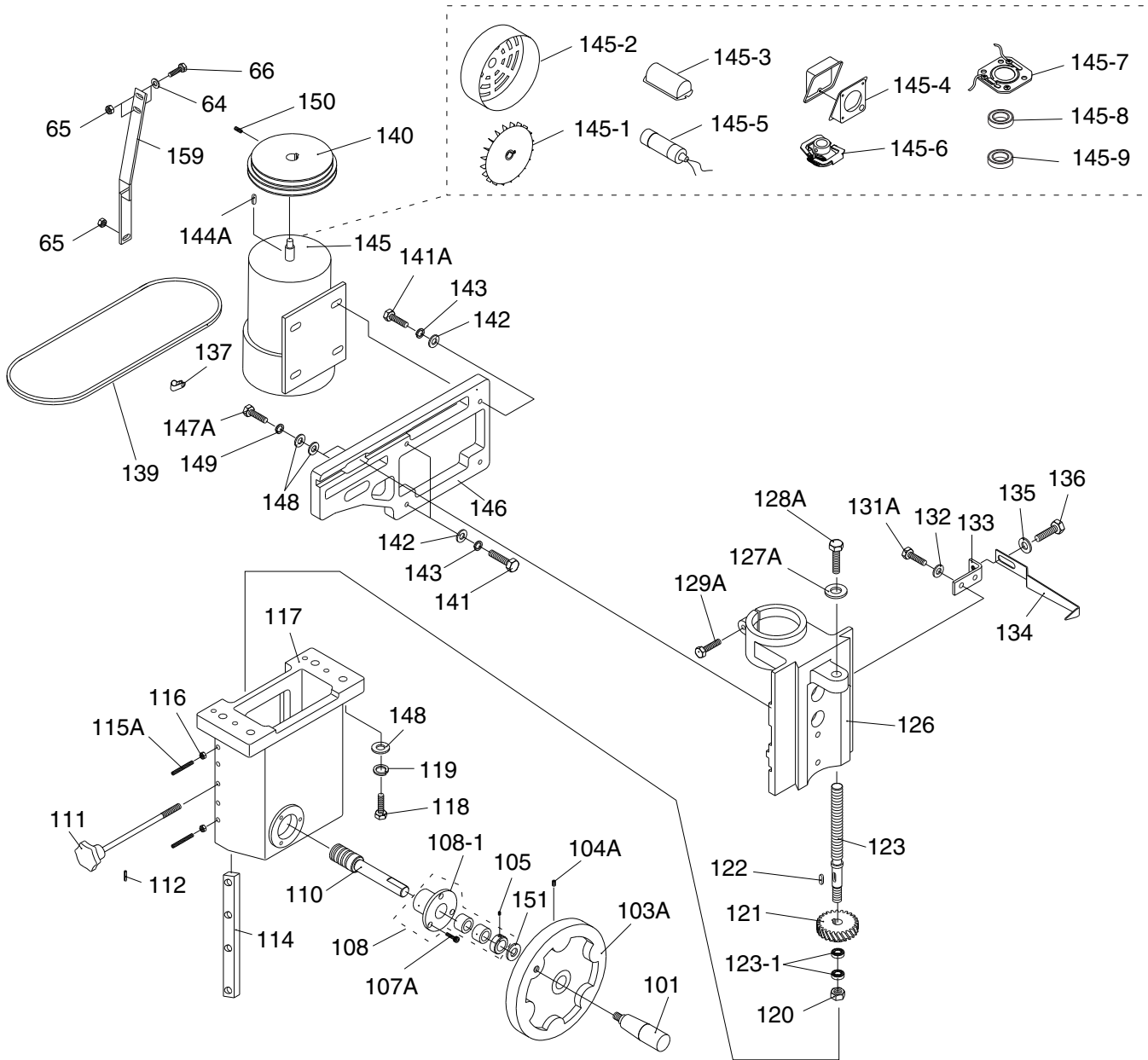
Main Parts List

REF	PART #	DESCRIPTION
1	P1035001	STAND (G1035)
1	P1035P001	STAND (G1035P)
2A	P1035002A	MOTOR COVER V2.01.06 (G1035)
2A	P1035P002A	MOTOR COVER V2.01.06 (G1035P)
3	PS06	PHLP HD SCR 10-24 X 3/8
4	PB21	HEX BOLT 3/8- 16 X 3/4
5	PLW04	LOCK WASHER 3/8
6	PW02	FLAT WASHER 3/8
7	P1035007	TABLE
8	P1035008	OUTER TABLE INSERT
9	P1035009	INNER TABLE INSERT
10	P1035010	BARREL SCREW 7/16-14 X 1/2
11A	PFH21	FLAT HD SCRW 10-24 X 3/4
12	P1035012	STARTING PIN
13A	P1026046	LOCK HANDLE 5/16"-18 X 1"
14	PW07	FLAT WASHER 5/16
15V2	P1035015V2	FENCE MOUNT LH 3/8 V2.01.09 (G1035)
15V2	P1035P015V2	FENCE MOUNT LH 3/8 V2.01.09 (G1035P)
17	PCAP14	CAP SCREW 3/8-16 X 1
18	PCAP07	CAP SCREW 5/16-18 X 3/4
19	P1035019	MAIN FENCE HOUSING (G1035)
19	P1035P019	MAIN FENCE HOUSING (G1035P)
19A	P1035019A	COMPLETE FENCE ASSEMBLY (G1035)
19A	P1035P019A	COMPLETE FENCE ASSEMBLY (G1035P)
20A	PSS05	SET SCREW 5/16-18 X 1/4
21V2	P1035021V2	KNURLED KNOB 8MM D32
22	P1035022	ADJ. SCREW BRACKET (G1035)
22	P1035P022	ADJ. SCREW BRACKET (G1035P)
23	PW07	FLAT WASHER 5/16
24A	P1035024A	FENCE ADJ SCREW 1/2-13 X 4-1/4 V2.10.00
25	PSS03	SET SCREW 1/4- 20 X 3/8
26V2	P1035026V2	FENCE MOUNT RH 3/8 V2.01.09 (G1035)
26V2	P1035P026V2	FENCE MOUNT RH 3/8 V2.01.09 (G1035P)

REF	PART #	DESCRIPTION
27	PN02	HEX NUT 5/16-18
28	PW07	FLAT WASHER 5/16
29V2	P1035029V2	WOOD FENCE FACE 2-3/4 V2.01.09
30	PFH23	FLT HD SCRW 5/16-18 X 1-1/2
31	P1035031	SWITCH BOX (G1035)
31	P1035P031	SWITCH BOX (G1035P)
32V2	P1035032V2	FWD/REV ROTARY SWITCH V2.04.10
33A	P1035033A	U-SWITCH COVER 4-7/8" T V2.10.02 (G1035)
33A	P1035P033A	U-SWITCH COVER 4-7/8" T (G1035P)
33B	PFS04M	FLANGE SCREW M4-.7 X 6
34	P1035034	SWITCH MOUNT BRACKET (G1035)
34	P1035P034	SWITCH MOUNT BRACKET (G1035P)
35V2	P1035035V2	MOTOR CORD 14G 5W 30" V2.04.10
36V2	P1035036V2	POWER CORD 14G 3W 56" 5-15 V2.04.10
38A	PN07	HEX NUT 10-24
39	PHTEK1	TAP SCREW #6 x 1/2"
40	P1026041	SCALE
45	PTLW01	EXT TOOTH WASHER #10
51	P1035051	STRAIN RELIEF SB8R-1
52	P1035052	STRAIN RELIEF MGB20-10B
53	P1035053	STRAIN RELIEF MGB16-10B
54	P1035054	SWITCH PADLOCK
55	P1035055	PADLOCK STORAGE HOOK
56	P1035056	REAR STAND PANEL
57	PFS03	FLANGE SCREW 10-24 X 3/8
60	P1035060	BOTTOM MOTOR BRACE
61	P1035061	CORD CLAMP PLATE
62	PS01	PHLP HD SCR 10-24 X 1/2
63	PN07	HEX NUT 10-24
64	PW07	FLAT WASHER 5/16
65	PN02	HEX NUT 5/16-18
66	PB07	HEX BOLT 5/16-18 X 3/4



Motor



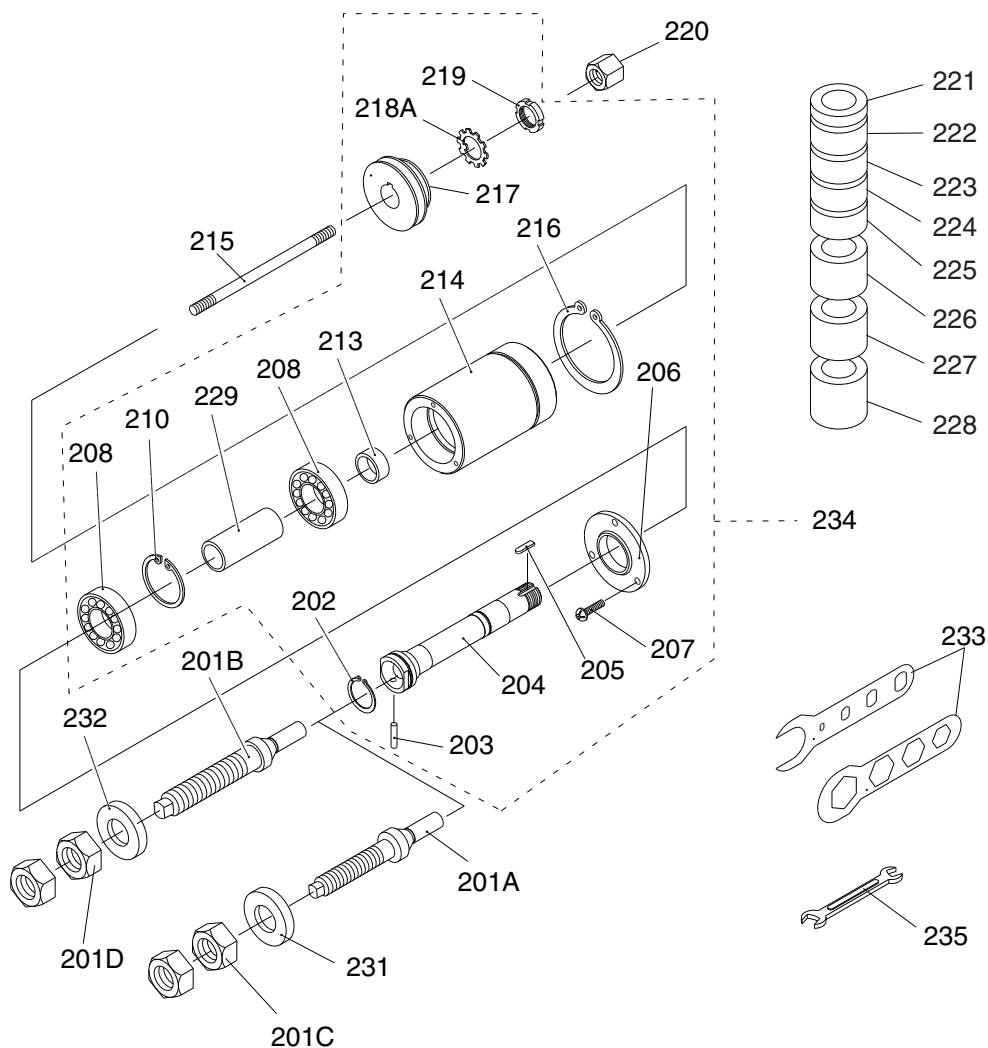
Motor Parts List

REF	PART #	DESCRIPTION
64	PW07	FLAT WASHER 5/16
65	PN02	HEX NUT 5/16-18
66	PB07	HEX BOLT 5/16-18 X 3/4
101	P1035101	HANDLE W/SCREW
103A	P1035103A	CAST IRON HANDWHEEL V2.07.06
104A	PSS15	SET SCREW 3/8-16 X 3/8
105	PSS11	SET SCREW 1/4- 20 X 1/4
107A	PCAP17	CAP SCREW 1/4-20 X 3/8
108	P1035108	SHAFT MOUNT ASSEMBLY
108-1	P1035108-1	SHAFT MOUNT
110	P1035110	WORM SHAFT
111	P1035111	HAND KNOB ASSEMBLY
112	PRP99M	ROLL PIN 2 X 12
114	P1035114	GIB
115A	PSS20	SET SCREW 5/16-18 X 1-1/2
116	PN02	HEX NUT 5/16-18
117	P1035117	ELEVATION HOUSING
118	PB16	HEX BOLT 3/8-16 X 1-1/2
119	PLW04	LOCK WASHER 3/8
120	PLN06	LOCK NUT 1/2-13
121	P1035121	GEAR 25T
122	PK20M	KEY 5 X 5 X 15MM
123	P1035123	ELEVATION LEADSCREW 5/8 X 10 V2.07.98
123-1	P51102	THRUST BEARING 51102
126	P1035126	SPINDLE SLIDE
127A	PW07	FLAT WASHER 5/16
128A	P1035128A	HEX BOLT 5/16-18 X 3/4 LH
129A	PB12	HEX BOLT 5/16-18 X 1-1/4
131A	PB19	HEX BOLT 1/4-20 X 1/2
132	PW06	FLAT WASHER 1/4

REF	PART #	DESCRIPTION
133	P1035133	L-BRACKET
134	P1035134	POINTER
135	PW07	FLAT WASHER 5/16
136	PB15	HEX BOLT 5/16-18 X 3/8
137	P1035137	CABLE CLAMP
139	P1035139	V-BELT 7 X 600L
140	P1035140	MOTOR STEP PULLEY
141	PB03	HEX BOLT 5/16-18 X 1
141A	PB12	HEX BOLT 5/16-18 X 1-1/4
142	PW07	FLAT WASHER 5/16
143	PLW01	LOCK WASHER 5/16
144A	PK12M	KEY 5 X 5 X 30MM
145	P1035145	MOTOR 1-1/2 HP 110V/220V 1-PH
145-1	P1035145-1	MOTOR FAN
145-2	P1035145-2	MOTOR FAN COVER
145-3	P1035145-3	CAPACITOR COVER
145-4	P1035145-4	MOTOR JUNCTION BOX
145-5	PC300B	S CAPACITOR 300M 125V 1-3/4 X 3-3/8
145-6	PCS003	CENTRIFUGAL SWITCH 5/8-3450
145-7	PCP001	CONTACT PLATE
145-8	P6203ZZ	BALL BEARING 6203ZZ
145-9	P6204ZZ	BALL BEARING 6204ZZ
146	P1035146	MOTOR MOUNT PLATE (G1035)
146	P1035P146	MOTOR MOUNT PLATE (G1035P)
147A	PB16	HEX BOLT 3/8-16 X 1-1/2
148	PW02	FLAT WASHER 3/8
149	PLW04	LOCK WASHER 3/8
150	PSS02	SET SCREW 5/16-18 X 3/8
151	P1035151	HANDWHEEL LOAD WASHER
159	P1035159	TOP MOTOR BRACE



Spindle

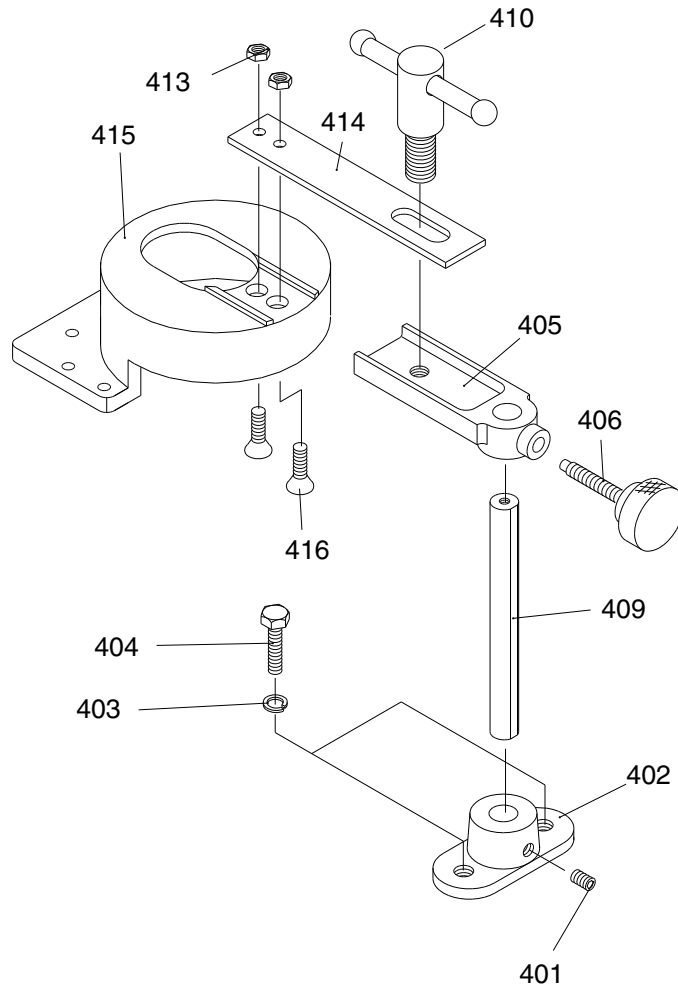


REF	PART #	DESCRIPTION
201A	P1035201A	SPINDLE 1/2"
201B	P1035201B	SPINDLE 3/4"
201C	P1035201C	SPINDLE NUT 1/2" 2PC SET
201D	P1035201D	SPINDLE NUT 3/4" 2PC SET
202	PR15M	EXT RETAINING RING 30MM
203	P1035203	PIN
204	P1035204	SPINDLE CARTRIDGE
205	PK20M	KEY 5 X 5 X 15
206	P1035206	HOUSING CAP
207	PS01	PHLP HD SCR 10-24 X 1/2
208	P6204ZZ	BALL BEARING 6204ZZ
210	PR25M	INT RETAINING RING 47MM
213	P1035213	SLEEVE
214	P1035214	BEARING HOUSING
215	P1035215	DRAWBAR
216	PR13M	EXT RETAINING RING 65MM
217	P1035217	STEP PULLEY

REF	PART #	DESCRIPTION
218A	P1035218A	SMALL TOOTHED WASHER 3/4"
219	P1035219	SPANNER NUT 3/4-10
220	P1035220	DRAWBAR NUT 5/16-24
221	G2454	SPACER 1/2" X 1" X 1/4"
222	G2455	SPACER 1/2" X 1" X 3/8"
223	G2456	SPACER 1/2" X 1" X 1/2"
224	G2457	SPACER 1/2" X 1" X 3/4"
225	G2460	SPACER 3/4" X 1-1/4" X 1/4"
226	G2461	SPACER 3/4" X 1-1/4" X 3/8"
227	G2462	SPACER 3/4" X 1-1/4" X 1/2"
228	G2463	SPACER 3/4" X 1-1/4" X 3/4"
229	P1035229	LONG SPACER
231	P1026223	SPINDLE WASHER 1/2 X 26 X 3
232	P1026224	SPINDLE WASHER 3/4 X 32 X 3
233	P1026226	SPINDLE WRENCH SET
234	P1035234	SPINDLE ASSEMBLY
235	PWR1214	WRENCH 12 X 14



Safety Guard

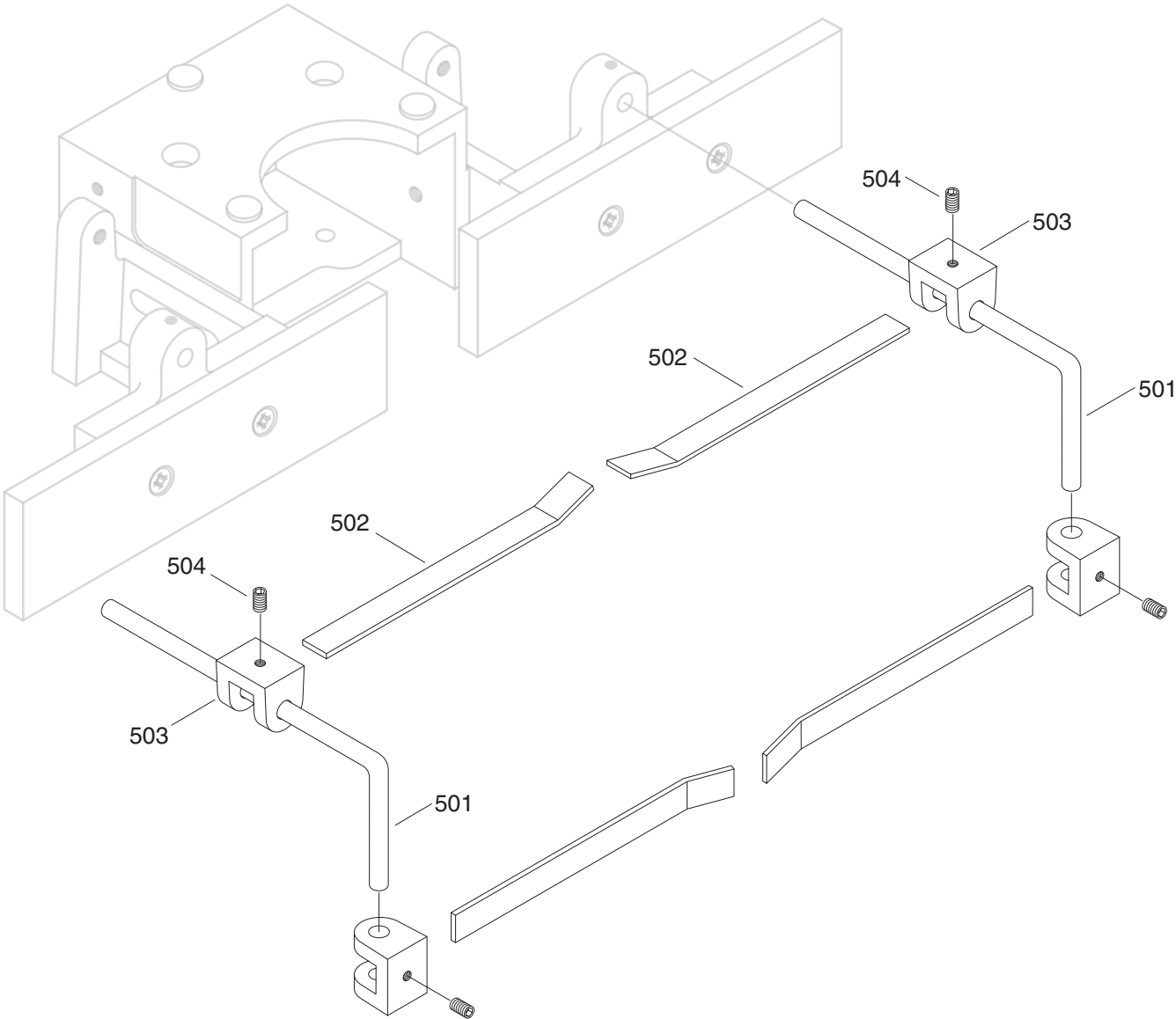


REF	PART #	DESCRIPTION
401	PSS02	SET SCREW 5/16-18 X 3/8
402	P1035402	SHAFT MOUNTING BRACKET (G1035)
402	P1035P402	SHAFT MOUNTING BRACKET (G1035P)
403	PLW04	LOCK WASHER 3/8
404	PB21	HEX BOLT 3/8-16 X 3/4
405	P1035405	EXTENSION BRACKET (G1035)
405	P1035P405	EXTENSION BRACKET (G1035P)
406	P1026306	LOCK KNOB ASSEMBLY

REF	PART #	DESCRIPTION
409	P1026309	SHAFT
410	P1026310	LOCK HANDLE ASSEMBLY
413	PN05	HEX NUT 1/4- 20
414	P1035414	EXTENSION BAR
415	P1035415	GUARD (G1035)
415	P1035P415	GUARD (G1035P)
416	PFH04	FLT HD SCR 1/4- 20 X 5/8



Hold-Downs

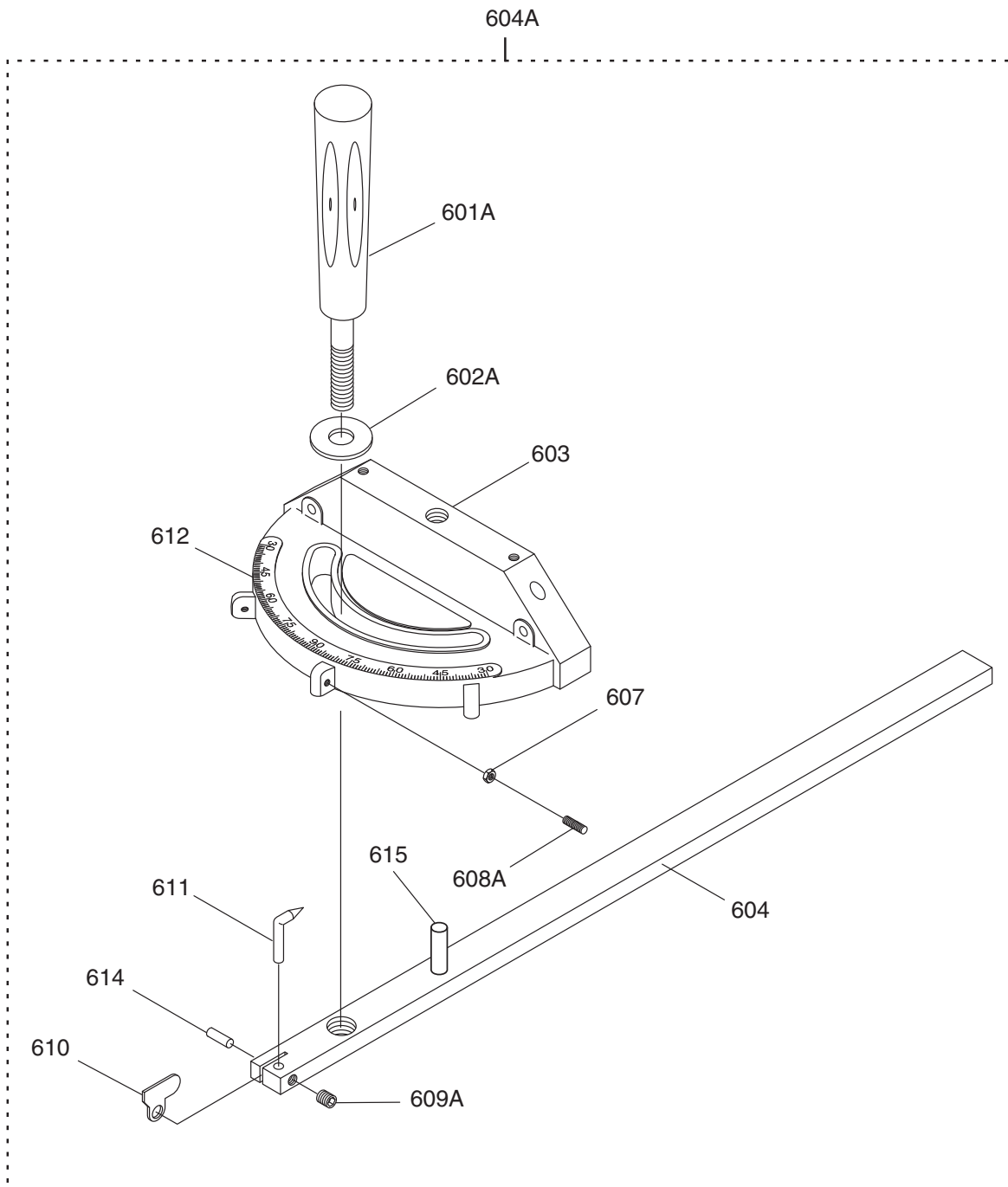


REF	PART #	DESCRIPTION
501	P1035501	HOLD DOWN BAR
502	P1035502	HOLD DOWN

REF	PART #	DESCRIPTION
503	P1035503	HOLD DOWN BRACKET
504	PSS03	SET SCREW 1/4-20 X 3/8



Miter Gauge

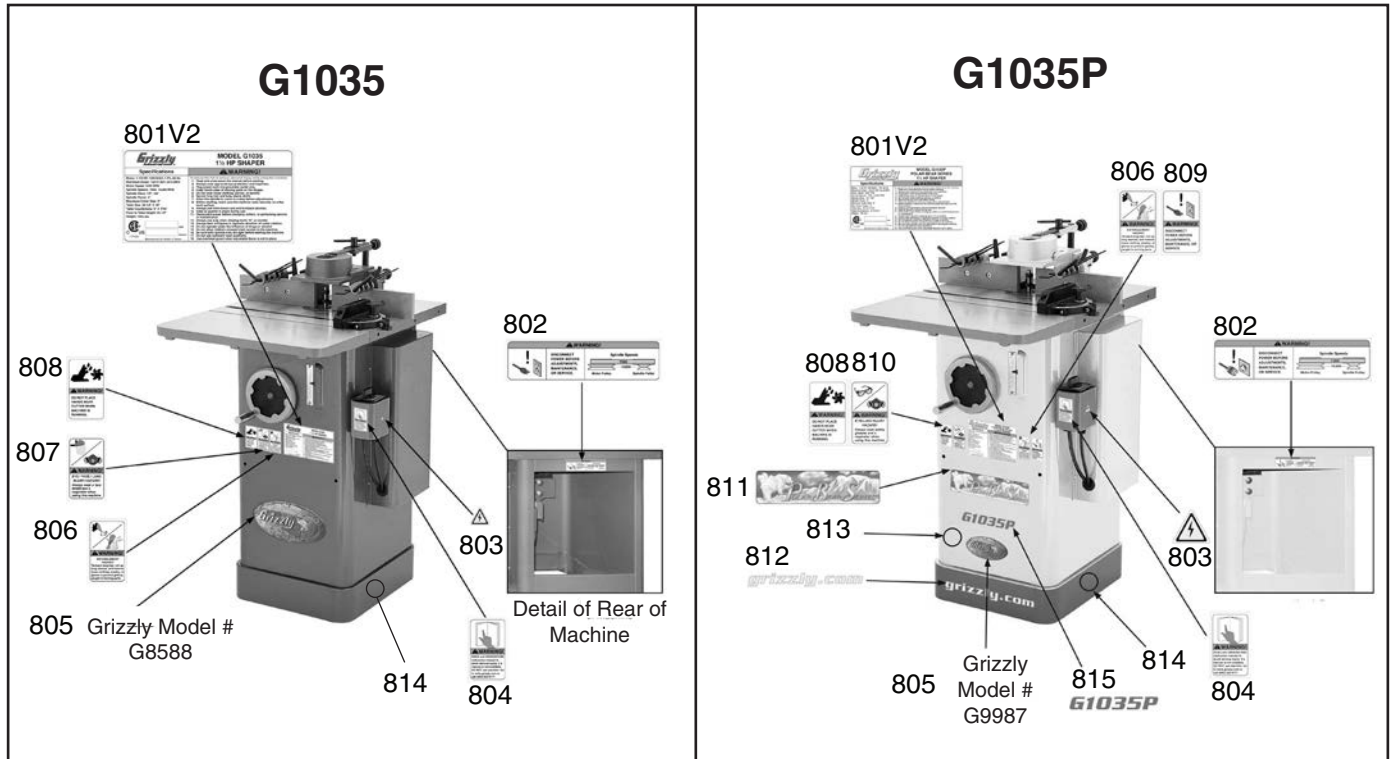


REF	PART #	DESCRIPTION
601A	P1023401A	MITER GAUGE HANDLE V2.10.01
602A	PW07	FLAT WASHER 5/16
603	P1026603	MITER GAUGE BODY V2.05.07
604	P1035604	MITER BAR
604A	P1035604A	MITER GAUGE ASSY V1.10.02
607	PN07	HEX NUT 10-24
608A	PSS32	SET SCREW 10-24 X 3/4

REF	PART #	DESCRIPTION
609A	PSS29	SET SCREW 10-24 X 1/4
610	P1026610	MITER GAUGE STOP
611	P1023411	POINTER
612	P1026612	MITER GAUGE SCALE
614	PRP14M	ROLL PIN 3 X 6
615	P1026615	MITER GAUGE HINGE PIN



Label Placement



REF	PART #	DESCRIPTION
801V2	P1035801V2	MACHINE ID LABEL CSA V2.11.10 (G1035)
801V2	P1035P801V2	MACHINE ID LABEL CSA V2.03.11 (G1035P)
802	P1035802	BELT POSITION LABEL
803	PLABEL-14A	ELECTRICITY LABEL
804	PLABEL-12C	READ MANUAL LABEL
805	G8588	GRIZZLY NAMEPLATE (G1035)
805	G9987	GRIZZLY NAMEPLATE (G1035P)
806	PLABEL-55A	ENTANGLEMENT LABEL
807	PLABEL-56A	FACE SHIELD/RESPIRATOR LABEL

REF	PART #	DESCRIPTION
808	P1035808	AMPUTATION HAZARD LABEL 1.5 X 2.5
809	PLABEL-62A	DISCONNECT 110V POWER LABEL 1.5 X 2.5
810	PLABEL-57A	GLASSES/RESPIRATOR LABEL 1.5 X 2.5
811	PLABEL-75	POLAR BEAR LOGO 2-1/2 X 9-1/2
812	P0656P315	GRIZZLY.COM LABEL PB WHITE
813	PPAINT-24	POLAR BEAR WHITE TOUCH-UP PAINT
814	PPAINT-1	GRIZZLY GREEN TOUCH-UP PAINT
815	P1035P043	MODEL NUMBER LABEL

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.





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

_____ Popular Science

_____ Wooden Boat

_____ Family Handyman

_____ Popular Woodworking

_____ Woodshop News

_____ Hand Loader

_____ Precision Shooter

_____ Woodsmith

_____ Handy

_____ Projects in Metal

_____ Woodwork

_____ Home Shop Machinist

_____ RC Modeler

_____ Woodworker West

_____ Journal of Light Cont.

_____ Rifle

_____ Woodworker's Journal

_____ Live Steam

_____ Shop Notes

_____ Other:

_____ Model Airplane News

_____ Shotgun News

_____ Old House Journal

_____ Today's Homeowner

_____ Popular Mechanics

_____ Wood

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.



Buy Direct and Save with Grizzly® – Trusted, Proven and a Great Value!
~Since 1983~

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Current Specials!*

**ORDER
24 HOURS A DAY!
1-800-523-4777**

