

Grizzly *Industrial, Inc.*®

MODEL G0610 DOVETAIL MACHINE OWNER'S MANUAL



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**WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE
OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.**
#TR8561 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	2
Foreword	2
Contact Info	2
Machine Data Sheet.....	3
Identification	4
SECTION 1: SAFETY	5
Safety Instructions for Machinery.....	5
Additional Safety for Dovetailers.....	7
SECTION 2: CIRCUIT REQUIREMENTS	8
110/220V Operation	8
SECTION 3: SETUP	9
Unpacking	9
Items Needed for Setup	9
Inventory.....	9
Cleanup	10
Site Considerations	10
Moving & Placing Base Unit.....	11
Mounting to Shop Floor.....	12
Assembly.....	13
Test Run.....	14
SECTION 4: OPERATIONS	15
Dovetail Terminology.....	15
Stock Preparation.....	16
Dovetail Setup.....	17
SECTION 5: ACCESSORIES	26
SECTION 6: MAINTENANCE	27
Schedule	27
Cleaning	27
Lubrication.....	27
SECTION 7: SERVICE	28
Troubleshooting.....	28
Cutter Replacement	30
Belt Tension	30
Belt Replacement.....	31
110V Wiring Diagram (Prewired)	32
220V Wiring Diagram	33
Table Parts Breakdown.....	34
Headstock Parts Breakdown.....	36
Stand Parts Breakdown	38
Labels Parts Breakdown	40
WARRANTY AND RETURNS	41

INTRODUCTION


Manual Accuracy

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

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

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

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

		MODEL GXXXX MACHINE NAME	
SPECIFICATIONS		⚠ WARNING!	
Motor:		To reduce risk of serious injury when using this machine:	
Specification:		1. Read manual before operation.	
Specification:		2. Wear safety glasses and respirator.	
Specification:		3. Make sure machine is properly adjusted/setup and	
Specification:		power is connected to grounded circuit before starting.	
Weight:		4. Make sure the motor has stopped and disconnect	
		power before adjustments, maintenance, or service.	
		5. DO NOT expose to rain or dampness.	
		6. DO NOT modify this machine in any way.	
		7.	
		8.	
		9. Do not use while intoxicated or under the influence of drugs or alcohol.	
		10. Maintain machine carefully to prevent accidents.	
Manufactured for Grizzly in Taiwan			

Manufacture Date

Serial Number

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.

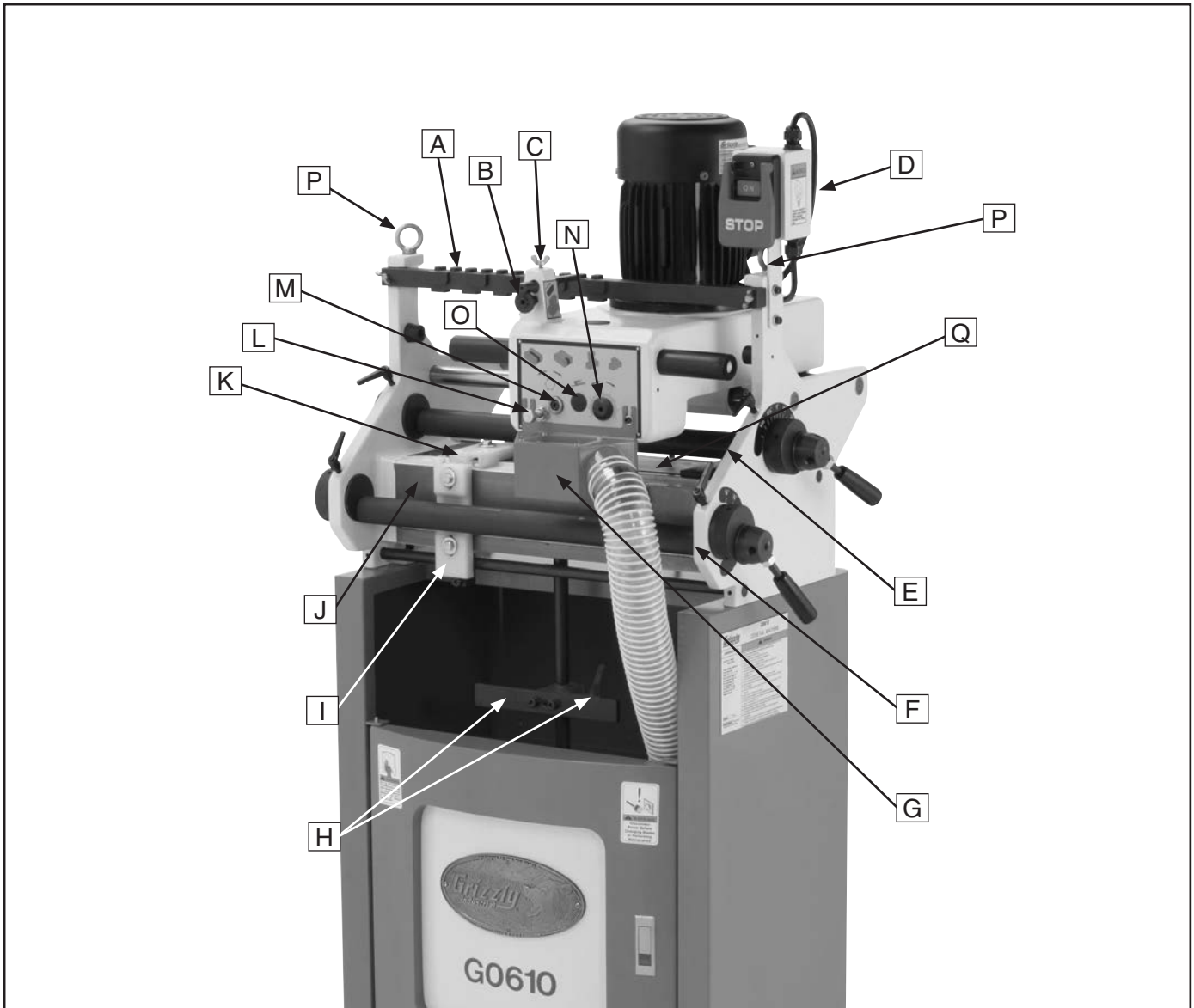
Grizzly Technical Support
1815 W. Battlefield
Springfield, MO 65807
Phone: (570) 546-9663
Email: techsupport@grizzly.com

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



Identification



- A. Template Bar
- B. Tracer Pin Adjustment Thumbwheel
- C. Tracer Pin Lock
- D. Switch
- E. Horizontal Bar Clamp
- F. Vertical Bar Clamp
- G. Guard
- H. Vertical Support Bar & Lock Handle
- I. Vertical Fence

- J. Vertical Table
- K. Horizontal Fence
- L. Depth Stop Bolt
- M. Cutter Height Lock
- N. Cutter Height Adjustment
- O. Spindle Greasing Location
- P. Eye bolt
- Q. Horizontal Table





MACHINE DATA SHEET

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

MODEL G0610 DOVETAIL MACHINE

Overall Dimensions:

Overall Size	30½" W x 22½" D x 57" H
Table Height	38 ⁵ / ₁₆ "
Table Size	19½" W x 7" L
Shipping Crate Size	30 ¹ / ₈ " W x 26" L x 63" H
Shipping Weight	418 LBS
Machine Weight	341 LBS
Base Footprint	26 ³ / ₄ " W x 20 ¹ / ₄ " L

Capacities:

Number of Spindles	1
Spindle Speed	18,500 RPM
Dovetail Shank Diameter	½" (12mm)
Dovetail Bit	Angle 10° x 5/8" L Single Cutter
Dovetail Templates	1", 1½", 2", 2½"
Maximum Dovetail Height	¾"
Minimum Dovetail Height	9/16"
Maximum Workpiece Thickness	1¾"
Minimum Workpiece Thickness	13/32"
Maximum Workpiece Size	11¼" W x 28" L
Minimum Workpiece Size	2¾" W x 7⅞" L

Construction:

Table Frame	Precision Ground Cast Iron
Carriage	Aluminum
Stand	Pre-Formed Steel
Spindle Bearings	Permanently Lubricated Ball Bearings
Slide Way	Hardened Ground Chromed Round Steel
Sliding Guide	Ball Bearing Linear Guides

Motor:

Type	TEFC Capacitor Start Induction
Horsepower	1 HP
Phase/Voltage	Single-Phase / 110V/220V (Prewired 110V)
Amps	10/5 A
Cycle/RPM	60 Hz / 3450 RPM
Ball Bearings	Shielded & Lubricated Ball Bearings

Features:

- Micro-Adjustable Spindle Head for Precision Control of Dovetail "Fit"
- Material Stops for Quick Workpiece Positioning
- Cam-Action Clamping System for Quickly Loading/Unloading Workpieces
- 4" Dust Port
- Spring Loaded Carriage for Smooth Cutting
- Soft Grip Control Handles

Specifications, while deemed accurate, are not guaranteed.



SECTION 1: SAFETY

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

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



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



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



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

NOTICE

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

Safety Instructions for Machinery

WARNING

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

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

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

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

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

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

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



WARNING

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



WARNING

Additional Safety for Dovetailers

- 1. GUARD.** The guard helps protect the operator from the spinning cutter and flying debris during operation. Never operate the dovetail machine or allow it to be connected to power when the guard is removed or serious personal injury may occur.
- 2. BOARD EJECTION.** The machine may eject boards in the horizontal position if they are not clamped securely. Never allow others to stand directly behind the dovetail machine during operation or serious injury may occur.
- 3. SAFETY GLASSES.** Even with the guard in place, occasional chips may be ejected from the machine. Operator and bystanders **MUST** wear ANSI approved safety glasses to prevent eye injuries.
- 4. CUTTER STARTING POSITION.** Starting the machine with the cutter against a workpiece or fence may eject debris from the machine and most likely will ruin the workpiece or cutter. Move the cutter clear of any contact before starting the machine!
- 5. DISCONNECT POWER BEFORE ANY ADJUSTMENTS.** This machine requires the operator to work near the exposed cutter during setup. Always disconnect power **BEFORE** making adjustments to the machine or serious personal injury may occur.
- 6. LOOSE CUTTER.** Starting the machine with a loose cutter may eject the cutter from the machine at a high rate of speed, causing serious personal injury to the operator or bystanders. Always double-check that the cutter is tight after adjusting.
- 7. REMOVE ADJUSTMENT TOOLS.** Starting the machine with a wrench left in the spindle adjustment screw can result in serious personal injury. Always remove any wrenches or other adjustment tools from the machine after adjustments have been made and before starting the machine.
- 8. DUST COLLECTION.** Using dust collection when operating this machine greatly reduces flying debris and fine airborne dust, which reduces the risk of personal injury from these hazards. Always use a dust collection system when operating this machine.

WARNING

Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

CAUTION

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



SECTION 2: CIRCUIT REQUIREMENTS

110/220V Operation

!WARNING

Serious personal injury could occur if you connect the 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.

Amperage Draw


The Model G0610 features a 110/220V motor that is prewired for 110V and draws the following amps under maximum load:

Motor Draw at 110V 10 Amps
Motor Draw at 220V.....5 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.**

110V Circuit..... 15 Amps
220V Circuit..... 15 Amps



!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!

NOTICE

The Model G0610 is prewired for 110V operation. If you plan to operate your machine at 220V, then you must rewire the motor. Refer to the 220V wiring diagram on Page 33 for details on rewiring the motor.

Plug Type

The Model G0610 comes prewired with a NEMA 5-15 plug. If you wish to rewire the motor to 220V, we recommend using the following plug (see **Figure 1** for an example):

220V Plug & Receptacle 6-15

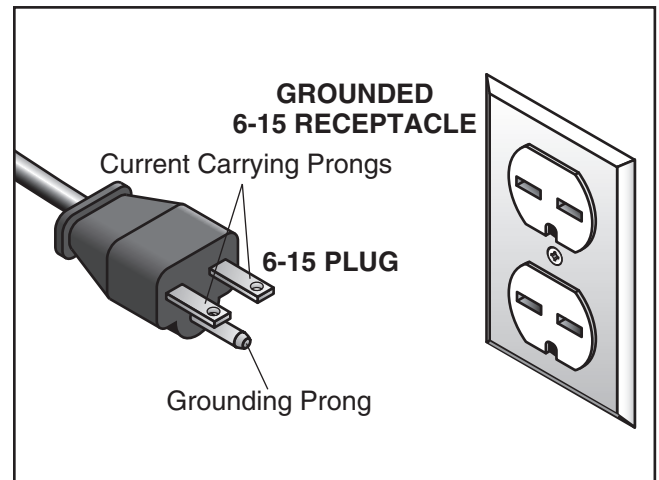


Figure 1. 6-15 plug and outlet for 220V.

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:

- For 110V, use at least a 14 gauge cord that does not exceed 50 feet in length.
- For 220V, use at least a 14 gauge cord that does not exceed 50 feet in length.



SECTION 3: SETUP



!WARNING

The Model G0610 is a heavy machine. **DO NOT over-exert yourself while unpacking or moving your machine—get assistance.**

Unpacking

The Model G0610 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, inventory the contents.

Items Needed for Setup

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

Description	Qty
• Phillips Screwdriver.....	1
• Safety Glasses (for each person)	1
• Lifting Strap	1
• Forklift.....	1
• Shackle for Eyebolt (see Figure 6).....	1

Inventory

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

Box Inventory: (Figure 2)	Qty
A. Dovetail Machine (not shown)	1
B. Clamp Handles w/Hex Nuts	2
C. Hex Wrench Set (1.5-6mm)	1 Each
D. Combo Wrench Set (8-10, 11-13, 12-14, and 17-19mm)	1 Each
E. Extra Vertical HDPE Fence	1
F. Extra Horizontal HDPE Fence.....	1
G. Hex Bolts M8-1.25 x 20	4
H. Flat Washers 8mm	4

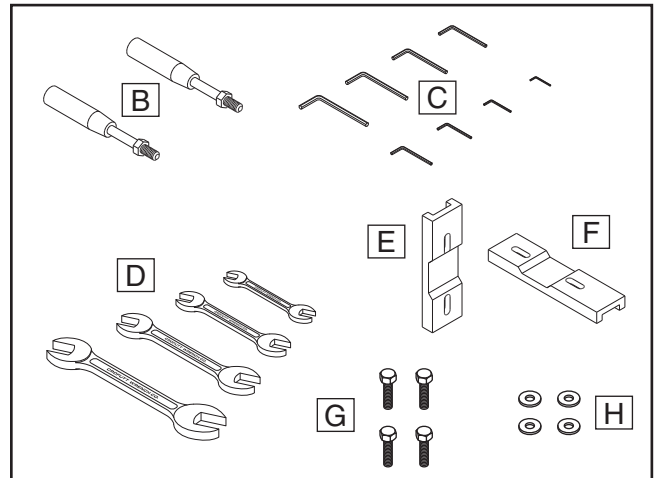


Figure 2. Model G0610 inventory.

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


NOTICE

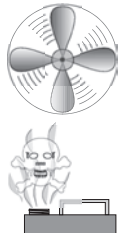
Some hardware/fasteners on the inventory list may arrive pre-installed on the machine. Check these locations before assuming that any items from the inventory list are missing.



Cleanup

The unpainted surfaces are coated with a waxy oil to prevent 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, clean all moving parts or sliding contact surfaces.** 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.

	<p>⚠ WARNING Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. DO NOT use these products to clean the machinery.</p>
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	<p>⚠ CAUTION Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.</p>
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Site Considerations

Floor Load

Refer to the **Machine Data Sheet** 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 3** for the minimum working clearances.

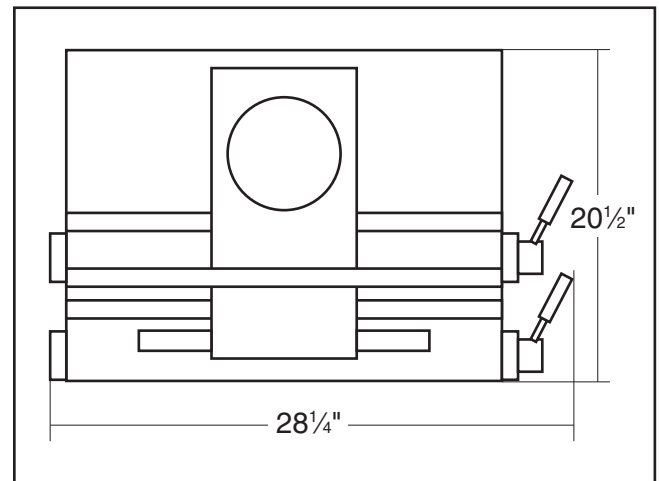
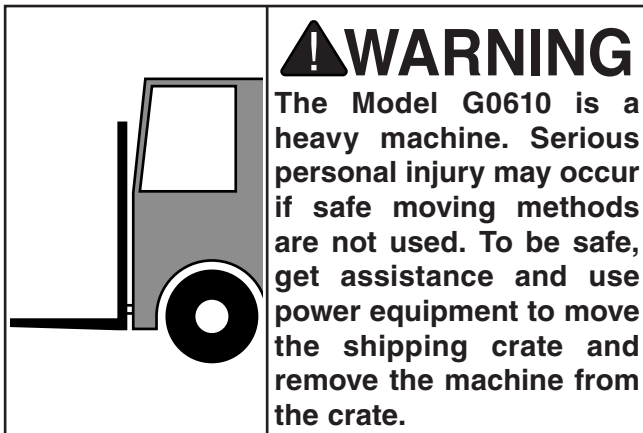


Figure 3. Minimum working clearances.

	<p>⚠ CAUTION Children and visitors may be seriously injured if unsupervised. Lock all entrances to the shop when you are away. DO NOT allow unsupervised children or visitors in your shop at any time!</p>
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Moving & Placing Base Unit



The Model G0610 is designed to be lifted from two eye bolts mounted near the top of the machine, on both sides. When the machine is shipped, the power switch is installed over one of the eye bolts. This switch must be removed before attaching a lifting strap to this eye bolt, or the switch may be damaged during lifting.

To lift the Model G0610 with a forklift:

1. Unbolt the base of the dovetail machine from the shipping pallet (**Figure 4**), so it can be removed for placement.

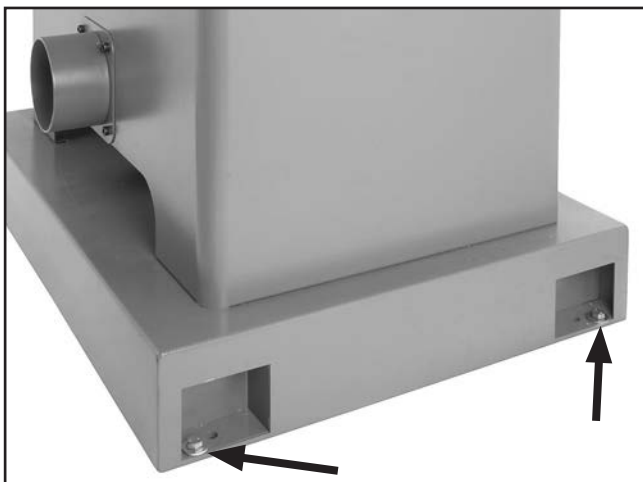


Figure 4. Example of where machine is bolted to the pallet (shows only one side; machine is also bolted on other side).

2. Remove the top cap screw and loosen the bottom cap screw on the switch mounting bar, then move the switch away from the eye bolt (**Figure 5**).



Figure 5. Switch moved for access to the eye bolt.

3. Connect the lifting straps to the eye bolts.
4. Lift the machine as shown in **Figure 6**, and place it in your desired location.



Figure 6. Lifting machine from eyes.

5. Remove the forklift straps and return the switch back to the original location.



Mounting to Shop Floor

Although not required, we recommend mounting your new machine to the floor. Since this is an optional step and floor materials may vary, floor mounting hardware is not included.

Bolting to Concrete Floors

Lag shield anchors used with lag bolts (**Figure 7**) and anchor studs (**Figure 8**) are two popular choices 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.

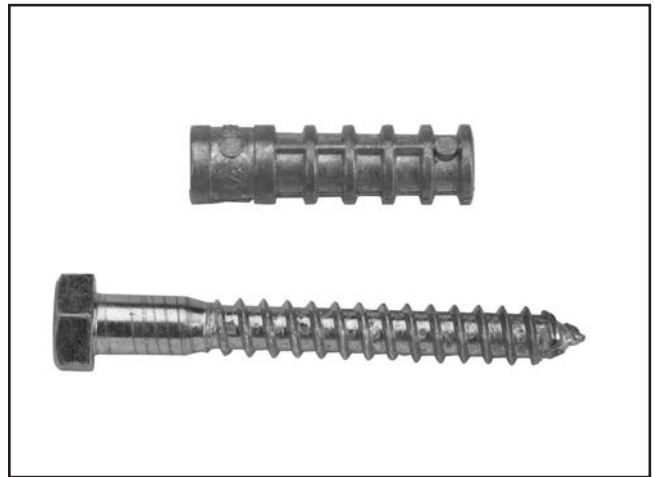


Figure 7. Typical lag shield anchor and lag bolt.

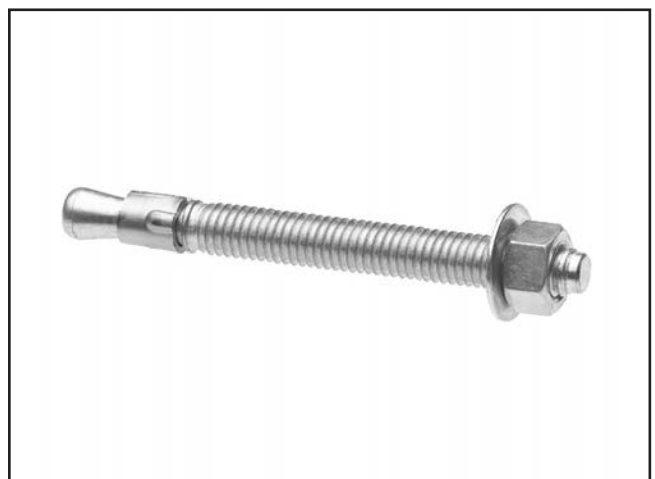


Figure 8. Typical anchor stud.



Assembly

To assemble the dovetail machine:

1. Install the clamping handles in the clamp hubs (Figure 9).

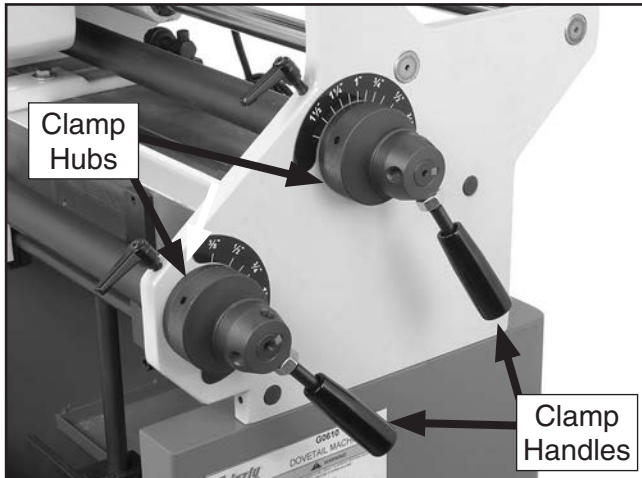


Figure 9. Clamping handles installed.

2. Attach the guard to the front of the machine, as shown in Figure 10.

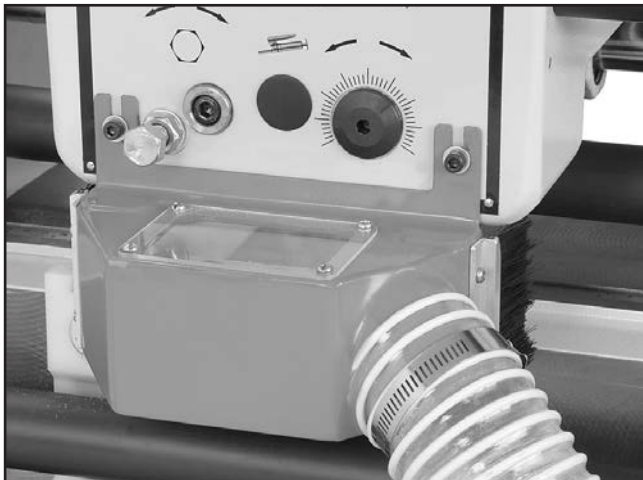


Figure 10. Guard attached to machine.

3. Attach the dust collection hose to the dust port, as shown in Figure 11.

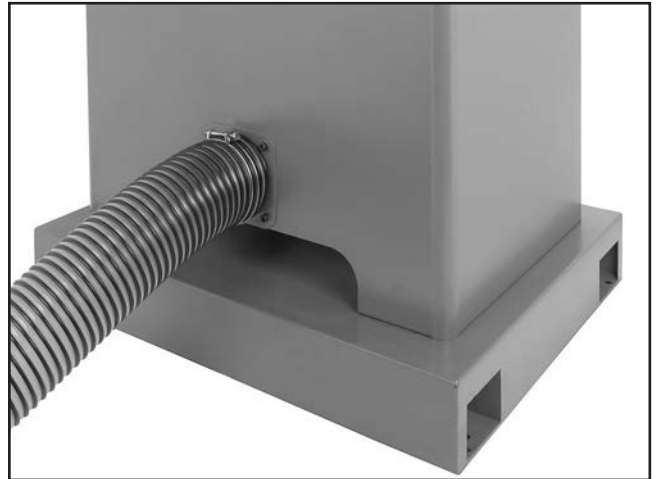


Figure 11. Dust collection hose attached to dust port.

Recommended CFM at Dust Port: 400 CFM

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

⚠ CAUTION

DO NOT operate the Model G0610 without an adequate dust collection system. This machine creates substantial amounts of wood dust while operating. Failure to use a dust collection system can result in short and long-term respiratory illness.



Test Run

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

The test run consists of verifying the following: 1) The motor powers up and runs correctly, 2) the motor turns the correct direction (the motor included with this machine is bi-directional), and 3) the safety disabling mechanism on the switch works correctly.

If, during the test run, you cannot easily locate the source of an unusual noise or vibration, stop using the machine immediately, then review **Troubleshooting on Page 28**.

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

To test run the machine:

1. Connect the machine to the power source.
2. Make sure you have read the safety instructions at the beginning of the manual and that the machine is setup properly.
3. Make sure all tools and objects used during setup are cleared away from the machine.
4. Verify that the machine is operating correctly by turning the machine **ON**.

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

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

5. Turn the machine **OFF**.
6. Verify that the motor is turning the correct direction by looking at the motor fan from above while starting and stopping motor quickly.

—If the cutter turns counterclockwise, it is turning in the correct direction. Proceed to **Step 7**.

—If the cutter turns clockwise, it is turning in the wrong direction. Contact our Technical Support department for help.

7. Insert the switch disabling pin through the green ON button.
8. Press the green ON button to test the disabling feature on the switch.

—If the machine starts, immediately stop the machine. The switch disabling feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

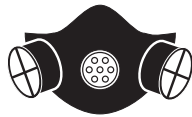
—If the machine does not start, the switch disabling feature is working as designed.



SECTION 4: OPERATIONS

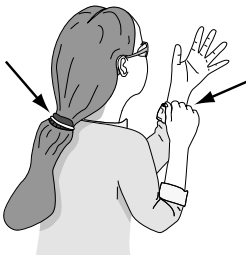
!WARNING

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.

Dovetail Terminology

Take a moment to review the dovetail terminology shown in **Figure 12**. These terms will be used throughout this section and knowing their meaning is important to fully understand the controls of the machine.

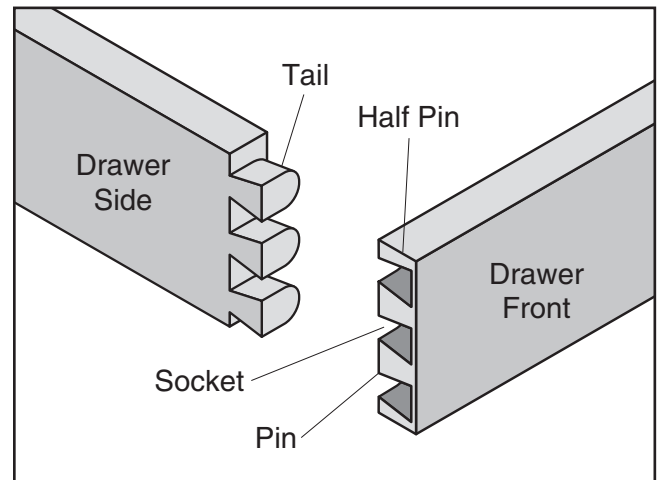


Figure 12. Dovetail terminology.



Stock Preparation

Stock preparation is one of the most important steps for cutting dovetails. Stock must be properly squared up or the dovetails will not fit in the sockets tightly or evenly. With proper planning and preparation, you can achieve perfect results.

Stock Size

When selecting your stock, make sure that the stock size is within the minimum and maximum dimensions that this machine is capable of processing (see **Figure 13**).

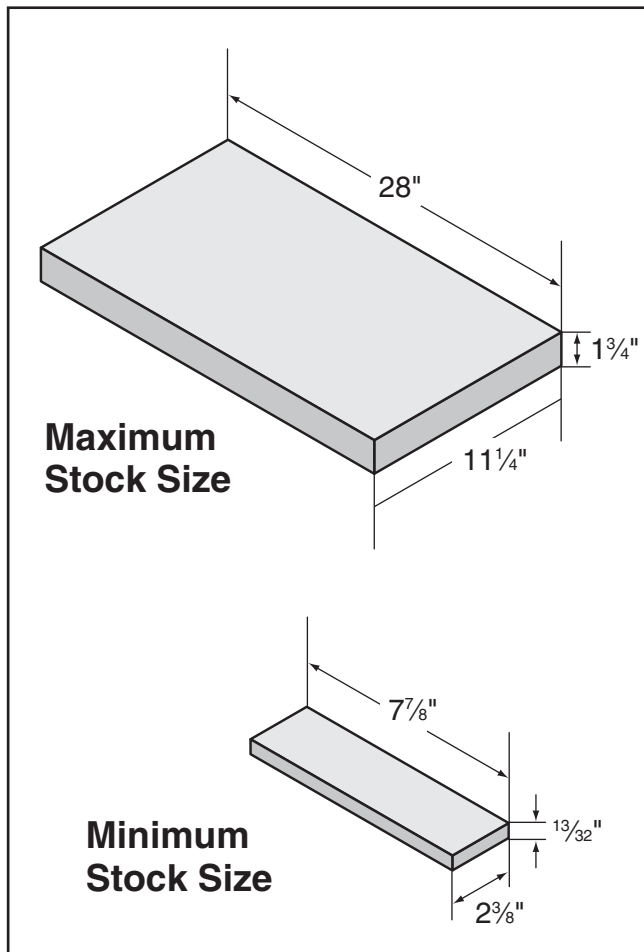


Figure 13. Model G0610 stock size limits.

The first consideration when preparing your stock is to determine the width (height of drawer). The dovetail machine includes a 4-sided template with the following sizes: 1", 1½", 2", and 2½".

To achieve perfect dovetail spacing from edge-to-edge, the stock width should be a multiple of the template size. For example, when using a 1½" template, the stock width should be divisible by 1½". Refer to **Figure 14** for more examples.

Template Size	Common Stock Width used with Template Sizes			
1"	3"	4"	5"	6"
1½"	4½"	6"	7½"	9"
2"	4"	6"	8"	10"
2½"	5"	7½"	10"	

Figure 14. Common width sizes used with the available template sizes.

Note: If you do not have control over the stock width, you can still use the machine, but the half-pins on each edge will not be the same size.

Dado Placement

The dado placement for a drawer bottom is dictated by the size of template you use. In order for the dado to be hidden when the dovetail joint is assembled, it must run through a socket. **Figure 15** illustrates this concept.

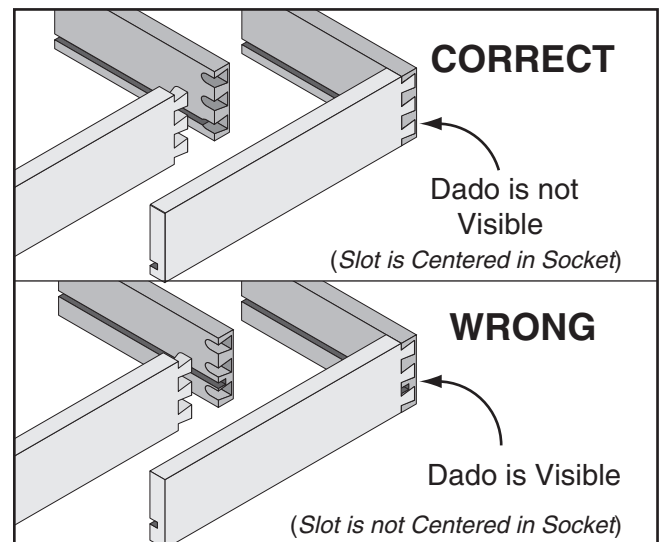


Figure 15. Correct dado placement so dado is not visible after assembly.



A general rule of thumb: Cut the center of the dado half the distance of the template size from the bottom edge of the stock.

For example, when using a 1" template, center the dado $\frac{1}{2}$ " from the bottom of all four pieces. This placement ensures that the dado will end up in the first socket and will not be visible when the drawer is assembled. **Figure 16** shows the ideal dado placement for each template size.

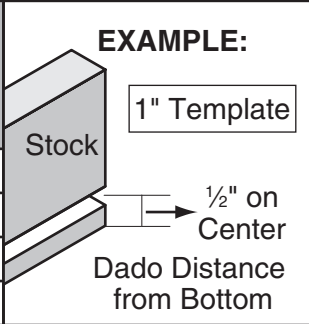
Template Size	Center of Dado from Bottom	EXAMPLE: 
1"	$\frac{1}{2}$ "	
1 $\frac{1}{2}$ "	$\frac{3}{4}$ "	
2"	1"	
2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	

Figure 16. Dado placement for template sizes.

Note: *If your stock width is not a multiple of the template size, this rule of thumb does not apply. Instead, just cut the dado where you need it and center the socket placement by eye when setting up the machine.*

Layout

After you have dadoed and dimensioned your stock, layout and mark the drawer pieces as shown in **Figure 17**. This will help you keep track of the pieces as you cut the dovetails.

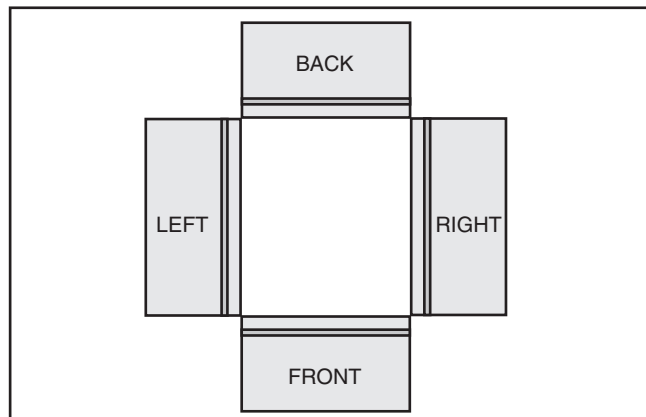


Figure 17. Drawer pieces laid out and marked; the inside of the drawer pieces are face up.

Dovetail Setup

Setting up the dovetail machine is a complex procedure that involves trial-and-error and may take a fair amount of time to complete.

Once you have the machine setup for a particular stock size, then you can repeat dovetails for that size indefinitely without additional adjustments. However, if you change stock size, then you must repeat this entire setup section.

Before starting any setup, you must prepare workpieces for one drawer. These must be exactly the same size as the drawers you will make during your production run. Since trial-and-error is involved, this first drawer may end up as scrap; therefore, do not prepare ALL the drawer pieces for your production run until you have properly setup the machine and have achieved satisfactory dovetail joints on your test workpieces.

The setup procedures that follow refer to the drawer pieces by their position during cutting. To avoid confusion during the instructions, remember this:

Drawer Sides (L,R) = Vertical Workpiece
 Drawer Front/Back (B, F) = Horizontal Workpiece

Follow the procedures in this section in order to properly setup your machine for operation.

Setting Workpiece Clamps

There is an eccentric bar clamp for both the horizontal and the vertical tables (see **Figure 18**).

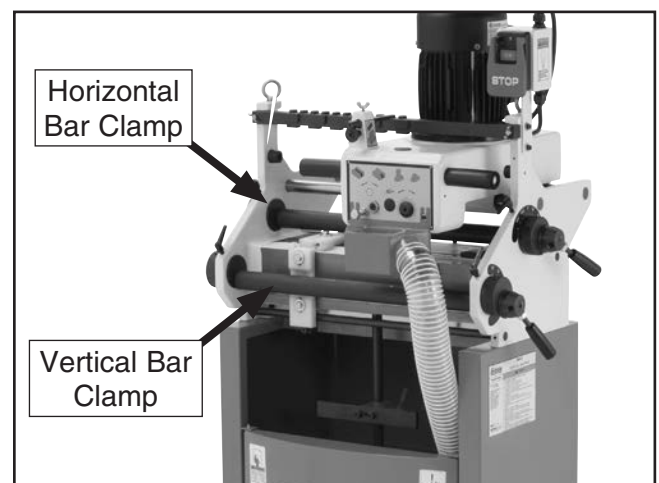


Figure 18. Vertical and horizontal bar clamps.



To hold the workpieces securely during cutting, the clamps must be set to match the stock thickness, indicated by scales on the clamp adjustment hubs (see **Figure 19**).



Figure 19. Clamp set to $\frac{3}{4}$ " , as indicated on the scale.

To set the workpiece clamps:

1. Loosen the lock handles that secure the vertical workpiece clamp adjustment hubs (see **Figure 20**).

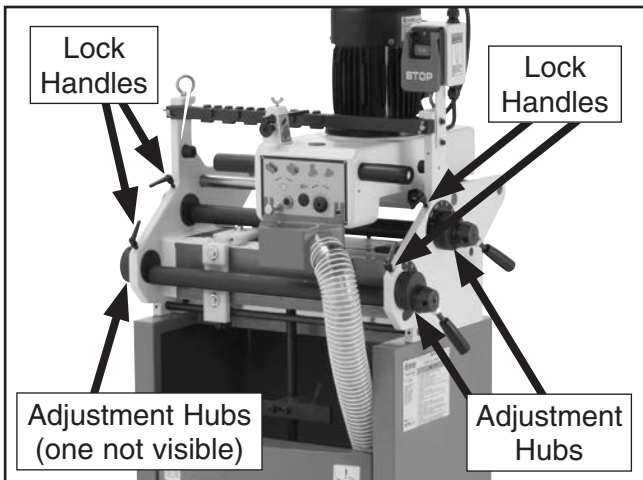


Figure 20. Lock handles and adjustment hubs for adjusting bar clamp clamping thicknesses.

2. Turn both adjustment hubs to the size on the scale that matches the stock size.
3. Lock the handles to hold the hubs in place.
4. Repeat the procedure with the horizontal workpiece clamp.

Adjusting Vertical Support Plate

The vertical support plate (**Figure 21**) holds the vertical piece in place and allows it to be adjusted flush with the top of the horizontal piece.



Figure 21. Vertical support plate.

To set the vertical support plate:

1. Place the horizontal piece on the horizontal table.
2. Place the vertical workpiece on the vertical support plate, and adjust the height of the vertical support plate until the top of the vertical piece is flush with the top of the horizontal piece, as shown in **Figure 22**, then lock the vertical support plate in place.

—If the top of the vertical piece is not parallel with the top of the horizontal piece, use the two cap screws at the front of the vertical support plate to adjust it parallel.

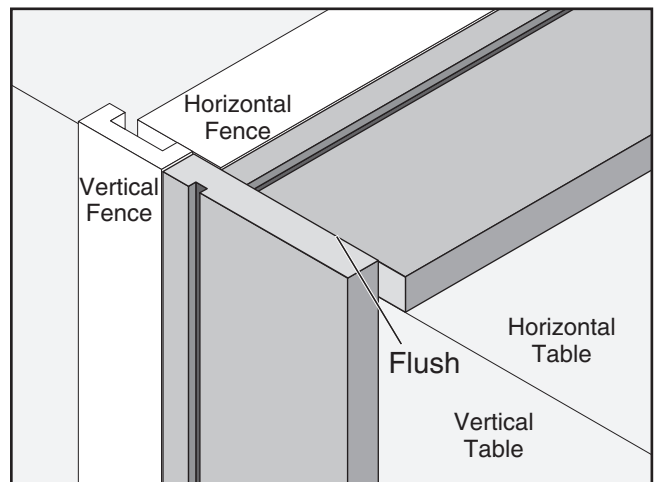


Figure 22. Vertical workpiece flush with horizontal workpiece.



Changing Template Sizes

The template bar (**Figure 23**) has a different size dovetail template on each of the four sides. The size of each template is stamped into that side. The active template size is always the side that is facing up. A tracer pin on the headstock guides the cutter along the template profile when cutting.

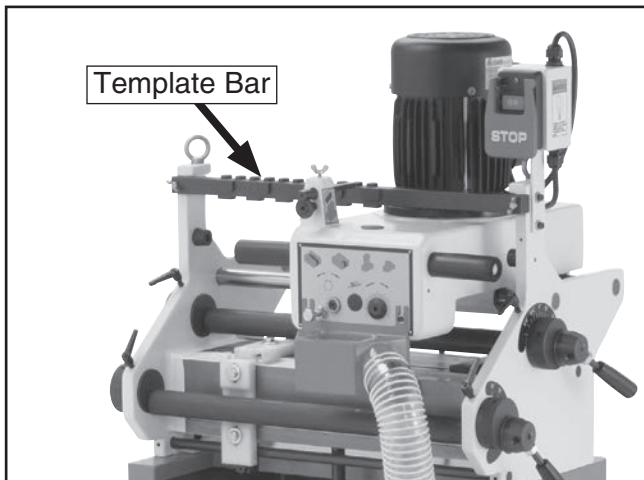


Figure 23. Template bar.

To change dovetail template size:

1. Remove the extension spring shown in **Figure 24**, and pull the headstock backward (toward you) to clear the tracer pin of the template.

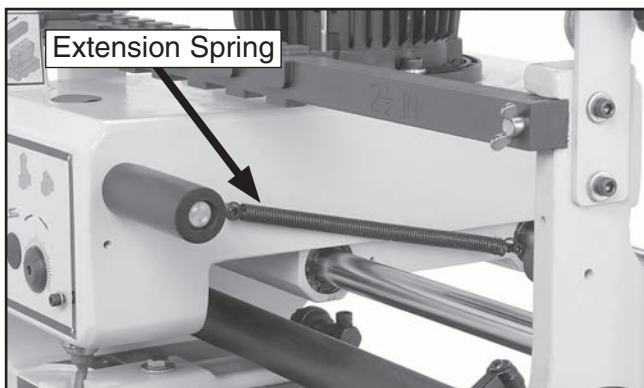


Figure 24. Extension spring.

2. Remove the wing screw on each side of the template bar.
3. Slide the template bar out of the casting and reinstall it so the desired template size is facing up.
4. Lock the template in place with the wing screws, then replace the extension spring.

Setting Fences

The dovetail machine features HDPE (high density polyethylene) plastic fences for both the horizontal and vertical workpieces (see **Figure 25**). These fences are cut into during operation to reduce tear-out.

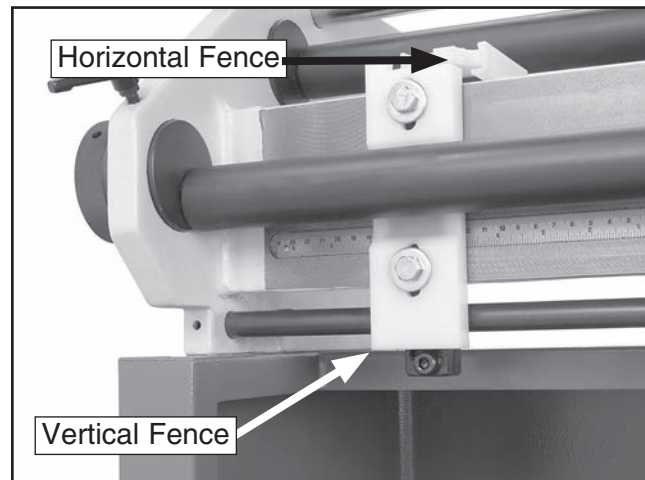


Figure 25. HDPE fences.

The fences should be set so that the dovetails are evenly distributed across the width of the workpiece. Setting the fences requires attention to the in and out positions of the tracer pin (see **Figure 26**). When the tracer pin is in the "in" position, the cutter is cutting the workpiece. When the tracer is in the "out" position, the cutter is outside of the workpiece.

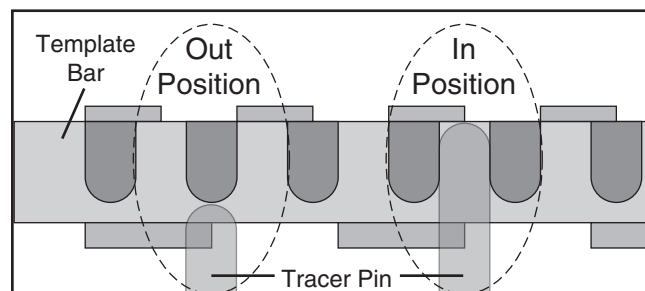


Figure 26. Tracer pin positions.

To set the fences:

1. DISCONNECT MACHINE FROM POWER!
2. Remove the guard.
3. Place the vertical workpiece on the support bar.



- Loosen the cap screw on the vertical fence bracket shown in **Figure 27**.

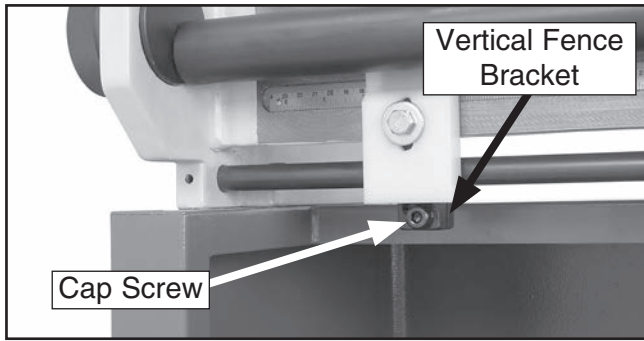


Figure 27. Vertical fence adjustment cap screw.

- Align the left-hand edge of the vertical workpiece with the centerline of the cutter when the tracer pin is in the "in" or cutting position. This position will make the first cut in the vertical workpiece half the width of the cutter. **Figure 28** illustrates this concept.

Note: If your workpiece width is not evenly divisible by the template size, then setting the fences for even cut distribution is a matter of judging the best possible position by eye.

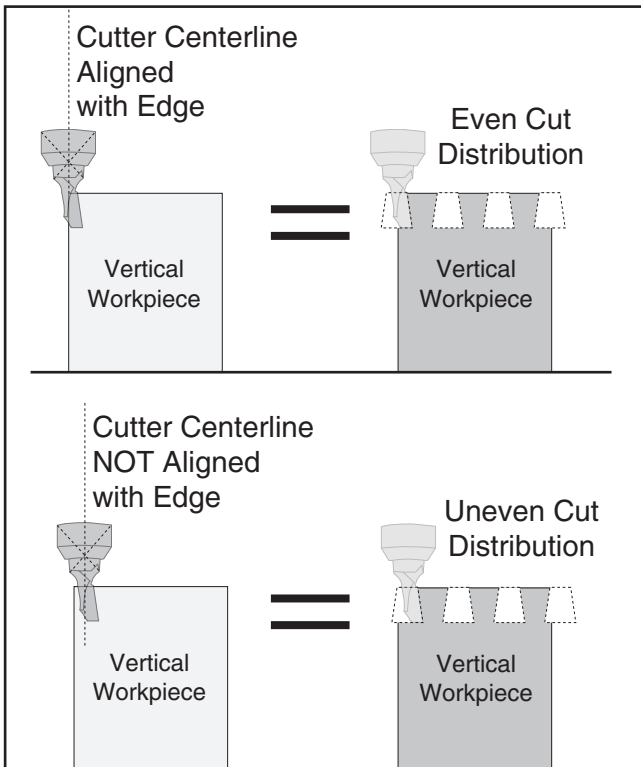


Figure 28. Aligning cutter start location with the vertical workpiece.

- Remember the position of the left-hand edge of the vertical workpiece on the vertical fence scale, and move the vertical workpiece out of the way.
- Align the right-hand edge of the vertical fence with the same position on the scale from the previous step, then lock the vertical fence in place with the cap screw.
- Familiarize yourself with the horizontal fence adjustment components in **Figure 29**.

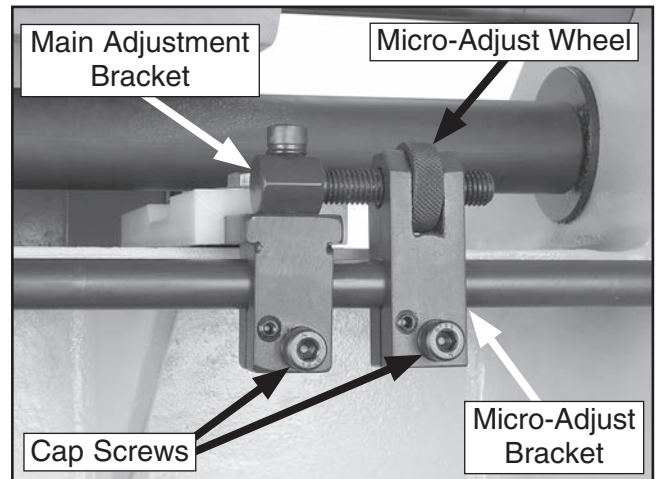


Figure 29. Horizontal fence adjustment components.

- Loosen both cap screws shown in **Figure 29**.

Continued on next page →



- Using the scale on each table as a guide, adjust the right-hand edge of the horizontal fence so it is offset half the amount of the template size being used.

For example, if the template size is 1", offset the right-hand edge of the horizontal fence $\frac{1}{2}$ " from the right-hand edge of the vertical fence, as shown in **Figure 30**.

Template Size	Horizontal Fence Offset Distance	Offset Example for 1" Template	Horizontal Fence
1"	$\frac{1}{2}$ "		
1 1/2"	$\frac{3}{4}$ "		
2"	1"		
2 1/2"	1 1/4"		

Figure 30. Fence offset sizes for each template size and example offset diagram for 1" template.

- Lock the cap screw on the micro-adjust bracket, and use the micro-adjust wheel to set the horizontal fence in the exact position.
- Tighten the cap screw on the main adjustment bracket to lock the horizontal fence.

Cutter Height

The cutter height dictates the tail height on the vertical workpiece and the socket height on the horizontal workpiece (see **Figure 31**).

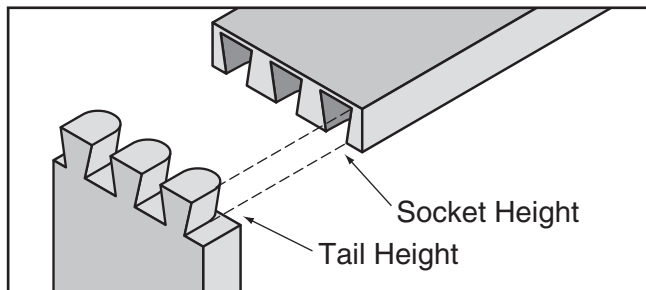


Figure 31. Example of cutter and socket height.

The cutter height range is restricted by the size of the cutter (see **Figure 32**). The highest point of the cutter should never be set below the top of the workpiece.

A taller cutter height is better due to larger tails and pins, so maximizing the cutter height is preferred in most situations.

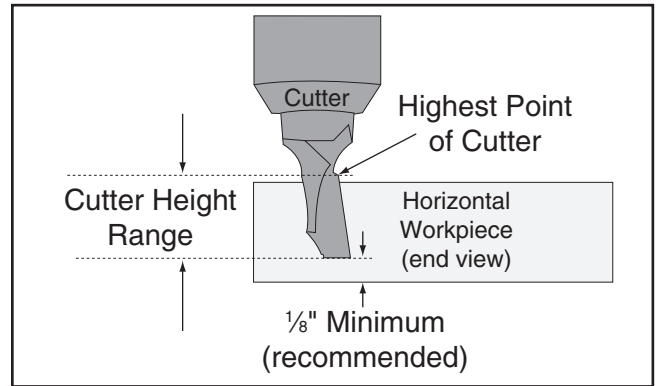


Figure 32. Understanding the cutter height range compared to the workpiece.

To set the cutter height:

- DISCONNECT MACHINE FROM POWER!
- Place the horizontal workpiece on the horizontal table against the fence, and clamp the workpiece down.
- Remove one end of the headstock spring, and move the cutter in front of the horizontal workpiece.
- Use a 6mm hex wrench to loosen the cutterhead lock shown in **Figure 33**.

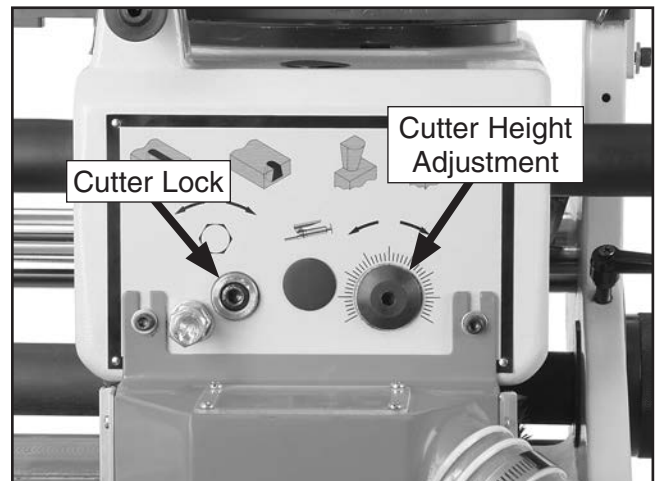


Figure 33. Cutter lock and adjustment height.

- Use a 6mm hex wrench to adjust the cutter up or down. Leave at least $\frac{1}{8}$ " of material between the bottom of the board and the bottom of the cutter.
- Tighten the cutterhead lock.



Tail Thickness

Figure 34 shows the tail thickness.

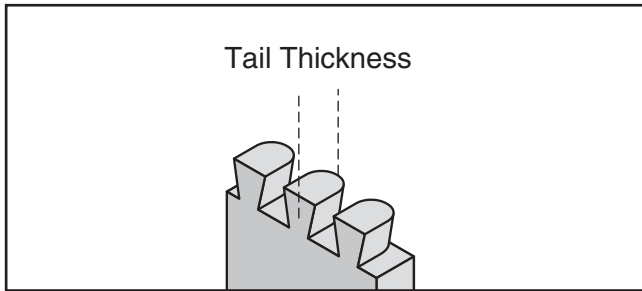


Figure 34. Example of tail thickness.

The tail thickness is controlled by adjusting the tracer pin when it is in the "out" position on the template bar, as shown in **Figure 35**.

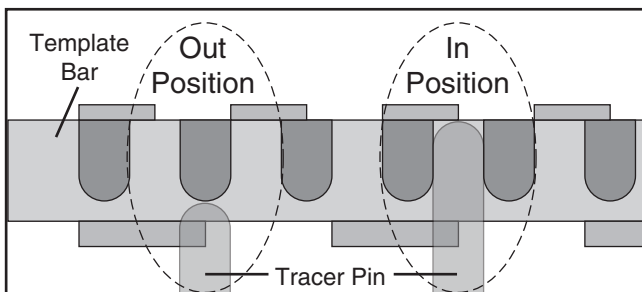


Figure 35. Tracer pin positions on template.

To set the tail thickness:

1. DISCONNECT MACHINE FROM POWER!
2. Draw a small pencil line on the edge of the vertical workpiece approximately $\frac{1}{16}$ " from the side of the workpiece (see **Figure 36**).

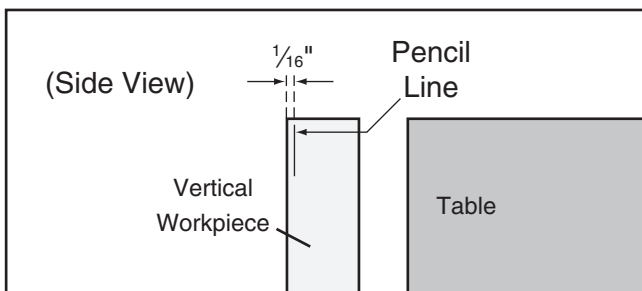


Figure 36. Pencil line location on vertical workpiece.

3. Install the vertical workpiece so the side of the board closest to the pencil line is facing out, as shown in **Figure 36**, and clamp the workpiece into position against the vertical fence.

4. Connect the spring to the headstock.
5. Move the headstock just to the right of the workpiece, and put the tracer pin in the "out" position on the template.
6. Stand to the right-hand side of the machine, and look across the table at the cutter relationship to the vertical workpiece. This viewing position will help you align the cutter with the workpiece during the next step.

Note: Familiarize yourself with the tracer pin controls shown in **Figure 37** if this is the first time you have adjusted it.

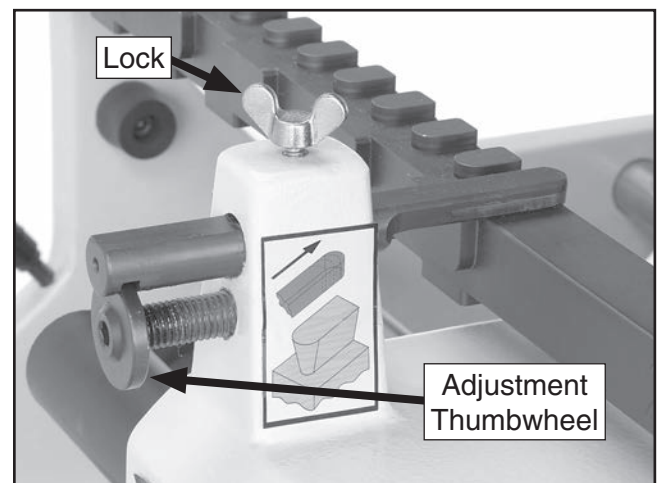


Figure 37. Tracer pin controls.

7. Unlock the tracer pin, and adjust the thumbwheel as necessary until the cutter is positioned as shown in **Figure 38**.

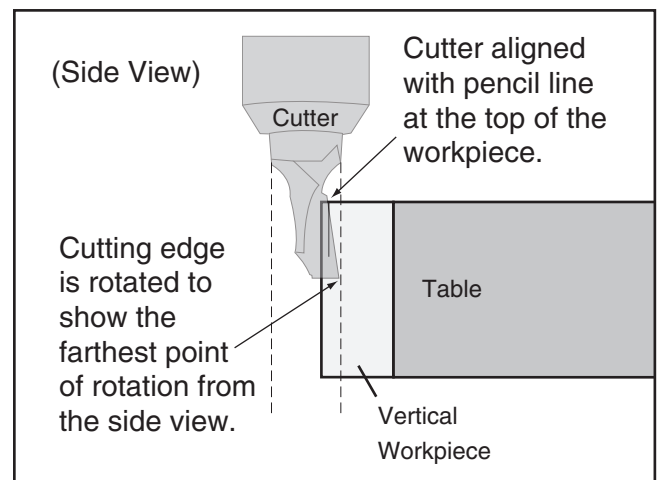


Figure 38. Cutter position for setting tail thickness (as viewed from the side).

8. Lock the tracer pin.



Cutter Depth Stop

The cutter depth stop adjustment bolt (**Figure 39**) dictates the depth of the sockets (**Figure 40**) by controlling how far the cutter will cut into the horizontal workpiece.

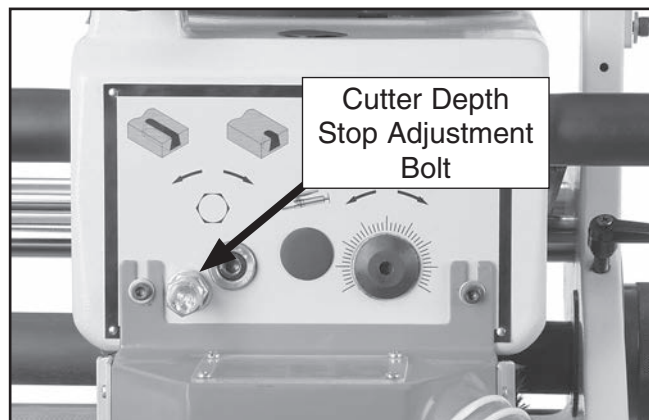


Figure 39. Cutter depth stop adjustment bolt.

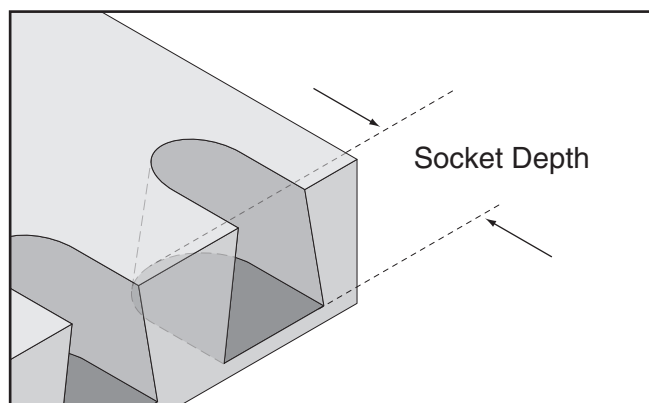


Figure 40. Socket depth.

The cutter depth should be the same as the tail thickness, so that when the joint is assembled the tails are flush with the pins (**Figure 41**).

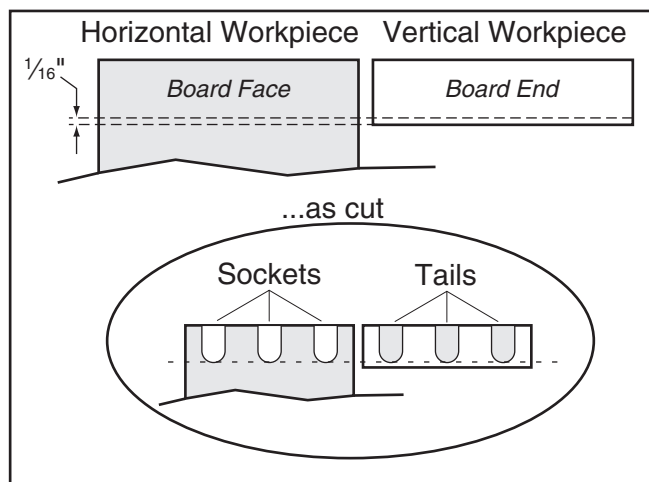


Figure 41. Understanding correct cutter depth.

To set the cutter depth stop:

1. DISCONNECT MACHINE FROM POWER!
2. Copy the "Tail Thickness" dimension from the vertical workpiece to the horizontal workpiece, as shown in **Figure 42**.

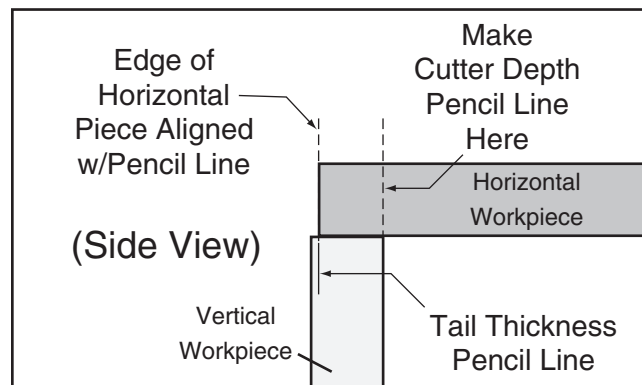


Figure 42. Marking horizontal workpiece to set the cutter depth.

3. Clamp the vertical workpiece in place, then clamp the horizontal workpiece in place against the vertical workpiece (**Figure 22**).
4. Move the cutter to the right of the horizontal workpiece and make sure the tracer pin is in the "in" position.
5. Rotate the cutter as far as it can go toward the rear of the machine.
6. Stand to the right-hand side of the machine, and look across the table at the cutter relationship to the pencil line.
7. Unlock the jam nut on the adjustment bolt, and adjust the cutter depth until the tip of the cutter aligns with the pencil line (**Figure 43**).
8. Lock the jam nut.

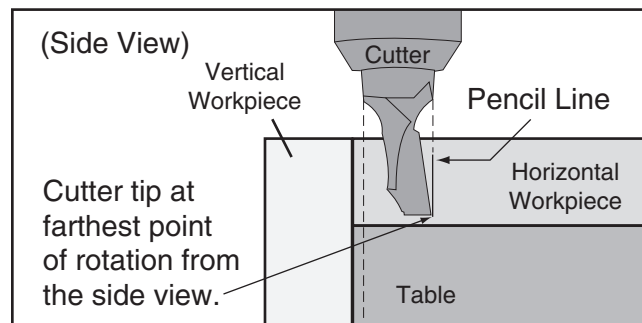


Figure 43. Cutter position to set cutter depth stop (viewed from the side).



Testing Machine Setup

Testing the setup requires you to make cuts and adjust the cutter until the dovetail fit is perfect. Be aware that the drawer you make during this procedure may end up as scrap. To achieve good dovetails, you must have prepared your stock as described in **Stock Preparation** on **Page 16**.

The standard cutting order is shown in **Figure 44**. **Figure 45** shows the workpieces positioned with the dadoses close to or away from the fences.

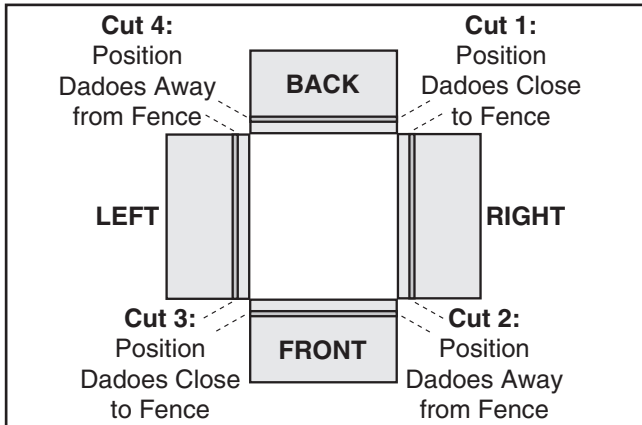


Figure 44. Drawer pieces laid out and marked inside face up; cutting order and workpiece position against fences also shown.

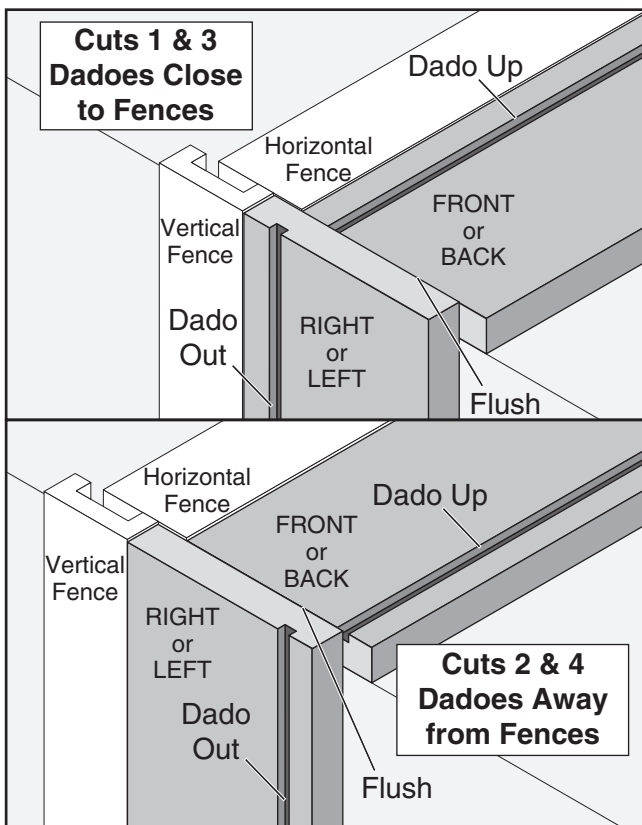


Figure 45. Workpiece positions for cuts.

To make a test cut:

1. Position the **RIGHT** workpiece on the vertical support bar as shown in the top illustration in **Figure 45** (with the dado positioned close to the fence), then clamp down the **RIGHT** workpiece.
2. Place the **BACK** workpiece on the horizontal table as shown in the top illustration in **Figure 45** (with the dado positioned close to the fence), then clamp down the **BACK** workpiece. The top of both workpieces should be flush with each other.
3. Position the cutter so it is not touching the fences or workpieces.
4. **INSTALL AND SECURE THE GUARD!**
5. Connect the machine to the power source.
6. Make the test cut as described below, but read all of the steps before starting, so you do not have to stop after you begin cutting:
 - a. Start the cut on the left-hand side of the vertical piece (half of the cutter will cut into the plastic fences), then carefully follow the template from left-to-right, making sure the tracer pin maintains contact with the template (otherwise unnecessary tear-out will occur).
 - b. After clearing the workpieces, do a clean-up pass by bringing the headstock back the opposite direction and following the template from right-to-left.
 - c. Turn the machine **OFF**, and position the cutter clear of the workpieces and fences.



7. Remove the workpieces from the machine and test fit the dovetail joint.
8. Carefully examine how the tails fit into the sockets. The tails should fit into the sockets tightly and both workpieces should be flush with each other. Typically, fine-tuning the dovetail joint fit requires balancing socket depth and the cutter adjustment, as follows:

—If the workpieces do not fit together or if the fit is too tight, then adjust the cutter to take a larger cut and repeat "Cut 1."

—If the workpieces fit together too loosely, then adjust the cutter to take a smaller cut and do "Cut 2."

—If the tails fit easily side-to-side into the sockets, but do not go down far enough, adjust the socket depth deeper.

—If the tails fit easily side-to-side into the sockets, but go too far down, adjust the socket depth shallower.

Adjusting Cutter

The cutter rotates eccentrically in the spindle, which allows it to be adjusted for control of the dovetail joint "fit" when assembled.

Two set screws hold the cutter in position and a spindle scale is provided for monitoring the cutter position during adjustments. **Figure 46** shows the set screws and spindle scale.

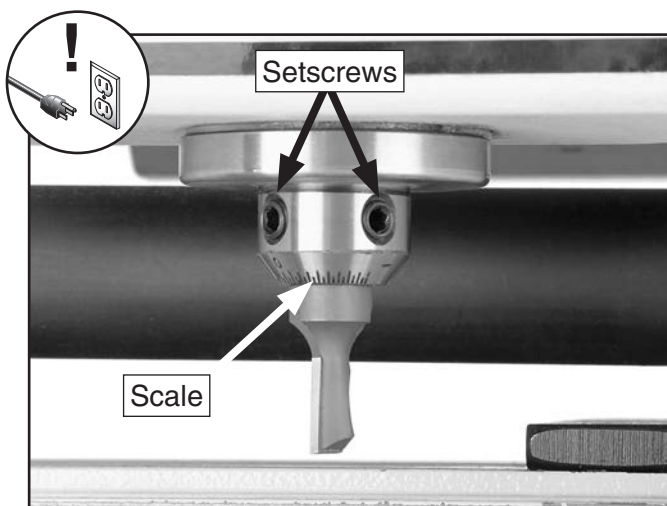


Figure 46. Cutter adjustment controls.

To adjust the cutter:

1. DISCONNECT MACHINE FROM POWER!
2. Remove the guard.
3. Use a 4mm hex wrench to loosen the two set screws on the spindle just enough to rotate the cutterhead. (Loosening the two set screws too much may cause the cutter to drop down in the spindle and throw off other adjustments.)
4. Rotate the cutter inside the spindle as necessary to take a smaller or larger cut (see **Figure 47**). Use the highest point in the cutter groove to keep track of the cutter position during adjustments.

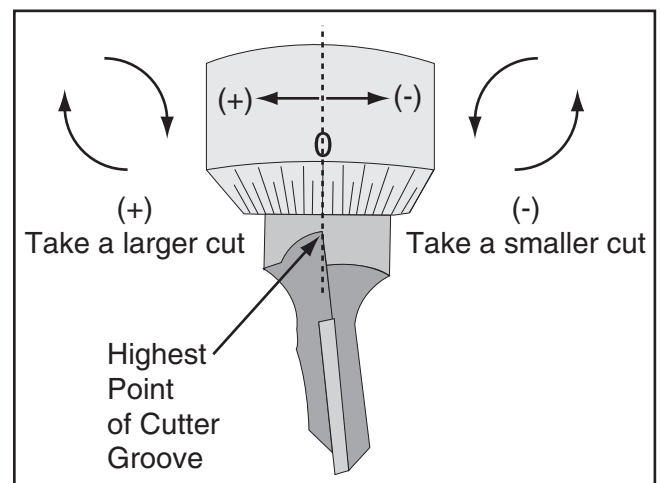


Figure 47. Understanding cutter adjustments.

5. Tighten the two set screws to secure the cutter in place.
6. Make sure the spring is connected to the headstock.
7. Install the guard.
8. Test the new cutter setting by making a cut.
9. Repeat cutter adjustment as necessary until the fit is satisfactory. **ALWAYS DISCONNECT POWER BEFORE ADJUSTING CUTTER!**



SECTION 5: ACCESSORIES

H7777—Grizzly 8" Stack Dado Set

Finally, a stack dado set that everyone can afford! The set includes two 1/8" wide 30 tooth blades, four 1/8" wide chip cutters, one 3/32" wide chip cutter, one 1/16" wide chip cutter and two each copper shims in .005", .010", .015" and .020" thicknesses. Bore is 5/8". Can cut dados from 1/8" to 3/4".



Figure 48. H7777 Grizzly stack dado set.

G7314—Heavy-Duty SHOP FOX® Mobile Base

Make your machine mobile with this popular patented mobile base. The unique outrigger type increases stability and lowers machine height. This heavy duty mobile base is rated for up to a 600 lb. capacity.

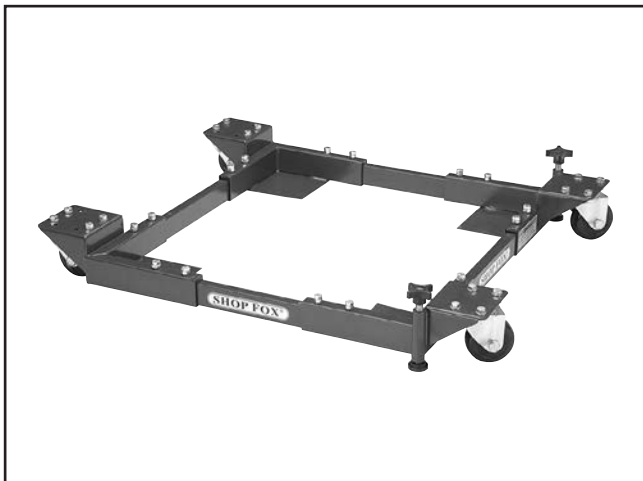


Figure 49. G7314 SHOP FOX® Mobile Base.

G1029Z2P—2HP Dust Collector

The great combination of price and performance make this one of the most popular dust collectors we sell. Perfect for use as a central dust collector in a small shop or as a "dedicated" dust collector next to an industrial machine. Features 220V single-phase power, 1550 CFM, 2.5 micron filtration, and a 6" main inlet w/included 4" x 2 "Y" fitting.



Figure 50. G1029Z 2HP dust collector.

G5562—SLIPIT® 1 Qt. Gel

G5563—SLIPIT® 12 oz Spray

G2871—Boeshield® T-9 12 oz Spray

G2870—Boeshield® T-9 4 oz Spray

H3788—G96® Gun Treatment 12 oz Spray

H3789—G96® Gun Treatment 4.5 oz Spray

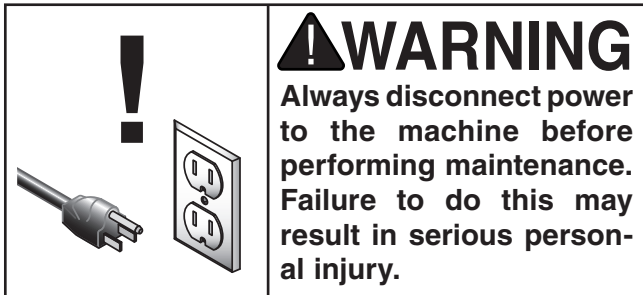


Figure 51. Recommended products for protecting unpainted cast iron/steel part on machinery.

Call 1-800-523-4777 To Order



SECTION 6: MAINTENANCE



Schedule

To ensure optimum performance and safe operation of your machine, you must keep it properly cleaned and maintained. Use the schedule below as a general guideline. Increase maintenance frequency, as needed, depending on use.

Daily Maintenance (8 Hours)

- Check/tighten cutter set screws.
- Clean debris/sawdust from clamps to ensure that they do not interfere with the clamping ability.
- Clean/vacuum dust buildup from inside cabinet and off motor.
- Unpainted cast iron portions of the table and the headstock travel rods should be cleaned and wiped down with a metal protectant.
- Check/replace damaged power cords or wires.

Weekly Maintenance (40 Hours)

- Grease the spindle.

Monthly Maintenance (320 Hours)

- Belt tension, damage, or wear.

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.

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

Keep tables rust-free with regular applications of products like G96® Gun Treatment, SLIPIT®, or Boeshield® T-9 (see *Section 5: Accessories* on **Page 26** for more details).

Lubrication

The bearings in the machine are sealed and lubricated for life.

The spindle has one grease fitting that must be greased approximately every 40 hours or one week of regular use (refer to **Figure 52**).

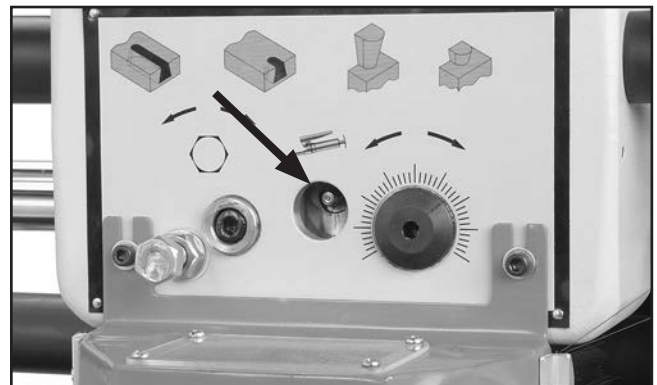


Figure 52. Spindle grease fitting.

To grease the spindle, connect the fitting to a grease gun and give the spindle one pump of grease.



SECTION 7: SERVICE

Review the troubleshooting and procedures in this section to fix or adjust 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

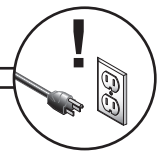


Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	<ol style="list-style-type: none"> 1. Plug/receptacle is at fault or wired incorrectly. 2. Start capacitor is at fault. 3. Motor connection wired incorrectly. 4. Power supply is at fault/switched OFF. 5. Motor ON button or ON/OFF switch is at fault. 6. Motor centrifugal switch is at fault. 7. Emergency stop push-panel is stuck/switch is at fault. 8. Motor windings or motor is at fault. 	<ol style="list-style-type: none"> 1. Test for good contacts; correct the wiring. 2. Test/replace if faulty. 3. Correct motor wiring connections. 4. Ensure hot lines have correct voltage on all legs and main power supply is switched ON. 5. Replace faulty ON button or ON/OFF switch. 6. Adjust/replace the centrifugal switch if available. 7. Free push-panel from binding; replace faulty switch. 8. Replace motor.
Machine stalls or is underpowered.	<ol style="list-style-type: none"> 1. Wrong workpiece material (wood). 2. Feed rate too fast for task. 3. Run capacitor is at fault. 4. Belt slipping. 5. Motor connection is wired incorrectly. 6. Plug/receptacle is at fault. 7. Motor bearings are at fault. 8. Motor has overheated. 9. Motor is at fault. 10. Centrifugal switch is at fault. 	<ol style="list-style-type: none"> 1. Use wood with correct moisture content, without glues, and little pitch/resins. 2. Decrease feed rate. 3. Tighten/repair/replace. 4. Replace bad belt and re-tension. 5. Correct motor wiring connections. 6. Test for good contacts; correct the wiring. 7. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 8. Clean off motor, let cool, and reduce workload. 9. Test/repair/replace. 10. Adjust/replace centrifugal switch if available.
Machine has vibration or noisy operation.	<ol style="list-style-type: none"> 1. Motor or component is loose. 2. Belt(s) worn or loose. 3. Motor fan is rubbing on fan cover. 4. Pulley is loose. 5. Machine is incorrectly mounted or sits unevenly on floor. 6. Cast iron motor mount loose/broken. 7. Motor or spindle bearings are at fault. 8. Cutter is at fault. 9. Centrifugal switch. 	<ol style="list-style-type: none"> 1. Inspect/replace stripped or damaged bolts/nuts, and re-tighten with thread locking fluid. 2. Inspect/replace belts (refer to Page 31). 3. Replace dented fan cover; replace damaged fan. 4. Tighten pulley set screw. 5. Tighten/replace anchor studs in floor; relocate/shim machine. 6. Tighten/replace. 7. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement. 8. Replace warped, bent, or twisted cutter. 9. Replace



Troubleshooting



Cutting Operations and Results

Symptom	Possible Cause	Possible Solution
Workpiece slips or kicks out during operation.	<ol style="list-style-type: none"> 1. Low clamping pressure. 2. Clamp is incorrectly set for workpiece thickness. 	<ol style="list-style-type: none"> 1. Increase the clamping pressure. 2. Set the both sides of the clamp for the workpiece thickness as described on Page 17.
Cutter cuts slow or does not cut properly.	<ol style="list-style-type: none"> 1. Cutter is dull. 2. Belt is slipping on the pulley. 3. Cutter is rotating clockwise (motor is wired incorrectly). 	<ol style="list-style-type: none"> 1. Replace or sharpen the cutter (Page 30). 2. Tighten belt (Page 30) or replace belt (Page 31). 3. Wire motor so cutter rotates counterclockwise.
Dovetail joint fit is too tight.	<ol style="list-style-type: none"> 1. Cutter is not taking a large enough cut. 	<ol style="list-style-type: none"> 1. Adjust the cutter to take a larger cut (Page 25).
Dovetail joint fit is too loose	<ol style="list-style-type: none"> 1. Cutter is taking too large of a cut. 	<ol style="list-style-type: none"> 1. Adjust the cutter to take a smaller cut (Page 25).
Tails fit too far into sockets.	<ol style="list-style-type: none"> 1. Sockets are cut too deep. 	<ol style="list-style-type: none"> 1. Adjust the cutter depth stop so the cutter will not cut as deeply into the horizontal workpiece (Page 23).
Tails will not fit completely into the sockets.	<ol style="list-style-type: none"> 1. Cutter is not taking a large enough cut. 2. Sockets are not cut deep enough. 	<ol style="list-style-type: none"> 1. Adjust the cutter to take a larger cut (Page 25). 2. Adjust the cutter depth stop so the cutter will cut as deeper into the horizontal workpiece (Page 23).
Tails sit flush with pins at one end but not the other.	<ol style="list-style-type: none"> 1. Horizontal workpieces were not positioned square when clamped. 2. Horizontal workpieces were not cut square or workpieces were not properly prepared. 	<ol style="list-style-type: none"> 1. Reclamp the workpiece with emphasis on keeping it square before and during clamping. 2. Cut new workpieces with emphasis on squaring up all the boards (Page 16). Check the saw or technique used to cut the boards to ensure squareness.
Gaps exist between tails and pins.	<ol style="list-style-type: none"> 1. Vertical workpieces were not positioned square when clamped. 2. The vertical support plate is not square. 3. Vertical workpieces were not cut square or workpieces were not properly prepared. 	<ol style="list-style-type: none"> 1. Reclamp the workpiece with emphasis on keeping it square before and during clamping. 2. Adjust the vertical support plate so it is square when tightened to the mounting rod (Page 18). 3. Cut new workpieces with emphasis on squaring up all the boards (Page 16). Check the saw or technique used to cut the boards to ensure squareness.
Dado or groove for drawer bottom visible on assembled joint.	<ol style="list-style-type: none"> 1. Dado cut in the wrong location for the template being used. 2. Fences set incorrectly. 	<ol style="list-style-type: none"> 1. Cut dados in the correct location (Page 16). 2. Reset the fences (Page 19).
Dovetails fit together correctly, but tops/edges of workpieces are not flush with each other.	<ol style="list-style-type: none"> 1. Fences were not offset by exactly half of the template size being used. 	<ol style="list-style-type: none"> 1. Set the fences so they are offset exactly half of the distance as the template size being used. For example, offset the fences $\frac{1}{2}$" for 1" template, $\frac{3}{4}$" for 1$\frac{1}{2}$" template, etc. Refer to Page 19 for more details.
Distribution of dovetails across assembled joint is not symmetrical.	<ol style="list-style-type: none"> 1. Fences are not set correctly to allow the cutter to start in the proper location. 2. Workpiece width is not divisible by the template size being used. 	<ol style="list-style-type: none"> 1. Reset the fences, paying close attention to where the first cut will be made into the vertical workpiece (Page 19). 2. Cut new workpieces that are divisible by the template size being used (Page 16); change template size to be divisible by workpiece (Page 19); or align the cutter starting point by eye do the best with the workpiece size you have—results may not be truly symmetrical.



Cutter Replacement

When the cutter gets dull or if it gets damaged, it must be replaced. Dull cutters can be resharpened by a professional, but cutters are inexpensive and easily replaced.

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

To replace the cutter:

1. DISCONNECT MACHINE FROM POWER!
2. Remove the guard.
3. Loosen the two set screws that hold the cutter in the spindle. (The set screws must be backed out approximately half-way before the cutter can be removed.)
4. Slide the cutter out and insert the new one.
5. Tighten the two set screws to secure the cutter in place.
6. Replace the guard.

Belt Tension

A flat belt transfers power from the motor to the cutter spindle. This belt stretches with use and periodically needs to be tensioned. If the cutter lacks power, stops spinning, or cuts slower than normal, then the belt may need to be tightened.

When properly tensioned, the belt should only deflect approximately a 1/4" when pushed inward from the middle.

Tools Needed	Qty
Hex Wrench 6mm.....	1

To tighten the belt:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen the two motor mount cap screws shown in **Figure 53**.

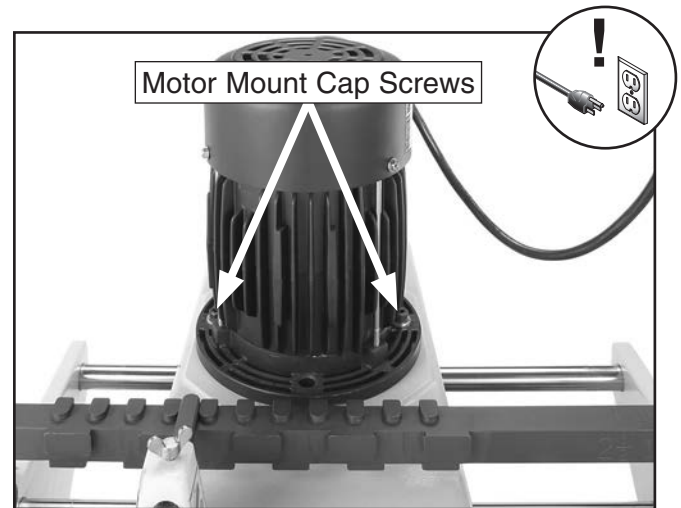


Figure 53. Motor mount cap screw locations.

Continued on next page →



- Turn the belt tension bolt, shown in **Figure 54**, clockwise to tension the belt.

Note: Each time you adjust the belt tension, *only turn the bolt one full turn. This will prevent over-tightening the belt, which can lead to premature bearing failure in the motor and spindle.*

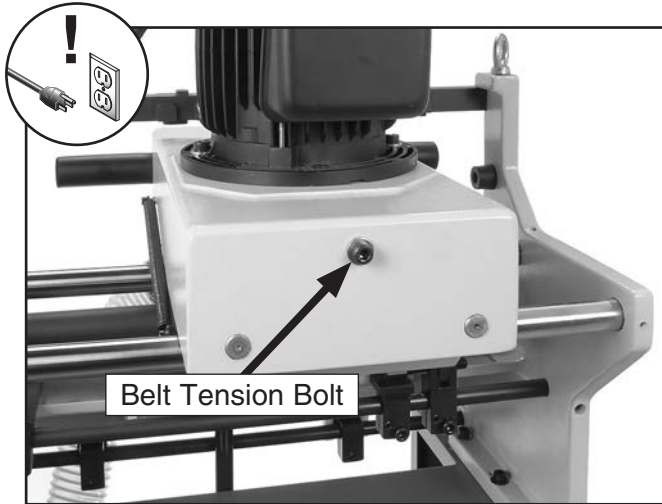


Figure 54. Belt tension bolt.

- Tighten the motor mount cap screws.

Belt Replacement

If the belt is left loose, it can stop during operation while the pulley continues to spin. This scenario will burn the belt, which will create a horrible vibration and smell of burned rubber. If this ever happens, then the belt must be replaced before continuing operations.

Tools Needed	Qty
Hex Wrench 6mm.....	1

To replace the belt:

- DISCONNECT MACHINE FROM POWER!
- Lower the cutter as far as it will go.
- Remove the dust plug shown in **Figure 55** to access the top of the belt.

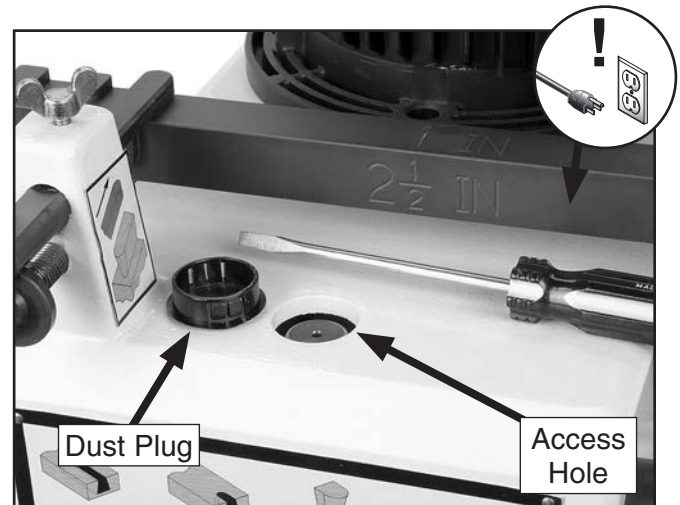
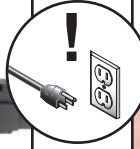
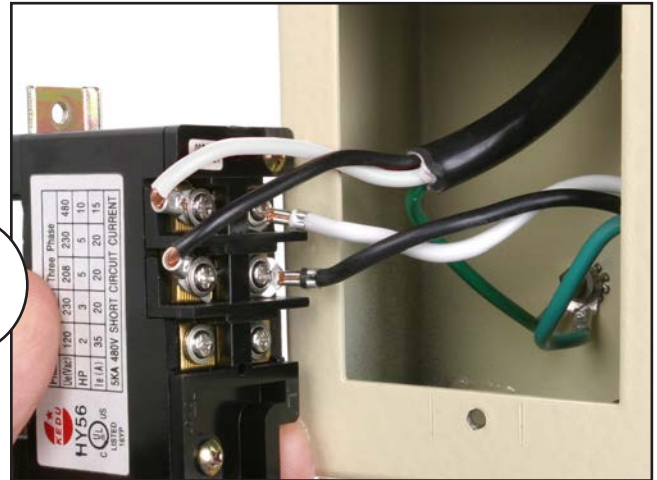


Figure 55. Dust plug removed to see top of cutter spindle for belt removal.

- Loosen the two motor mount cap screws shown in **Figure 53**.
- Turn the motor tension bolt, shown in **Figure 54**, counterclockwise to loosen the belt.
- Slide the belt over the top of the spindle shaft and off of the motor pulley.
- Reinstall and tension the new belt.
- Replace the dust plug, and tighten the motor mount cap screws.



110V Wiring Diagram (Prewired)



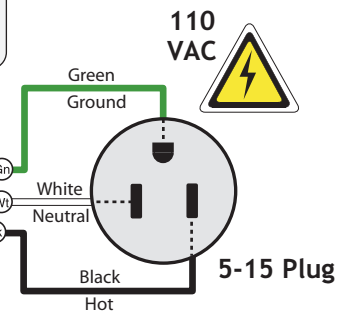
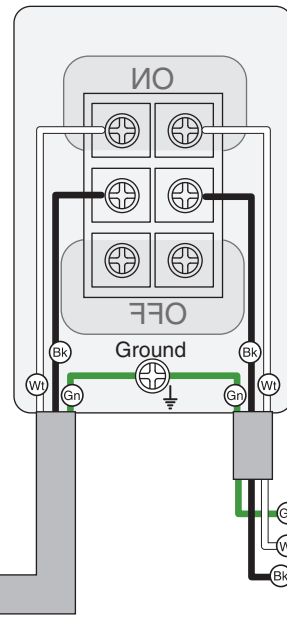
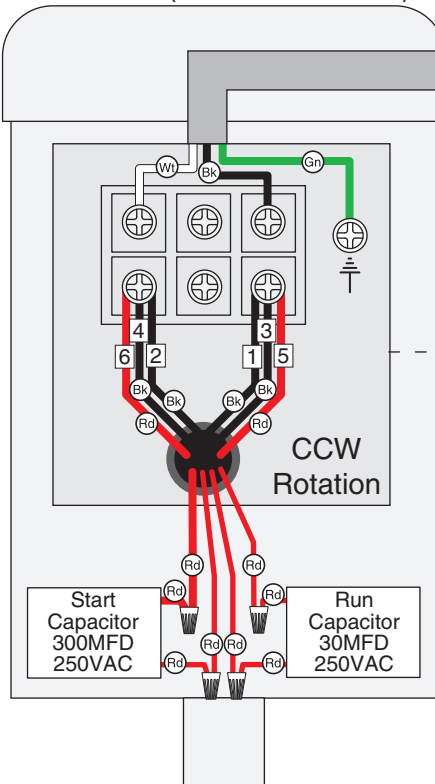
MOTOR (Prewired to 110V)

PUSH BUTTON SWITCH
(viewed from behind)

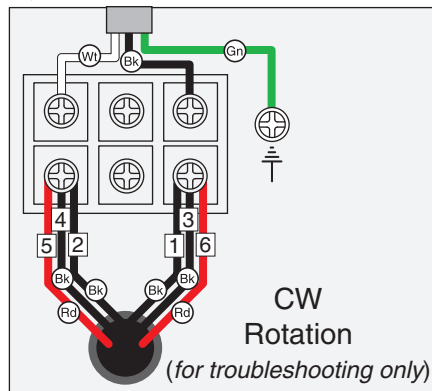
⚠ DANGER
Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK	
WHITE	
GREEN	
RED	



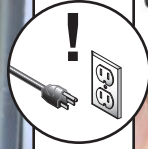
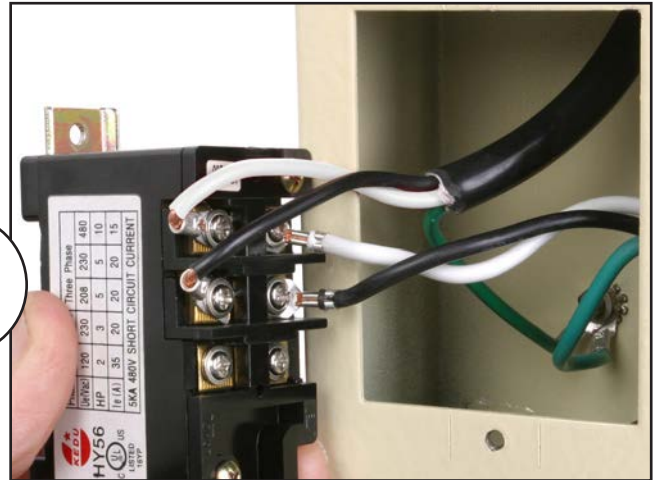
NOTICE
If your cutter rotates in the wrong direction, wire it for counterclockwise (CCW) rotation as shown here.



NOTICE
The motor wiring shown here is current at the time of printing; however, always use the diagram on the inside of junction box cover when rewiring your motor.



220V Wiring Diagram



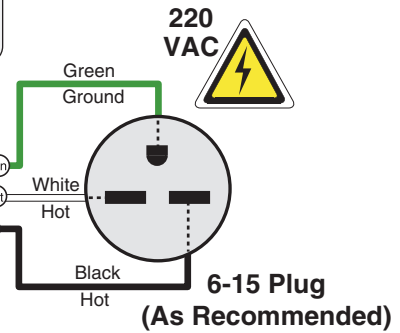
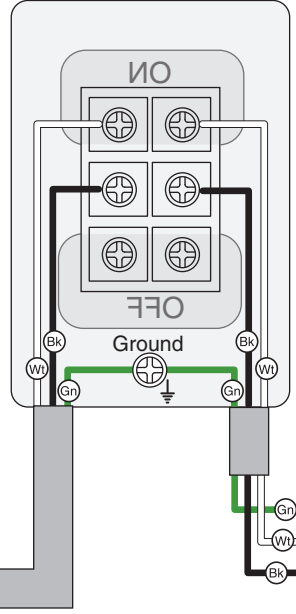
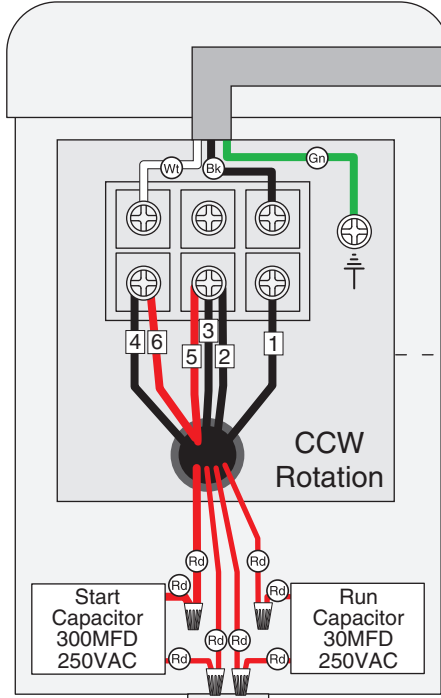
MOTOR (Wired to 220V)

PUSH BUTTON SWITCH (viewed from behind)

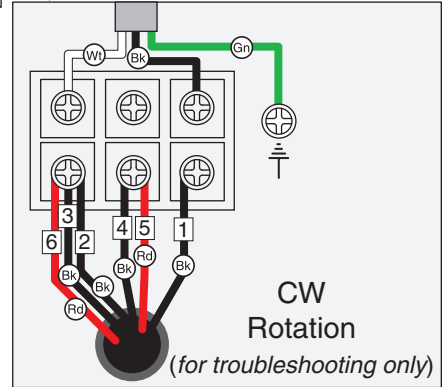
⚠ DANGER
Disconnect power before performing any electrical service. Electricity presents serious shock hazards that will result in severe personal injury and even death!

COLOR KEY

BLACK	
WHITE	
GREEN	
RED	



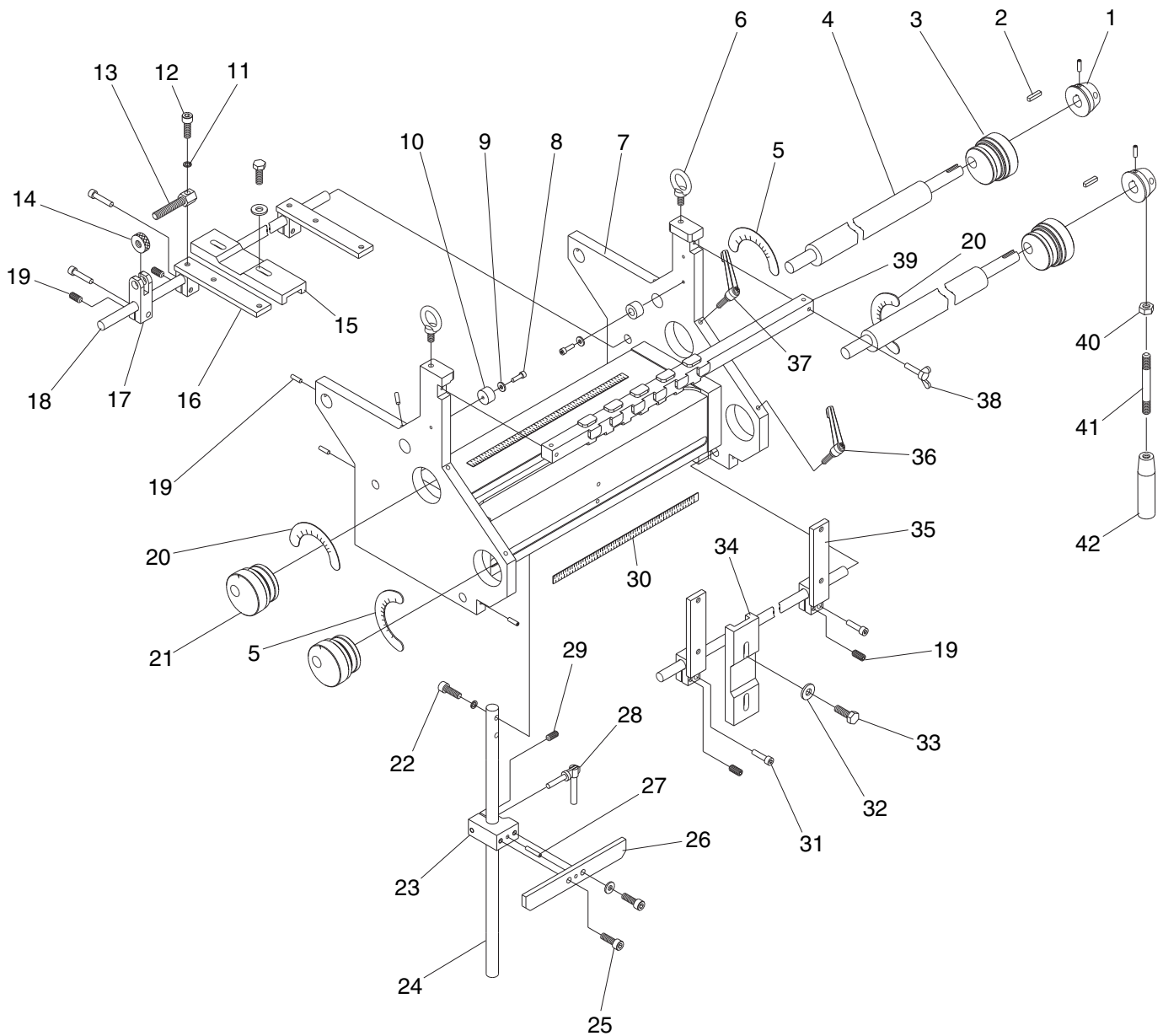
NOTICE
If your cutter rotates in the wrong direction, wire it for counterclockwise (CCW) rotation as shown here.



NOTICE
The motor wiring shown here is current at the time of printing; however, always use the diagram on the inside of junction box cover when rewiring your motor.



Table Parts Breakdown



<p>PARTS STORE</p>  <p>grizzly.com</p>	<p>BUY PARTS ONLINE! Scan QR code with your digital device or visit www.grizzly.com/parts to purchase replacement parts or check pricing and availability.</p>
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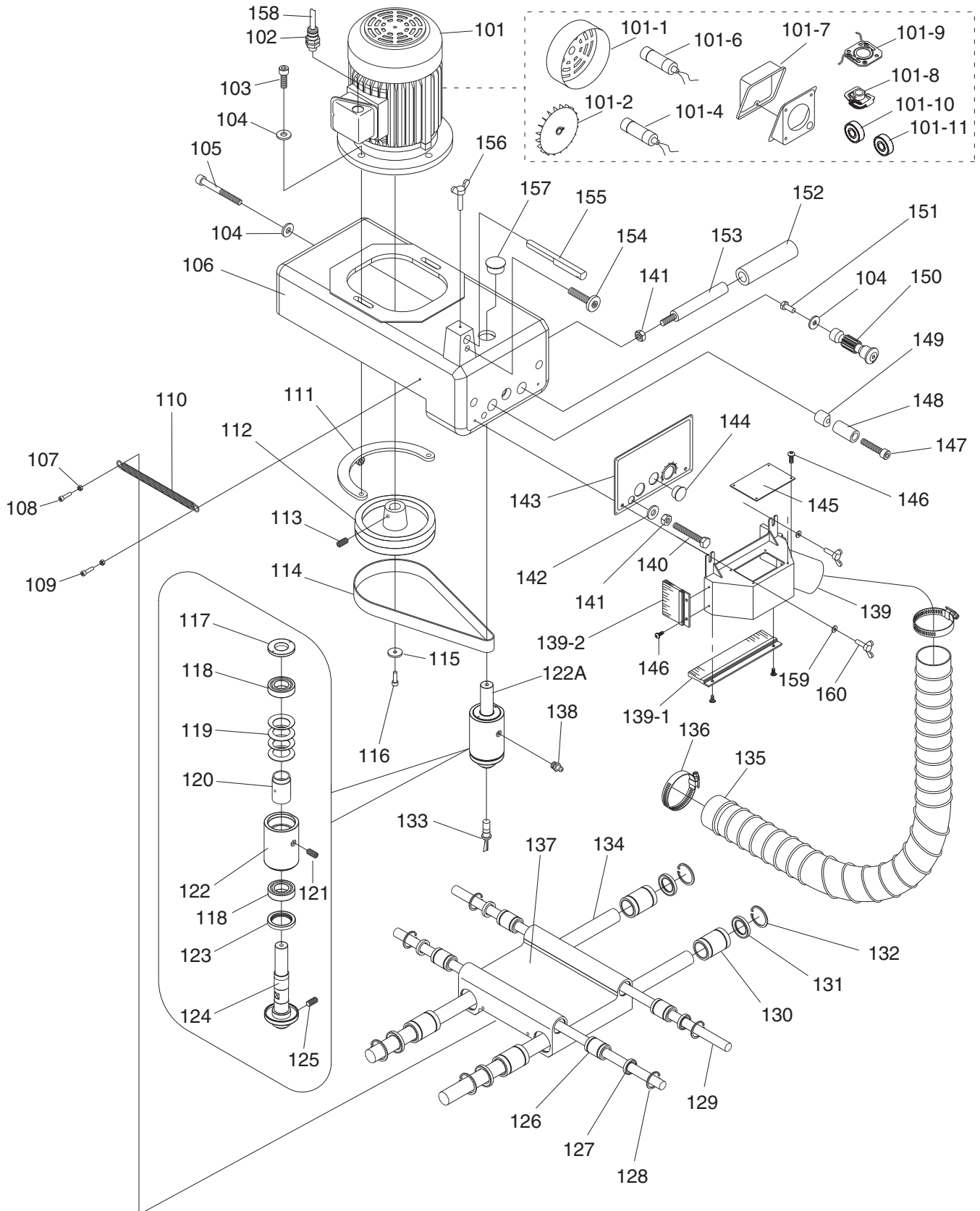
Table Parts List

REF	PART #	DESCRIPTION
1	P0610001	LEVER HUB
2	PK42M	KEY 6 X 6 X 30
3	P0610003	ECCENTRIC WHEEL
4	P0610004	SLIDING ROD
5	P0610005	CLAMP SCALE RL
6	P0610006	EYE BOLT M10-1.5 X 15
7	P0610007	WORK TABLE
8	PCAP02M	CAP SCREW M6-1 X 20
9	PW03M	FLAT WASHER 6MM
10	P0610010	BUFFER PAD
11	PLW04M	LOCK WASHER 8MM
12	PCAP13M	CAP SCREW M8-1.25 X 30
13	P0610013	ADJUSTMENT SCREW
14	P0610014	ADJUSTMENT NUT
15	P0610015	BUFFER PAD
16	P0610016	FENCE BASE
17	P0610017	MICRO-ADJUSTMENT SEAT
18	P0610018	SLIDING ROD
19	PSS04M	SET SCREW M6-1 X 12
20	P0610020	CLAMP SCALE LR
21	P0610021	ECCENTRIC WHEEL

REF	PART #	DESCRIPTION
22	PCAP40M	CAP SCREW M8-1.25 X 35
23	P0610023	CLAMPING SEAT
24	P0610024	GUIDE ROD
25	PCAP14M	CAP SCREW M8-1.25 X 20
26	P0610026	ADJUSTMENT PLATE
27	P0610027	SPRING KEY
28	P0610028	LOCK HANDLE M8-1.25 X 35
29	PSS06M	SET SCREW M8-1.25 X 16
30	P0610030	SCALE
31	PCAP31M	CAP SCREW M8-1.25 X 25
32	PW01M	FLAT WASHER 8MM
33	PB09M	HEX BOLT M8-1.25 X 20
34	P0610034	BUFFER PAD
35	P0610035	FENCE BASE
36	P0610036	LOCK HANDLE M8-1.25 X 25
37	P0610037	LOCK HANDLE M8-1.25 X 45
38	P0610038	WING SCREW M6-1 X 35
39	P0610039	COPYING TEMPLATE
40	PN09M	HEX NUT M12-1.75
41	P0610041	LEVER
42	P0610042	HANDLE KNOB M12-1.75 X 82



Headstock Parts Breakdown



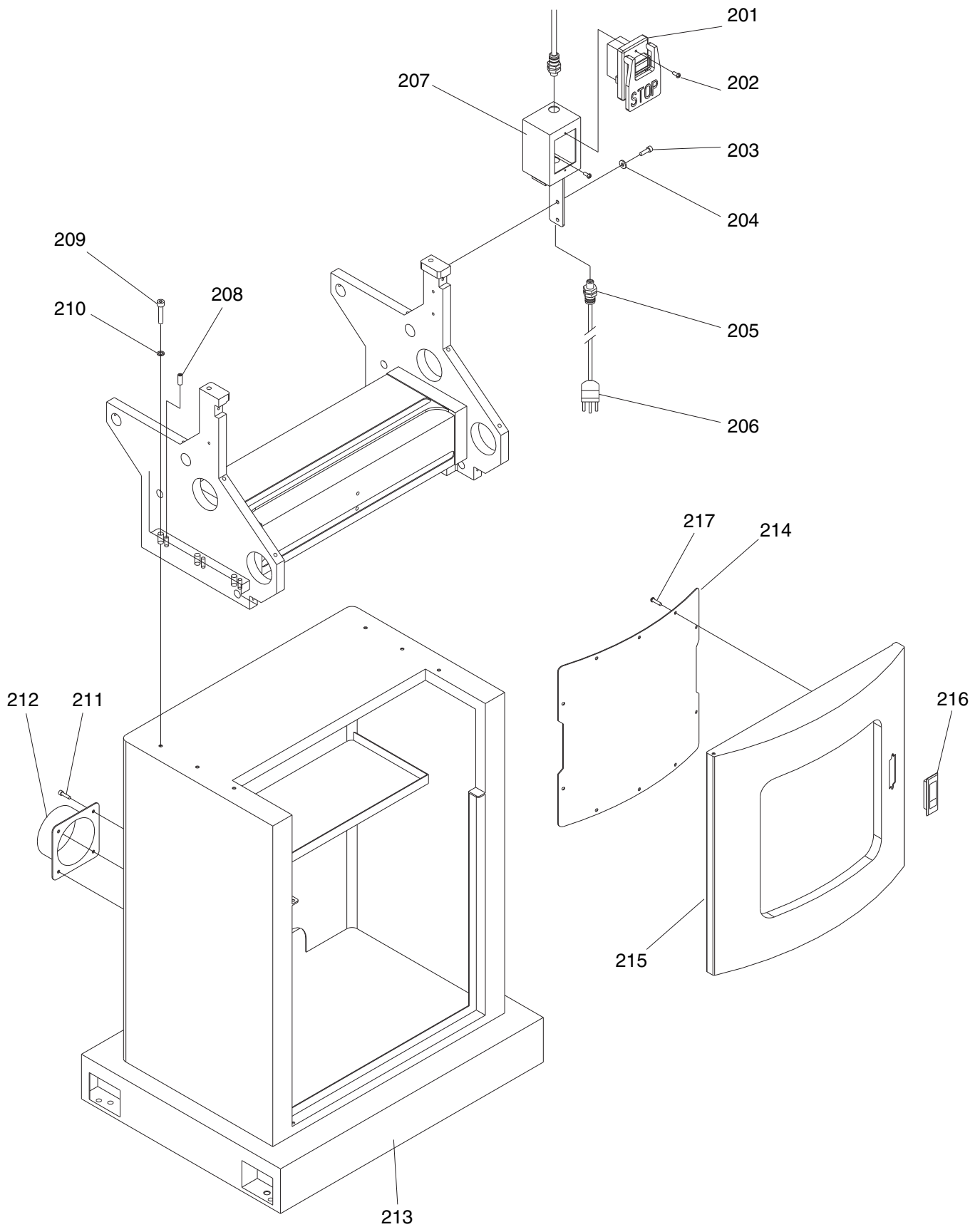
Headstock Parts List

REF	PART #	DESCRIPTION
101	P0610101	MOTOR 1HP 110V/220V 1-PH
101-1	P0610101-1	MOTOR FAN COVER
101-2	P0610101-2	MOTOR FAN
101-4	P0610101-4	S CAPACITOR 300M 250V
101-6	P0610101-6	R CAPACITOR 30M 250V
101-7	P0610101-7	MOTOR JUNCTION BOX
101-8	P0610101-8	CENTRIFUGAL SWITCH 19-3500
101-9	P0610101-9	CONTACT PLATE 23 X 61MM EXT
101-10	P6203RSZ	BALL BEARING 6203RSZ
101-11	P6204RSZ	BALL BEARING 6204RSZ
102	P0610102	STRAIN RELIEF 11-10B
103	PCAP40M	CAP SCREW M8-1.25 X 35
104	PW01M	FLAT WASHER 8MM
105	PCAP157M	CAP SCREW M8-1.25 X 100
106	P0610106	SPINDLE SLIDE SEAT
107	PN06M	HEX NUT M5-.8
108	PCAP79M	CAP SCREW M5-.8 X 35
109	PCAP15M	CAP SCREW M5-.8 X 20
110	P0610110	EXTENSION SPRING
111	P0610111	MOTOR BRACKET
112	P0610112	MOTOR PULLEY
113	PSS53M	SET SCREW M5-.8 X 12
114	P0610114	FLAT BELT 670 X 25
115	PW03M	FLAT WASHER 6MM
116	PCAP02M	CAP SCREW M6-1 X 20
117	P0610117	FIXING NUT
118	P0610118	BALL BEARING 6005TB.P63
119	P0610119	COMPRESSION SPRING AK-6005
120	P0610120	SPACER
121	PSS07M	SET SCREW M5-.8 X 5
122	P0610122	SPINDLE BEARING HOUSING
122A	P0610122A	SPINDLE ASSEMBLY
123	P0610123	LOCK RING
124	P0610124	ECCENTRIC SPINDLE
125	PSS16M	SET SCREW M8-1.25 X 10
126	P0610126	LINEAR BUSHING 16UU

REF	PART #	DESCRIPTION
127	P0610127	SEAL 16 X 28 X 7 X 3
128	PR20M	INT RETAINING RING 28MM
129	P0610129	GUIDE ROD 16 X 459MML
130	P0610130	LINEAR BUSHING 25UU
131	P0610131	SEAL 25 X 40 X 7 X 2
132	PR23M	INT RETAINING RING 40MM
133	H9388	CUTTER
134	P0610134	GUIDE ROD 25 X 599MML
135	P0610135	FLEXIBLE HOSE 2.5" X 53"
136	P0610136	HOSE CLAMP 2-3/4"
137	P0610137	CARRIAGE
138	PZERK2	GREASE FITTING M6-1 X 5
139	P0610139	GUARD
139-1	P0610139-1	BOTTOM GUARD BRUSH
139-2	P0610139-2	SIDE GUARD BRUSH
140	P0610140	HEX BOLT M10-1.5 X 185
141	PN02M	HEX NUT M10-1.5
142	PW04M	FLAT WASHER 10MM
143	P0610143	CONTROL PANEL PLATE
144	P0610144	PLASTIC PLUG 22MM
145	P0610145	WINDOW
146	PS17M	PHLP HD SCR M4-.7 X 6
147	PCAP66M	CAP SCREW M8-1.25 X 65
148	P0610148	CUTTER LOCK SLEEVE
149	P0610149	CUTTER LOCK CLAMP SLEEVE
150	P0610150	GEAR SHAFT
151	PB03M	HEX BOLT M8-1.25 X 16
152	P0610152	SPONGE COATING
153	P0610153	HANDLE
154	P0610154	ADJUSTMENT SCREW
155	P0610155	TRACER PIN
156	P0610156	WING SCREW M6-1 X 20
157	P0610157	PLUG 30MM
158	P0610158	MOTOR CORD
159	PW02M	FLAT WASHER 5MM
160	P0610160	WING SCREW M5-.8 X 15



Stand Parts Breakdown

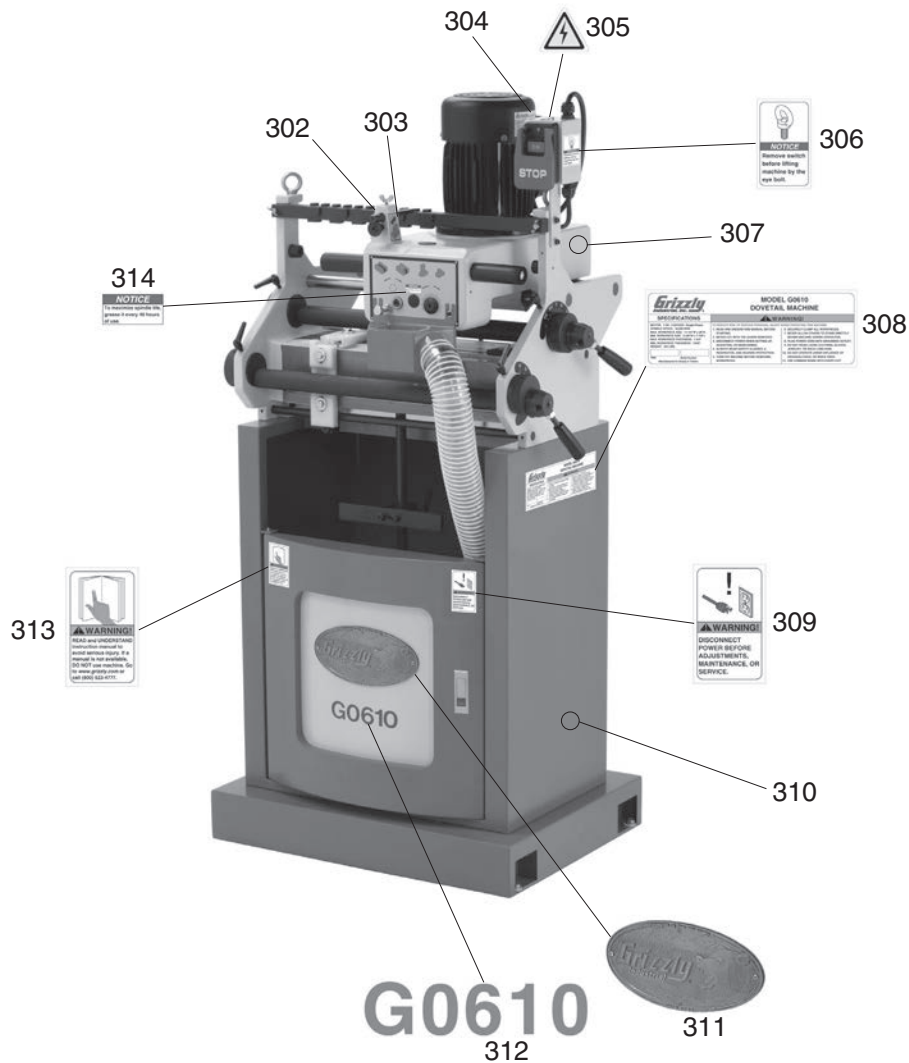


Stand Parts List

REF	PART #	DESCRIPTION
201	H8243	ON/OFF PUSH BUTTON SWITCH
202	PS52M	PHLP HD SCR M4-.7 X 20
203	PCAP01M	CAP SCREW M6-1 X 16
204	PW03M	FLAT WASHER 6MM
205	P0610205	CABLE TIE CLAMP
206	P0610206	POWER CORD 14G 3W 5-15 PLUG
207	P0610207	SWITCH BOX
208	PCAP58M	CAP SCREW M8-1.25 X 12
209	PCAP40M	CAP SCREW M8-1.25 X 35
210	PLW04M	LOCK WASHER 8MM
211	PCAP50M	CAP SCREW M5-.8 X 10
212	P0610212	DUST PORT 4"
213	P0610213	CABINET
214	P0610214	DOOR PANEL
215	P0610215	DOOR
216	P0610216	DOOR LATCH
217	PS09M	PHLP HD SCR M5-.8 X 10



Labels Parts Breakdown



REF	PART #	DESCRIPTION
302	P0610302	TAIL SHORTER LABEL
303	P0610303	TAIL LONGER LABEL
304	P0610304	MOTOR LABEL
305	PLABEL-14	ELECTRICITY LABEL
306	P0610306	EYEBOLT NOTICE LABEL
307	PPAINT-11	GREY PUTTY PAINT
308	P0610308	MACHINE ID LABEL

REF	PART #	DESCRIPTION
309	PLABEL-62	DISCONNECT POWER LABEL
310	PPAINT-1	"GRIZZLY GREEN" PAINT
311	G8588	GRIZZLY LOGO PLATE
312	P0610312	MODEL NUMBER LABEL G0610
313	PLABEL-12A	READ MANUAL LABEL
314	P0610314	GREASE SPINDLE LABEL

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 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?

<input type="checkbox"/> Advertisement	<input type="checkbox"/> Friend	<input type="checkbox"/> Catalog
<input type="checkbox"/> Card Deck	<input type="checkbox"/> Website	<input type="checkbox"/> Other:

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

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

3. What is your annual household income?

<input type="checkbox"/> \$20,000-\$29,000	<input type="checkbox"/> \$30,000-\$39,000	<input type="checkbox"/> \$40,000-\$49,000
<input type="checkbox"/> \$50,000-\$59,000	<input type="checkbox"/> \$60,000-\$69,000	<input type="checkbox"/> \$70,000+

4. What is your age group?

<input type="checkbox"/> 20-29	<input type="checkbox"/> 30-39	<input type="checkbox"/> 40-49
<input type="checkbox"/> 50-59	<input type="checkbox"/> 60-69	<input type="checkbox"/> 70+

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

<input type="checkbox"/> 0-2 Years	<input type="checkbox"/> 2-8 Years	<input type="checkbox"/> 8-20 Years	<input type="checkbox"/> 20+ Years
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6. How many of your machines or tools are Grizzly?

<input type="checkbox"/> 0-2	<input type="checkbox"/> 3-5	<input type="checkbox"/> 6-9	<input type="checkbox"/> 10+
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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



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WARRANTY & RETURNS

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

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

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

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

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

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

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