READ THIS FIRST

Model G0608X

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

For Machines Mfd. Since 11/06
and Owner's Manual Revised 7/07

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

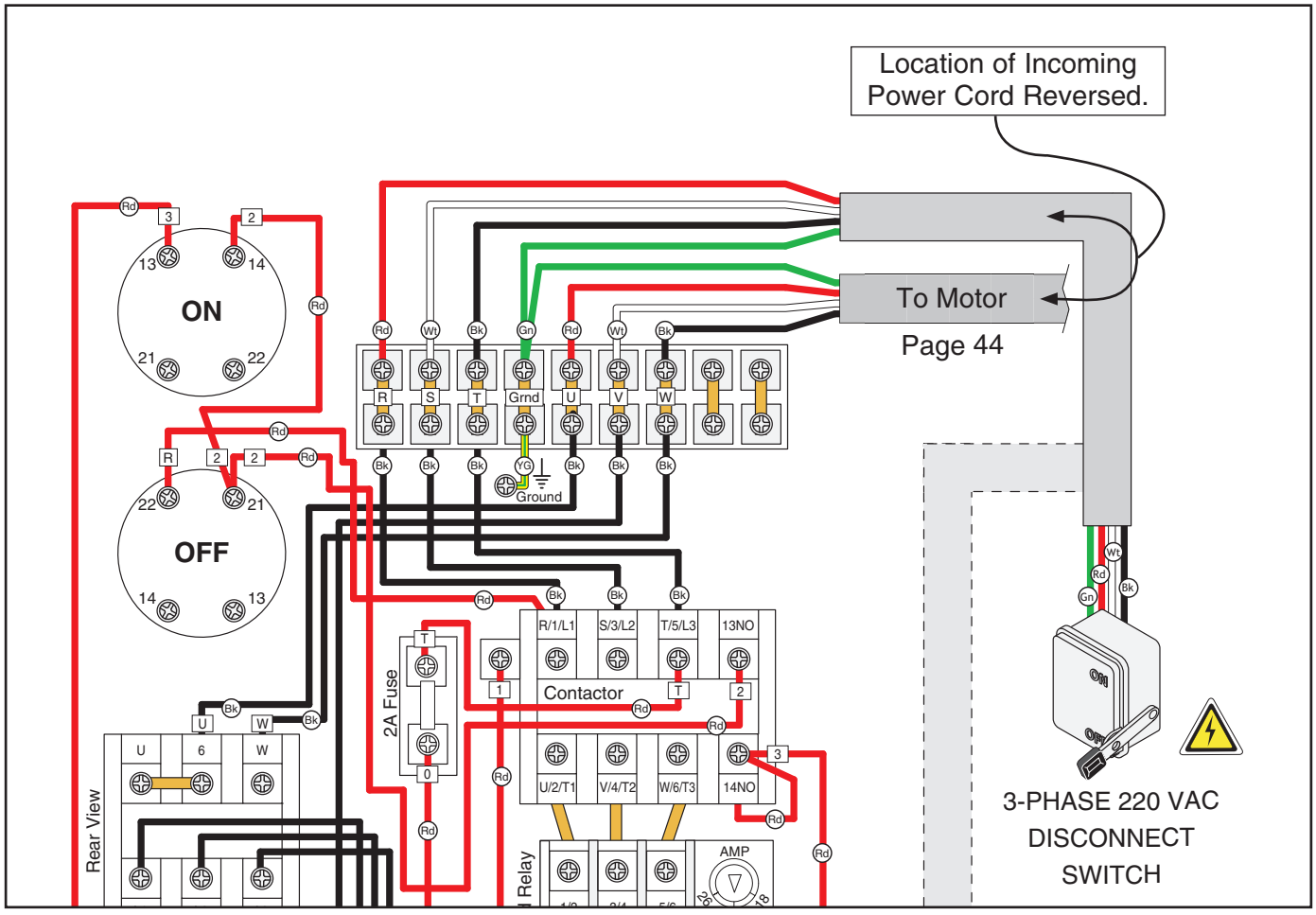
The following changes were recently made since the owner's manual was printed:

- Wiring diagram has been revised.

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.

Revised Wiring Diagram



#MN19141 PRINTED IN TAIWAN

Replaces Page 42 in Manual

Electrical Components

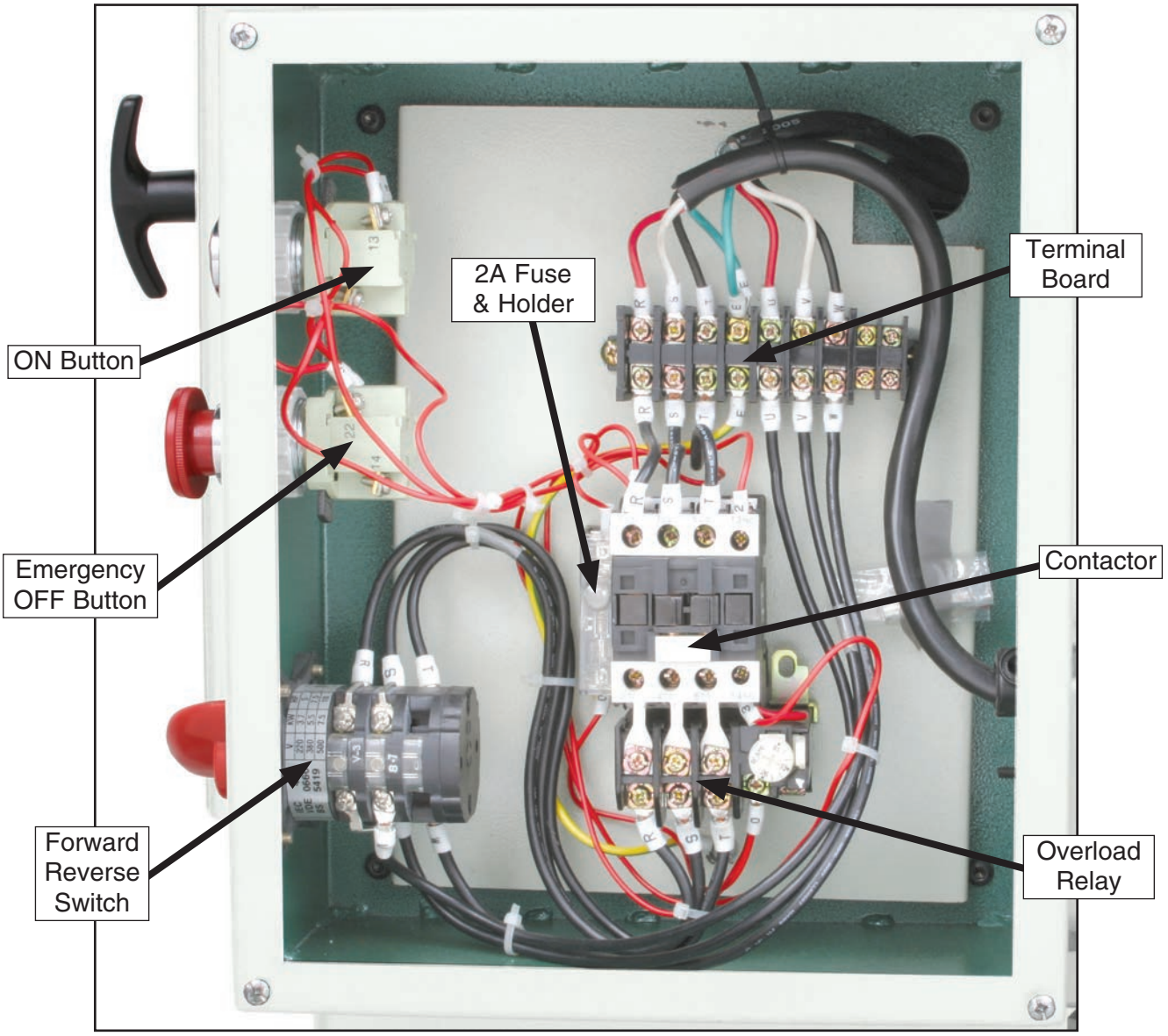


Figure 58. Electrical box wiring (220/440V)

Figure 59. Motor junction box wiring (220V).

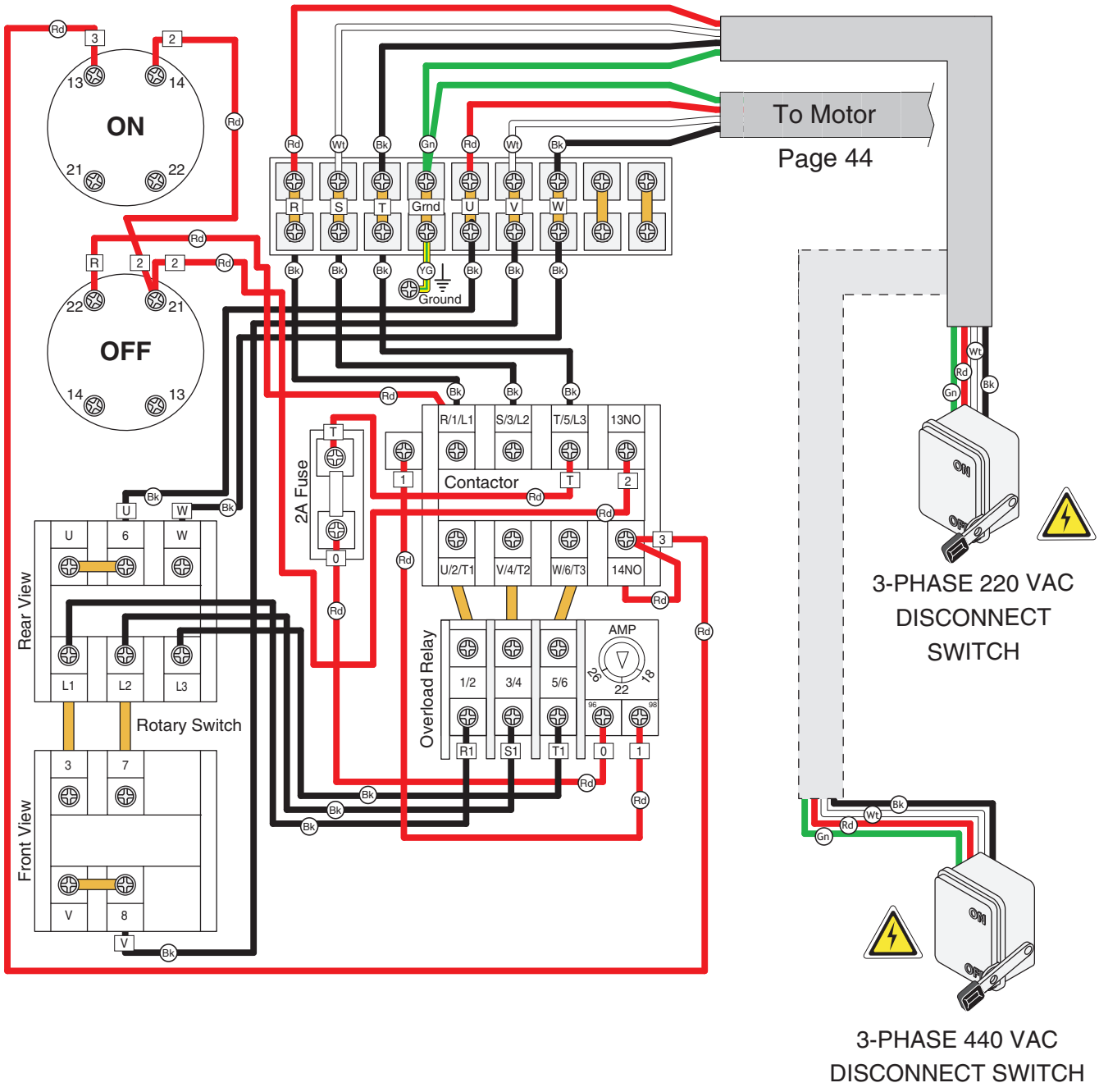
G0608X Electrical Box Wiring Diagram (220V/440V)

⚠ DANGER

Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK	Bk	RED	Rd
WHITE	Wt	YELLOW	Yl
GREEN	Gn	YELLOW/GREEN	YG



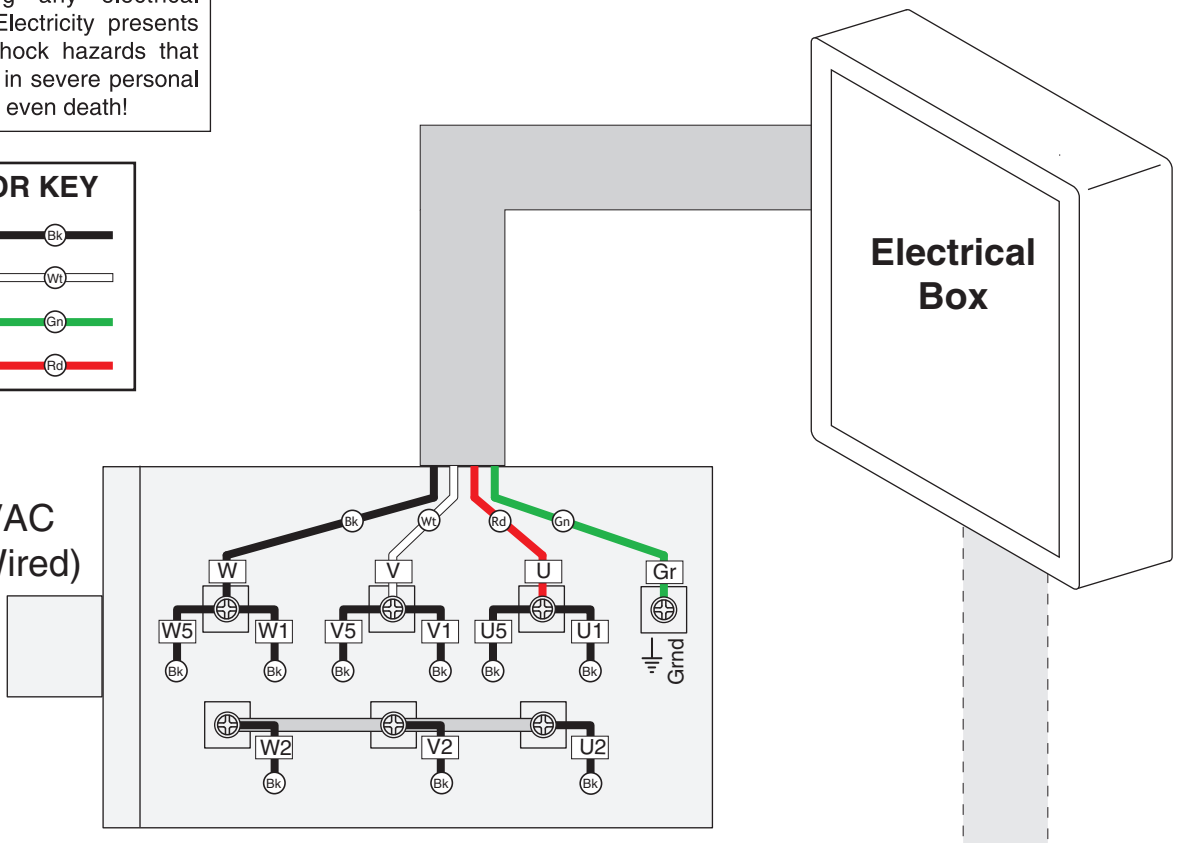
G0608X Motor Wiring Diagram (220V/440V)

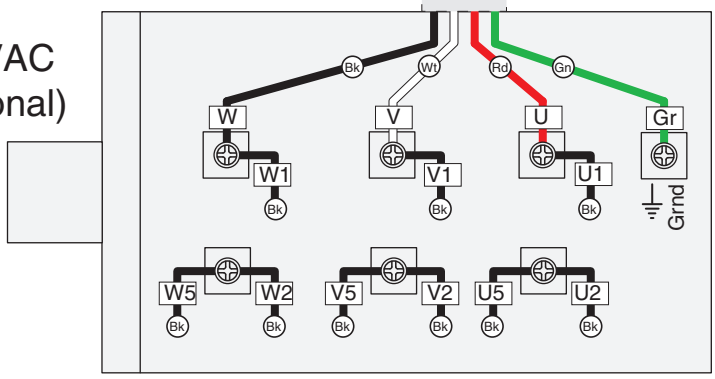
⚠DANGER

Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK — Bk
WHITE — Wt
GREEN — Gn
RED — Rd





(must also replace overload relay for 440V)

NOTICE

These motor wiring diagrams are current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!

MODEL G0608X
EXTREME SERIES
TILTING SPINDLE SHAPER
OWNER'S MANUAL

#TS8653 PRINTED IN TAIWAN

⚠ WARNING!

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

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

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

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

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Table of Contents

INTRODUCTION

Foreword

We are proud to offer the Model G0608X Extreme Series Tilting Spindle Shaper. This machine is part of a growing Grizzly family of fine woodworking machinery. When used according to the guidelines set forth in this manual, you can expect years of trouble-free, enjoyable operation and proof of Grizzly's commitment to customer satisfaction.

We are pleased to provide this manual with the Model G0608X. It was written to guide you through assembly, review safety considerations, and cover general operating procedures. It represents our effort to produce the best documentation possible.

The specifications, drawings, and photographs illustrated in this manual represent the Model G0608X as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at **www.grizzly.com**. Any updates to your machine will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!

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 DATA SHEET

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

MODEL G0608X 7-1/2 HP 3-PHASE EXTREME SERIES TILTING ARBOR SHAPER

Product Dimensions:

Weight	1056 lbs.
Width (side-to-side) x Depth (front-to-back) x Height	47-1/4 x 47-1/4 x 34-1/4 in.
Footprint (Length x Width)	33 x 29-1/2 in.

Shipping Dimensions:

Type	Wood Slat Crate
Content	Machine
Weight	1096 lbs.
Length x Width x Height	54 x 45 x 42 in.
Must Ship Upright	Yes

Electrical:

Power Requirement	220V or 440V, 3-Phase, 60 Hz
Prewired Voltage	220V
Full-Load Current Rating	20A at 220V, 10A at 440V
Minimum Circuit Size	30A at 220V, 15A at 440V
Connection Type	Cord at 220V, Perman
Power Cord Included	No
Recommended Power Cord	“S”-Type, 4-Wire, 10 AWG, 300 VAC for 220V
Plug Included	No
Recommended Plug Type	L15-30 for 220V
Switch Type	Control Panel w/Magnetic Switch Protection
Voltage Conversion Kit	P0608X131 for 440V
Recommended Phase Converter	G7978

Motors:

Main

Horsepower	7.5 HP
Phase	3-Phase
Amps	20A/10A
Speed	3450 RPM
Type	TEFC Induction
Power Transfer	Belt Drive
Bearings	Shielded & Permanently Lubricated

Main Specifications:

Operation Info

Max. Cutter Height	6 in.
Max. Cutter Diameter	10 in.
Spindle Sizes	1-1/4 in.
Spindle Lengths	7 in.
Exposed Spindle Length	6-1/2 in.
Spindle Cap. Under the Nut	6 in.
Spindle Speeds	3900, 5000, 7200, 9400 RPM
Spindle Travel	6-5/8 in.
Spindle Tilt	-5 – 45 deg.
Spindle Openings	2-3/4, 6, 9-3/4, 13-3/4 in.

Table Info

Number of Table Inserts	3
Table Insert Sizes I.D.	2-3/4, 6, 9-3/4 in.
Table Insert Sizes O.D.	6, 9-3/4, 13-3/4 in.
Table Counterbore Diameter	13-3/4 in.
Table Counterbore Depth	1/4 in.
Table Size Length	47-1/4 in.
Table Size Width	35-1/2 in.
Table Size Thickness	3-1/8 in.
Floor to Table Height	34-1/4 in.
Table Fence Length	42 in.
Table Fence Width	1-1/8 in.
Table Fence Height	5-3/4 in.

Miter Gauge Info

Miter Angle	0 – 60 deg. L/R
Miter Gauge Slot Type	T-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	Aluminum
Guard	Cast Iron
Spindle Bearings	Sealed & Lubricated
Paint Type/Finish	Powder Coated

Other

Number of Dust Ports	2
Dust Port Size	5 in.

Other Specifications:

Country of Origin	Taiwan
Warranty	1 Year
Approximate Assembly & Setup Time	45 Minutes
Serial Number Location	ID Label on Stand
ISO 9001 Factory	No
Certified by a Nationally Recognized Testing Laboratory (NRTL)	No

Features:

Aluminum Miter Gauge, Adjustable 60 deg. Left to 60 deg. Right
Precision-Ground Cast-Iron Table
Green and Putty Powder Coated Paint
Independently Adjustable Fence with Built-in Ratchets and Knob Equipped Adjusters
Two Wood Fence Pieces Included
Tilting Spindle from -5 deg. to +45 deg.
Spindle Includes Spacers and Nuts
Spindle Height Scale in Inches and Millimeters
Four Spring Steel Hold-Down Assemblies
Assorted Wrenches Includes
Front-Mounted Spindle Lock
Precise Dial Scale Indicated Spindle Tilt
14" Minimum Workpiece Length without Jig

Identification

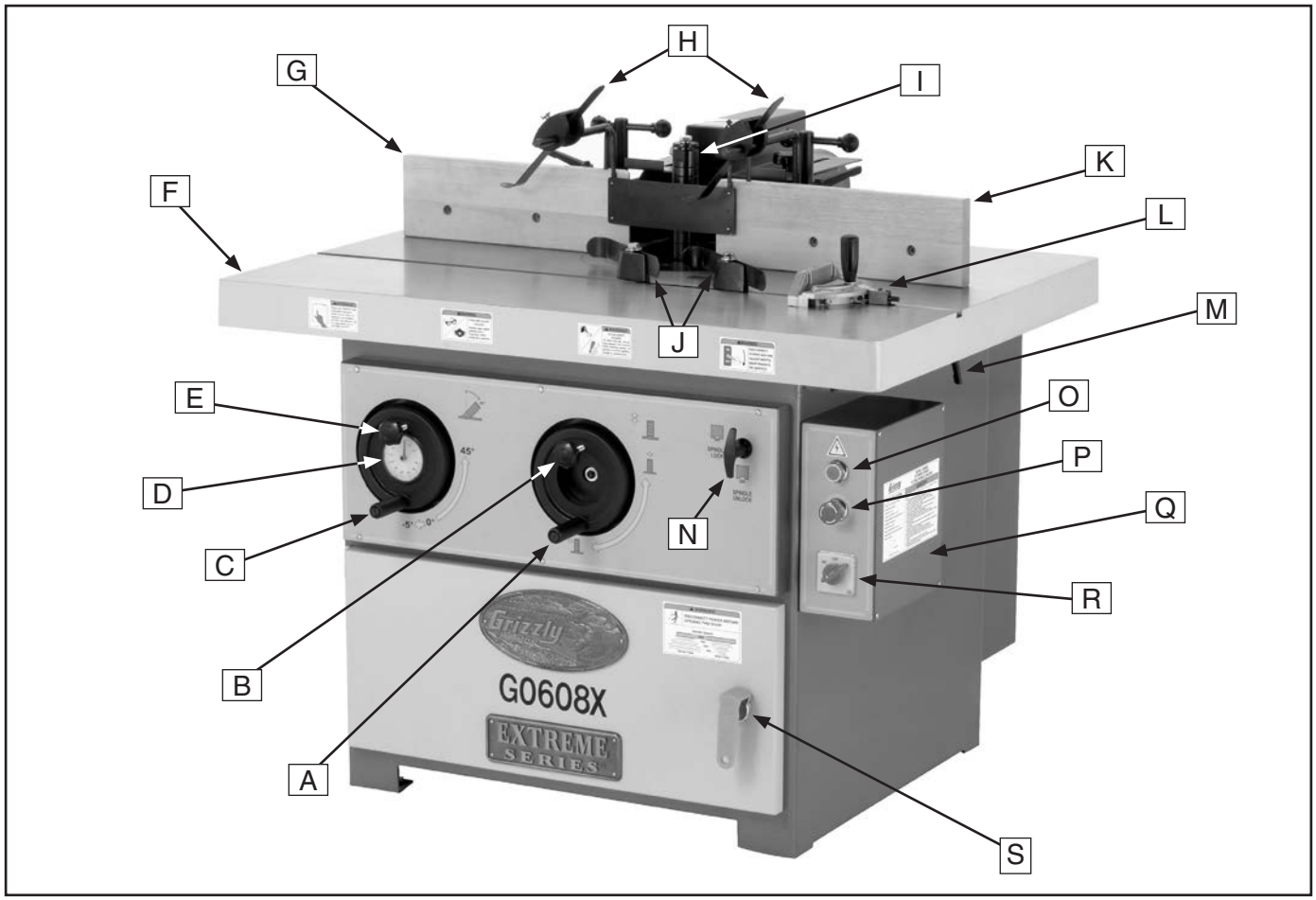


Figure 1. G0608X Front view.

A. Spindle Elevation Handwheel
B. Spindle Elevation Lock Knob
C. Spindle Tilt Handwheel
D. Spindle Tilt Dial
E. Spindle Tilt Lock Knob
F. Table
G. Left Fence Board
H. Vertical Hold-Downs
I. Spindle
J. Horizontal Hold-Downs
K. Right Fence Board
L. Miter Gauge
M. Right Spindle Tilt Side Lock
N. Spindle Rotation Lock
O. ON Button
P. Emergency OFF Button
Q. Electrical Box
R. Forward/Reverse Switch
S. Motor Access Door Handle

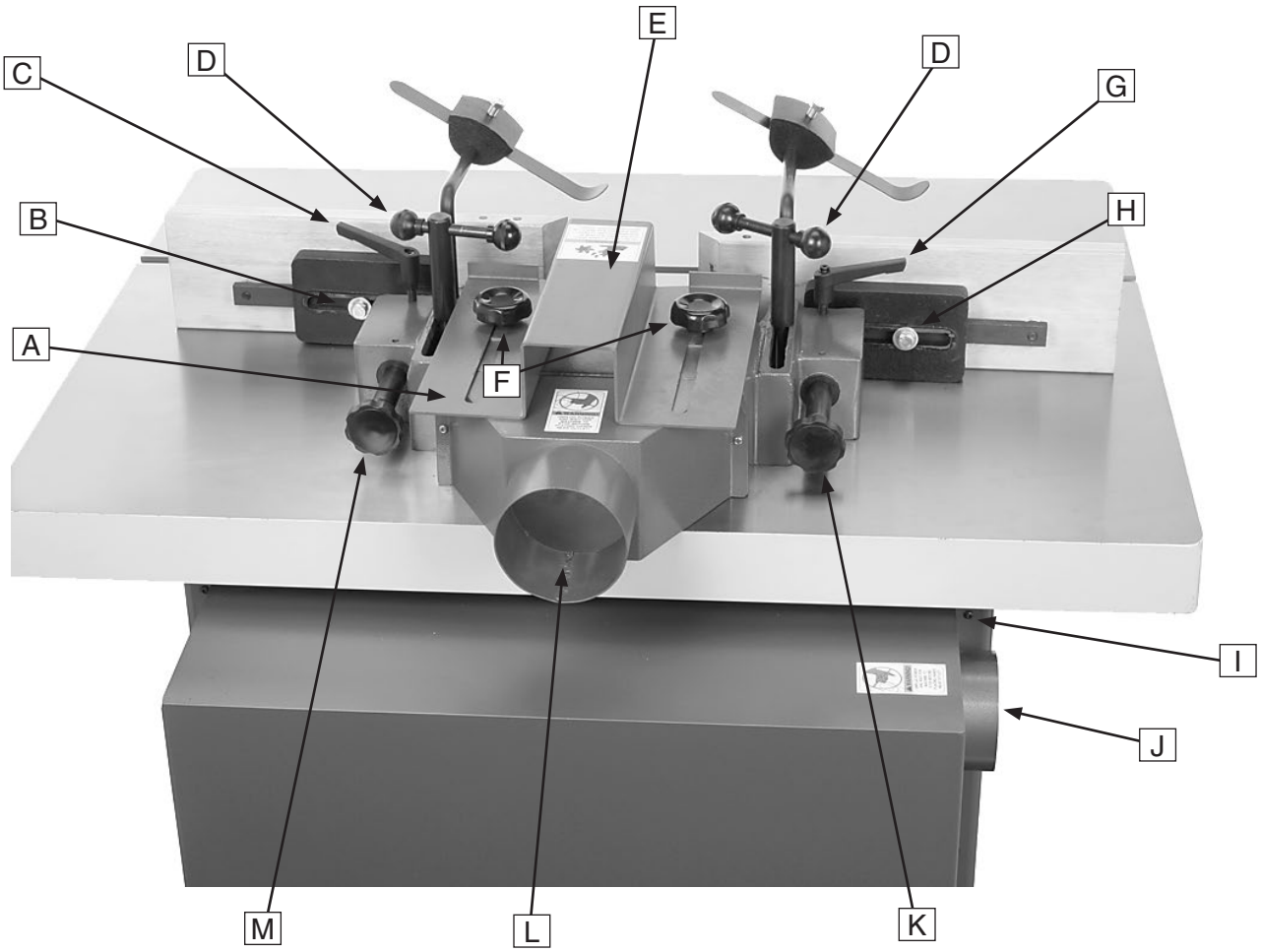


Figure 2. G0608X Rear view.

A. Fence Mount
B. Right Fence Board Lateral Adjustment
C. Right Fence Board Lock Handle
D. Fence Mount Adjustment Knobs
E. Top Safety Hood
F. Top Safety Hood Adjustment Knobs
G. Left Fence Board Lock Handle
H. Left Fence Board Lateral Adjustment
I. Left Spindle Tilt Side Lock
J. Bottom Dust Port
K. Left Fence Board Alignment Knob
L. Top Dust Port
M. Right Fence Board Alignment Knob

⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating Shaper

a) Wear eye protection.
b) Always keep cutterhead guard in place and in proper operating condition.
c) Be sure keyed washer is directly under spindle nut and spindle nut is tight
d) Feed workpiece AGAINST rotation of cutter.
e) Keep fingers away from revolving cutter–use fixtures when necessary.
f) Do not use awkward hand positions.

SECTION 1: SAFETY

⚠WARNING

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.

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

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

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

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

⚠WARNING

Safety Instructions for Machinery

OWNER'S MANUAL. Read and understand this owner's manual BEFORE using machine. Untrained users can be seriously hurt.

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.

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

WEARING PROPER APPAREL. Do not wear clothing, apparel, or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips which could cause a loss of workpiece control.

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

MENTAL ALERTNESS. Be mentally alert when running machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

⚠WARNING
Safety Instructions for Machinery

DISCONNECTING POWER SUPPLY. Always disconnect machine from power supply before servicing, adjusting, or changing cutting tools (bits, blades, cutters, etc.). Make sure switch is in OFF position before reconnecting to avoid an unexpected or unintentional start.

INTENDED USE. Only use the machine for its intended purpose and only use recommended accessories. Never stand on machine, modify it for an alternative use, or outfit it with non-approved accessories.

STABLE MACHINE. Unexpected movement during operations greatly increases the risk of injury and loss of control. Verify machines are stable/secure and mobile bases (if used) are locked before starting.

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

GUARDS & COVERS. Guards and covers can protect you from accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly before using machine.

REMOVING TOOLS. Never leave adjustment tools, chuck keys, wrenches, etc. in or on machine—especially near moving parts. Verify removal before starting!

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.

DANGEROUS ENVIRONMENTS. Do not use machinery in wet locations, cluttered areas, around flammables, or in poorly-lit areas. Keep work area clean, dry, and well lighted to minimize risk of injury.

APPROVED OPERATION. Untrained operators can be seriously hurt by machinery. Only allow trained or properly supervised people to use machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

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

FEED DIRECTION. Unless otherwise noted, feed work against the rotation of blades or cutters. Feeding in the same direction of rotation may pull your hand into the cut.

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

UNATTENDED OPERATION. Never leave machine running while unattended. Turn machine ***OFF*** and ensure all moving parts completely stop before walking away.

MAINTENANCE & INSPECTION. A machine that is not properly maintained may operate unpredictably. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. Regularly inspect machine for loose bolts, alignment of critical parts, binding, or any other conditions that may affect safe operation. Always repair or replace damaged or misadjusted parts before operating machine.

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

Additional Safety for Shapers

⚠WARNING

Serious cuts, amputation, entanglement, or death can occur from contact with rotating cutter. Cutters or other parts improperly secured to spindle can fly off and strike nearby operators with great force. Flying debris can cause eye injuries or blindness. To minimize risk of getting hurt or killed, anyone operating shaper MUST completely heed hazards and warnings below.

AVOIDING CUTTER CONTACT: Keep unused portion of cutter below table. Use smallest table insert possible. Adjust fences and guards as close as practical to cutter, or use a zero-clearance fence or box guard. *Always keep some type of guard or other protective device between your hands and cutter at all times!*

PROTECT HANDS/FINGERS: While feeding workpiece, avoid awkward hand positions. Never pass hands directly over, or in front of, cutter. As one hand approaches a 6-inch radius point from cutter, move it in an arc motion away from cutter, and reposition it on the outfeed side.

FEEDING WORKPIECE: To reduce risk of accidental cutterhead contact, always use push blocks or some type of fixture, jig, or hold-down device to safely feed workpiece while cutting. Use an outfeed support table if shaping long workpieces to ensure proper support throughout entire cutting procedure. ALWAYS feed workpiece AGAINST rotation of cutter. NEVER start shaper with workpiece contacting cutter!

CUTTING DEPTH: Never attempt to remove too much material in one pass. Doing this increases risk of workpiece kickback. Instead, make several light passes—this is a safer way to cut and it leaves a cleaner finish.

WORKPIECE CONDITION: Shaping a workpiece with knots, holes, or foreign objects increases risk of kickback and cutter damage/breakage. Thoroughly inspect and prepare workpiece before shaping. Always "square up" a workpiece before shaping or flatten workpiece edges with a jointer or planer. Rough, warped, or wet workpieces increase risk of kickback.

CUTTER POSITIONING: Whenever possible, make shaping cuts with cutter on *underside* of workpiece to reduce operator exposure to cutter.

SMALL WORKPIECES: There is a high risk of accidental cutter contact with small workpieces, because they are closer to cutter and more difficult to control. To reduce your risk, only feed small workpieces using jigs or holding fixtures that allow your hands to stay safely away from cutter. When possible, shape longer stock and cut to size.

SAFE CUTTER CLEARANCES: Operator or bystanders may be hit by flying debris if cutter contacts fence, guard, or table insert upon startup. Always ensure any new cutter setup has proper cutter rotational clearance before startup.

SAFE CUTTER INSTALLATION: Improperly secured knives/inserts, cutters, or rub collars may become dangerous projectiles if they come loose. Always ensure keyed washer is directly under spindle nut and spindle nut is tight. If spindle does not use a keyed washer, always use two spindle nuts together, and ensure BOTH are tight. Never use cutters/bits rated for an RPM lower than spindle speed.

AVOIDING CLIMB CUTS: Feeding workpiece in same direction of cutter rotation is a "climb cut." Climb cutting can aggressively pull workpiece—and hands—into cutter. Always first verify direction of cutter rotation before starting, and always feed workpiece AGAINST cutter rotation.

SAFETY GUARDS. To reduce risk of unintentional contact with cutter, always ensure included cutter guard, or a properly dimensioned box guard, or some other type of guard is installed and correctly positioned before operation.

CONTOUR SHAPING: To reduce risk of unintentional cutter contact while freehand shaping or using a rub collar as a guide, always use an overhead or "ring" type guard. To reduce kickback risk, always use starting pin or pivot board when starting the cut. NEVER start shaping at a corner!

SECTION 2: CIRCUIT REQUIREMENTS

⚠WARNING

Serious personal injury could occur if you connect your machine to the power source before you have completed the setup process. DO NOT connect the machine to the power source until instructed to do so.

Full Load Amperage Draw

G0608X 7.5 HP 220V 3-Phase.....20 Amps
G0608X 7.5 HP 440V 3-Phase .....10 Amps

Circuit Requirements

We recommend connecting your machine to a dedicated and grounded circuit that is rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, consult a qualified electrician.**

G0608X 220V 3-Phase .....30 Amp
G0608X 440V 3-Phase .....15 Amp

Minimum Cord Requirements

For 220V connection, we recommend using a stranded-copper flexible cord that meets the minimum criteria listed below, does not exceed 50 ft., and has an insulation type that starts with "S." The exact insulation type should account for any exposure to moisture, heat, and oils in the working environment. A qualified electrician should determine the best cord to use in your environment.

For 440V connection, the electrician who hardwires the machine will determine the appropriate wire to use inside the conduit.

G0608X 220V 3-Phase .....10/4 AWG, 300VAC
G0608X 440V 3-Phase ... Electrician to Hardwire

220V Plug/Connection Type

G0608X 220V 3-Phase L15-30

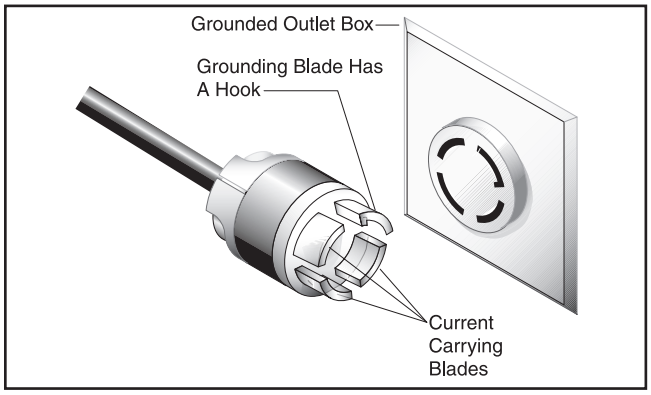


Figure 3. NEMA L15-30 plug and receptacle.

440V Connection to Power

Have a qualified electrician hardwire this machine to a dedicated locking shut-off switch that is connected to the main power source.

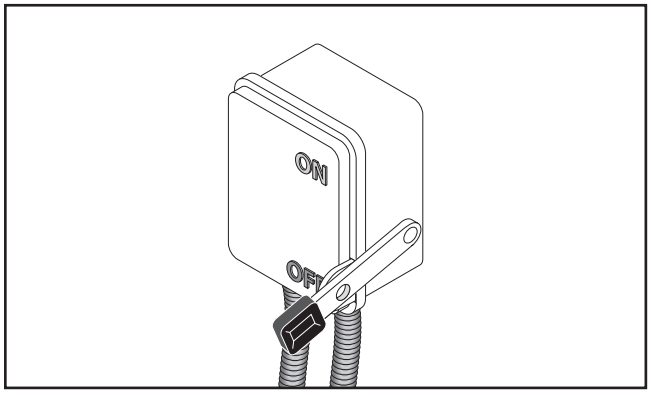
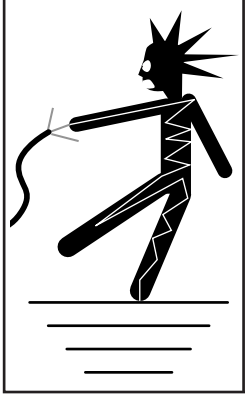


Figure 1. Hardwired locking disconnect switch.

Grounding

In the event of an electrical short, grounding reduces the risk of electric shock. The grounding wire in the power cord must be properly connected to the grounding prong on the plug; likewise, the outlet must be properly installed and grounded. All electrical connections must be made in accordance with local codes and ordinances.



⚠WARNING

Electrocution or fire could result if this machine is not grounded correctly or if your electrical configuration does not comply with local and state codes. Ensure compliance by checking with a qualified electrician!

Extension Cords

We do not recommend the use of extension cords. Instead, arrange the placement of your equipment and the installed wiring to eliminate the need for extension cords.

If you find it absolutely necessary to use an extension cord with your machine, the extension cord must also contain a ground wire and plug pin.

220V Operation

Use at least a 10 gauge cord that does not exceed 50 feet in length!

440V Operation

Do not use an extension cord with 440V! The machine must be permanently hardwired in place by a qualified electrician.

Rewiring to 440V

The Model G0608X can be rewired for 440V operation. This rewiring job consists of:

- Changing the motor contactor.
- Changing the motor overload relay.
- Rewiring the motor.

Purchase the Model G0608X 440V Conversion Kit (part number P0608X131) by calling our Customer Service number at (800) 523-4777.

This procedure must be done by a qualified electrician before the shaper is connected to the power source. Refer to the **Wiring Diagrams** starting on **Page 43**.

To rewire the Model G0608X for 440V operation:

1. DISCONNECT THE SHAPER FROM THE POWER SOURCE!

2. Open the main electrical box on the right side of the shaper and locate the overload relay shown in **Figure 4**.

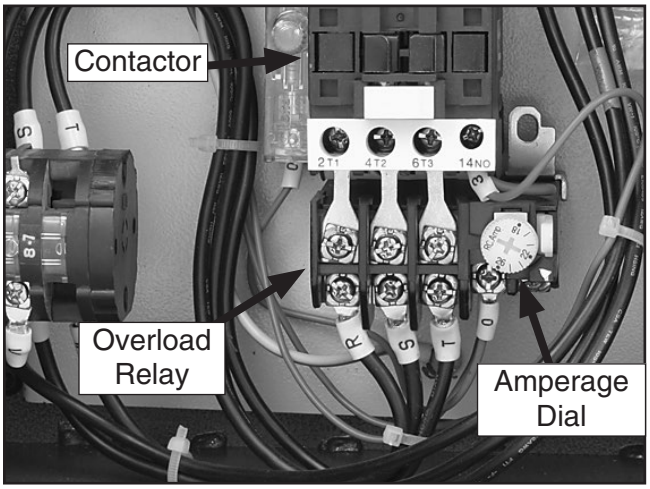


Figure 4. Location of contactor, overload relay, and amperage dial.

3. Replace the contactor with the 440V contactor.

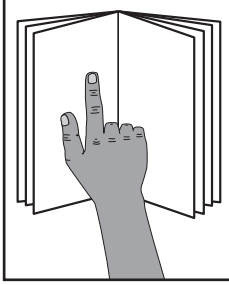
4. Replace the overload relay with the 440V overload relay.

5. Set the amperage dial on the 440V overload relay to 11.

6. Open the front motor access panel and rewire the motor for 440V as shown on the diagrams inside the motor wiring cover.

SECTION 3: SETUP

Setup Safety

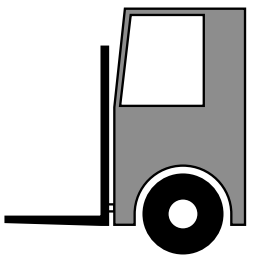


⚠WARNING

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!

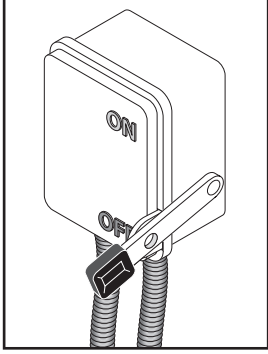
⚠WARNING

Wear safety glasses during the entire setup process!



⚠WARNING

This shaper is a heavy machine. DO NOT overexert yourself while unpacking or moving your machine—use power lifting equipment.



⚠WARNING

Turn *OFF* the power at the power disconnect and do NOT turn *ON* until instructed to do so. Failure to heed this warning could result in serious personal injury or death.

Items Needed for Setup

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

Description	Qty
• Level	1
• Safety Glasses (for each person)	1
• Dust Collection System	1
• Power Lifting Equipment	1
• Lifting Straps	2
• Assistant (for lifting and moving)	1

Unpacking

Read and understand the information and procedures listed here before moving your new shaper:

1. **Inventory** on **Page 13**.
2. **Site Considerations** on **Page 14**.
3. **Lifting and Moving** on **Page 14**.
4. **Mounting to Shop Floor** on **Page 15**.

The Model G0608X was carefully packed when it left our warehouse. If you discover the machine is damaged after you have signed for delivery, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. *Otherwise, filing a freight claim can be difficult.*

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

Inventory

After all the parts have been removed from the crate and boxes, you should have the following items:

Inventory: (Figure 5)	Qty
A. Shaper (not shown)	1
B. Dust Port Assembly	1
C. Fence Boards	2
D. Miter Gauge	1
E. Horizontal Hold-Down Brackets	2
F. Dust Port Assembly Fasteners	2
G. Vertical Hold-Down Bars	2
H. Hold-Down Fingers	4
I. Vertical Hold-Down Brackets	2
J. Safety Guard	1
K. Hex Wrenches 1.5, 2, 2.5, 3, 4, 5, 5.5, 6, 8, 10mm	10
L. Open End Wrenches 11/13mm, 17/19mm	2
M. Spindle Nut Wrench 36mm	1
N. Spindle Shaft Nut Wrench	1

Hardware (not shown)	Qty
• Hex Bolts M10-1.5 x 30 (vertical hold-down bar)	2
• Hex Bolts M10-1.5 x 35 (fence board)	2
• Flat Washers 10mm (fence board)	2
• Lock Washers 10mm (fence board)	2
• Hex Bolts M10-1.5 x 40 (vertical hold-down bracket)	2
• Hex Bolts M10-1.5 x 60 (horizontal hold-down bracket)	2
• Flat Washers 10mm (horizontal hold-down bracket)	2
• Lock Washers 10mm (horizontal hold-down bracket)	2

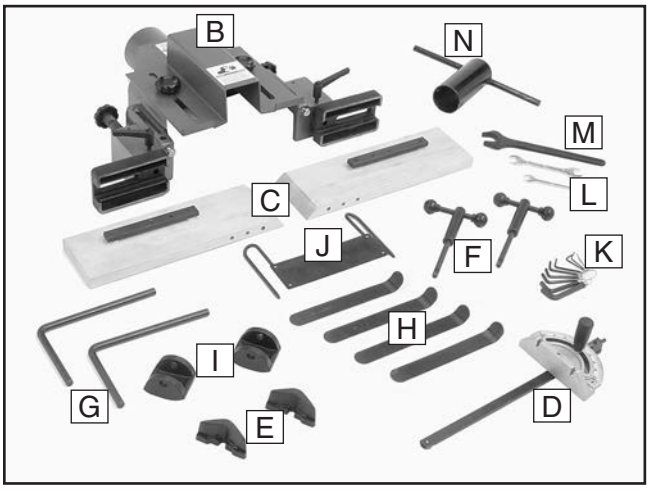


Figure 5. G0608X inventory.

In the event that any nonproprietary parts are missing (e.g. a nut or a washer), we would be glad to replace them, or for the sake of expediency, replacements can be obtained at your local hardware store.

NOTICE

Some hardware/fasteners on the inventory list may arrive pre-installed on the machine. Check these locations before assuming that any items from the inventory list are missing.

NOTE: H, and the associated fastereners deleted - TonyS 02/23/12

Site Considerations

Floor Load

Refer to the **Machine Data Sheet** (see **Page 3**) for the weight and footprint specifications of your machine. Some residential floors may require additional reinforcement to support both the machine and operator.

Placement Location

Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine. See **Figure 6** for the minimum working clearances.

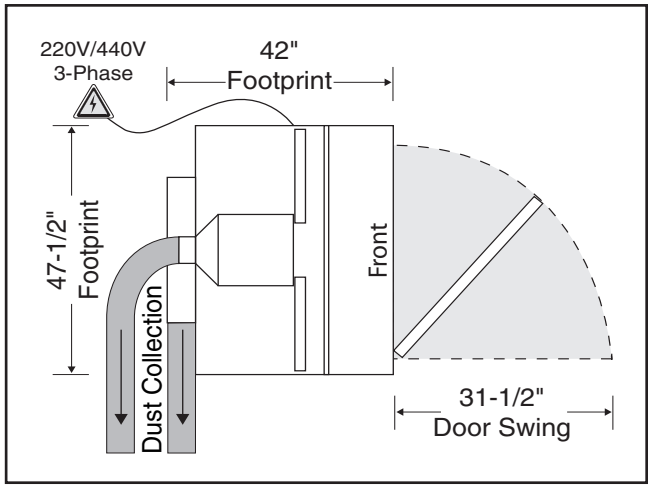
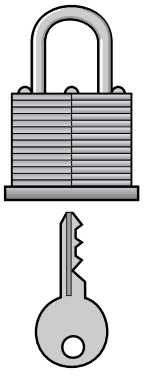


Figure 6. Minimum working clearances.



CAUTION

Unsupervised children and visitors inside your shop could cause serious personal injury to themselves. Lock all entrances to the shop when you are away and DO NOT allow unsupervised children or visitors in your shop at any time!

Lifting and Moving

WARNING

The Model G0608X is a very heavy machine. You will need power lifting equipment and assistance to remove this machine from the pallet and position it. Inspect all lifting equipment and make sure that all is in perfect working order and is rated for the load before attempting to lift and move this shaper. Ignoring this warning may lead to serious personal injury or death.

1. Position the lifting straps underneath and around the shaper as illustrated in **Figure 7**. Make sure the straps will not put destructive pressure on any controls, wires, or handles.

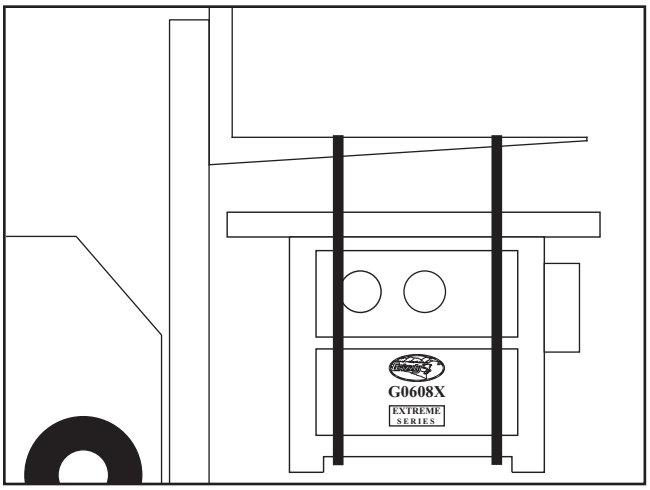


Figure 7. Location of lifting straps.

3. Position lifting straps, your lifting device, and your assistant to support the shaper in a vertical and stable position.

4. Unbolt the shaper from the pallet.

5. Slowly raise the shaper from the pallet, then carefully move the shaper to your prepared location.

6. Follow the **Mounting To Shop Floor** procedures.

Mounting to Shop Floor

The Model G0608X is designed to be mounted to the floor. Because floor materials may vary, floor mounting hardware is not included.

Bolting to Concrete Floors

Lag shield anchors with lag bolts (see **Figure 8**) and anchor studs (see **Figure 9**) are two popular methods for anchoring an object to a concrete floor. We suggest you research the many options and methods for mounting your machine, and choose the best that fits your specific application.

NOTICE

Anchor studs are stronger and more permanent alternatives to lag shield anchors; however, they will stick out of the floor, which may cause a tripping hazard if you decide to move your machine.

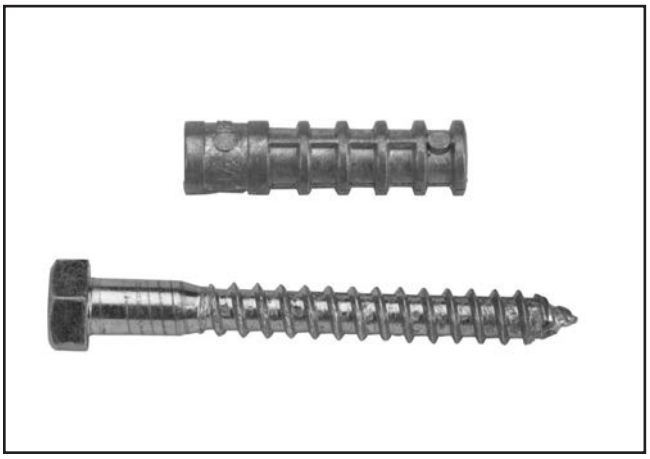


Figure 8. Typical lag shield anchor and lag bolt.

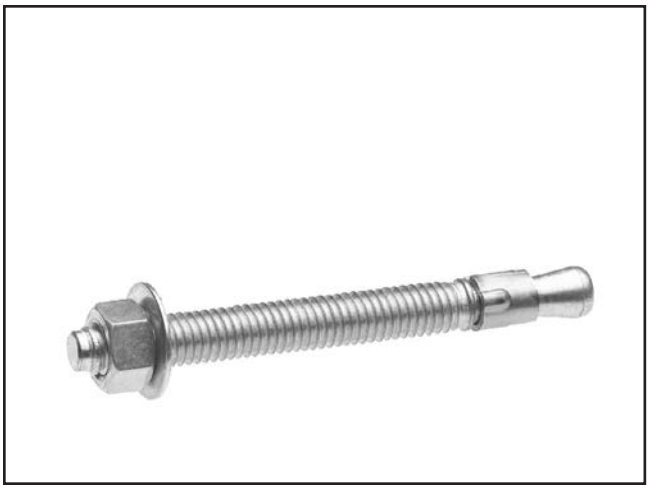


Figure 9. Typical anchor stud.

To mount the shaper to the floor:

1. With the shaper securely resting on the floor, shim between the floor and the mounting points as required to level the shaper table.

   Note: *The mounting points can be accessed through the shaper front door.*

NOTICE

Make sure there are no gaps between the machine mounting points and the floor. Otherwise, when you final tighten the mounting fasteners, the cabinet can become warped and damaged.

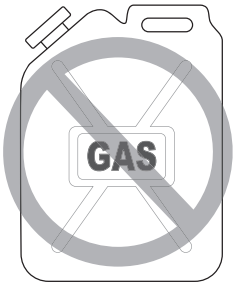
2. Tighten the mounting fasteners so that the shaper is just snug to the floor—DO NOT overtighten the fasteners.

3. Recheck the table to make sure that it is still level, and reshim as required.

4. When the shaper is level and all gaps under the mounting points are adequately shimmed, fully tighten the floor mounting fasteners.

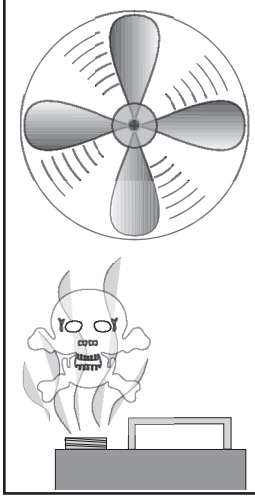
Clean Up

The unpainted surfaces are coated with a waxy oil to protect them from corrosion during shipment. Remove this protective coating with a solvent cleaner or citrus-based degreaser such as Grizzly's G7895 Degreaser. To clean thoroughly, some parts may need to be removed. **For optimum performance from your machine, make sure you clean all moving parts or sliding contact surfaces that are coated.** Avoid chlorine-based solvents, such as acetone or brake parts cleaner, as they may damage painted surfaces should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.



⚠WARNING

Gasoline and petroleum products have low flash points and could cause an explosion or fire if used to clean machinery. DO NOT use gasoline or petroleum products to clean the machinery.



⚠CAUTION

Many of the solvents commonly used to clean machinery can be toxic when inhaled or ingested. Lack of ventilation while using these solvents could cause serious personal health risks or fire. Take precautions from this hazard by only using cleaning solvents in a well ventilated area.

Assembly

The fence mount diverts the wood debris from the cutter to the upper dust port, and provides mounting points for the fence and hold-downs. The fence mount also guards against accidental contact with the cutter.

To install the fence mount:

1. Position the fence mount in the center rear of the table.

2. Screw the fasteners into the table holes provided (see **Figure 10**).

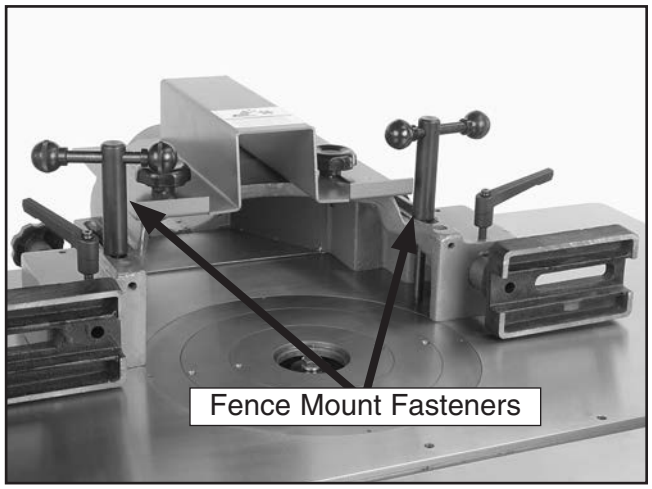


Figure 10. Fence mount installed.

The vertical hold-downs keep the workpiece firmly against the table and prevent the workpiece from rising up when passing by the cutter.

To install the vertical hold-downs:

1. Insert the short end of the vertical hold-down bars into the fence mount and secure with the M10-1.5 x 30 hex bolts (see **Figure 11**).

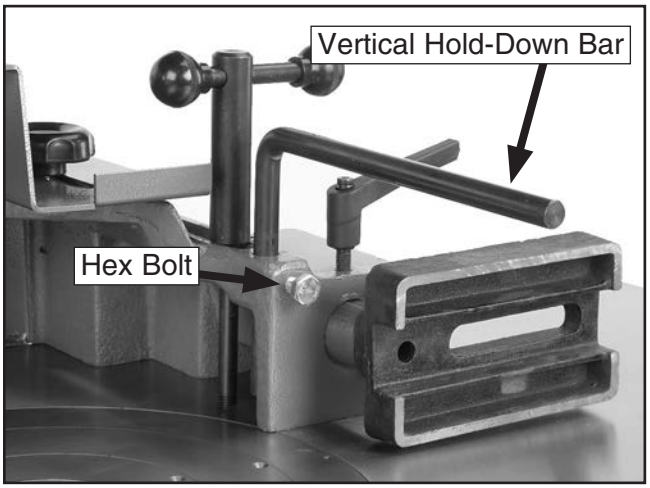


Figure 11. Vertical hold-down bar installed.

2. Slide the hold-down fingers into the notches of the vertical hold-down brackets between the hold-down bar and the hex bolt.

3. Slide these assemblies onto the hold-down bars and secure with the M10-1.5 x 40 hex bolts (see **Figure 12**).

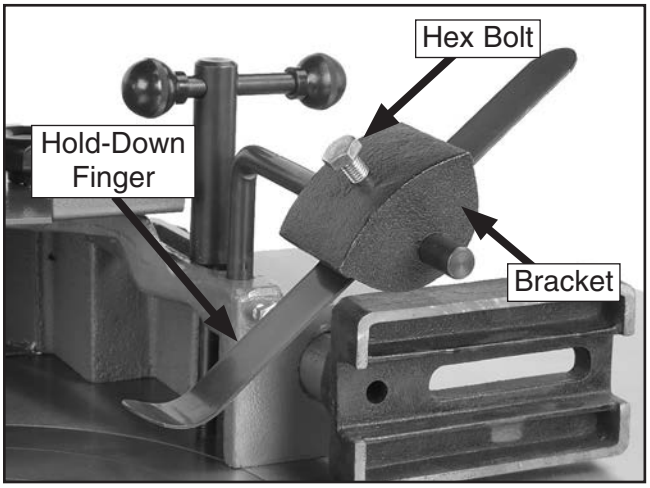


Figure 12. Vertical hold-down bracket and finger installed.

Note: *The direction of the vertical hold-down finger, as shown in **Figure 12**, is correct when the cutter is rotating FORWARD and the workpiece is passing the cutter from right-to-left.*

Position the vertical hold-down fingers in the opposite direction (pointing to the right) when the cutter is rotating in REVERSE and the stock is passing the cutter from left-to-right.

To install the fence boards:

1. Slide the fence boards onto the fence mount brackets and position the beveled ends toward the cutter (see **Figures 13** and **14**).

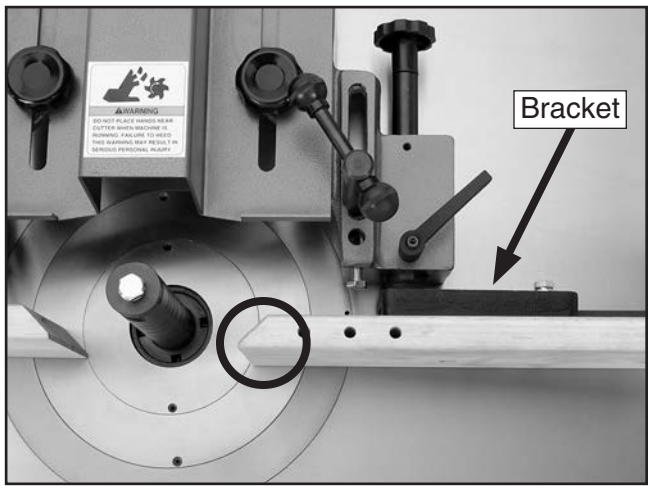


Figure 13. Fence board bevel position.

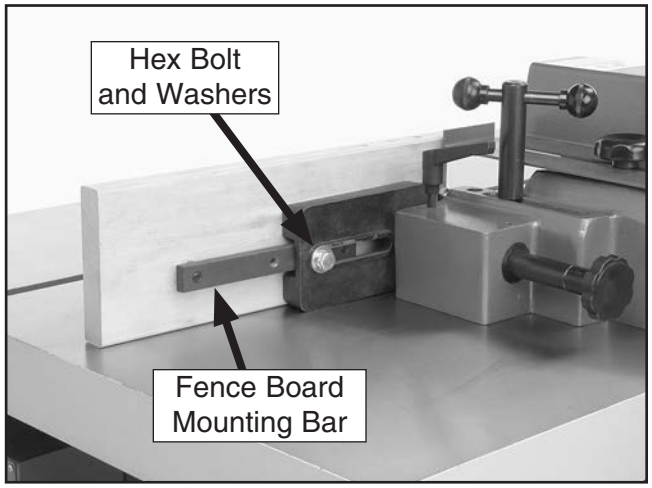


Figure 14. Fence board mounted.

Note: *There are two mounting holes on the fence board mounting bar. Use the mounting hole farthest from the cutter to move the board closest to the cutter. Conversely, use the mounting hole closest to the cutter to move the board farthest from the cutter.*

2. Secure the fence boards to the fence mount brackets with the M10-1.5 x 35 hex bolts, lock washers, and flat washers (see **Figure 14**).

The horizontal hold-downs keep the workpiece firmly against the fence as it moves past the cutter.

To install the horizontal hold-downs:

1. Assemble the hold-down fingers into the horizontal hold-down brackets (see **Figure 15**).

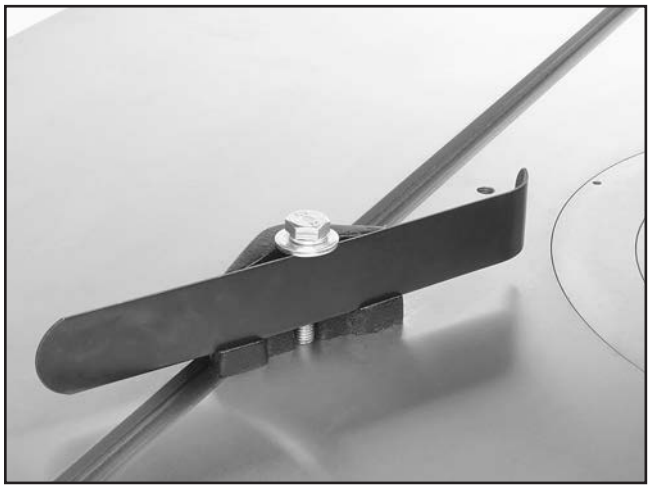


Figure 15. Horizontal hold-down installed.

2. Secure the horizontal hold-down assemblies to the table with M10-1.5 x 60 hex bolts, 10mm lock washers, and 10mm flat washers.

   Note: *The direction of the horizontal hold-down finger as shown in **Figure 15** is correct when the cutter is rotating FORWARD and the workpiece is passing the cutter from right to left.*

   Position the horizontal hold-down fingers in the opposite direction (pointing to the right) when the cutter is rotating in REVERSE and the stock is passing the cutter from left to right.

Dust Collection

⚠CAUTION

DO NOT operate the Model G0608X without an adequate dust collection system. This shaper 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 EACH Dust Port:
..... 650 CFM

Do not confuse this CFM recommendation with the rating of the dust collector. To determine the CFM at the dust port, you must take into account many variables, including the CFM rating of the dust collector, the length of hose between the dust collector and the machine, the amount of branches or wyes, and the amount of other open lines throughout the system. Explaining this calculation is beyond the scope of this manual. If you are unsure of your system, consult an expert or purchase a good dust collection "how-to" book.

To connect a dust collection hose:

1. Fit a 5" dust hose over each dust port, as shown in **Figure 16**, and secure in place with hose clamp.

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

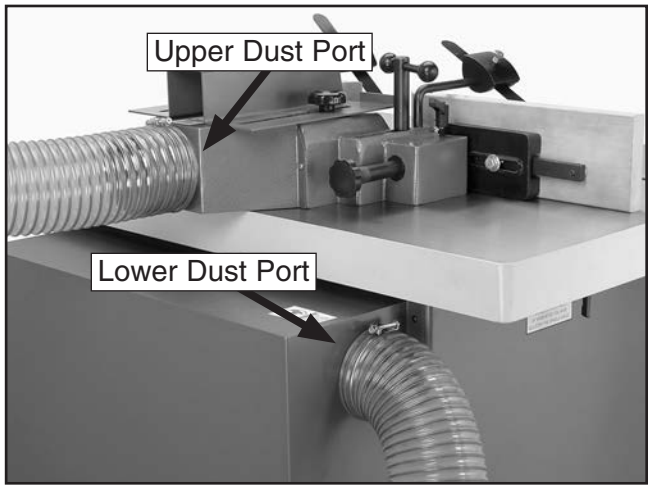


Figure 16. Dust hoses attached to dust ports.

Test Run

Once assembly is complete, test run your machine to make sure it runs properly.

If, during the test run, the shaper does not operate as expected, or you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting** on **Page 37**.

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 beginning on **Page 7** and check to ensure that your shaper is set up properly.

2. Make sure all tools and objects used during set up are cleared away from the machine.

3. Remove the locking hex bolt with washer, spindle nut, spacers, and any cutters from the spindle (see **Page 26** for additional instructions).

4. Make sure the spindle is properly secured into the spindle shaft (see **Page 41** for additional instructions).

5. Lower the spindle as far as it will go and bring the spindle tilt to zero degrees.

6. Make sure the spindle is free of any obstructions, and the fence boards, inserts, and hold-downs are positioned away from the spindle.

7. Put on safety glasses and respirator; secure loose clothing and long hair.

8. Read all of these TEST RUN procedures before turning the motor ***ON***.

NOTICE

This machine was designed to be started and stopped with the START/STOP buttons—NOT the reversing switch.

9. Make sure the spindle rotation lock is in the unlocked position (handle pulled out) and the spindle rotates freely.

10. Make sure the FORWARD/REVERSE switch is in the FORWARD position—the spindle should rotate COUNTERCLOCKWISE when the shaper is in operation.

11. Connect the shaper to power (refer to **Circuit Requirements** on **Page 10**).

12. Press the green button on the control panel to turn the shaper motor ***ON***.

13. The shaper should run smoothly with little or no vibration. Listen for any abnormal noises and watch for any unusual actions.

    —If you suspect any problems, immediately stop the shaper by pressing the red EMERGENCY STOP button on the control panel. Refer to **Troubleshooting** on **Page 37** and fix any problems before starting the shaper again.

    —If you need any help with your shaper call our Tech Support at (570) 546-9663.

14. Turn the shaper ***OFF*** by pressing the red EMERGENCY STOP button.

15. Wait for the spindle to come to a complete stop and use the FORWARD/REVERSE switch to change the spindle rotation to REVERSE—the spindle should rotate CLOCKWISE when the shaper is in operation.

16. Rotate the red EMERGENCY STOP button until it pops out.

17. Repeat **Steps 12–14**.

⚠WARNING

You MUST verify that the spindle rotates in the expected direction according to the position of the FORWARD/REVERSE switch. The workpiece MUST be fed into the cutter against the rotation of the cutter. Otherwise, kickback of the workpiece can occur and you could suffer serious personal injury.

Safety Feature Tests

After completing the **Test Run** to your satisfaction, perform the following procedures to verify that all of the safety features of this shaper are operational.

⚠WARNING

Perform these safety feature tests carefully and pay close attention to each of the steps. If any of the following tests fail, shut the power *OFF* at the CIRCUIT BREAKER immediately and call our Tech Support at (570) 546-9663. DO NOT turn the power ON for any reason unless instructed to do so by our Tech Support. Failure to follow this warning and procedure could result in serious personal injury or death!

To test the Emergency Stop lockout feature:

1. Make sure the spindle is clear of all obstructions and is at 0° tilt.

2. Turn the FORWARD/REVERSE switch to the FORWARD position.

3. Push in the red EMERGENCY STOP button—it should stay in.

4. Press the green ON button—nothing should happen.

5. Turn the FORWARD/REVERSE switch to the REVERSE position—nothing should happen.

6. Press the green ON button—nothing should happen.

7. Twist the knurled part of the red EMERGENCY STOP button until it pops out, then press the green ON button—the shaper should start up normally.

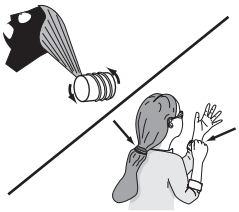
SECTION 4: OPERATIONS

Operation Safety

⚠WARNING

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





⚠WARNING

Loose hair and clothing could get caught in machinery and cause serious personal injury. Keep loose clothing and long hair away from moving machinery.

NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, 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.

⚠WARNING

Serious injury can be caused by kickback. Kickback is a high-speed expulsion of stock from the shaper toward the operator. The operator or bystanders may be struck by flying stock, or the operator's hands can be pulled into the cutter during the kickback.

Spindle Lock

The spindle lock prevents the spindle and cutter, if mounted, from rotating. Engaging this lock is necessary when installing cutters.

To lock and prevent the spindle from rotating:

1. Make sure the motor is ***OFF*** and the spindle is at a complete stop.

2. DISCONNECT THE SHAPER FROM POWER!

3. Pull out and twist the spindle rotation lock so that the T-handle is horizontal (see **Figure 17**).

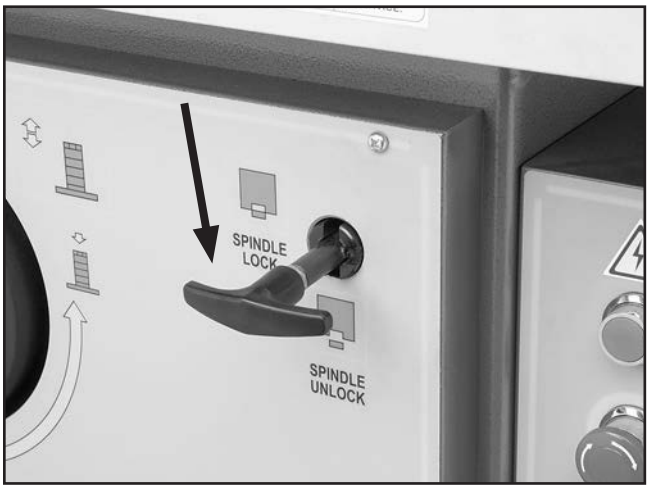


Figure 17. Spindle rotation lock in locking position.

NOTICE

DO NOT turn *ON* the shaper while the spindle is locked! Otherwise, severe damage to the motor, V-belt, and spindle may result.

4. Rotate the spindle until there is an audible click and the spindle will not rotate further.

Cutter Elevation

The cutter elevation can be micro-adjusted with the spindle elevation handwheel. One revolution of the handwheel equals at cutter elevation change of approximately 1/32".

To gauge the cutter height in relation to the table, use a machinist's rule with fine graduations. An alternative method would be to place a sample of the shaped cut next to the cutter.

To change the cutter elevation:

1. Turn the shaper ***OFF*** and wait for the cutter to come to a complete stop.

2. Loosen the spindle elevation lock knob and rotate spindle elevation handwheel clockwise to bring the cutter to the desired elevation (see **Figure 18**).

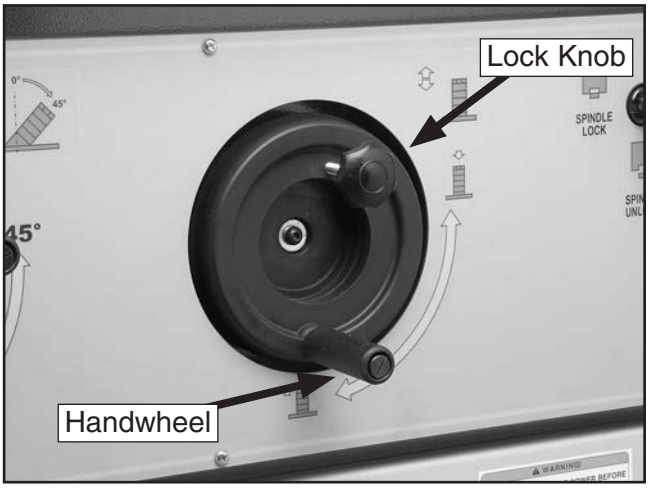


Figure 18. Spindle elevation handwheel and lock knob.

3. When the cutter is at the desired elevation, lock the handwheel in place with the lock knob.

Spindle Tilt

The Model G0608X has a tilting spindle feature to allow a wider variety of profiles. The spindle can be tilted from -5° to +45°.

NOTICE

When using the tilt feature, make sure the cutter is clear of the table inserts and fence boards! Otherwise, severe damage to cutter and shaper may result.

To change the tilt of the spindle:

1. Turn the shaper ***OFF*** and wait for the cutter to come to a complete stop.

2. Loosen the lock knob on the spindle tilt handwheel (see **Figure 19**).

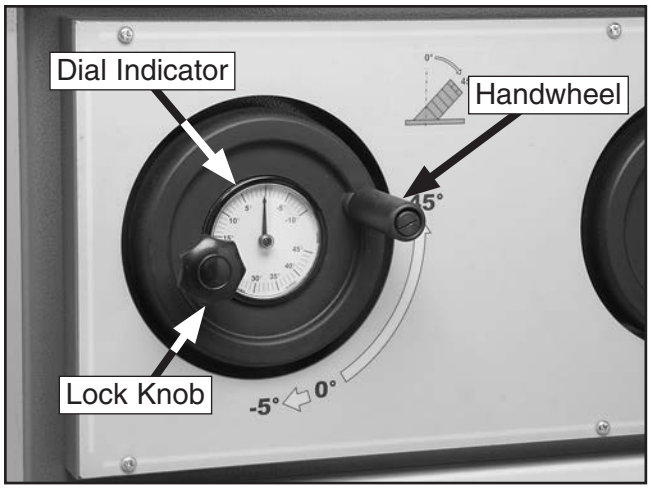


Figure 19. Spindle tilt handwheel, lock knob, and dial indicator.

3. Use the spindle tilt handwheel to bring the spindle to the desired tilt and lock the handwheel again with the lock knob.

Continued on next page ⟶

4. Tighten the spindle side tilt lock as shown in **Figure 20**.

Figure 20. Spindle tilt side lock (right side shown accessed underneath the table).

Fence Adjustment

The fence for the Model G0608X is a two-piece adjustable system. Each fence board can be independently micro-adjusted for different cutting thickness and special shaping applications. One complete turn of the adjusting knob moves the fence board approximately 1/16".

To adjust the fence:

1. Loosen the fence lock handle (see **Figure 21**).

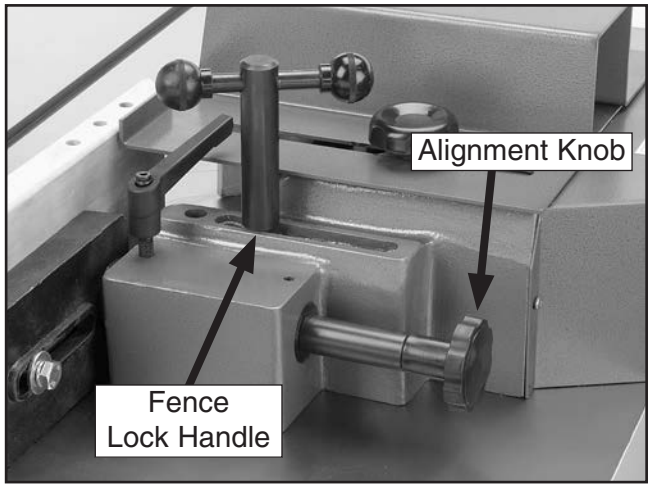


Figure 21. Fence lock handle and alignment knob (right side shown).

2. Turn the fence alignment knob until the fence board is set to the desired position.

3. Tighten the fence lock handle to hold the fence board in place.

Note: *Additional detailed information concerning fence adjustments is covered in the* ***Straight Shaping*** *instructions on* ***Page 27****.*

Cutter Rotation

Your shaper is equipped with a FORWARD/REVERSE switch (see **Figure 22**).

Figure 22. Forward/reverse switch.

Continued on next page ⟶

NOTICE

This machine was designed to be started and stopped with the START/STOP buttons—NOT the reversing switch.

Most cutters are designed to rotate counterclockwise and mill the stock from underneath keeping the cutter away from the operator and preventing tear out.

⚠CAUTION

Incorrectly feeding stock—feeding WITH the rotation of the cutter—creates a potentially uncontrollable feed situation that may pull the stock from your hands and draw your hands into the cutter. Always check the direction of the cutter rotation before any shaping operation. Always feed the stock opposite to the cutter rotation.

Some cutters are designed to shape the top of the workpiece. However, this method creates a hazard to the operator. Using the FORWARD/REVERSE switch, you can mount the cutter upside down, reverse the feed direction and cutter rotation, and mill the workpiece safely from the bottom.

Changing Speeds

The Model G0608X operates at speeds of 3900, 5000, 7200, and 9400 RPM.

Here are a some tips to keep in mind when selecting a speed for your workpiece:

- Use scrap stock to find the right cutter speed and feed rate so that the resulting cut is smooth and requires very little sanding to finish.
- Reduce cutter speed or feed rate if your workpiece becomes glazed or burned.
- Increase cutter speed or feed rate if your workpiece shows a rough or washboard surface.
- Use slower speeds for larger cutters because the knives on the outside of the cutter rotate faster on larger cutters than on smaller cutters for the same spindle speed (see **Figure 23**).

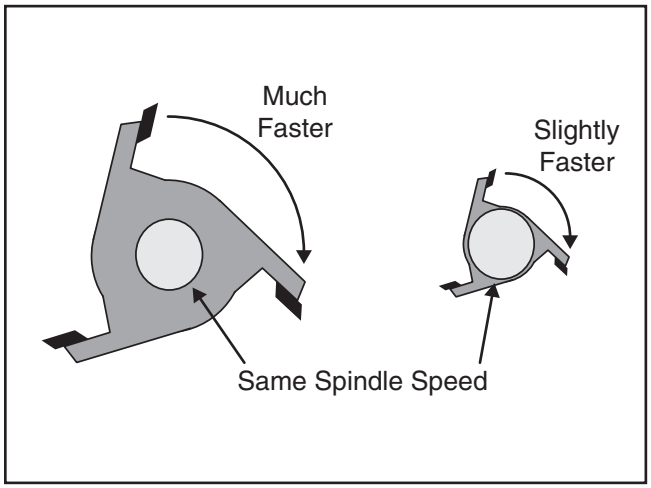


Figure 23. Relative speeds of cutter knives at the same spindle speed.

Note: *Since the cutter is mounted on the spindle, the terms spindle speed and cutter speed are often used interchangeably.*

The speed of the cutter is changed by changing the V-belt alignment between the motor pulley and the spindle pulley (see **Figure 24**).

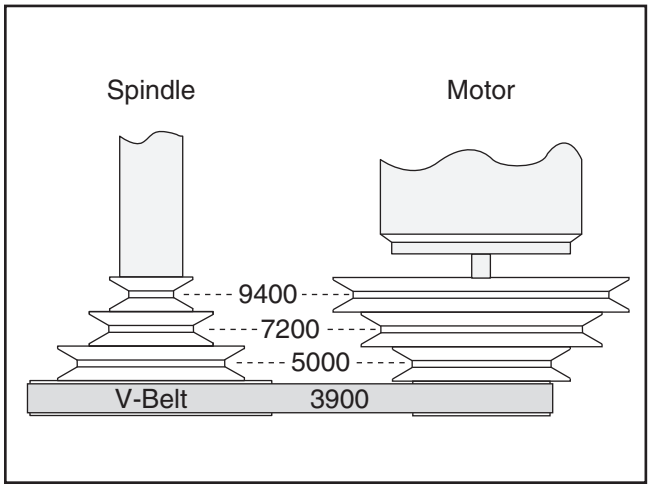


Figure 24. V-belt positions for different speeds.

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To change spindle speeds:

1. DISCONNECT THE SHAPER FROM POWER!

2. Open the shaper front door and identify the belt tensioning bar and the locking handle (see **Figure 25**).

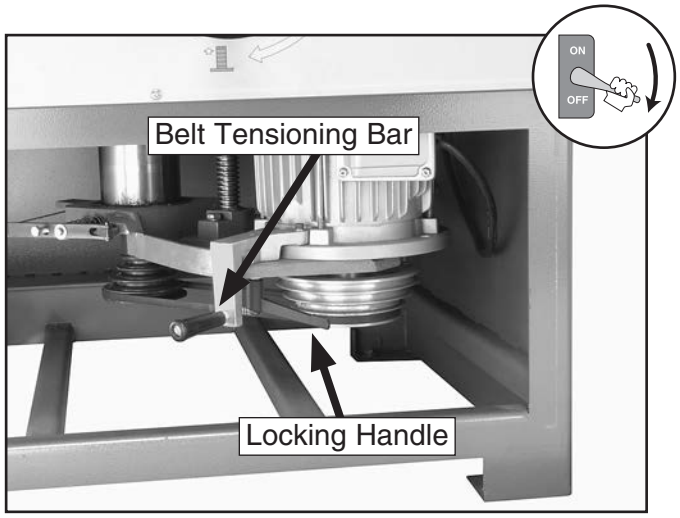


Figure 25. Belt tensioning bar and locking handle for changing spindle speeds.

3. Loosen the locking handle and move the belt tensioning bar toward the spindle to relieve tension on the V-belt.

4. Change the V-belt to the desired pulleys (reference **Figure 24**).

5. Move the tensioning bar back toward the front of the shaper and maintain pressure while you tighten the locking handle.

   Note: *When the V-belt is properly tensioned, there will be about 1/4" deflection in the V-belt midway between the pulleys.*

6. Spin the pulleys to make sure the V-belt is tracking properly.

Table Inserts

The Model G0608X features three table inserts (see **Figure 26**). Use these inserts to keep the cavity surrounding the cutter as small as possible while not interfering with the cutter rotation.

Note: *Refer to **Table Insert Adjustment** on **Page 39** for additional information.*

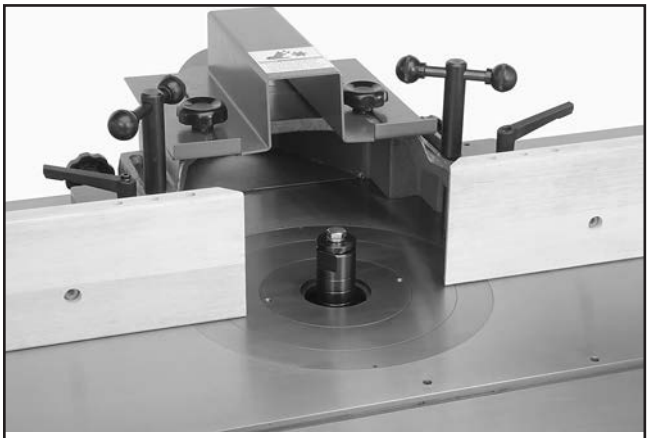


Figure 26. Table inserts installed.

NOTICE

When using the tilt feature, make sure the cutter is clear of the table inserts and fence boards! Otherwise, severe damage to cutter and shaper may result.

Cutter Installation

The Model G0608X features a long 7" spindle and table inserts for cutters up to 9", allowing for a greater choice in cutter profiles and applications.

To install a cutter:

1. DISCONNECT THE SHAPER FROM POWER!

2. Position the fence boards and top safety hood to provide easy and safe access to the spindle.

3. Bring the spindle tilt to 0° and raise the spindle to the highest position.

4. Prevent the spindle from rotating by engaging the spindle rotation lock.

5. Install the table inserts to provide the smallest space around the cutter without interfering with the cutter rotation.

6. Remove the locking hex bolt with washer, spindle nut, and spacers from the top of the spindle (see **Figure 27**).

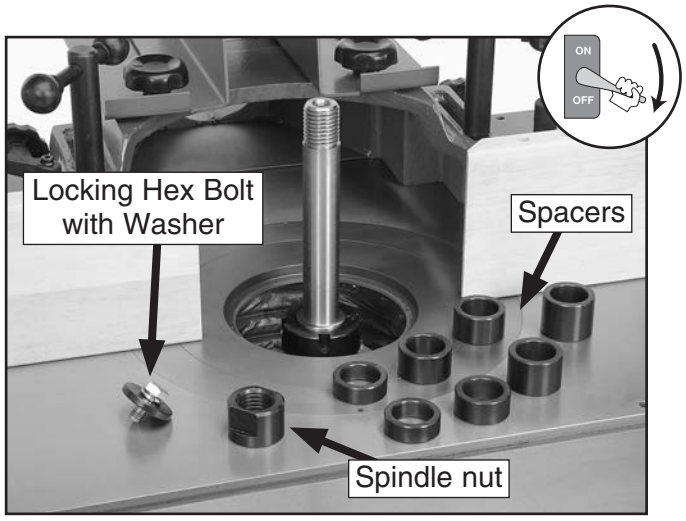
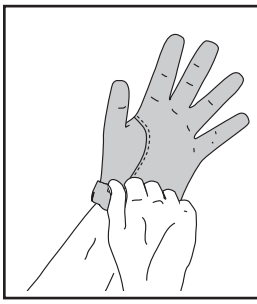


Figure 27. Spindle, locking hex bolt with washer, spindle nut, and spacers.



⚠CAUTION

CUTTING HAZARD!

Cutters are sharp! Put on heavy leather gloves when handling a cutter or making adjustments near the cutter!

Note: *When performing the next step, make sure you perform these precautions:*

—Keep the spindle and the cutter clean and free of debris, grease or oils to avoid binding the cutter on the spindle.

—Do not force the cutter parts onto the spindle to prevent damage to the cutter, the spindle, or yourself.

—Position the cutter on the lower half of the spindle to reduce the tension on spindle bearings.

—Place the cutter so the workpiece will be milled from the bottom and away from the operator.

7. Place the cutter and spacers onto the spindle so that the last spacer is slightly above the bottom spindle thread (see **Figure 28**).

8. Secure the cutter and spacers with the spindle nut and locking hex bolt with washer.

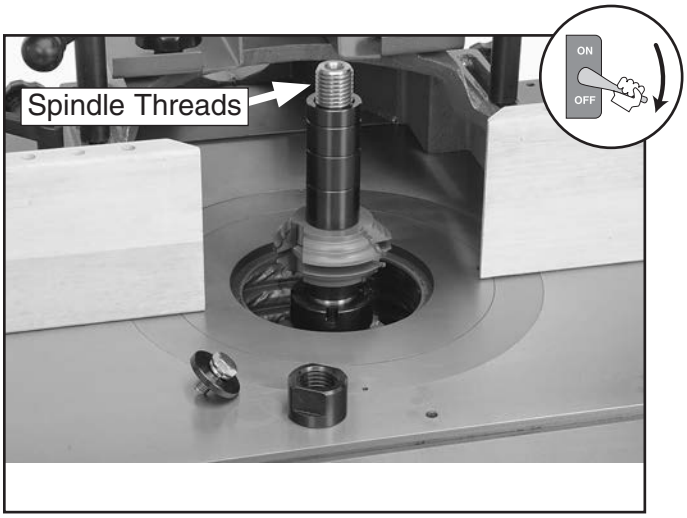


Figure 28. Example of cutter and spacers mounted on the spindle.

Safety Guards

You must use either the safety guard provided (see **Figure 29**) or a custom box guard (see **Figure 30**) to provide additional protection.

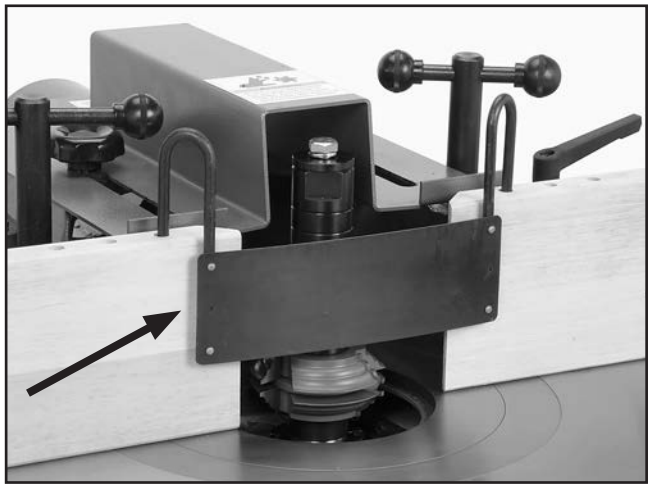


Figure 29. Provided safety guard installed.

Tips for making a custom box guard:

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. (See **Shaping Small Stock** on **Page 29** for instructions on making a zero-clearance fence.)

The box guard attaches to the fence boards with screws and should be used with hold-downs to support the workpiece. Construct the box guard in a way that it extends out over the cutter area while leaving enough distance between the guard and the table for the workpiece to easily pass by the cutter. Refer to **Figure 30** for an example.

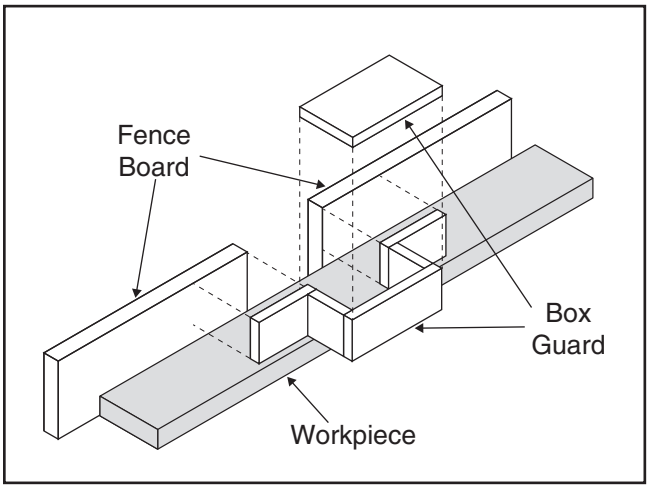


Figure 30. Example of custom box guard.

⚠WARNING

The guard protects the operator from inadvertent contact with the cutter which could cause serious personal injury. DO NOT operate the shaper with the guard removed. Always replace the guard before operation if it has been removed for machine service or maintenance.

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, or it can be set up for partial face removal.

⚠WARNING

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. DO NOT use the miter gauge to feed material along the fence face when straight shaping. Use a push stick and hold-downs to keep the workpiece in position.

Continued on next page ⟶

⚠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, perform the following steps:

1. DISCONNECT THE SHAPER FROM POWER!

2. Lay a straight piece of stock at least 24" in length along the infeed fence board (assuming feed direction is from right to left).

   Note: *A test piece can help determine the best setting. Select the wood for the test piece that most closely resembles the actual workpiece.*

3. Loosen both fence board lock handles (see **Figure 31**).

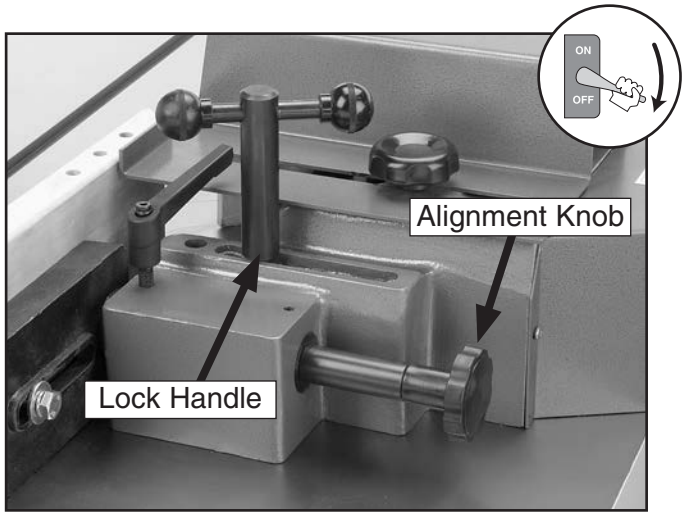


Figure 31. Fence board lock handle and alignment knob (right side only shown).

4. Adjust the infeed fence board by turning the knurled alignment knob until the test workpiece contacts the cutter in the desired position.

5. Lock the infeed fence in position with the lock handle.

⚠WARNING

All guards MUST be in place on your shaper before turning it *ON*. Shapers are dangerous machines that can quickly cause serious injury. Use a push stick and hold-downs to keep the workpiece in position.

6. With the test stock firmly resting against the fence, turn the shaper ***ON*** and advance the test stock past the cutter until it reaches the outfeed fence board, then stop. Swing the test piece away from the cutter and turn the machine ***OFF***.

7. When the cutter comes to a complete stop, adjust the outfeed fence to support the profiled edge (see **Figure 32**).

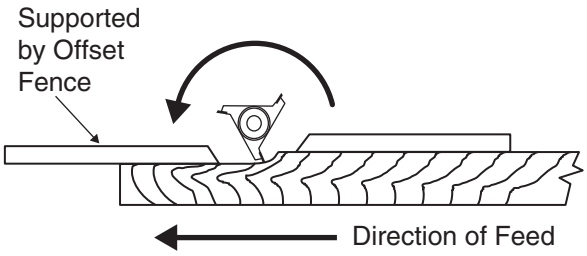


Figure 32. Example of supporting the workpiece with a full face cut.

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

1. DISCONNECT THE SHAPER FROM POWER!

2. Adjust the infeed fence to 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, then lock the outfeed fence in place.

Continued on next page ⟶

4. Set both fence boards as close to the cutter from side-to-side as possible without interfering with the cutter rotation. This allows the maximum support possible for the workpiece while passing the cutter.

   Note: *Remember to tighten down the fence boards against the brackets and re-install the safety guard before starting the shaper.*

5. Run a test piece through the shaper to verify the cut (see **Figure 33**).

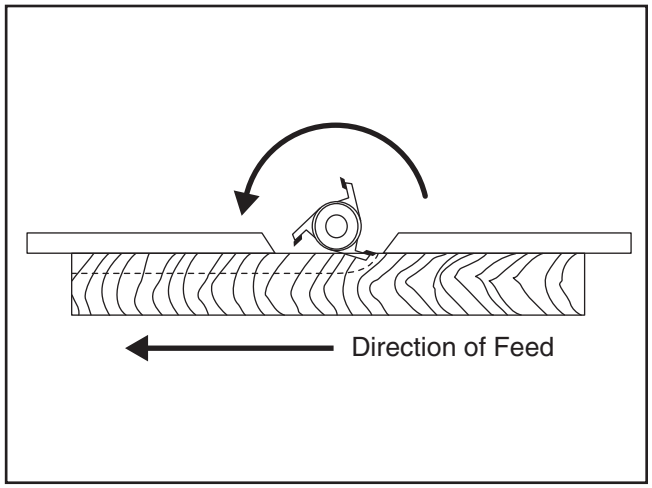


Figure 33. Partial face cut fence alignment.

Note: *Always cut the end grain first when putting an edge around the perimeter of your workpiece (see **Figure 34**).*

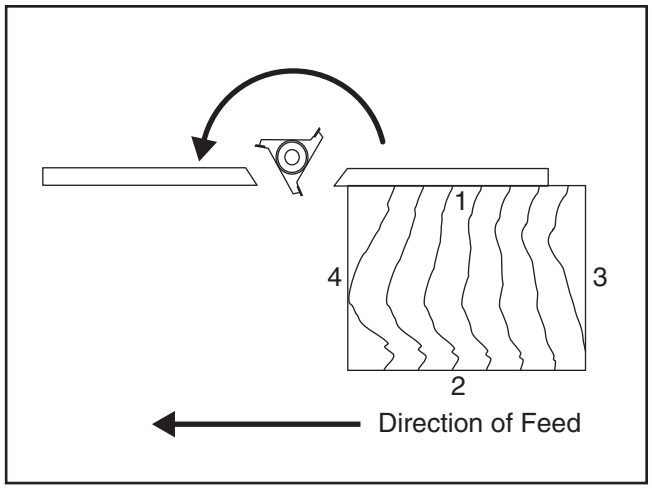


Figure 34. Illustration of cutting end grain first.

⚠WARNING

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

Shaping Small Stock

Feeding small stock through a shaper is always dangerous. If you must shape small stock, use a zero-clearance fence. This will provide greater safety to the operator, more support to the workpiece, and reduce tear out on narrow or fragile stock.

⚠CAUTION

Always use hold-downs or featherboards and push sticks when shaping small or narrow stock. These devices keep your hands away from the spinning cutter and support the 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. Remove the fence boards from the support brackets.

2. Select a piece of straight and smooth stock having the same height and thickness dimensions of the fence boards, and that is approximately 48" long.

3. Create mounting holes in the zero-clearance fence so that the fasteners from the split fence can be used to fasten the one-piece fence to the same brackets.

Continued on next page ⟶

4. Cut out an outline of the spindle, cutter, and its components on the board, leaving room for the moving parts so they will not hit the board.

5. Secure the new zero-clearance fence to the fence support brackets and run a test piece by the cutter to verify the results.

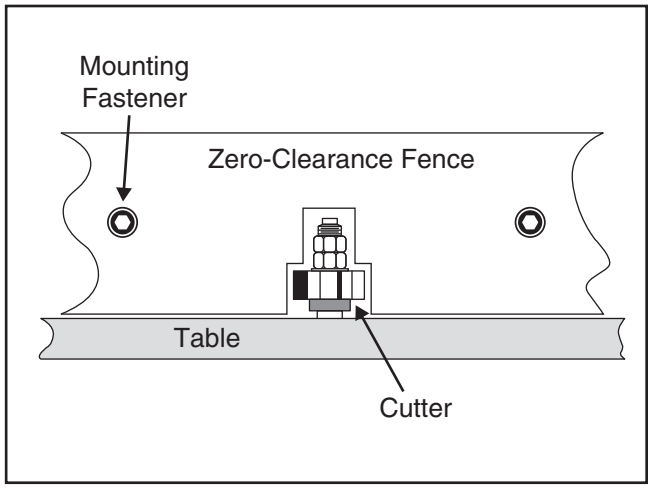


Figure 35. Illustration example of a zero-clearance fence.

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 Grizzly carries 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 (see **Figure 36**), the progress of the cut can be observed. However, any unintentional movement may lift the workpiece into the cutter, damaging your work and increasing risk of injury to the operator. *We DO NOT recommend using the rub collar below the cutter.*

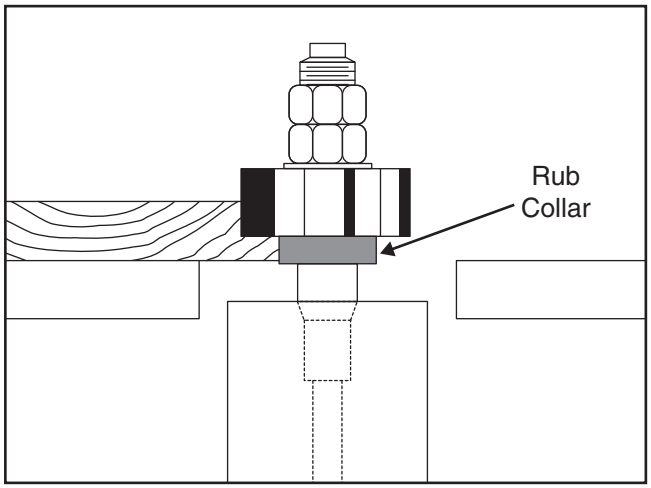


Figure 36. Cutting with the rub collar below the cutter.

2. **Rub collar above the cutter:** When the rub collar is used above the cutter, the cut cannot be seen (see **Figure 37**). 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 variation in height by repeating the operation.

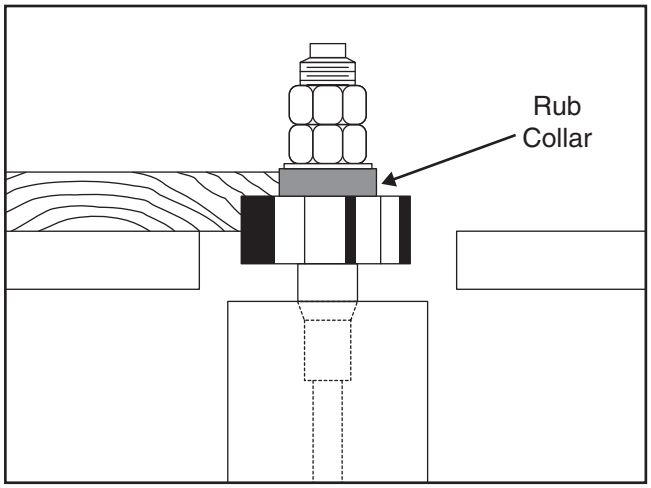


Figure 37. Cutting with the rub collar above the cutter.

Continued on next page ⟶

3. **Rub collar 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 38**). Notice that part of the edge is left uncut. The uncut portion rides on the rub collar.

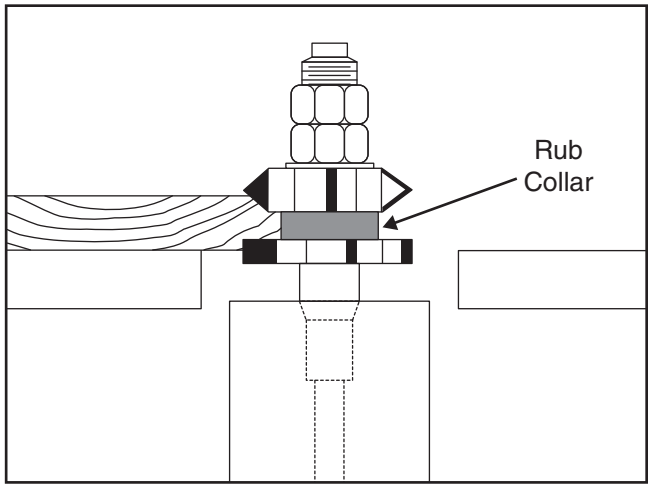


Figure 38. Using the rub collar between two cutters.

Irregular Shaping

⚠WARNING

Freehand or irregular shaping greatly increases the chance that the operator may lose control of the workpiece. Therefore, a pivot point MUST be used to control the workpiece while freehand shaping. Loss of control of the workpiece could result in serious personal injury.

Irregular or freehand shaping takes a high degree of skill and dexterity. In freehand shaping, the fence mount, top safety hood, and fence assembly are removed and not used, so a pivot point must be used. The Model G0608X is not designed to be used with a starting pin. However, a firmly secured board in the desired position can act as a starting pin or pivot point. Use a jig or fixture to increase control of the workpiece and safety for the operator. See **Figures 39** and **40** for examples.

Note: *Refer to **Pattern Work** on **Page 32** for additional information on making jigs or fixtures for your workpiece.*

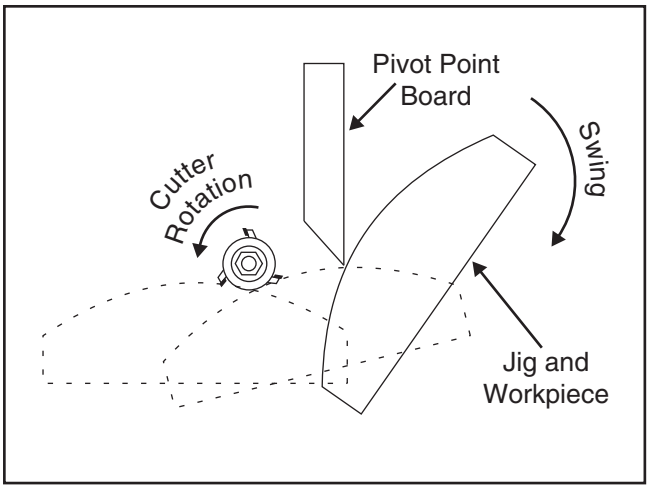


Figure 39. Illustration of freehand cutting with a pivot board.

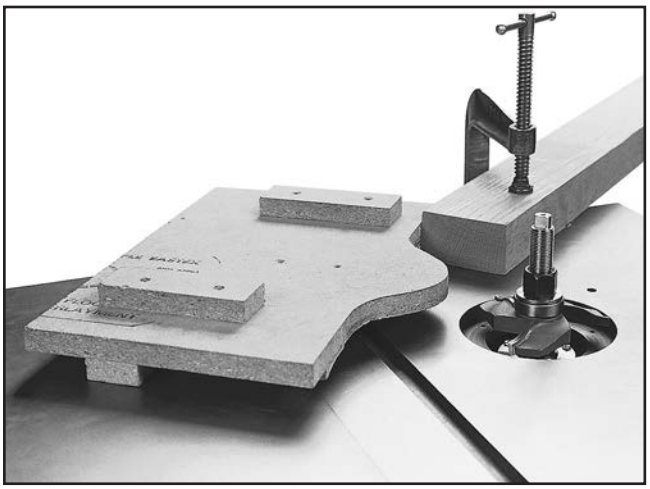


Figure 40. Example of a jig or fixture, and a pivot board.

Pattern Work

When using a pattern, you use a rub collar to control the depth of cut. Refer to **Rub Collars** on **Page 30** for additional information.

The pattern is usually used when the entire edge is to be shaped or when many duplicate pieces of the same pattern are needed. Pattern work is particularly useful when rough cutting irregular shapes oversize and then freehand shaping the edge in a 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. Referring to **Figure 41**, you will notice that the position of the pattern determines the depth of the cut. Your pattern size is dependent upon the inter-relationship of the cutting circle, the desired amount of material removed and the rub collar size. The cutting circle is the constant in the equation, while the pattern and the rub collar size are the variables. Changing one or both of these variables will change the amount of material removed. Planning ahead, you can best decide which rub collar is best suited for your application.

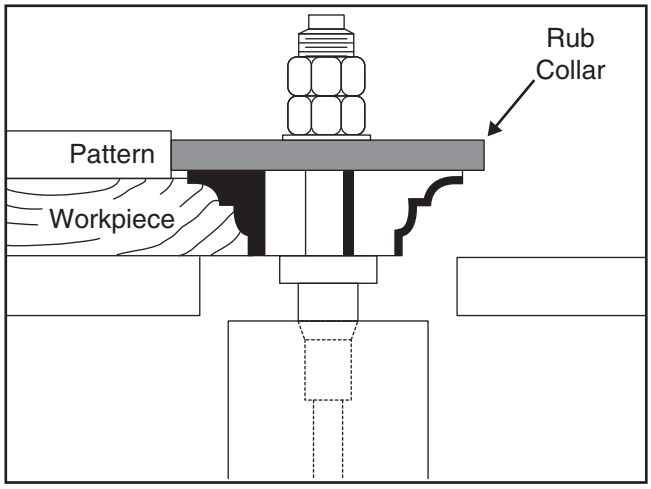


Figure 41. Illustration of pattern work with a rub collar.

When making a pattern, jig, or fixture, follow these guidelines:

- Use a material that will smoothly follow the rub collar or fence.
- Secure your workpiece with toggle clamps on the three sides that will not be cut, or fasten the workpiece to the jig with wood screws.
- Make sure all fasteners and clamping devices do not protrude through the workpiece and will not come in contact with the cutter during the operation.
- Make the jig stable by using proven methods and materials, and fasten the hand holds for the operator's comfort and safety.
- Design your fixture so that all cutting occurs underneath the workpiece.
- When calculating the correct depth of cut, always consider the cutting circle and rub collar diameters.
- Make sure the workpiece rests flat on the table and not on the fixture.
- Remember that there is tremendous cutting force exerted 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. The workpiece must rest on the shaper table and not on the fixture. The workpiece must be fixed securely to the fixture.

G1792—Rub Collar 1-1/4" x 4"
G1791—Rub Collar 1-1/4" x 3-1/2"
G1789—Rub Collar 1-1/4" x 3"
G1787—Rub Collar 1-1/4" x 2-1/2"

If you do any kind of irregular shaping, these ball bearing 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 principle as router bits with guide bearings). Use them below, in between, or above cutters.

Figure 42. Rub collars.

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.

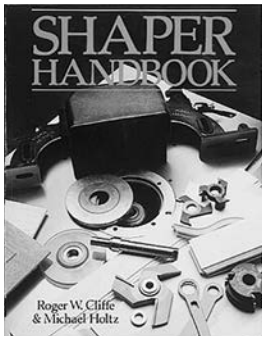


Figure 43. G3030 Shaper Handbook.

H6175—Power Respirator
H6892—3M Pre-Filter, 10-Pack
H6893—Filter Cartridge, 10-Pack
Say goodbye to foggy safety glasses and labored breathing, this battery powered respirator supplies a constant breeze of fresh air all day long. Comes with its own plastic case for clean, sealed storage. Finally, a respirator you can look forward to wearing—at an affordable price!

Figure 44. H6175 Power Respirator.

T20501—Face Shield Crown Protector 4"
T20502—Face Shield Crown Protector 7"
T20503—Face Shield Window
T20452—"Kirova" Anti-Reflective S. Glasses
T20451—"Kirova" Clear Safety Glasses
H0736—Shop Fox® Safety Glasses
H7194—Bifocal Safety Glasses 1.5
H7195—Bifocal Safety Glasses 2.0
H7196—Bifocal Safety Glasses 2.5

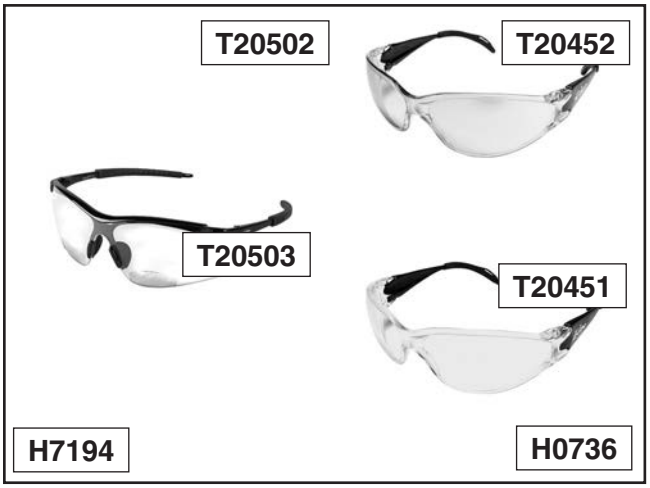
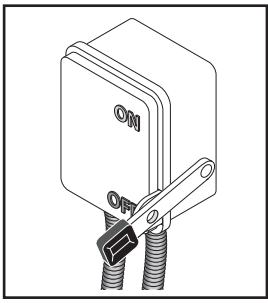


Figure 78. Eye protection assortment.

SECTION 6: MAINTENANCE



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

Schedule

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

Daily Check:
- Loose mounting bolts.
- Damaged spindle.
- Worn or damaged wires.
- Apply anti-rust protection to table.
- Any other unsafe condition.

Weekly Maintenance:
- V-belt tension, damage, or wear.
- Clean/vacuum dust buildup from inside cabinet and off motor.
- Tighten grease cap on quill support; add grease if necessary.

Monthly Check:
- V-belt tension, damage, or wear.
- Lubricate worm gears, elevation slide, and quill.

Cleaning

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 will ensure that moisture from wood dust will not remain on bare metal surfaces.

To avoid rust, do not use water or water-based products on the unpainted cast iron surfaces.

Keep tables rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9.

Lubrication

The only parts that require lubrication on the Model G0608X are:

- Spindle elevation worm gear and way.
- Spindle elevation sliding connector rod.
- Spindle tilt worm gear.
- Quill and gear box.

All other pivot points and bearings are factory lubricated and are permanently sealed.

Spindle Elevation Worm Gear and Way

1. DISCONNECT THE SHAPER FROM POWER!

2. Lower the spindle to its lowest position.

3. Access the spindle elevation worm gear and way through the shaper front door (see **Figure 46**).

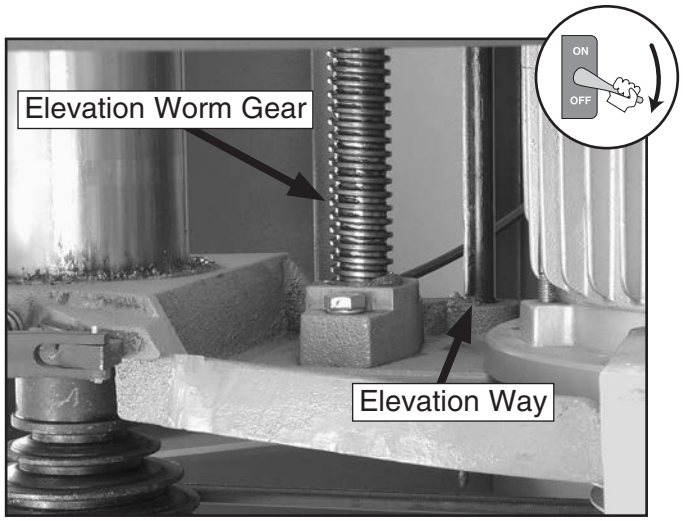


Figure 46. Spindle elevation worm gear and way (accessed through shaper front door).

4. Using mineral spirits, clean and wipe dry the worm gear and way

5. Brush on a thin coat of lithium or multi-purpose grease on the entire length of the worm gear and way.

6. Close the shaper front door and raise the spindle to the top and then back down to the bottom. This will distribute the grease evenly on the worm gear and way.

Spindle Elevation Sliding Connector Rod

The spindle elevation handwheel assembly is connected to the elevation worm gear with a sliding connecting rod that enables the motor and spindle assemblies to tilt.

To lubricate the spindle elevation connecting rod:

1. DISCONNECT THE SHAPER FROM POWER!

2. Tilt the spindle to +45° and access the connecting rod through the shaper front door (see **Figure 47**).

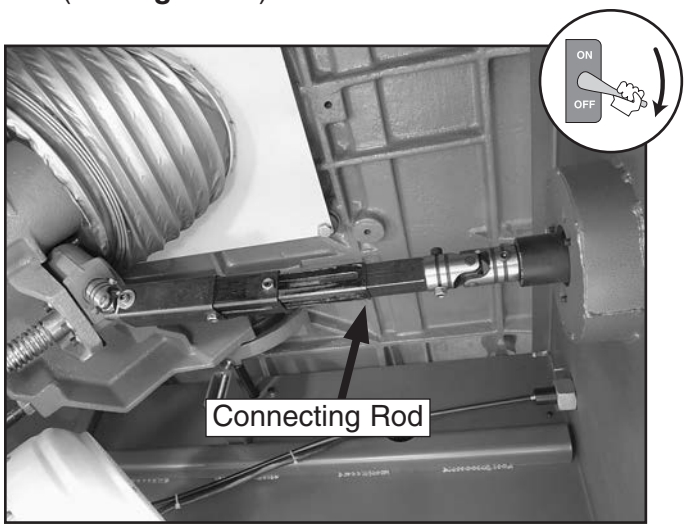


Figure 47. Spindle elevation connecting rod (accessed through the shaper front door).

3. Using mineral spirits, clean and wipe the connecting rod dry.

4. Apply a thin coat of lithium or multi-purpose grease on the entire length of the connecting rod.

⚠WARNING

The motor, V-belt and pulleys represent a serious danger to the operator during operation. The shaper front door MUST be closed and secured before turning the shaper *ON*. Otherwise, serious personal injury could occur.

Spindle Tilt Worm Gear

1. DISCONNECT THE SHAPER FROM POWER!

2. Lower the spindle to its lowest point and tilt it to +45°.

NOTICE

To avoid V-belt slippage during operation, do not get grease or oil on the V-belt or pulleys. If any lubricant does get on the V-belt or pulleys during the lubrication procedures, remove the V-belt, thoroughly clean the pulleys, and install a new V-belt.

3. Access the spindle tilt worm gear through the shaper front door (see **Figure 48**).

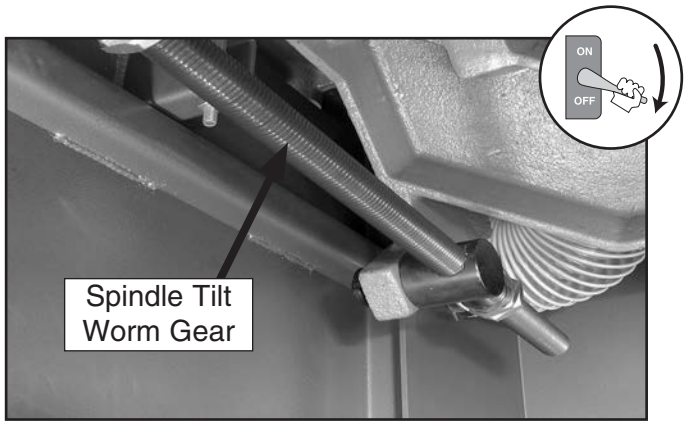


Figure 48. Spindle tilt worm gear.

4. Using mineral spirits, clean and wipe the spindle tilt worm gear dry.

5. Apply a thin coat of lithium or multi-purpose grease on the entire length of the worm gear.

6. Close the shaper front door and change the spindle tilt to -5° to evenly distribute the grease on the worm gear.

To lubricate the quill and gear box:

1. DISCONNECT THE SHAPER FROM POWER!

2. Lower the spindle to it lowest position and tilt it to +45°.

3. Open the shaper front door and locate the quill support grease cap (see **Figure 49**).

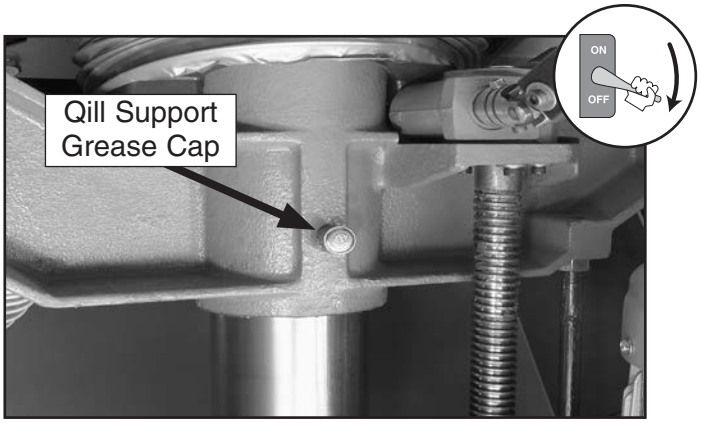


Figure 49. Quill support grease cap.

4. Unscrew and remove the grease cap from the spout on the quill support.

5. Fill the grease cap and spout with multi-purpose grease.

6. Screw the cap back onto the spout and tighten only until you feel some resistance.

   Note: *Tightening the grease cap will ease the grease into the quill support. See* ***Figure 50*** *for an illustration of this process.*

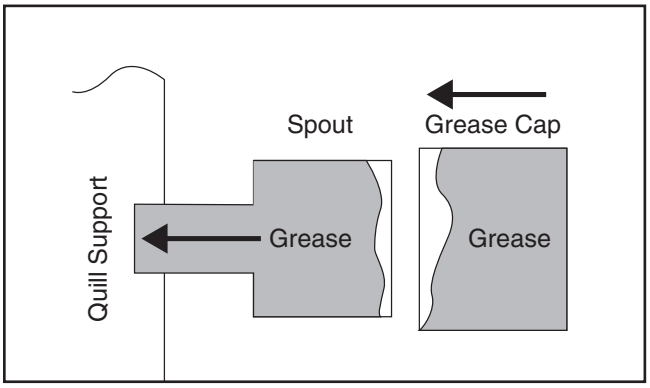


Figure **50**. Illustration of quill support grease cap and spout.

NOTICE

DO NOT replace the quill support grease cap and spout with a Zerk fitting. A Zerk fitting requires a much higher pressure to fill the cavity with grease and could rupture the quill seals.

7. Close the shaper front door before continuing operation of the shaper.

V-Belt

Check the V-belt for proper tension and belt condition as part of your regular maintenance. Cracking and glazing could result in belt failure. Replace the belt if such conditions appear.

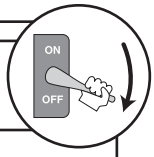
Do not get grease or oil on the V-belt or pulleys.

Refer to the **Changing Speed** procedures on **Page 25** for detailed information on accessing the V-belt.

SECTION 7: SERVICE

Review the troubleshooting and procedures in this section to fix your machine if a problem develops. If you need replacement parts or you are unsure of your repair skills, then feel free to call our Technical Support at (570) 546-9663.

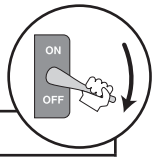
Troubleshooting



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	1. Fuse has blown.	1. Correct short/replace fuse in electrical box.
	2. Emergency stop push-button is engaged/ faulty.	2. Rotate until it pops out/replace it.
	3. Motor connection wired incorrectly.	3. Correct motor wiring connections.
	4. Thermal overload relay has tripped.	4. Turn cut-out dial to increase working amps and push the reset pin. Replace if tripped multiple times.
	5. Contactor not getting energized/has burnt contacts.	5. Test for power on all legs and contactor operation. Replace unit if faulty.
	6. Wall fuse/circuit breaker is blown/tripped.	6. Ensure correct size for machine load (refer to **Page 10**); replace weak breaker.
	7. Power supply is at fault/switched OFF.	7. Ensure hot lines have correct voltage on all legs and main power supply is switched ON.
	8. Motor ON button is at fault.	8. Replace faulty ON button.
	9. Emergency stop button is stuck/switch is at fault.	9. Free button from binding; replace faulty switch.
	10. Wiring is open/has high resistance.	10. Check for broken wires or disconnected/corroded connections, and repair/replace as necessary.
	11. Motor is at fault.	11. Test/repair/replace.
Machine stalls or is underpowered.	1. Wrong workpiece material (wood).	1. Use wood with correct moisture content, without glues, and little pitch/resins.
	2. Feed rate/cutting speed too fast for task.	2. Decrease feed rate/cutting speed.
	3. Dust collection ducting is poor.	3. Seal all leaks, size ducts correctly, eliminate bends, and refer to Dust Collection Basics Handbook (ISBN 0-9635821-2-7) for further recommendations.
	4. Belt slipping.	4. Replace bad belt and re-tension.
	5. Motor connection is wired incorrectly.	5. Correct motor wiring connections.
	6. Pulley/sprocket slipping on shaft.	6. Replace loose pulley/shaft.
	7. Motor bearings are at fault.	7. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
	8. Machine is undersized for the task.	8. Use sharp cutters; reduce the feed rate/depth of cut.
	9. Motor has overheated.	9. Clean off motor, let cool, and reduce workload.
	10. Contactor not getting energized or has poor contacts.	10. Test for power on all legs and contactor operation. Replace if faulty.
	11. Motor is at fault.	11. Test/repair/replace.

Motor & Electrical



Symptom	Possible Cause	Possible Solution
Machine has vibration or noisy operation.	1. Motor or component is loose.	1. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid.
	2. V-belt worn or loose.	2. Inspect/replace belt (refer to **Page 36**).
	3. Motor fan is rubbing on fan cover.	3. Replace dented fan cover/fan.
	4. Shaper bit or spindle is at fault.	4. Replace cutter; tighten loose spindle; replace defective spindle.
	5. Machine not stable on floor.	5. Secure machine to floor; reposition; re-shim.
	6. Elevation housing is loose.	5. Replace cracked elevation housing.
	7. Pulley is loose.	6. Realign/replace shaft, pulley, setscrew, and key as required.
	8. Machine is incorrectly mounted or sits unevenly on floor.	7. Tighten/replace anchor studs in floor; relocate/shim machine.
	9. Cast iron motor mount loose/broken.	8. Tighten/replace.
	10. Motor bearings are at fault.	9. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.
	11. Spindle bearings at fault.	10. Test by rotating spindle; rotational grinding/loose shaft requires bearing replacement.
	12. Centrifugal switch.	11. Replace

Shaper Operations

Symptom	Possible Cause	Possible Solution
Spindle does not raise or lower easily.	1. Elevation worm gear is clogged with sawdust.	1. Clean the elevation worm gear and lubricate it (refer to **Page 35**).
Workpiece is burned when cut.	1. Dull cutter.	1. Replace cutter or have it professionally sharpened.
	2. Too slow of a feed rate.	2. Increase feed speed.
	3. Pitch build-up on cutter.	3. Clean cutter with a blade and bit cleaning solution.
	4. Cutter rotating in the wrong direction.	4. Reverse the direction of the cutter rotation.
	5. Taking too deep of a cut.	5. Make several passes of light cuts.
Fuzzy grain.	1. Wood may have high moisture content or surface wetness.	1. Check moisture content and allow to dry if moisture is too high.
	2. Dull cutter.	2. Replace or have cutter professionally sharpened.
Chipping.	1. Knots or conflicting grain direction in wood.	1. Inspect workpiece for knots and grain direction; only use clean stock.
	2. Nicked or chipped cutter.	2. Replace the affected cutter, or have it professionally sharpened.
	3. Feeding workpiece too fast.	3. Slow down the feed rate.
	4. Taking too deep of a cut.	4. Take a smaller depth of cut. (Always reduce cutting depth when working with hard woods.)
	5. Cutting against the grain of the wood.	5. Cut with the grain of the wood.
Divots in the edge of the cut.	1. Inconsistent feed speed.	1. Move smoothly or use a power feeder.
	2. Inconsistent pressure against the fence and rub collar.	2. Apply constant pressure.
	3. Fence not adjusted correctly.	3. Adjust fence.
Spindle rotates in wrong direction.	1. Power wires are connected to wrong terminals.	1. Switch locations of power source wires U and V.

Table Insert Adjustment

Tools Needed:	Qty
Straightedge 36" or more in length	1
Hex Wrench 2.5mm	1
Wrench 19mm	1
Spindle Nut Wrench 36mm	1

The table inserts must be flush with the table on all sides to adequately support the workpiece and to prevent a workpiece stopping hazard.

The two innermost inserts depend upon the level of the outermost insert to be flush with the table.

To adjust the outermost table insert:

1. DISCONNECT THE SHAPER FROM POWER!

2. Remove the fence mount and fence assembly.

3. Remove any cutters from the spindle and lower the spindle below the surface of the table.

4. Make sure the two innermost inserts are firmly secured and the fasteners are below the surface of the inserts.

5. Place a straightedge across the table and center the table insert (see **Figure 51**).

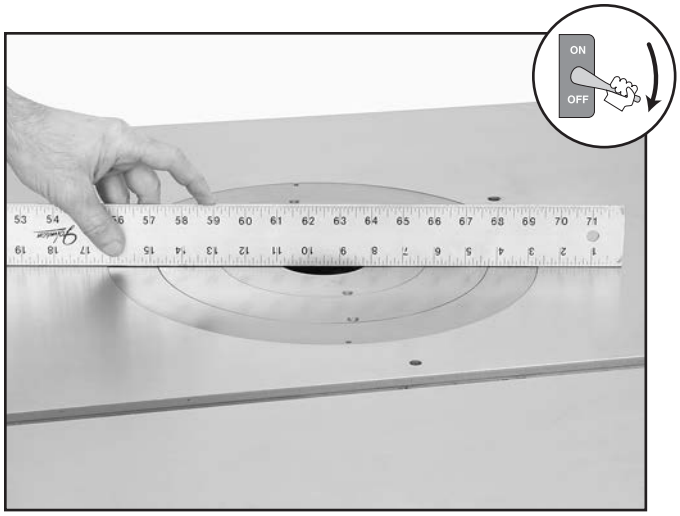


Figure 51. Using a straightedge to adjust the table insert.

6. Adjust the four set screws in the outermost insert until the entire surface of all the inserts is flush with the table.

   Note: *Move the straightedge 360° around the central pivot point to ensure all surfaces of the inserts are flush with the table in all directions (see **Figure 52**).*

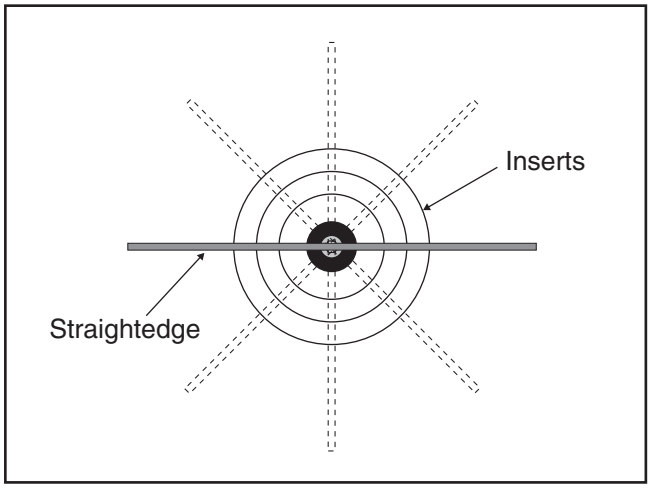


Figure 52. Illustration of using straightedge to level table inserts.

Table Adjustment

Tools Needed:	Qty
Machinist Square	1
Wrench 19mm	1
Spindle Nut Wrench 36mm	1

To reduce the risk of kickback and to increase the quality of cuts, it is important to make the table and spindle perpendicular to each other in all directions. This process will require taking measurements at many different positions (see **Figures 53 & 54**).

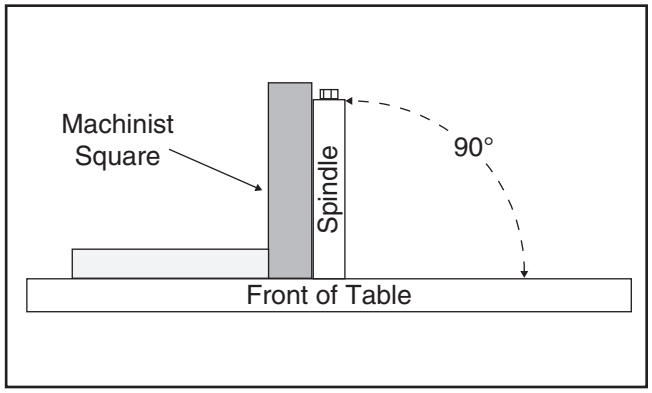


Figure 53. Illustration of using a machinist square with the table and spindle.

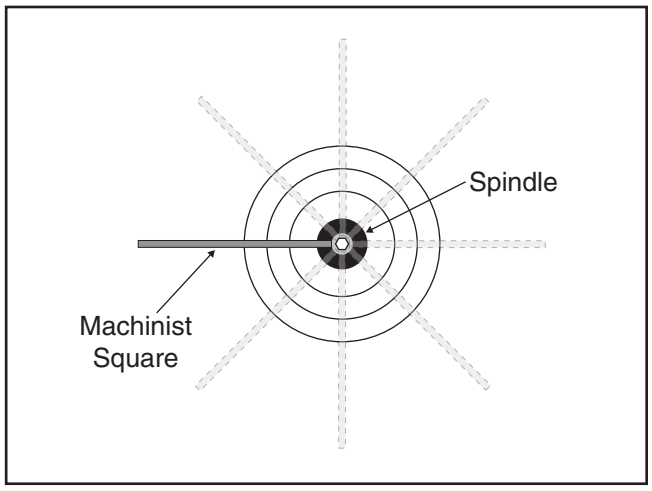


Figure 54. Illustration of machinist square at different directions from the spindle.

To get a perpendicular alignment between the table and spindle, it will be necessary to take multiple readings and make multiple adjustments to the adjusting hex bolt at each corner of the table.

To make the table and spindle perpendicular:

1. DISCONNECT THE SHAPER FROM POWER!

2. Remove the fence mount and fence assembly.

3. Remove the spindle locking bolt with washer, the spindle nut, cutters, and spacers from the spindle.

4. Raise the spindle to the highest elevation and bring the spindle tilt to exactly 0°.

   Note: *It is important that the spindle tilt dial read exactly 0° so that table adjustments are accurate in relation to the spindle.*

5. Position the machinist square against the spindle and the table (see **Figures 53 & 54**).

6. Adjust the tilt of the table as required by:

   a. Loosening the bottom jam nut of the table adjusting bolt (see **Figure 55**).

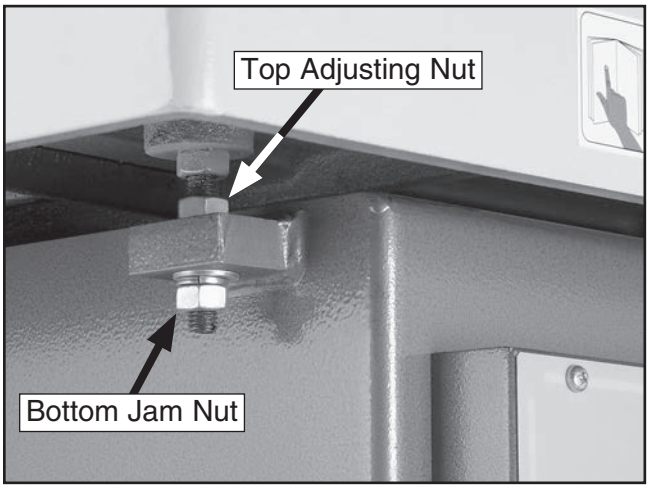


Figure 55. Table adjusting bolt and jam nuts.

   b. Rotating the top adjusting nut to raise or lower the head of the hex bolt and, thus, that corner of the table.

   c. Retightening the bottom jam nut.

7. Repeat **Steps 5–6** as necessary until all directions of the table are perpendicular with the spindle.

Spindle Replacement

Tools Needed:	Qty
Wrench 19mm	1
Spindle Nut Wrench 36mm	1
Spindle Shaft Nut Wrench	1

To remove and replace the spindle:

1. DISCONNECT THE SHAPER FROM POWER!

2. Remove the fence mount and fence assembly.

3. Engage the spindle lock to prevent the spindle from turning.

4. Remove the spindle locking bolt with washer, the spindle nut, cutters, and spacers from the spindle, and all table inserts.

5. Bring the spindle tilt to 0° and raise the spindle to its highest position.

6. Place the spindle shaft nut wrench over the spindle and rotate the wrench until the inward facing knobs at the bottom of the wrench engage with the slots on the spindle shaft nut (see **Figures 56 & 57**).

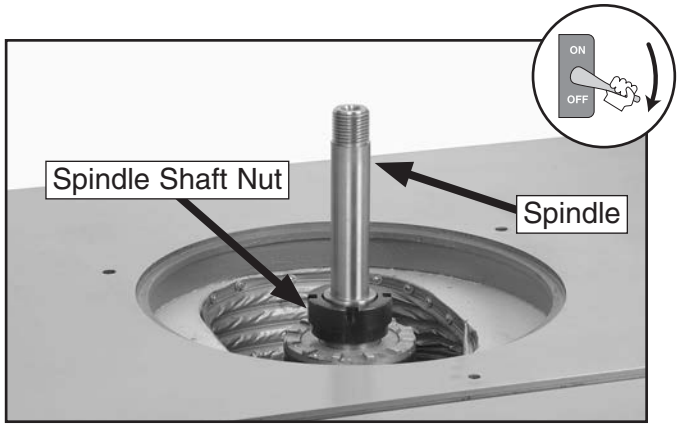


Figure 56. Spindle and spindle shaft nut.

7. Rotate the shaft nut wrench counterclockwise to loosen the shaft nut, then remove the shaft nut wrench from the spindle.

8. Hold the spindle and shaft nut together while removing from the spindle shaft.

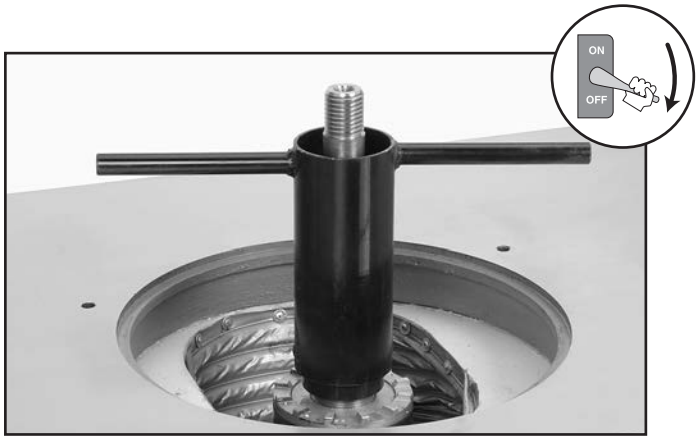


Figure 57. Spindle shaft nut wrench positioned over the spindle.

9. Taking care not to damage the spindle or the precision threads, remove the shaft nut from the spindle (see **Figure 58**).

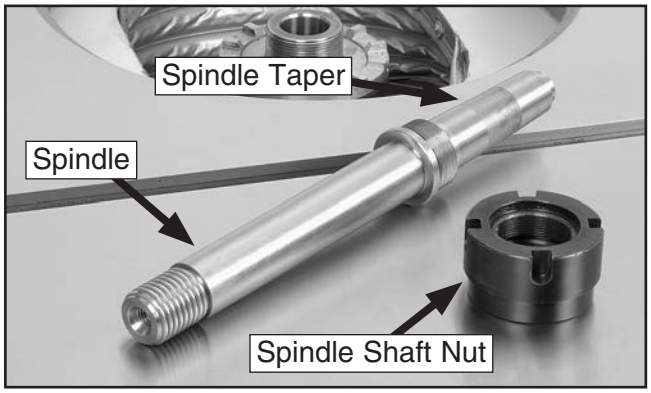


Figure 58. Spindle shaft nut separated from the spindle.

10. With the same care, screw the shaft nut onto the new spindle until it becomes snug.

    Note: *Make sure that the shaft nut is hand-tightened onto the spindle to ensure that the spindle taper will fully seat into the spindle shaft in the following procedures.*

11. Keeping the spindle and shaft nut together, hand tighten the spindle into the spindle shaft.

12. Further hand tighten the shaft nut clockwise until it is also snug on the spindle shaft.

13. Use the shaft nut wrench to final tighten the shaft nut another ½ turn to finish securing the spindle taper into the spindle shaft.

Electrical Components

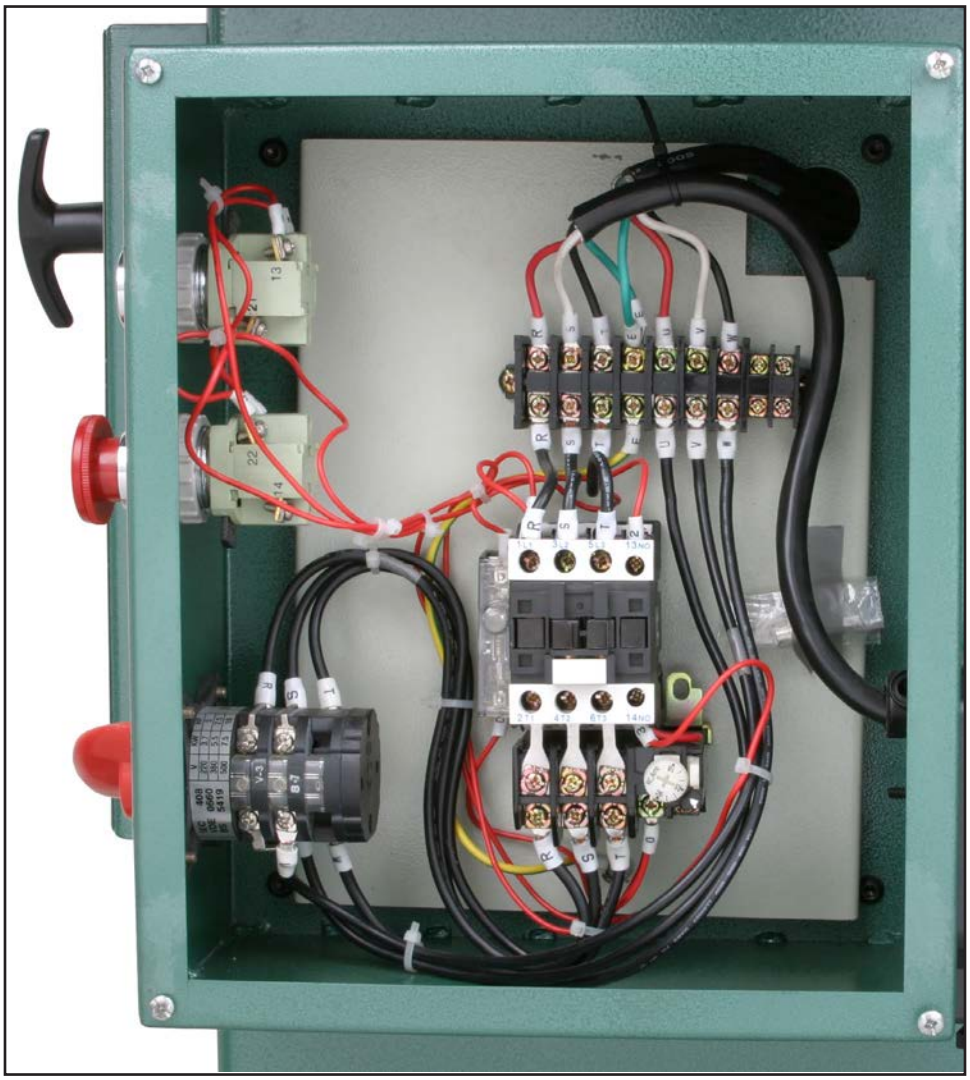


Figure 59. Electrical box wiring (220V/440V).

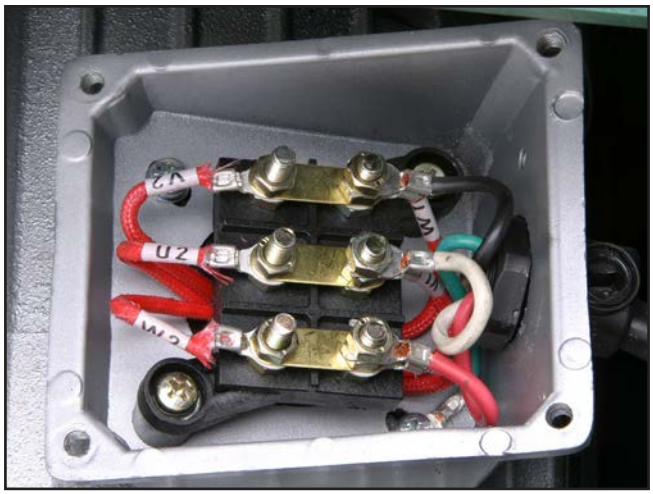


Figure 60. Motor junction box wiring (220V).

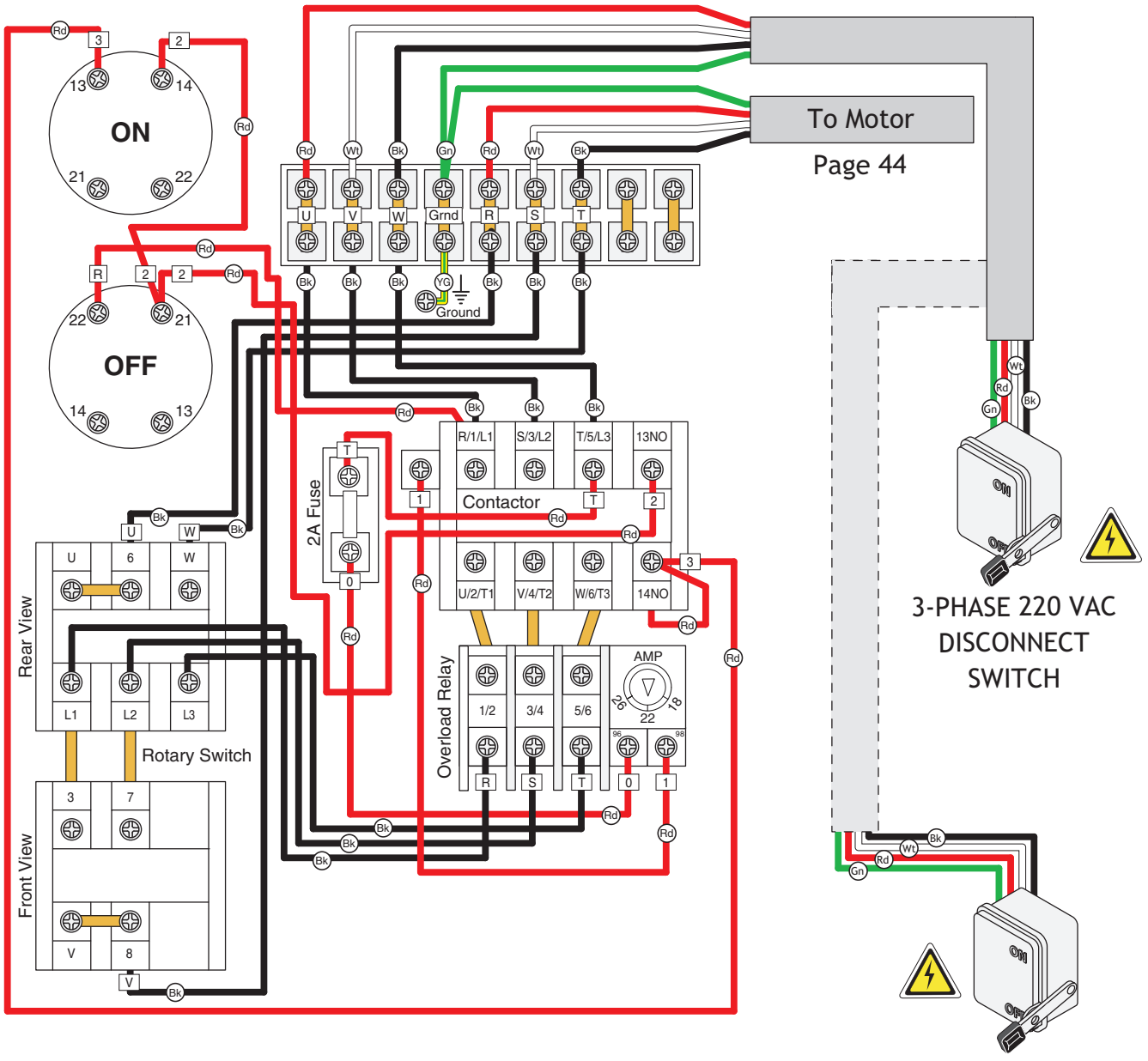
G0608X Electrical Box Wiring Diagram (220V/440V)

⚠ DANGER

Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK	Bk	RED	Rd
WHITE	Wt	YELLOW	Yl
GREEN	Gn	YELLOW/GREEN	YG



Note: *The contactor and overload relay illustrated above are for 220V operation. When converting to 440V operation, the contactor and overload relay must be changed. Refer to* ***Circuit Requirements*** *on* ***Page 10*** *for instructions on converting to 440V operation.*

G0608X Motor Wiring Diagram (220V/440V)

⚠DANGER

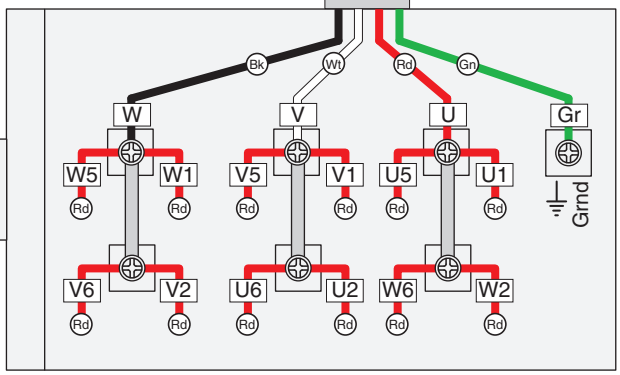
Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK — Bk
WHITE — Wt
GREEN — Gn
RED — Rd

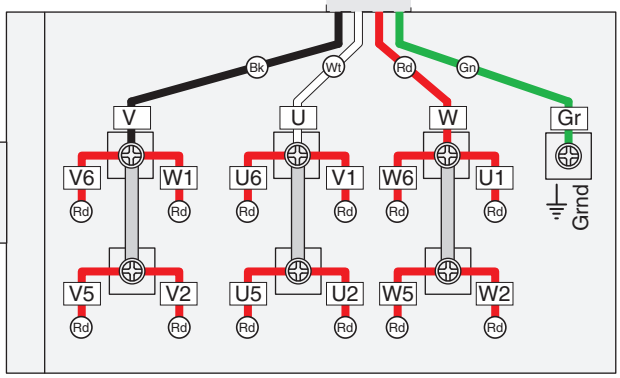
Electrical Box
Page 43
Figure 59

220VAC
(Pre-Wired)



Page 43
Figure 60

440VAC
(Optional)



(must also replace overload relay for 440V)

NOTICE

These motor wiring diagrams are current at the time of printing; however, always use the diagram on the inside of the junction box cover when rewiring your motor!

Table & Cabinet Parts Breakdown

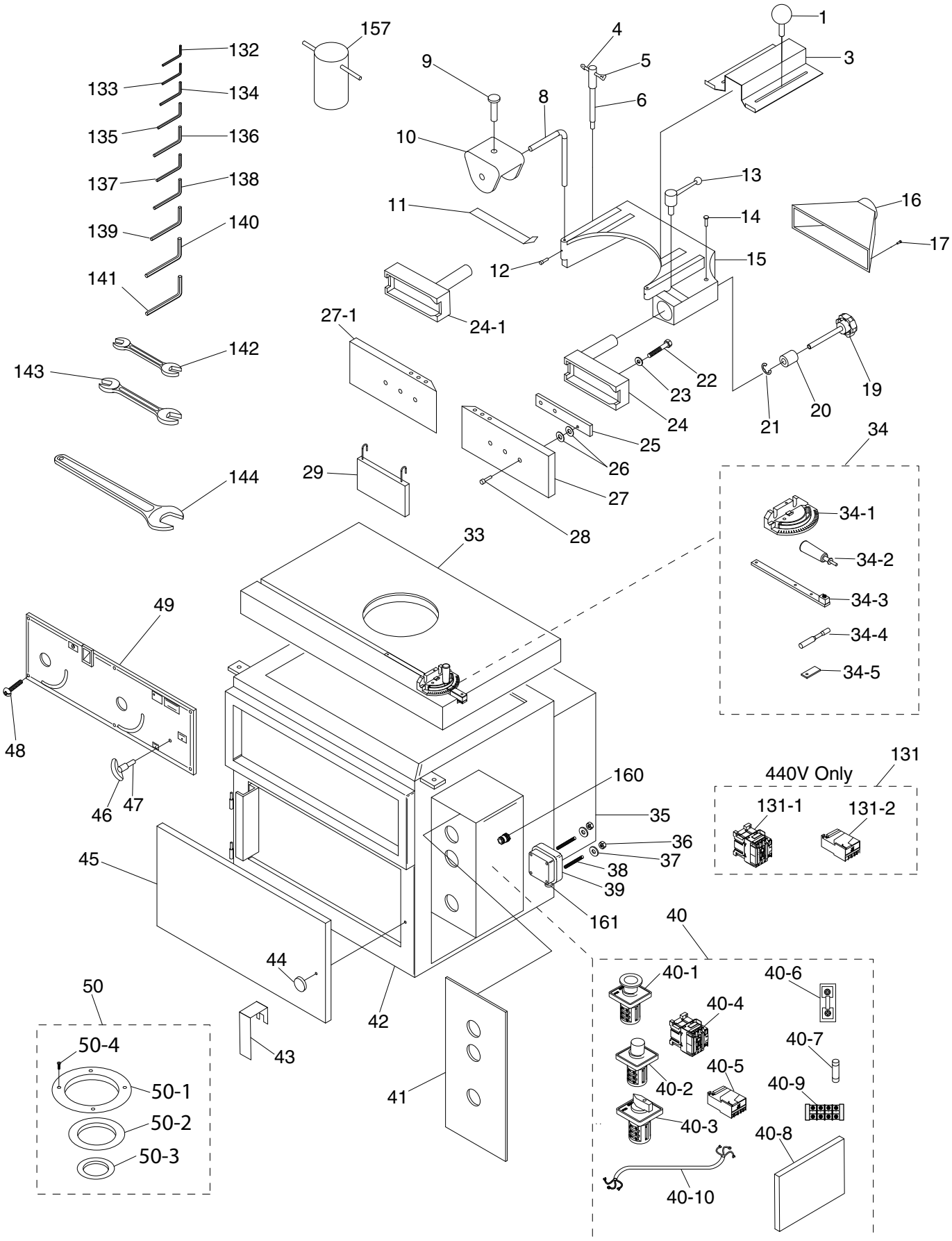
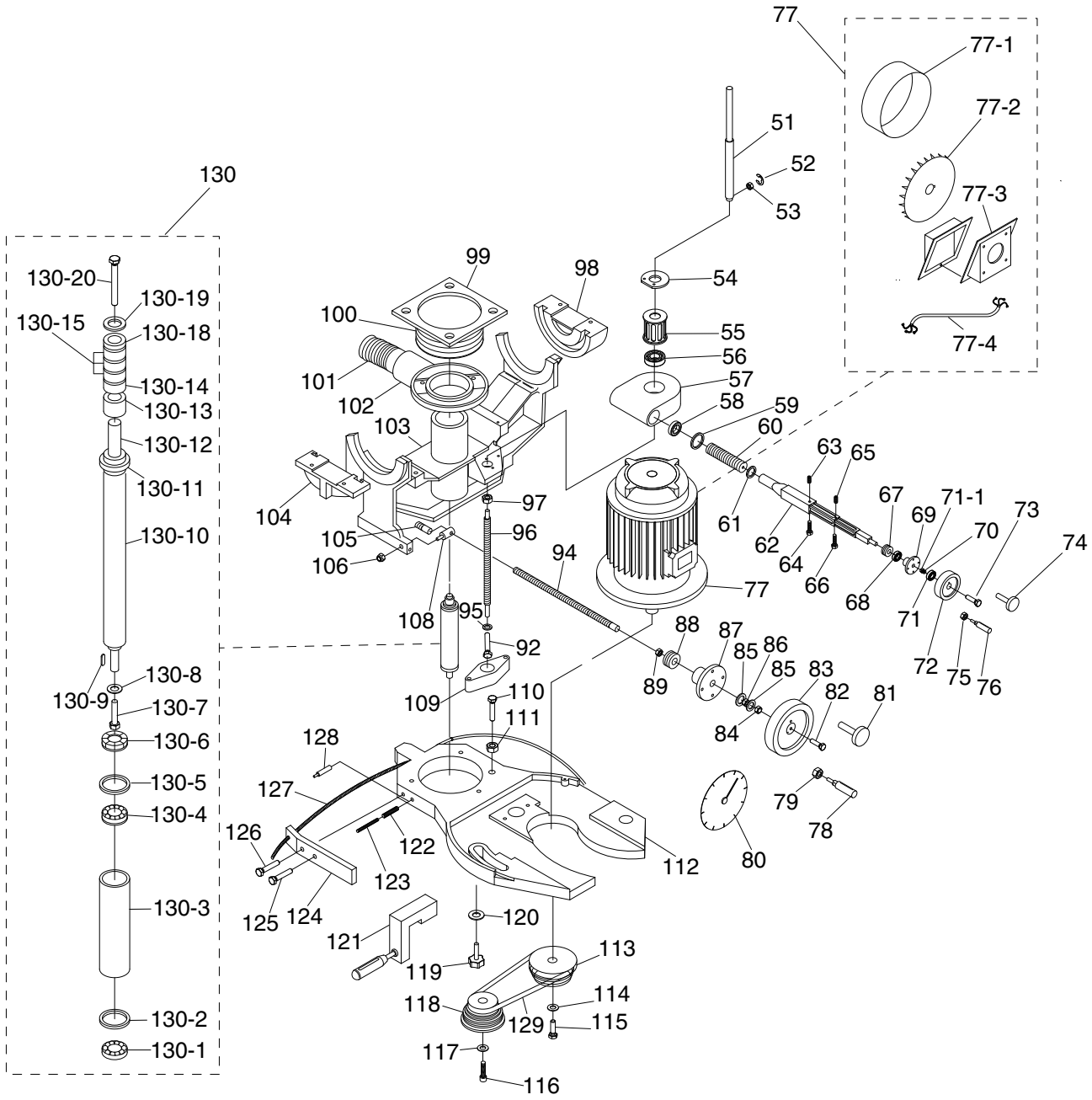


Table & Cabinet Parts List

REF	PART #	DESCRIPTION
1	P0608X001	KNOB BOLT M10-1.5 X 25
3	P0608X003	CUTTER TOP GUARD
4	P0608X004	HANDLE ROD
5	P0608X005	KNOB 1/2-13, D1-3/8, BALL
6	P0608X006	LOCK SHAFT
8	P0608X008	L-SHAFT
9	P0608X009	HEX BOLT M10-1.5 X 40
10	P0608X010	HOLD DOWN BRACKET
11	P0608X011	HOLD DOWN FINGER
12	P0608X012	HEX BOLT M10-1.5 X 35
13	P0608X013	LOCK LEVER M10-1.5 X 30
14	P0608X014	SET SCREW M8-1.25 X 10
15	P0608X015	FENCE BASE
16	P0608X016	DUST HOOD W/5" PORT
17	P0608X017	PHLP HD SCR M5-.8 X 8
19	P0608X019	KNOB BOLT
20	P0608X020	SPACER
21	P0608X021	E-CLIP 12MM
22	P0608X022	HEX BOLT M10-1.5 X 35
23	P0608X023	FLAT WASHER 10MM
24	P0608X024	FENCE SUPPORT RIGHT
24-1	P0608X024-1	FENCE SUPPORT LEFT
25	P0608X025	FENCE MOUNTING PLATE
26	P0608X026	FLAT WASHER 10MM
27	P0608X027	FENCE BOARD RIGHT
27-1	P0608X027-1	FENCE BOARD LEFT
28	P0608X028	CAP SCREW M10-1.5 X 30
29	P0608X029	CUTTER FRONT GUARD
33	P0608X033	TABLE
34	P0608X034	MITER GAUGE ASSEMBLY
34-1	P0608X034-1	MITER BODY
34-2	P0608X034-2	HANDLE
34-3	P0608X034-3	SLIDING PLATE
34-4	P0608X034-4	PIN
34-5	P0608X034-5	INDICATOR
35	P0608X035	REAR CABINET COVER
36	P0608X036	HEX NUT 10-24
37	P0608X037	FLAT WASHER #10
38	P0608X038	STUD-FT #10-24 X 3
39	P0608X039	POWER JUNCTION BOX ASSEMBLY
40	P0608X040	ELECTRICAL BOX
40-1	P0608X040-1	STOP SWITCH

REF	PART #	DESCRIPTION
40-2	P0608X040-2	POWER SWITCH
40-3	P0608X040-3	REVERSIBLE SWITCH
40-4	P0608X040-4	CONTACTOR NHD MOS-18D 220V
40-5	P0608X040-5	OL RELAY NHD TH-20 220V 18-26A
40-6	P0608X040-6	FUSE HOUSING W/DIODE
40-7	P0608X040-7	FUSE 2A
40-8	P0608X040-8	ELECTRICAL MOUNTING PANEL
40-9	P0608X040-9	TERMINAL BLOCK 4P
40-10	P0608X040-10	ELECTRIC BOX WIRING HARNESS
41	P0608X041	PVC CONTROL PANEL
42	P0608X042	BASE CABINET
43	P0608X043	LATCH HANDLE
44	P0608X044	DOOR LATCH
45	P0608X045	MOTOR ACCESS DOOR
46	P0608X046	T-HANDLE
47	P0608X047	T-HANDLE SHAFT
48	P0608X048	PHLP HD SCR M6-1 X 55
49	P0608X049	PVC HANDWHEEL PANEL
50	P0608X050	TABLE INSERT SET ASSEMBLY
50-1	P0608X050-1	TABLE INSERT 9-7/8 ID X 13-3/4 OD
50-2	P0608X050-2	TABLE INSERT 5-7/8 ID X 10-5/8 OD
50-3	P0608X050-3	TABLE INSERT 2-3/4 ID X 6-3/4 OD
50-4	P0608X050-4	SET SCREW M4-.7 X 5
131	P0608X131	440V CONVERSION KIT NHD
131-1	P0608X131-1	CONTACTOR NHD MOS-12D 220V
131-2	P0608X131-2	OL RELAY NHD TH-12 18-26A
132	P0608X132	HEX WRENCH 1.5MM
133	P0608X133	HEX WRENCH 2MM
134	P0608X134	HEX WRENCH 2.5MM
135	P0608X135	HEX WRENCH 3MM
136	P0608X136	HEX WRENCH 4MM
137	P0608X137	HEX WRENCH 5MM
138	P0608X138	WRENCH HEX 5.5MM
139	P0608X139	HEX WRENCH 6MM
140	P0608X140	HEX WRENCH 8MM
141	P0608X141	HEX WRENCH 10MM
142	P0608X142	WRENCH 11 X 13 OPEN-ENDS
143	P0608X143	WRENCH 17 X 19 OPEN-ENDS
144	P0608X144	SPINDLE NUT WRENCH 36MM
157	P0608X157	SHAFT NUT WRENCH
160	P0608X160	STRAIGHT STRAIN RELIEF LT
161	P0608X161	STRAIN RELIEF BUSHING

Motor & Spindle Parts Breakdown

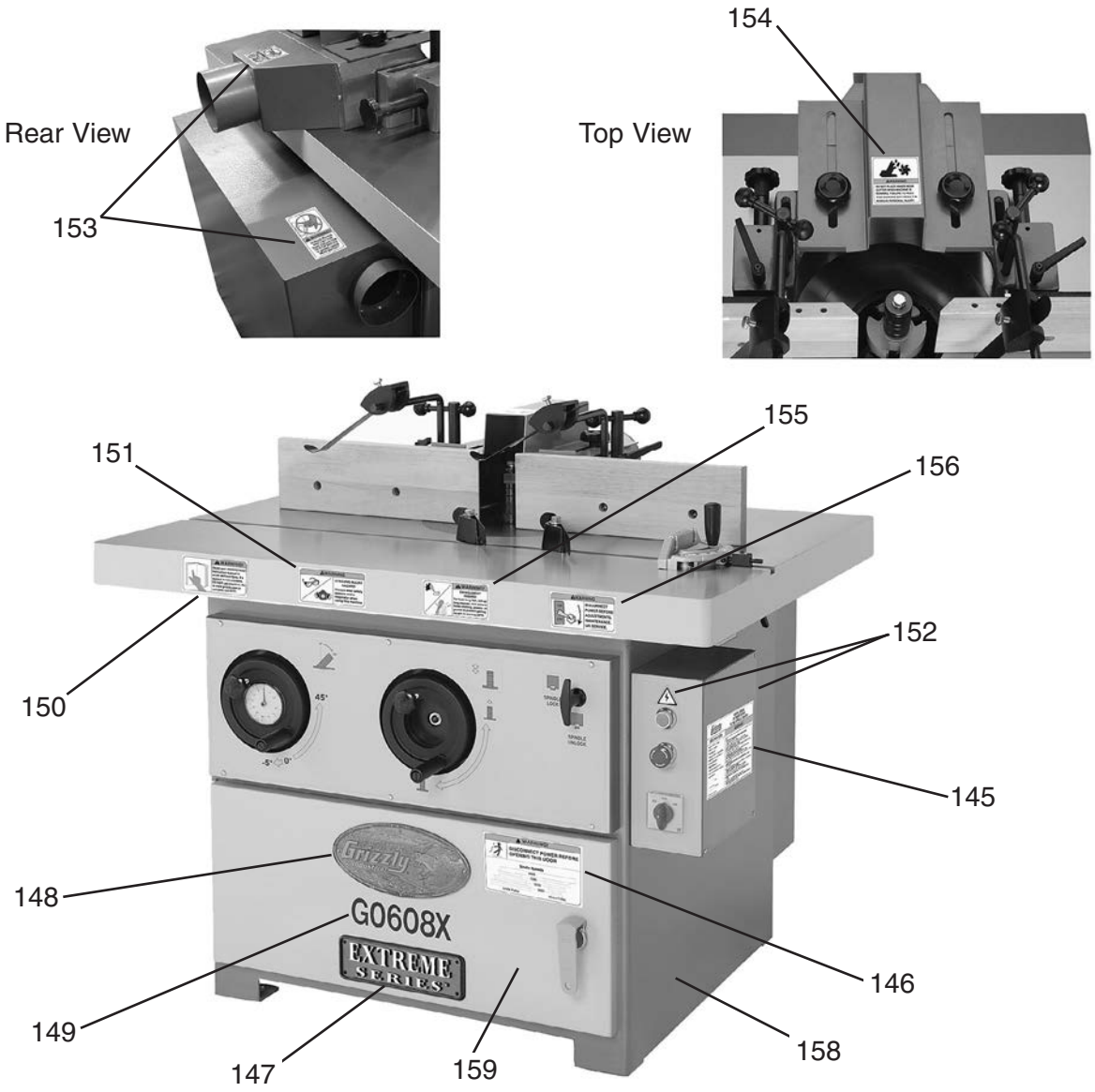


Motor & Spindle Parts List

REF	PART #	DESCRIPTION
51	P0608X051	ARBOR
52	PEC04M	E-CLIP 13MM
53	PN13M	HEX NUT M16-2
54	P0608X054	GEAR D-RETAINER
55	P0608X055	BRASS GEAR
56	P0608X056	THRUST NEEDLE BEARING 3047
57	P0608X057	WORM GEAR HOUSING
58	P6002ZZ	BALL BEARING 6002ZZ
59	PR29M	INT RETAINING RING 32MM
60	P0608X060	WORM GEAR
61	P0608X061	THRUST WASHER
62	P0608X062	EXTENSION COUPLER
63	PSS01M	SET SCREW M6-1 X 10
64	PB04M	HEX BOLT M6-1 X 10
65	PSS01M	SET SCREW M6-1 X 10
66	PB04M	HEX BOLT M6-1 X 10
67	P0608X067	COUPLER
68	P6002ZZ	BALL BEARING 6002ZZ
69	P0608X069	SUPPORT PLATE
70	PW14M	FLAT WASHER 8MM
71	P6002ZZ	BALL BEARING 6002ZZ
71-1	PN03M	HEX NUT M8-1.25
72	P0608X072	HANDWHEEL
73	PBHS23M	BUTTON HD CAP SCR M8-1.25 X 25
74	P0608X074	KNOB BOLT M8-1.25 X 120
75	PN08	HEX NUT 3/8-16
76	P0608X076	HANDLE
77	P0608X077	MOTOR 7.5HP 220/440V 3PH 60HZ
77-1	P0608X077-1	MOTOR FAN COVER
77-2	P0608X077-2	MOTOR FAN
77-3	P0608X077-3	MOTOR JUNCTION BOX
77-4	P0608X077-4	MOTOR WIRING HARNESS
78	P0608X078	HANDLE
79	PN08	HEX NUT 3/8-16
80	P0608X080	TILT DIAL
81	P0608X081	KNOB BOLT M8-1.25 X 120
82	PBHS23M	BUTTON HD CAP SCR M8-1.25 X 25
83	P0608X083	HANDWHEEL
84	PN03M	HEX NUT M8-1.25
85	P6002ZZ	BALL BEARING 6002ZZ
86	PN03M	HEX NUT M8-1.25
87	P0608X087	SUPPORTING PLATE
88	P0608X088	COUPLER
89	PN03M	HEX NUT M8-1.25
92	PBHS22M	BUTTON HD CAP SCR M8-1.25 X 20
94	P0608X094	TILT LEADSCREW
95	PWF08M	FENDER WASHER 8MM
96	P0608X096	ELEVATION LEADSCREW
97	PN32M	HEX NUT M14-2
98	P0608X098	RIGHT TILTING BASE

REF	PART #	DESCRIPTION
99	P0608X099	DUST HOUSING
100	P0608X100	FLEXIBLE HOSE 10"
101	P0608X101	FLEXIBLE HOSE 4"
102	P0608X102	DUST HOOD
103	P0608X103	TILTING BASE SUPPORT HOUSING
104	P0608X104	LEFT TILTING BASE
105	P0608X105	SUPPORT HOUSING RETAINING SCREW
106	P0608X106	SUPPORT HOUSING LOCKING NUT
108	P0608X108	RETAINING BOLT
109	P0608X109	LEADSCREW SUPPORT
110	PB33M	HEX BOLT M12-1.75 X 50
111	PN09M	HEX NUT M12-1.75
112	P0608X112	MOTOR BASE
113	P0608X113	MOTOR PULLEY
114	PW01M	FLAT WASHER 8MM
115	PB15M	HEX BOLT M8-1.25 X 40
116	PCAP31M	CAP SCREW M8-1.25 X 25
117	PW01M	FLAT WASHER 8MM
118	P0608X118	SPINDLE PULLEY
119	P0608X119	KNOB BOLT 10-1.5 X 30
120	PW04M	FLAT WASHER 10MM
121	P0608X121	BELT TENSIONING BAR ASSEMBLY
122	P0608X122	COMPRESSION SPRING
123	P0608X123	COMPRESSION SPRING
124	P0608X124	SUPPORT ARM
125	PB161M	HEX BOLT M6-1 X 70
126	PB45M	HEX BOLT M8-1.25 X 100
127	P0608X127	LOCK WIRE
128	P0608X128	LOCK PIN
129	PVA40	V-BELT A40
130	P0608X130	CUTTER SHAFT ASSEMBLY
130-1	P6206ZZ	BALL BEARING 6206ZZ
130-2	PR38M	INT RETAINING RING 62MM
130-3	P0608X130-3	QUILL
130-4	P6210ZZ	BALL BEARING 6210ZZ
130-5	P0608X130-5	INT RETAINING RING 90MM
130-6	P0608X130-6	DUST COVER
130-7	PCAP31M	CAP SCREW M8-1.25 X 25
130-8	PW01M	FLAT WASHER 8MM
130-9	P4185072	KEY 8 X 7 X 35
130-10	P0608X130-10	SPINDLE CARTRIDGE
130-11	P0608X130-11	SPINDLE SHAFT NUT
130-12	P0608X130-12	SPINDLE
130-13	P0608X130-13	SPACER 15MM
130-14	P0608X130-14	SPACER 20MM
130-15	P0608X130-15	SPACER 25MM
130-18	P0608X130-18	SHAFT NUT
130-19	P0608X130-19	SPACER 12MM
130-20	PB25M	HEX BOLT M12-1.75 X 25

Label Placement



REF	PART #	DESCRIPTION
145	P0608X145	MACHINE ID LABEL
146	P0608X146	DISCONNECT POWER LABEL
147	P0608X147	EXTREME SERIES LOGO 10 X 3-1/4
148	P0608X148	GRIZZLY LOGO 10-3/4 X 5-1/4
149	P0608X149	MODEL NUMBER LABEL
150	P0608X150	READ MANUAL LABEL
151	P0608X151	GLASSES-RESPIRATOR LABEL

REF	PART #	DESCRIPTION
152	P0608X152	ELECTRICITY LABEL
153	P0608X153	OUTLET HORIZ LABEL
154	P0608X154	CUTTER HORIZ LABEL
155	P0608X155	ENTANGLEMENT LABEL
156	P0608X156	DISCONNECT LABEL
158	P0608X158	GRIZZLY GREEN TOUCH UP PAINT
159	P0608X159	GRIZZLY PUTTY TOUCH UP PAINT

⚠WARNING

Safety labels warn about machine hazards and ways to prevent injury. The owner of this machine MUST maintain the original location and readability of the labels on the machine. If any label is removed or becomes unreadable, REPLACE that label before using the machine again. Contact Grizzly at (800) 523-4777 or www.grizzly.com to order new labels.

WARRANTY AND RETURNS

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

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

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

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

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

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

Grizzly Industrial, Inc. WARRANTY CARD

Name _____

Street _____

City _____ State _____ Zip _____

Phone # _____ Email _____

Model # _____ Order # _____ Serial # _____

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

1. How did you learn about us?

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

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

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

3. What is your annual household income?

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

4. What is your age group?

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

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

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

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

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

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

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

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

10. Comments: _____

_____

_____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

Place
Stamp
Here

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

FOLD ALONG DOTTED LINE

Send a Grizzly Catalog to a friend:

Name_____

Street_____

City_____State_____Zip_____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE