

# 7" X 12" METAL CUTTING BANDSAW



# INSTRUCTION MANUAL

(FOR MODELS MANUFACTURED SINCE 11/14)

Phone: 1-360-734-3482 · On-Line Technical Support: tech-support@shopfox.biz

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

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

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

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

# **WARNING!**

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

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

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

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# INTRODUCTION Woodstock Technical Support

This machine has been specially designed to provide many years of trouble-free service. Close attention to detail, ruggedly built parts and a rigid quality control program assure safe and reliable operation.

Woodstock International, Inc. is committed to customer satisfaction. Our intent with this manual is to include the basic information for safety, setup, operation, maintenance, and service of this product.

We stand behind our machines! In the event that questions arise about your machine, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: <u>tech-support@shopfox.</u> <u>biz.</u> Our knowledgeable staff will help you troubleshoot problems and process warranty claims.

If you need the latest edition of this manual, you can download it from <a href="http://www.shopfox.biz">http://www.shopfox.biz</a>. If you have comments about this manual, please contact us at:

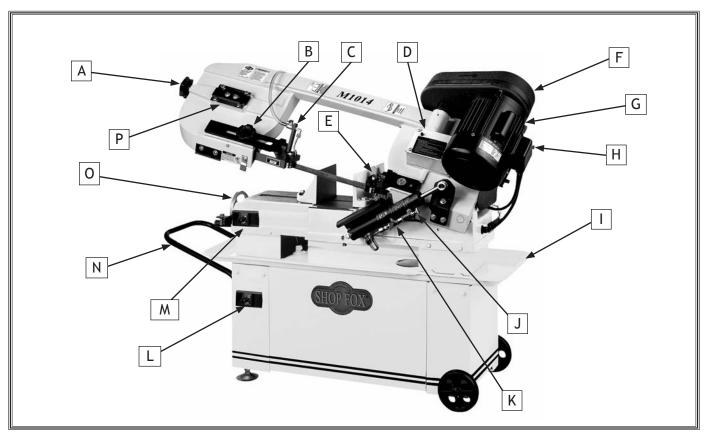
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Email: manuals@woodstockint.com

# **Specifications**

|                           | . 1 HP, 110V/220V (Prewired 110V), 12A/6A, Single-Phase  |
|---------------------------|--|
|                           |  |
|                           | 5" at 45°  |
|                           | 4-3/4" x 4-1/2" at 45°                                   |
|                           | 7" x 12" at 90°  |
| Maximum Circular Capacity | 7 " at 90°   |
| Coolant Capacity          | 2-1/2 gal.   |
|                           | 3 HP, 110V/220V (Prewired 110V), 0.6A/0.3A, Single-Phase |
|                           |  |
| Overall Dimensions        | 48"L x 16"W x 37-5/8"H                                   |
|                           | 90, 135, 195, 255 FPM                                    |
| Blade Size                |  |
| Bearings                  | Permanently-Lubricated Ball Bearings                     |
| Power Control             | Toggle ON/OFF Switch                                     |
| Net Weight                |  |



#### **Controls and Features**



Bandsaw controls and features.

- **A.** Blade Tension Knob—Allows you to quickly tension or de-tentsion the blade.
- **B.** Blade Guide Knob—Allows you to move and lock the blade guide in place.
- **C.** Cutting Fluid Flow Valve—Allows you to adjust the cutting fluid flow rate.
- **D. Gear Box**—Allows the motor to achieve a mechanical advantage when cutting.
- **E. Blade Guide/Chip Brush**—Guides stop blade twist and brush removes chips from blade.
- **F. Pulley Cover**—Covers the pulleys for safety. Open cover to make blade speed changes.
- **G.** Heavy Duty Motor—Dual voltage (prewired 110V), 1 HP motor drives the bandsaw wheels for smooth cutting.
- **H.** Circuit Breaker—Protects the bandsaw motor and pump electrical system from overload.

- Drain and Chip Pan—Collects chips and cutting fluid, and directs fluid to the reservoir.
- J. Hydraulic Cylinder Feed Rate Dial—Allows you to adjust the bandsaw feed rate accurately.
- **K.** Feed ON/OFF Valve—Toggles the headstock feed *ON* and *OFF* for operation or Service.
- **L.** Cutting Fluid Pump ON/OFF Switch—Toggles power *ON* and *OFF* to the pump motor.
- **M.** Bandsaw ON/OFF Switch—Toggles power *ON* and *OFF* to the bandsaw motor.
- N. Handle—Allows you to tilt the bandsaw and use the wheels to move the machine.
- O. Vise Clamp Wheel—Allows you to quickly close and clamp the vise on the workpiece.
- P. Blade Tension Gauge—Allows you to visually locate the correct blade tension.



## **SAFETY**

# For Your Own Safety, Read Manual Before Operating 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—this responsibility is ultimately up to the operator!

# **▲**DANGER

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

# **A**WARNING

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

# **A**CAUTION

Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

### **NOTICE**

This symbol is used to alert the user to useful information about proper operation of the equipment, and/or a situation that may cause damage to the machinery.

# Standard Machinery Safety Instructions

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 workpiece materials, 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 observing 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.

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.

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

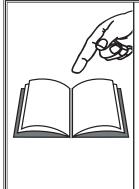


- APPROVED OPERATION. Untrained operators can be seriously hurt by machinery. Only allow trained or properly supervised people to use machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!
- ONLY USE AS INTENDED. Only use machine for its intended purpose. Never modify or alter machine for a purpose not intended by the manufacturer or serious injury may result!
- USE RECOMMENDED ACCESSORIES. Consult this owner's manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.
- CHILDREN & BYSTANDERS. Keep children and bystanders a safe distance away from work area. Stop using machine if children or bystanders become a distraction.
- REMOVE ADJUSTING TOOLS. Never leave adjustment tools, chuck keys, wrenches, etc. in or on machine—especially near moving parts. Verify removal before starting!
- **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.
- **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.
- 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.
- **NEVER STAND ON MACHINE.** Serious injury or accidental contact with cutting tool may occur if machine is tipped. Machine may be damaged.

- **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.
- 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.
- **UNATTENDED OPERATION.** Never leave machine running while unattended. Turn machine off and ensure all moving parts completely stop before walking away.
- MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. An improperly maintained machine may increase the risk of serious injury.
- CHECK DAMAGED PARTS. Regularly inspect machine for damaged parts, loose bolts, mis-adjusted or mis-aligned parts, binding, or any other conditions that may affect safe operation. Always repair or replace damaged parts, wires, cords, or plugs before operating machine.
- 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 the cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet or damp locations.
- **EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact our Technical Support for help at (360) 734-3482.



# Additional Safety for Metal Bandsaws



#### **AWARNING**

READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed.

#### **ACAUTION**

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

- 1. **SAFETY GUARDS.** DO NOT operate bandsaw without wheel covers, pulley covers, or blade guards in place.
- 2. SERVICE PREPARATION. Turn *OFF* and unplug machine before blade replacement, machine adjustments, and maintenance are done. Allow all moving parts to come to a complete stop before doing any of the above.
- **3. SAFETY TOOLS.** Use push sticks or other safety devises whenever possible, especially when the bandsaw is set up for vertical cutting.
- **4. KEEPING HANDS CLEAR.** Never reach under table, in the blade path, or around the blade guides while blade is in motion.
- **5. FURTHER INFORMATION.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Then contact our technical support department or ask a qualified expert how the operation should be performed.
- **6. SHOP SAFETY.** Habits—good and bad—are hard to break. Develop good habits in your shop and safety will become second-nature to you.
- 7. WORKPIECE REMOVAL. Never back the workpiece from the blade when the bandsaw is set up for vertical cutting and while the bandsaw blade is in motion. Turn *OFF* machine and wait for blade to come to a complete stop before backing workpiece out.
- **8. MANUAL INSPECTIONS.** Unplug the machine and manually test blade tracking and tension before starting the machine. Blades that are loose or not tracking correctly can come off and cause serious personal injury.
- **9. SUPPORTING LONG WORKPIECES.** Long workpieces should be well supported at both ends with extension tables when cuts are made. Otherwise, after a cut is made, the cut piece may fall to the floor and the stock may tilt out of the vise and break the blade.
- 10. SAFELY USING CUTTING FLUIDS. Make sure you know what type of metal and cutting fluid you will be exposed to and how to avoid contamination. Be aware that certain metal shavings and cutting fluids may cause an allergic reaction in people and animals, especially when cutting fumes can be inhaled.



# **Avoiding Potential Injuries**

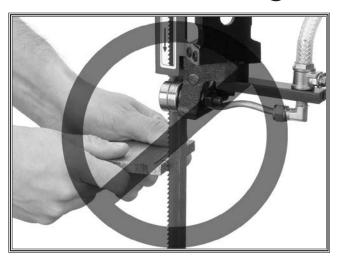


Figure 1. Never attempt to freehand cut.

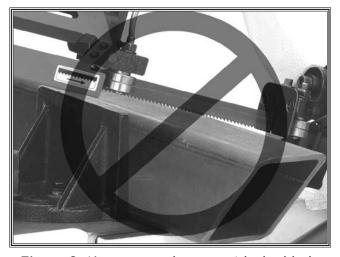


Figure 2. Never start the saw with the blade resting on the workpiece.

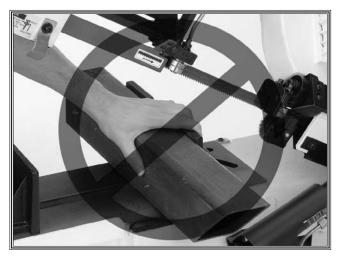


Figure 3. Never hold the workpiece by hand.



**Figure 4.** Always use the table for freehand cutting and keep fingers clear of blade.



**Figure 5.** Always start the saw with the blade clear of the workpiece.

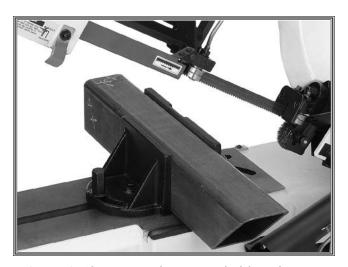


Figure 6. Always use the vise to hold workpiece.



## **ELECTRICAL**

# Circuit Requirements

This machine must be connected to the correct size and type of power supply circuit, or fire or electrical damage may occur. Read through this section to determine if an adequate power supply circuit is available. If a correct circuit is not available, a qualified electrician MUST install one before you can connect the machine to power.

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

#### **Full-Load Current Rating**

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

#### Circuit Requirements for 110V (Prewired)

This machine is prewired to operate on a 110V power supply circuit that has a verified ground and meets the following requirements:

#### Circuit Requirements for 220V

This machine can be converted to operate on a 220V power supply (details about voltage conversion can be found later in this manual). The 220V power supply circuit must have a verified ground and meet the requirements that follow:

#### **AWARNING**

The machine must be properly set up before it is safe to operate. DO NOT connect this machine to the power source until instructed to do later in this manual.

# **AWARNING**



Incorrectly wiring or grounding this machine can cause electrocution, fire, or machine damage. To reduce this risk, only an electrician or qualified service personnel should do any required electrical work on this machine.

#### **NOTICE**

The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the circuit is properly sized for safe operation.



## **Grounding Requirements**

This machine MUST be grounded. In the event of certain types of malfunctions or breakdowns, grounding provides a path of least resistance for electric current to travel—in order to reduce the risk of electric shock.

Improper connection of the equipment-grounding wire will increase the risk of electric shock. The wire with green insulation (with/without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

#### For 110V Connection (Prewired)

This machine is equipped with a power cord that has an equipment-grounding wire and NEMA 5-15 grounding plug. The plug must only be inserted into a matching receptacle (see **Figure**) that is properly installed and grounded in accordance with local codes and ordinances.

#### For 220V Connection (Must be Rewired)

A NEMA 6-15 plug has a grounding prong that must be attached to the equipment-grounding wire inside the included power cord. The plug must only be inserted into a matching receptacle (see **Figure**) that is properly installed and grounded in accordance with all local codes and ordinances.

#### **Extension Cords**

We do not recommend using an extension cord with this machine. Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases with longer extension cords and smaller gauge sizes (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

### **AWARNING**

The machine must be properly set up before it is safe to operate. DO NOT connect this machine to the power source until instructed to do later in this manual.

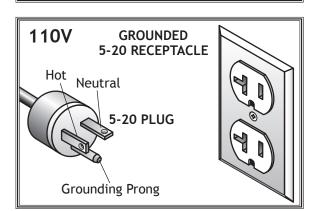


Figure 7. NEMA 5-20 plug & receptacle.

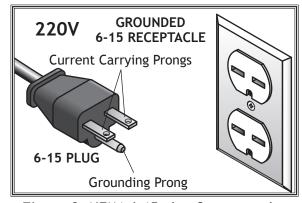


Figure 8. NEMA 6-15 plug & receptacle.



DO NOT modify the provided plug or use an adapter if the plug will not fit the receptacle. Instead, have an electrician install the proper receptacle on a power supply circuit that meets the requirements for this machine.



# SET UP

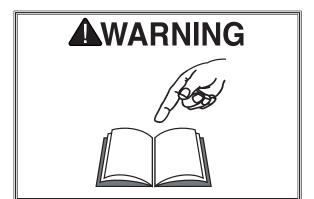
# Unpacking

This machine has been carefully packaged for safe transportation. If you notice the machine has been damaged during shipping, please contact your authorized Shop Fox dealer immediately.

# Items Needed for Set Up

The following items are needed, but not included, to set up your machine:

- An Assistant.
- Phillips Screwdriver #2.
- Standard Screwdriver #2.
- · Hex Wrench 6mm.
- Open-End Wrench 6mm, 12mm, 14mm, 19mm.
- Open-End Wrench 3/8", 7/16", 1/2."



READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!



KEEP the power cord UNPLUGGED during assembly or adjustment tasks! Otherwise, serious personal injury to you or others may occur!





SEEK assistance when lifting the machine from the box it was shipped in. The SHOP FOX® Model M1014 is a heavy machine.



# Inventory

The following is a description of the main components shipped with the  $SHOP\ FOX^{\circ}$  Model M1014. Lay the components out to inventory them.

| Box<br>A. | Contents (Figure 9) Qt Pulley Cover                          |    |
|-----------|--|----|
| В.        | Vertical Work Table  |    |
| C.        | Table Bracket  | .1 |
| D.        | Handle   | .1 |
| E.        | Wheels   | .2 |
| F.        | Collar   | .1 |
| G.        | Axle   | .1 |
| Н.        | Work Stop Rod  | .1 |
| I.        | Work Stop  | .1 |
| J.        | Leveling Feet with Hex Nuts                                  |    |
| K.        | Chip Screen  | .1 |
| L.        | Bolt Bag   |    |
|           | -Flat Washers <sup>3</sup> / <sub>8</sub> " (Leveling Feet)  |    |
|           | -Hex Nuts <sup>3</sup> / <sub>8</sub> "-16 (Leveling Feet)   |    |
|           | -Cotter Pins 3 x 25mm (Wheels)                               |    |
|           | -Hex Bolts $\frac{5}{16}$ "-18 x $\frac{11}{2}$ " (Handle)   |    |
|           | -Flat Head Screw $\frac{1}{4}$ -20 x $\frac{1}{2}$ " (Table) |    |
|           | -Hex Nut 1/4" x 20 (Table)                                   |    |
|           | —Phillips Head Screws $1/4$ "-20 x $5/8$ " (Pulley Cover) .  |    |
|           | -Hex Bolts <sup>5</sup> / <sub>16</sub> "-18 x 1" (Motor)    |    |
|           | -Hex Nuts 5/16"-18 (Motor)                                   |    |
|           | -Flat Washers 5/16" (Motor)                                  |    |
| Μ.        | Motor (Not Shown)  |    |
| N.        | V-Belt 3V270 (Not Shown)                                     |    |
| 0.        | Hose Clamp 5/8" (Not Shown)                                  | .1 |

If any parts appear to be missing, examine the packaging carefully to be sure those parts are not among the packing materials. If any parts are missing, find the part number in the back of this manual and contact Woodstock International, Inc. at 360-734-3482 or at tech-support@shopfox.biz



#### **AWARNING**

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

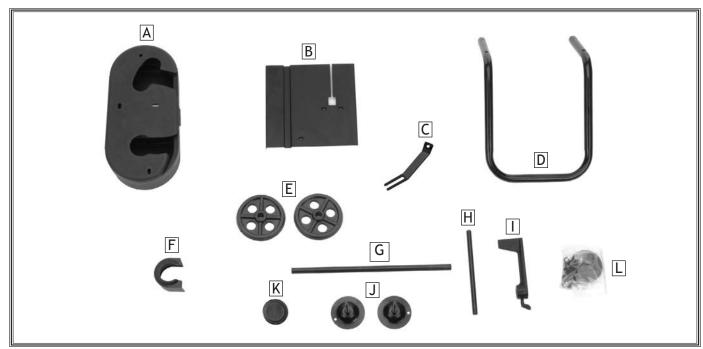


Figure 9. Inventory.



#### **Machine Placement**

- Floor Load: This machine distributes a heavy load in a small footprint. Some residential floors may require additional bracing to support both machine and operator.
- Working Clearances: Consider existing and anticipated needs, size of material to be processed through the machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your Machine Type.
- **Lighting:** Lighting should be bright enough to eliminate shadow and prevent eye strain.
- dedicated or large enough to handle amperage requirements. Outlets must be located near each machine, so power or extension cords are clear of high-traffic areas. Follow local electrical codes for proper installation of new lighting, outlets, or circuits.

#### WARNING

USE helpers or power lifting equipment to lift this Machine Name. Otherwise, serious personal injury may occur.



## **A**CAUTION

MAKE your shop "child safe." Ensure that your workplace is inaccessible to children by closing and locking all entrances when you are away. NEVER allow untrained visitors in your shop when assembling, adjusting or operating equipment.

## Cleaning Machine

The table and other unpainted parts of your bandsaw are coated with a waxy grease that protects them from corrosion during shipment. Clean this grease off with a solvent cleaner or citrus-based degreaser. DO NOT use chlorine-based solvents such as brake parts cleaner or acetone—if you happen to splash some onto a painted surface, you will ruin the finish.



### **▲**WARNING

NEVER use gasoline or other petroleum-based solvents to clean with. Most have low flash points, which make them extremely flammable. A risk of explosion and burning exists if these products are used. Serious personal injury may occur if this warning is ignored!







#### **▲**CAUTION

ALWAYS work in well-ventilated areas far from possible ignition sources when using solvents to clean machinery. Many solvents are toxic when inhaled or ingested. Use care when disposing of waste rags and towels to be sure they DO NOT create fire or environmental hazards.



# Handle, Wheels, and Feet



### **AWARNING**

GET assistance when lifting this machine. Otherwise, you can severely injure yourself!

To install the handle, wheels, and feet, do these steps:

- With the help of an assistant, support the bandsaw on wooden blocks approximately 4" from the ground so you have room to install the handle, wheels, and feet.
- 2. Align the handle mounting holes with the bandsaw holes, and install the 5/16"-18 x 1-1/4" hex bolts, washers, and nuts (see Figure 10).
- 3. Insert the axle into the cabinet, and slide the wheels onto the axles.
- **4.** Slide the two 5/8" flat washers onto the axles, and install the two cotter pins (see **Figure 11**).
- 5. Thread one 3/8"-18 hex nut and install one 3/8" washer onto each threaded foot shaft (see Figure 12).
- **6.** Thread the foot shafts into the underside of the bandsaw cabinet (see **Figure 12**).
- 7. With the help of an assistant, remove the bandsaw from the blocks.
- **8.** Turn the feet until the bandsaw is level, and tighten the hex nut to lock the feet in place.

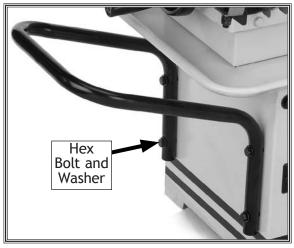


Figure 10. Installed handle.

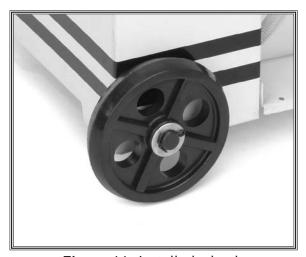


Figure 11. Installed wheel.

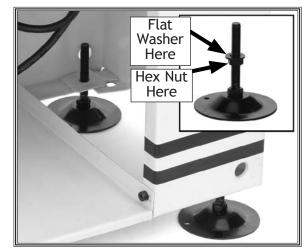


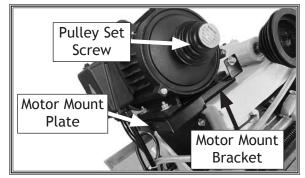
Figure 12. Installed feet.



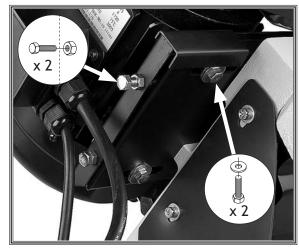
#### **Motor Installation**

The M1014 motor is heavy. We recommend having a second person available to assist with the installation of this motor.

- Remove motor from cabinet after installing filter screen (refer to Step 1 of Cutting Fluid System section on Page 31).
- 2. Slide motor mount plate into motor mount bracket (see Figure 13).
- 3. Thread (2)  $\frac{5}{16}$ "-18 x 1" hex bolts with (2)  $\frac{5}{16}$ "-18 hex nuts into side of motor mount plate, then thread (2)  $\frac{5}{16}$ "-18 x 1" hex bolts with (2)  $\frac{5}{16}$ " flat washers into motor mount bracket (see **Figure 14**).
- 4. Install V-belt onto pulleys, then use a straightedge to check pulley alignment. If pulleys are not aligned, loosen motor pulley set screw (see Figure 13), adjust pulley, then re-tighten set screw.
- 5. Move coolant tank into cabinet.
- **6.** Slide included hose clamp over end of coolant hose, insert hose onto coolant tank fitting, then tighten hose clamp (see **Figure 15**).
- 7. Follow instructions for mounting pulley cover (Page 16) and adjusting V-belt tension (Page 19).



**Figure 13.** Motor installed on motor mount bracket.



**Figure 14.** Motor mounting fasteners installed.

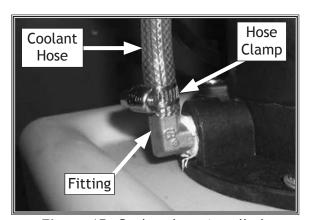


Figure 15. Coolant hose installed.



# **Cutting Fluid System**

This bandsaw has a built-in cutting fluid system that prolongs the life of your bandsaw blades and produces smoother cuts at a lower temperature. Refer to **Cutting Fluid** on **Page 27** for fluid choice and safety precautions.

#### To set up the cutting fluid system, do these steps:

- 1. Place the filter screen dome-side up as shown in Figure 16 in the bandsaw catch pan.
- 2. Inspect and remove any foreign material that may have fallen inside the reservoir during shipping.
- 3. Make sure the drain tube points toward the reservoir intake screen, and that all tube connections are tight and will not leak (see Figure 17).
- Make sure the waterproof rubber switch boot is installed on the pump ON/OFF toggle switch (Figure 17), and that the toggle switch is in the down position.

**Note:** DO NOT plug in the bandsaw at this time to prime the pump. Priming will be done in the **Operations** section.

**5.** Fill the reservoir with 2-1/2 gallons of your chosen cutting fluid solution.

**NOTICE:** NEVER operate the pump with the reservoir below the low mark (**Figure 17**), or the pump can be destroyed!

# Cast Iron Stop

The cast iron stop allows you to repeat many cuts at the same length.

#### To install the cast iron stop, do these steps:

- 1. Insert the stop rod approximately 3/4" into the saw until the end of the rod is just flush with the inside casting surface (see **Figure 18**).
- 2. Use a 12mm wrench, and tighten the hex bolt (see Figure 18).
- 3. Slide the cast iron stop onto the stop rod and tighten the thumb screw.

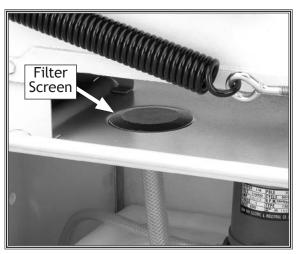
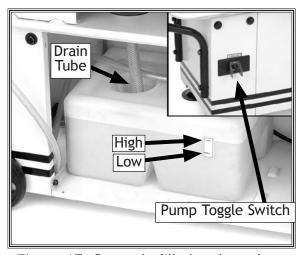


Figure 16. Installed drain screen.



**Figure 17.** Correctly filled tank ready to be pumped.

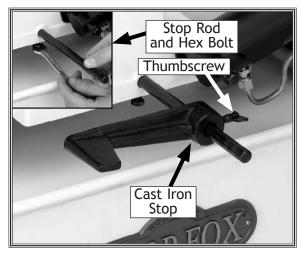


Figure 18. Installing the cast iron stop.



# **Pulley Cover**

When opened, the pulley cover gives you the ability to change the pulley ratio so the bandsaw can cut at one of four speeds.



#### **AWARNING**

ENTANGLEMENT HAZARD!

MAKE SURE the bandsaw is unplugged before proceeding!

Otherwise, severe injury may occur.

To install the pulley cover, do these steps:

- 1. UNPLUG THE BANDSAW POWER CORD!
- 2. Snap the bearing guard into the pulley cover (see Figure 19).
- 3. Position and rotate the pulley cover mounting plate onto the motor as shown in **Figure 20**.
- 4. Install the pulley cover mounting screws, as shown in Figure 21.
- **5.** Make sure the pulley ratio will produce the speed that you want.
  - If the speed needs to be changed, complete the Changing Cutting Speed procedure on Page 20.
- **6.** Install the belt and make sure it has 1/4" deflection when pressed.
  - If the belt is out of adjustment, complete the **Belt Tension** procedure on **Page 19**.

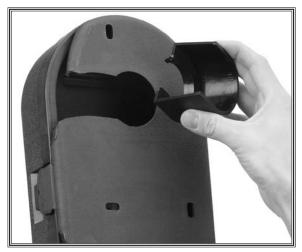


Figure 19. Installing the bearing guard.



Figure 20. Positioning the pulley cover.



Figure 21. Securing the pulley cover.



# Shipping Strap and ON/OFF Switch

To ensure that your bandsaw arrives to you without damage to the hinge system, a shipping strap was installed. After shipping strap removal, adjust the headstock-stop bolt so the bandsaw **ON/OFF** switch is not damaged by the headstock.

**Note:** Keep this shipping strap in the event that you must transport the bandsaw.

#### To remove the shipping strap, do these steps:

- 1. Turn the feed lever *OFF* (Figure 23) so the headstock is supported when the shipping strap is removed.
- 2. Remove the ON/OFF switch push strap and save it for reinstallation later (see Figure 22).
- **3.** Using a screwdriver and a 14mm wrench, remove the screw, headstock stop bolt, and shipping strap.
- 4. Reinstall the headstock stop bolt to the lowest setting, and engage the feed lever so the headstock settles naturally to the lowest position.
- 5. Rotate the stop bolt counterclockwise so the headstock is slightly supported by the stop bolt, and tighten the jam nut.
- **6.** With the bandsaw unplugged, flip the ON/OFF switch to the *ON* position.
- 7. Reinstall the ON/OFF switch push strap so it has just pushed the toggle switch downward to the OFF position, but does not force the toggle past the OFF position and tear the rubber boot or damage the switch.

# **Vertical Cutting Table**

If you install the vertical cutting table, this bandsaw can be set up and used as a vertical-cutting bandsaw.

To install the vertical cutting table, do these steps:

- 1. MAKE SURE THE POWER CORD IS UNPLUGGED!
- 2. Raise the bandsaw headstock to the vertical position, and with the feed lever, lock the headstock in place (see Figure 23).
- Remove the screws and stop plate as shown in Figure 24.

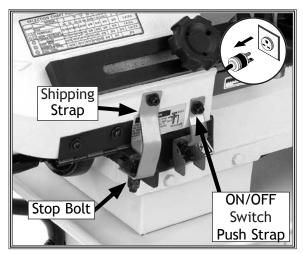
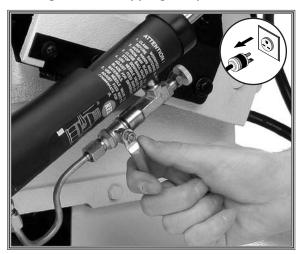


Figure 22. Shipping strap location.



**Figure 23.** Feed lever in the locked position.



Figure 24. Removing the stop plate.



- Position and install the vertical cutting table with the two stop plate mounting screws as shown in Figure 25).
- **5.** Use a 14 mm wrench to loosen the blade guide lock bolt and install the table support as shown in **Figure 26**.
- 6. Place a machinist's square on the table as shown in Figure 27, and make sure that the table and blade are square with each other.
  - If the table and blade are out of square, adjust the table support bracket.



Figure 25. Installing the table.

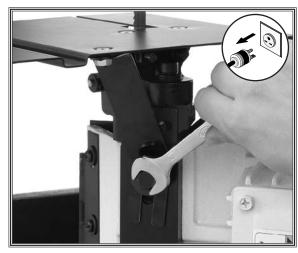
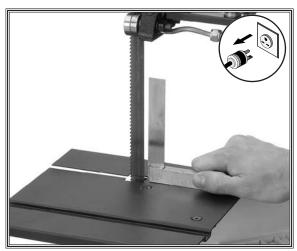


Figure 26. Installing the table support.



**Figure 27.** Checking table-to-blade squareness.



# **ADJUSTMENTS**

#### **Belt Tension**

During the life of your bandsaw, you will find it necessary to change the location of the belt so the saw blade can cut at a different speed. To change the belt location you must use the belt adjustment mechanism to move the motor, which loosens or tightens the belt.

#### To adjust the belt, do these steps:

- 1. UNPLUG THE BANDSAW POWER CORD!
- 2. Open the pulley cover and determine if the belt must be loosened or tightened. The belt should only have 1/4" of deflection when the belt is pressed in the middle.
- 3. Use a 12mm wrench and loosen the two slide bolts and both jack-bolt and jam nuts shown in Figure 28.
  - If the belt needs to be tightened, turn the lower jack bolt counterclockwise until only a few threads are holding the bolt in place, and then turn the upper jack bolt clockwise until the belt has 1/4" of deflection.
  - If the belt needs to be loosened, turn the upper jack bolt counterclockwise until only a few threads are holding the bolt in place, and then turn the lower jack bolt clockwise until the belt has 1/4" of deflection.
- 4. Tighten both jam nuts and both slide bolts.
- **5.** Close the pulley cover.



DO NOT investigate problems or adjust the bandsaw while it is running. Wait until the machine is turned off, unplugged and all working parts have come to a complete stop before proceeding!

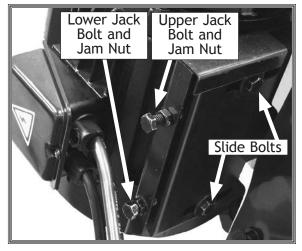


Figure 28. Belt adjustment mechanism.



# **Changing Cutting Speed**

Along with the correct blade selection and feed rate, the correct pulley ratio must be selected to produce the best cutting speed. With all settings correct, the metal chips should be curly and silvery, they should not be overheated and blue, or thin and powdery.

To change the cutting speed, do these steps:

- 1. UNPLUG THE BANDSAW POWER CORD!
- 2. Refer to Figure 29 and match the workpiece material with the suggested blade speed, and then find the correct pulley ratio to get that blade speed.
- 3. Open the pulley cover and loosen the belt tension. Refer to **Belt Tension** on **Page 19** for any details.
- 4. Roll the belt into the new pulley grooves.
- **5.** Adjust the belt tension, and close the pulley cover.

Note: These suggested blade speeds are an average for both High Carbon Blades and Bi-Metal Blades. Refer to your saw blade manufacturer for exact speeds.

| Workpiece<br>Material | Speed in FPM |  |  |  |
|-----------------------|--------------|--|--|--|
| Tool Steel            | 90           |  |  |  |
| Stainless Steel       | 90           |  |  |  |
| Alloy Steel           | 90           |  |  |  |
| Bearing Bronze        | 90           |  |  |  |
| High Carbon Steel     | 135          |  |  |  |
| Medium Carbon Steel   | 135,195      |  |  |  |
| Hard Brass            | 195          |  |  |  |
| Hard Bronze           | 195          |  |  |  |
| Low Carbon Steel      | 195          |  |  |  |
| Soft Brass            | 195          |  |  |  |
| Copper                | 255          |  |  |  |
| Aluminum              | 255          |  |  |  |
| Plastics              | 255          |  |  |  |

**Note:** Feet Per Minunite is (FPM).

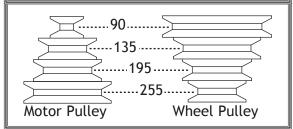


Figure 29. Blade cutting speed chart.



#### **Blade Tension**

If blade tension is set incorrectly, the blade can fracture and break, become belled, or slip off of the bandsaw. You must make sure the blade tension is set in the correct range to prevent these problems.

#### To set the blade tension, do these steps:

- 1. Make sure the blade tracking is set correctly. Refer to **Blade Tracking** on **Page 32** for details.
- 2. Raise the headstock to the vertical position and close the feed valve to lock the headstock in place (see Figure 47 on Page 32).
- 3. Open the blade cover and remove the blade guides (see Figure 30).
- 4. Turn the blade tension knob until the blade is snug and the blade tension notch indicates "medium," which is in the green area shown in Figures 31 and 32.
- **5.** Reinstall the blade guides and adjust as outlined in the **Blade Guide** instructions on **Page 22**.
- 6. Close the blade guard.



**Figure 30.** Bandsaw ready for blade tracking.

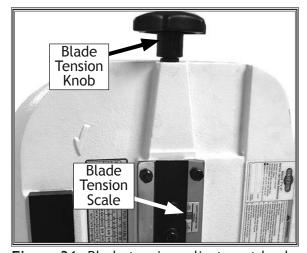


Figure 31. Blade tension adjustment knob.

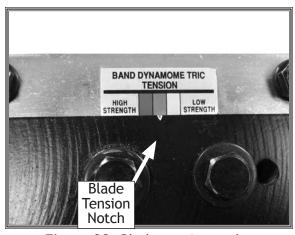


Figure 32. Blade tension scale.



#### **Blade Guides**

The blade guide side bearings support the blade so the blade will enter the workpiece perpendicular to the table surface (see **Figure 33**).

The blade guide support bearings prevent blade twist by stopping the blade from being pushed back during a cut. Both adjustments are the most critical saw adjustments.



## **AWARNING**

UNPLUG the bandsaw power cord, and NEVER adjust the blade guides while the saw blade is moving!

#### To adjust the guide bearings, do these steps:

**Note:** Make sure the blade is tensioned and tracks correctly before you adjust the blade guide bearings.

Refer to Blade Tension or Blade Tracking on Pages 21 and 32 for further instructions.

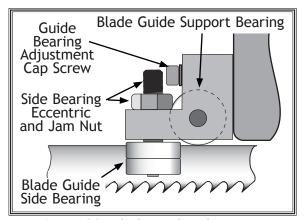
- 1. UNPLUG THE BANDSAW POWER CORD!
- 2. Let the bandsaw headstock park in the full down position.
- 3. Using a 6mm hex wrench, loosen the guide bearing adjustment cap screw (see Figures 33 and 34).
- **4.** Adjust the blade guide housing so the support bearing rests against the rear of the blade (see **Figure 33**).
- **5.** Tighten the cap screw.
- 6. Using a 14mm wrench, loosen the outer side bearing eccentric jam nuts.

**Note:** The inner side bearings are not on eccentric shafts and cannot be adjusted.

7. Using a 6mm wrench, rotate the side bearing eccentrics (Figure 34) until the bearings hold the blade perpendicular to the table surface and have a bearing-to-blade clearance of 0.000" to 0.001". The bearings must not pinch the blade.

**Note:** To make sure the blade is perpendicular to the table, use a standard machinist's square.

**8.** Tighten the jam nuts and slide the blade guide close to the workpiece so the blade is supported and will not twist during the cut (see **Figure 35**).



**Figure 33.** Blade guide adjustment locations.

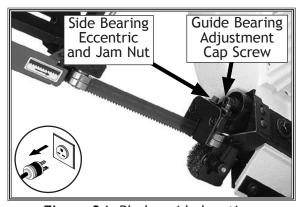


Figure 34. Blade guide location.

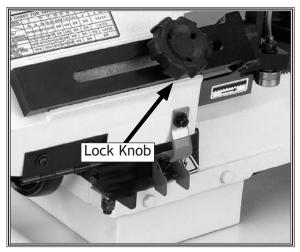


Figure 35. Blade guide position lock knob.



## **OPERATIONS**

#### **General**

The Model M1014 will perform many types of operations that are beyond the scope of this manual. Many of these operations can be dangerous or deadly if performed incorrectly.

The instructions in this section are written with the understanding that the operator has the necessary knowledge and skills to operate this machine. If at any time you are experiencing difficulties performing any operation, stop using the machine!

If you are an inexperienced operator, we strongly recommend that you read books, trade articles, or seek training from an experienced bandsaw operator before performing any unfamiliar operations. Above all, your safety should come first!

#### Operation

Before making cuts to the workpiece, it is important that all safety precautions and bandsaw adjustments are addressed. For vertical cutting, refer to **Vertical Cutting Table** on **Page 17** for table installation steps.

For basic cutting operations, do these steps:

- 1. Check oil level and top it off if required (refer to **Lubrication** on **Page 30** for instructions).
- 2. Select and install the required blade (refer to **Blade Selection** on **Page 25** for blade TPI).
- 3. Select the required cutting speed, (refer to Changing Cutting Speed on Page 20 for instructions).
- 4. Make sure cutting fluid reservoir is full and the fluid is correct for the type of blade and material to be cut (refer to **Cutting Fluid** on **Page 27** for instructions).
- **5.** Raise and lock the headstock, so the blade is approximately 3" from the workpiece, and open the vise to accept the workpiece.

**NOTICE:** NEVER let the saw blade rest on the workpiece without the saw running. Otherwise, you will permanently damage the saw blade!

# **AWARNING**



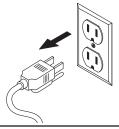
READ and understand this entire instruction manual before using this machine. Serious personal injury may occur if safety and operational information is not understood and followed. DO NOT risk your safety by not reading!

# **AWARNING**



Always wear safety glasses when operating the 7" x 12" Metal Cutting Bandsaw. Failure to comply may result in serious personal injury.

# **AWARNING**



DO NOT investigate problems or adjust the Bandsaw while it is running. Wait until the machine is turned *OFF*, unplugged, and all working parts have come to a complete stop before proceeding!



- 6. Insert the workpiece into the vise, so the blade will contact the flattest part of the workpiece first, and clamp the workpiece in the vise.
- 7. Set the cast iron stop for duplicate cuts.
- 8. Set the blade guide so the guides hold the blade close to the workpiece and the blade will not twist under the cutting load (refer to Blade Guides on Page 22 for instructions).
- Make sure cutting fluid reservoir is full and correct for the type of blade and material to be cut, (refer to Cutting Fluid on Page 27 for instructions).



#### WARNING

NEVER attempt to cut Magnesium when using soluble oils or emulsions (oil-water solutions) as a cutting fluid! The water in the solution will greatly intensify an accidental magnesium-chip fire. For cutting magnesium alloys, use a specific cutting fluid intended for magnesium.

- 10. Turn the pump and bandsaw ON.
- 11. Adjust the flow lever so enough cutting fluid is pumped so that both sides of the blade are cooled, lubricated, and the chips are washed from the cut (see Figure 36).
- 12. Open the feed ON/OFF valve and turn the feed rate knob so the feed rate is correct, based on your observations of the blade chip characteristics. Refer to Feed Rate on Page 28 for details.

**Note:** When the cut is complete, the ON/OFF switch push strap will shut *OFF* the bandsaw, but you must manually turn the pump *OFF*.



Figure 36. Lubricator flow control lever.



#### **Blade Selection**

The chart below is a basic starting point for choosing blade type based on teeth per inch (TPI) for variable tooth pitch blades and for standard raker type bi-metal blades/HSS blades. However, for exact specifications of bandsaw blades, contact the blade manufacturer.

There are three general rules of thumb with respect to bandsaw blade use.

- At least three teeth must contact the metal at any phase of the cut. Otherwise the teeth can load up with metal, fracture, and break off. If the TPI is too high, the teeth can load up with material and overheat damaging the blade.
- For a faster but rougher cut, use a blade with a lower TPI and a higher feed rate.
- For a slower but smoother cut, use a blade with a lower TPI and a lower feed rate.

#### To select the correct blade TPI do these steps:

- 1. Measure the material thickness. This measurement is the length of cut taken from where the tooth enters the workpiece, sweeps through, and exits the workpiece.
- 2. Refer to the "Material Thickness" row of the blade selection chart in **Figure 37** and read across to find your workpiece thickness you need to cut.
- 3. Refer to the "Shape" of metal and "Material Type" columns and find the shape and material to be cut.
- 4. In the applicable row, read across to the right and find the box where the row and column intersect. Listed in the box is the minimum TPI recommended for the variable tooth pitch blades; and the TPI for bi-metal raker blades in parentheses.

| SHAPE   | MATERIAL<br>THICKNESS         | 5                    | 1(                    | ) 15             | 5 20           | 25          | 50          | 75 100      | 150 2       | 200 250 <sub>(mm)</sub> |
|---------|-------------------------------|----------------------|-----------------------|------------------|----------------|-------------|-------------|-------------|-------------|-------------------------|
| 0.17.11 | MATERIAL<br>TYPE              | 1/8                  | 1/4 3/8               | 3 1/2 5          | /8 3/47        | 7/8 1       | 11/2 2 21/2 | 2 3 4       | 6           | 8 10 (in)               |
|         | FERROUS/<br>NON-FERROUS       | (24)                 | )/14 8/14<br>12) (12) | (10)             | 5/8<br>(10)    | 4/          |             |             |             | 1.4/2.5<br>(10)         |
| 0       | COPPER/ALUMINIUM<br>ALLOY     | 14/18 10.<br>(24) (1 | /14 8/14<br>2) (12)   | 6/10<br>(10)     | 5/8<br>(10)    | 4/6<br>(10) | 3/4<br>(10) | 2/3<br>(10) |             | 1.4 / 2.5<br>(10)       |
|         | CAST IRON<br>CARBON STEEL     | 14/18 1<br>(24)      |                       | /14 6/<br>(2) (1 | 10 5/<br>0) (1 |             | 4/6<br>(10) | 3/4<br>(10) | 2/3<br>(10) | 1.4 / 2.5<br>(10)       |
|         | STAINLESS STEEL<br>TOOL STEEL | 14/18<br>(24)        | 10/14<br>(12)         | 8/14<br>(12)     | 6/10<br>(10)   | 5/8<br>(10) | 4/6<br>(10) | 3/4<br>(10) |             | 2/3<br>(10)             |

**Figure 37.** Blade selection chart. **Note:** The TPI numbers in parentheses apply to bi-metal/HSS blades only.



# **Blade Changes**

You will find it necessary to change blades depending on the type of material to be cut. Knowing how to correctly select, change, track, and tension the blade will extend the life of your bandsaw and blades.



#### **AWARNING**

UNPLUG the bandsaw power cord, and NEVER work around the blade or adjust the table while the saw blade is moving!

To change the bandsaw blade, do these steps:

- UNPLUG THE BANDSAW POWER CORD!
- 2. Raise the headstock to the vertical position and close the feed valve to lock the headstock in place (see Figure 38).
- 3. Open the blade guard door, and use a screwdriver to remove the blade guide blade guard and the wire wheel brush (see Figure 39).

▲ CAUTION: WEAR LEATHER GLOVES when changing the bandsaw blade. Otherwise, you may seriously cut your hand!

- Put on thick leather gloves.
- 5. Loosen the blade tension knob, note the direction of teeth, and remove the blade from the wheels and the blade guides (see **Figure 40**).
- **6.** Wipe the new blade with oil, and insert it into the blade guides with the teeth down.
- 7. While keeping the blade in the guides, slide the blade onto the lower wheel and then the upper wheel.
- **8.** Carefully make sure that the blade is seated on the wheels correctly and re-tension the blade. Refer to **Blade Tension** on **Page 21** for instructions.
- **9.** Reinstall the blade guide blade guard and the wire wheel so the blade sinks into wire wheel center line.
- Close the blade guard door and check and set the blade tracking. Refer to Blade Tracking on Page 32 for instructions.
- Check and readjust the blade guides if required.
   Refer to Blade Guides on Page 22 for instructions.

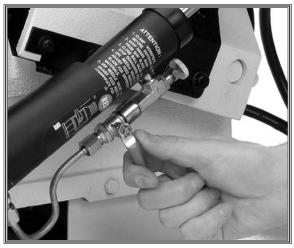


Figure 38. Stopping the feed cylinder.

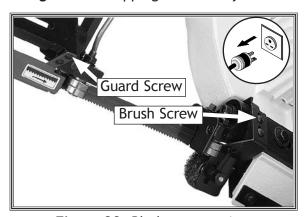


Figure 39. Blade accessories.

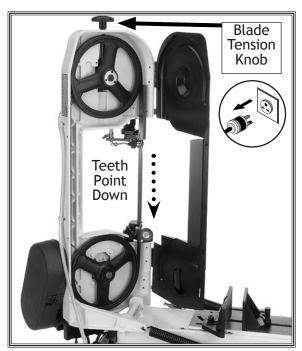


Figure 40. Open blade guard door.



# **Cutting Fluid**

While simple in concept and function, many issues must be taken into account and addressed to find and use the correct cutting fluid. Always follow all product warnings and contact the fluid manufacturer for unanswered questions.

Use the selections below to choose the appropriate cutting fluids:

- For cutting low alloy, low carbon, and general-purpose category metals with a bi-metal blade—use a water soluble cutting fluid.
- For cutting stainless steels, high carbon, and high alloy metals, brass, copper and mild steels—use "Neat Cutting Oil" (commonly undiluted mineral oils) that have extreme pressure additives (EP additives).
- For cutting cast iron, cutting fluid is not recommended.



# **AWARNING**

NEVER attempt to cut magnesium when using soluble oils or emulsions (oil-water solutions) as a cutting fluid! The water in the solution will greatly intensify an accidental magnesium-chip fire. For cutting magnesium alloys, use a specific cutting fluid intended for magnesium.

Remember: Too much flow at the cutting fluid nozzle will make a mess and can make the work area unsafe; and not enough fluid at the cut will heat the blade, causing the blade teeth to load up and break.

Adjust the flow rate lever so the coolant will cool and lubricate the blade, and flush the chips away so they do not stick to the blade. If the chips build up on the blade, eventually they will bind and skid in the next cut, breaking blade teeth, and damaging the bandsaw wheels.



The reservoir on this machine is designed to store cutting fluid. During storage some fluids grow dangerous microbes, or due to the collection of toxic metal chips in the fluid, the fluid can become a potent and extremely poisonous solution to humans and animals.

USE the correct personal protection equipment when handling cutting fluids to prevent infections and poisoning.

FOLLOW federal, state, and the fluid manufacturer requirements to properly dispose of cutting fluid when it becomes unsafe.



#### Feed Rate

The speed at which the saw blade will cut through a workpiece is controlled by blade type, feed rate, and feed pressure.

**Note:** If a lubricant is used on the cut, the feed rate can be increased by approximately 15%.

#### To set the feed rate, do these steps:

- 1. Raise the headstock.
- 2. Using a 14mm wrench, adjust the feed pressure tension spring so the spring coils are not in tension, but the spring is still held firmly in place (see Figure 42).

**Note:** This spring adjustment is an initial setting and depending on cutting circumstances, you will have to fine-tune the feed pressure with this adjustment. Increasing the spring tension will reduce the feed pressure.

- 3. Clamp the workpiece in the table vise.
- 4. Close the feed ON/OFF valve to lock the headstock and blade a few inches above the workpiece (see Figure 41).
- **5.** With the correct saw blade and blade speed selected, turn the saw and lubricant pump *ON*.
- 6. Slowly rotate the feed rate dial to a conservative feed rate until the saw begins to cut the workpiece (see Figure 42).
- 7. Observe the chips that exit the cut, and increase or decrease the feed rate according to the chip characteristics (see **Figure 43**).

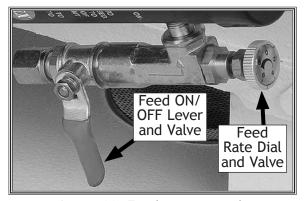
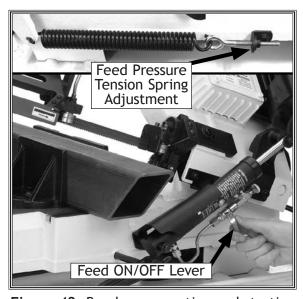


Figure 41. Feed rate controls.



**Figure 42.** Bandsaw operating and starting feed before blade contacts workpiece.

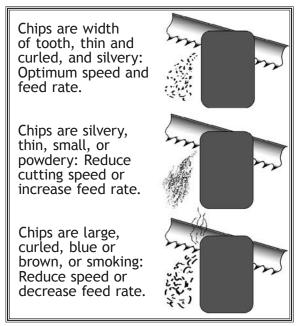


Figure 43. Reading chip characteristics.



# **MAINTENANCE**

#### **General**

Regular periodic maintenance on your **SHOP FOX**® Model M1014 will ensure its optimum performance. Make a habit of inspecting your machine each time you use it.

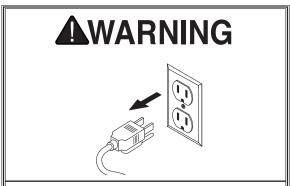
Check for the following conditions and repair or replace when necessary:

- Loose mounting bolts.
- Missing or leaking rubber toggle switch boots.
- Worn or damaged cords, switches, or plugs.
- Damaged V-belt.
- Any other condition that could hamper the safe operation of this machine.

# Cleaning

Frequently brush-off metal chips with a brush, or use a shop vacuum to remove the chips. Keeping metal chips away from bandsaw mechanisms is important to making sure that your bandsaw lasts a long time.

This machine is equipped with a cutting fluid system, which pumps water and oil based cutting lubricants. It is especially important to make sure the internal working parts of the motor and electrical switches are kept dry and splash free.



MAKE SURE that your machine is unplugged during all maintenance procedures! If this warning is ignored, serious personal injury may occur.



#### Lubrication

Since all bearings are sealed and permanently lubricated, simply leave them alone until they need to be replaced. Do not lubricate them. However, you must periodically lubricate threaded adjustment locations and check the gear box oil level.

#### Lubricate the following areas as follows:

- Gear Box: With the headstock in the down position, wipe all dirt and metal from the fill plug, remove it, and check or add 80W-90W gear oil (see Figure 44). Change the oil every six months under heavy use; otherwise, change it annually.
- Blade Tension Mechnasim: Open the main blade guard and drop a few drops of oil on the tension knob lead screw (see Figure 45).
- Blade and Guides: Drop a few drops of light machine oil on the blade and the blade guides daily, especially when cutting cast iron, as no cutting fluid is recommended.
- Table and Machined Surfaces: Tables can be kept rust-free with regular applications of products like SLIPIT®. For long term storage you may want to consider products like Boeshield T-9™.
- **Vise lead screw:** Drop a few drops of light machine oil on the vise lead screw weekly (see **Figure 45**).

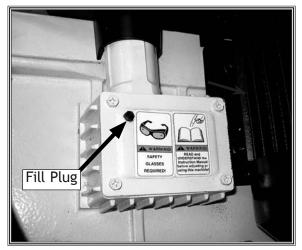


Figure 44. Gear box.

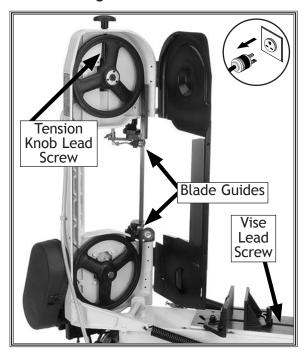


Figure 45. Main lubrication points.



# **SERVICE**

#### **General**

This section covers the most common service adjustments or procedures that may need to be made during the life of your machine.

If you require additional machine service not included in this section, please contact Woodstock International Technical Support at (360) 734-3482 or send e-mail to: tech-support@shopfox.biz.

# **Cutting Fluid System**

Cutting fluid is usually poisonous and can be a biological hazard! Always use the correct personal protection equipment when working with cutting fluids, pumps, fittings, and lines.

#### Maintain the cutting fluid system as follows:

- Reservoir and Pump: Remove four screws and the pump from the reservoir every six months and clean sludge from the tank and remove any restricting material around the pump intake (see Figure 46).
- Screens and Lines: Inspect fittings and lines for leaks and kinks, and repair as required. Make sure all screens are unclogged.
- **Electrical:** Unplug and inspect electrical switches and wiring for potential shorting with liquids and repair as required.



MAKE SURE that your machine is unplugged during all service procedures! If this warning is ignored, serious personal injury may occur.

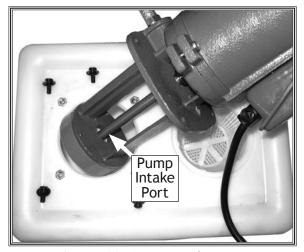


Figure 46. Pump intake port.



## **Blade Tracking**

A blade that tracks incorrectly can wear out the wheel flanges or come off of the bandsaw. You must make sure the blade tracks on the wheel so the rear of the blade is supported by the lip on the wheel or wheel flange.

To set the blade tension, do these steps:



#### ENTANGLEMENT and LACERATION HAZARD!

For this next procedure, KEEP hands and tools away from inside of bandsaw when adjusting the blade tension; otherwise, severe injury may occur.

#### 1. UNPLUG THE BANDSAW POWER CORD!

- 2. Raise the headstock to the vertical position and close the feed valve to lock the headstock in place (see Figure 47).
- 3. Slide the lower sliding cover up, open the main blade guard, and remove the blade guide assemblies (See Figure 48).
- 4. Plug the bandsaw in and start the machine.

**Note:** For the next step, turning the set screw and blade tension knob in opposite directions keeps the blade in tension during this adjustment process.

- 5. Using a 4mm hex wrench, adjust the set screw and blade tension knob simultaneously in opposite directions, and observe the blade position on the wheels. If the setscrew does not turn, you may have to loosen one or both hex bolts shown in Figure 49.
  - If tracking is correct, the rear of the blade should be just touching the wheel flange or wheel shoulder. Unplug the saw and reinstall and adjust the blade guides and close the blade guard.
  - If there is a gap between the wheel shoulder or the blade is riding on top of the shoulder, repeat the adjustment as required to get the correct tracking.

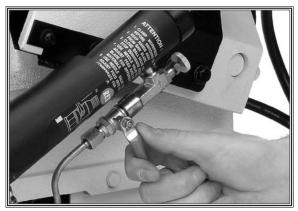


Figure 47. Stopping the feed cylinder.



**Figure 48.** Bandsaw blade guard and the lower sliding cover.

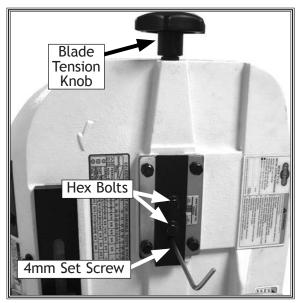


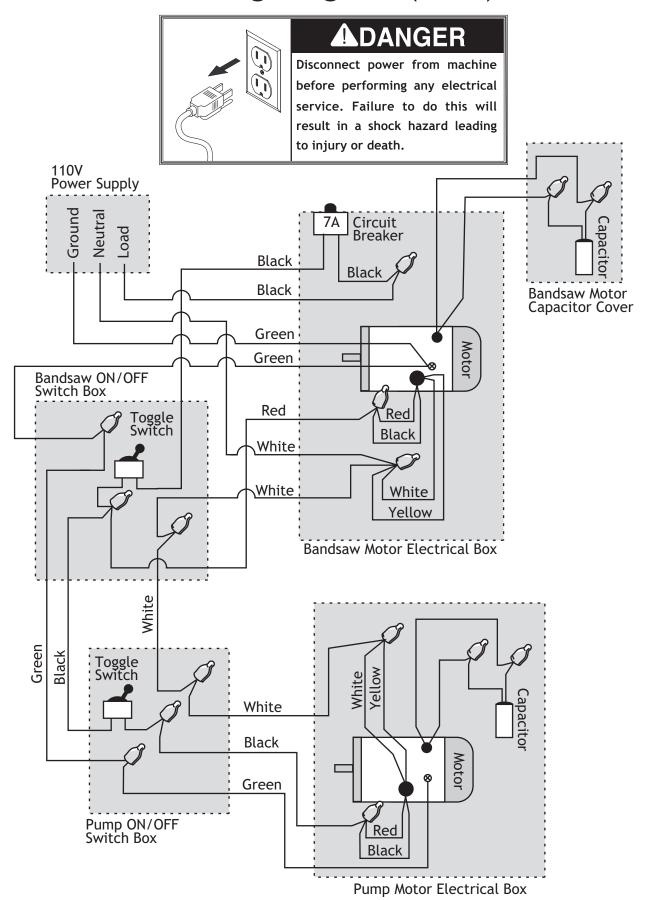
Figure 49. Tracking adjustment controls.



- If the blade tracking cannot be adjusted with this procedure, the wheel must be re-aligned. Go to Step 6 and complete the procedure.
   Otherwise, this procedure is complete.
- **6.** With the bandsaw unplugged, loosen the set screw, and back it out as far as it will go without it falling out.
- 7. Use a 12mm wrench and tighten the hex bolts until they are almost snug, but still loose enough so you can still turn the flat washers with your fingers.
- **8.** Turn the set screw in until it bottoms out, then turn it an additional 1/2 turn.
- 9. Start the bandsaw, and observe the tracking.
  - If the tracking is correct, the rear of the blade should be just touching the wheel flange or wheel shoulder. Unplug the saw and reinstall and adjust the blade guides and close the blade guard.
  - If there is a gap between the wheel shoulder or the blade is riding on top of the shoulder, repeat the adjustment as required to get the correct tracking.

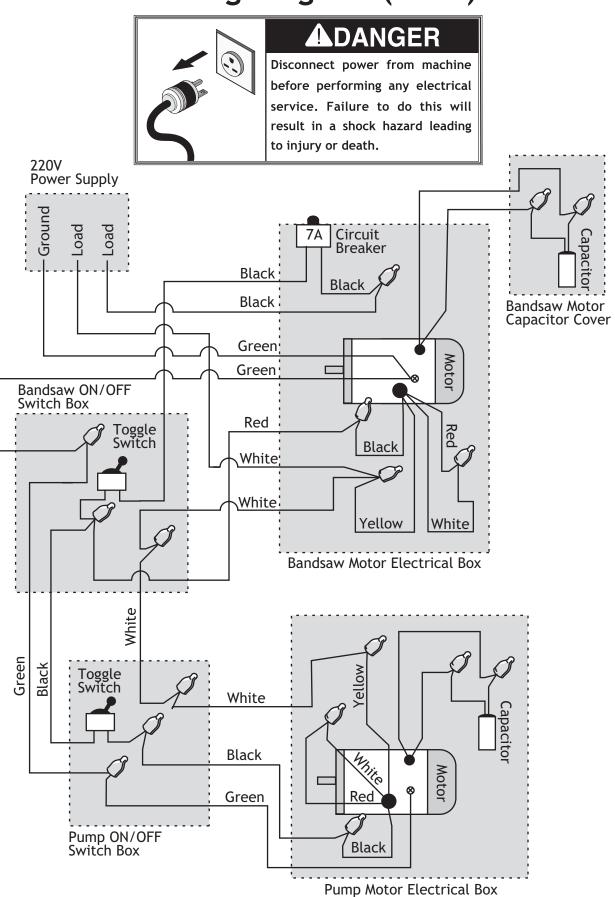


# Wiring Diagram (110V)





### Wiring Diagram (220V)





# **Troubleshooting**

This section covers the most common symptoms and corrections with this type of machine. WARNING! DO NOT make any adjustments until power is disconnected and moving parts have come to a complete stop!



| SYMPTOM   | POSSIBLE CAUSE  | CORRECTIVE ACTION  |
|---|---|--|
| Motor will not start.   | <ol> <li>Low or no voltage.</li> <li>Faulty start capacitor.</li> <li>Motor is at fault.</li> </ol>   | <ol> <li>Open or short circuit in line cord or plug resulting in blown fuse or tripped breaker. Repair for cause of short or open circuit.</li> <li>Replace start capacitor.</li> <li>Motor has shorted or open windings. Replace motor.</li> </ol>  |
| Motor automatically shuts off (possibly resulting in blown fuse or tripped circuit breaker or in power supply circuit). | <ol> <li>Faulty start capacitor.</li> <li>Bandsaw is jammed.</li> <li>Short circuit in motor or loose connections.</li> </ol>   | <ol> <li>Replace start capacitor.</li> <li>Remove part or metal that is binding bandsaw.</li> <li>Refer to Wiring Diagrams on Pages 34 and 35, and inspect connections on motor for loose or shorted terminals or worn insulation and repair.</li> </ol>   |
| Machine is loud when cutting or bogs down in the cut.   | <ol> <li>Excessive feed rate.</li> <li>The blade TPI is too great, or the material is too coarse.</li> <li>The run capacitor is at fault.</li> </ol>  | <ol> <li>Refer to Feed Rate on Page 28, or Changing<br/>Cutting Speed on Page 20, and adjust as required.</li> <li>Refer to Blade Selection on Page 25 and adjust as required.</li> <li>Replace the run capacitor.</li> </ol>  |
| Blades break often.   | <ol> <li>The workpiece is loose in the vise.</li> <li>The feed or cut speed is wrong.</li> <li>The blade TPI is too great, or the material is too coarse.</li> <li>The blade is rubbing on the wheel flange.</li> <li>The bandsaw is being started with the blade resting on the workpiece.</li> <li>The guide bearings are misaligned, or the blade is rubbing on the wheel flange.</li> <li>The blade is too thick, or the</li> </ol> | <ol> <li>Clamp the workpiece tighter, or use a jig to hold the workpiece.</li> <li>Refer to Feed Rate on Page 28, or Changing Cutting Speed on Page 20, and adjust as required.</li> <li>Refer to Blade Selection on Page 25, and adjust as required.</li> <li>Refer to Blade Tracking on Page 32, and adjust as required.</li> <li>Start bandsaw and then slowly lower the headstock by setting the feed rate.</li> <li>Refer to Blade Tracking on Page 32, or Blade Guides on Page 22, and adjust as required.</li> <li>Use a higher quality blade.</li> </ol> |
| Blade dulls prematurely.  | blades are of low quality.  1. The cut speed is too fast.  2. The blade TPI is too coarse.  3. The blade feed pressure is to light.  4. The workpiece has hard spots, welds, or scale is on the material.  5. The blade is twisted.  6. The blade is sipping on the wheels.   | <ol> <li>Refer to Changing Cutting Speed on Page 20, and adjust as required.</li> <li>Refer to Blade Selection on Page 25, and adjust as required.</li> <li>Refer to Feed Rate on Page 28, and adjust as required.</li> <li>Increase the feed pressure, and reduce the cutting speed.</li> <li>Replace the blade.</li> <li>Refer to Blade Tension on Page 21, and adjust as required.</li> </ol>   |
| Blade wears on one side.  | <ol> <li>The blade guides are worn or misadjusted.</li> <li>The blade guide slide bracket is loose.</li> <li>The wheels are out of alignment.</li> </ol>  | <ol> <li>Refer to Blade Guides on Page 22 and replace or adjust.</li> <li>Tighten the blade guide bracket.</li> <li>Refer to Blade Tracking on Page 32, and adjust as required.</li> </ol>   |



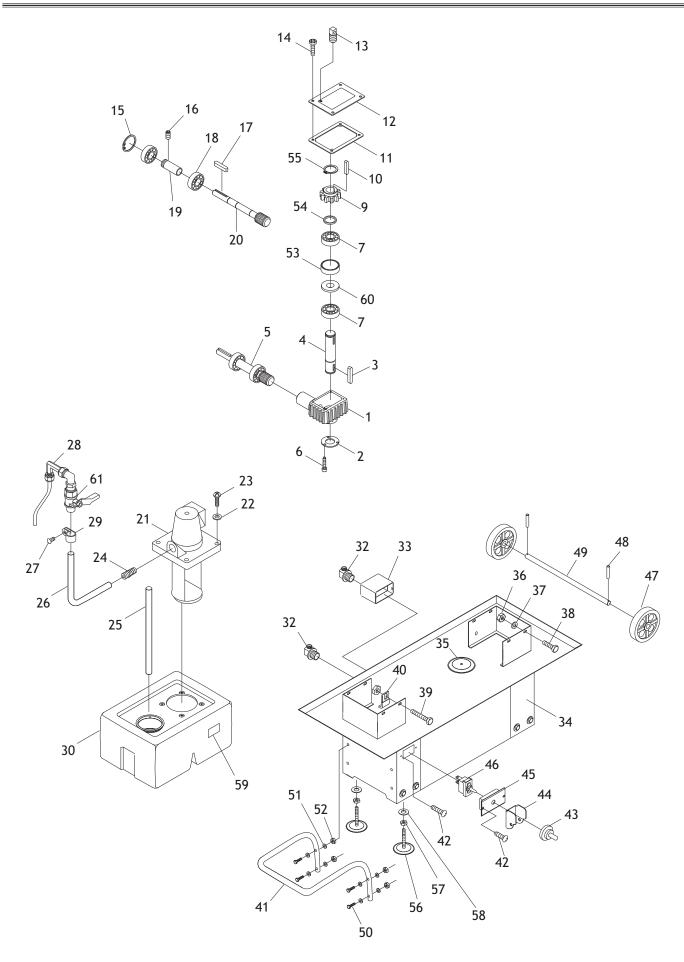


# **Troubleshooting**

This section covers the most common symptoms and corrections with this type of machine. WARNING! DO NOT make any adjustments until power is disconnected and moving parts have come to a complete stop!

| SYMPTOM                           | POSSIBLE CAUSE   | CORRECTIVE ACTION   |
|-----------------------------------|--|---|
| Teeth are ripping from the blade. | 1. The feed pressure is too heavy and the blade speed is too slow; or the blade TPI is too coarse for the workpiece. | 1. Refer to Blade Selection on Page 25 and decrease the feed pressure. Refer to Feed Rate on Page 28, and adjust as required.   |
|                                   | The workpiece is vibrating in the vise.  | 2. Re-clamp the workpiece in the vise, and use a jig if required.   |
|                                   | 3. The blade gullets are loading up with chips.  | 3. Use a coarser-tooth blade, make sure the brush is working, and use cutting fluid to cool the blade and flush the cut if required. Refer to Cutting Fluid on Page 27 for fluid selection. |
| Motor is running too hot.         | 1. The blade tension is too high.  | 1. Refer to <b>Blade Tension</b> on <b>Page 21</b> , and adjust as required.  |
|                                   | 2. The drive belt is slipping.   | 2. Refer to <b>Belt Tension</b> on <b>Page 21</b> , and adjust as required.   |
|                                   | 3. The blade TPI is incorrect.   | 3. Refer to <b>Blade Selection</b> on <b>Page 25</b> , and adjust as required.  |
|                                   | 4. The saw is being overloaded.  | 4. Refer to Blade Selection on Page 25 and decrease the feed pressure, refer to Feed Rate on Page 28.  Use cutting fluid if required.   |
| The cuts are crooked.             | 1. The feed pressure is too high.  | Refer to <b>Feed Rate</b> on <b>Page 28</b> , and adjust as required.   |
|                                   | 2. The guide bearings are out of adjustment, or too far away from the workpiece.                                     | Refer to Blade Guides on Page 22 and replace or adjust.   |
|                                   | 3. The blade tension is low.   | 3. Refer to <b>Blade Tension</b> on <b>Page 21</b> , and adjust as required.  |
|                                   | 4. The blade is dull.  | 4. Refer to <b>Blade Selection</b> on <b>Page 25</b> and replace the blade.   |
|                                   | 5. The blade speed is wrong.   | 5. Refer to Changing Cutting Speed on Page 20, and adjust as required.  |
|                                   | 6. The blade tracking is wrong.  | 6. Refer to <b>Blade Tracking</b> on <b>Page 32</b> , and adjust as required.   |
| The cuts are rough.               | 1. The feed pressure is too high.  | Refer to <b>Feed Rate</b> on <b>Page 28</b> , and adjust as required.   |
|                                   | 2. The blade TPI is too coarse.  | Refer to Blade Selection on Page 25, and adjust as required.  |
|                                   | 3. The blade is loose and slipping on wheels.  | Refer to Blade Tension on Page 21, and adjust as required.  |
|                                   | 4. The blade tracking is wrong.  | Refer to Blade Tracking on Page 32, and adjust as required.   |

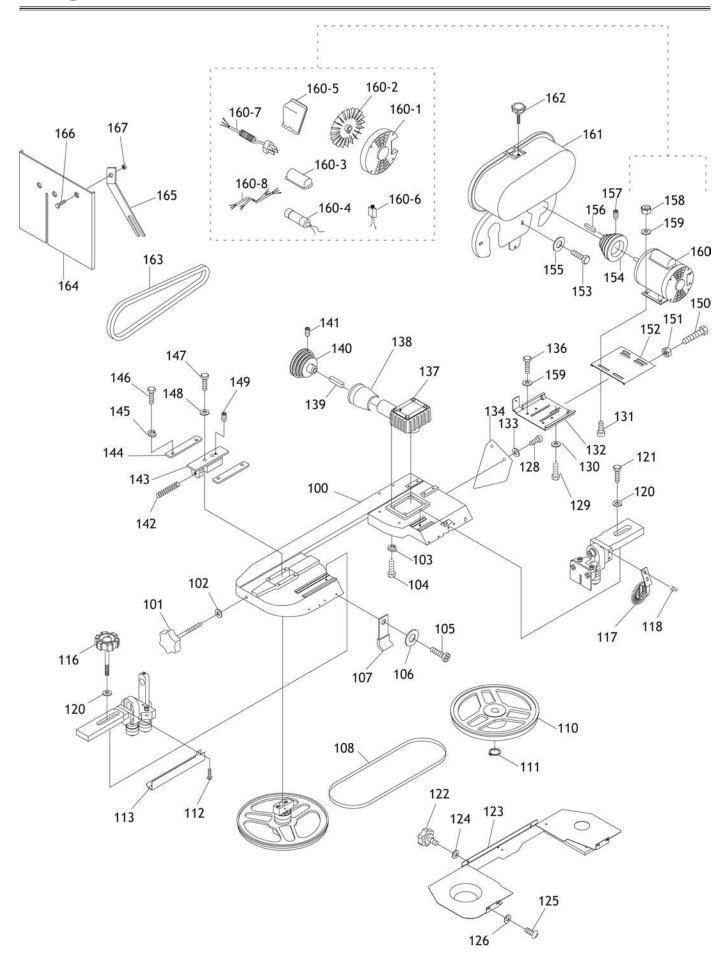






| REF  | PART #      | DESCRIPTION                   |
|------|-------------|-------------------------------|
| 1    | XM1014001   | GEAR BOX                      |
| 2    | XM1014002   | BEARING COVER                 |
| 3    | XPK07M      | KEY 6 X 6 X 20MM              |
| 4    | XM1014004   | SHAFT                         |
| 5    | XM1014005   | WORM GEAR SHAFT ASSEMBLY      |
| 6    | XPS06       | PHLP HD SCR #10-24 X 3/8"     |
| 7    | XP6205      | BALL BEARING 6205             |
| 9    | XM1014009   | PINION GEAR                   |
| 10   | XPK07M      | KEY 6 X 6 X 20MM              |
| 11   | XM1014011   | GEAR BOX GASKET               |
| 12   | XM1014012   | GEAR BOX COVER                |
| 13   | XM1014013   | VENT PLUG                     |
| 14   | XPS04       | PHLP HD SCR 1/4"-20 X 1/2"    |
| 15   | XPR18M      | EXT RETAINING RING 17MM       |
| 16   | XPSS08      | SET SCREW 5/16"-18 X 1/2"     |
| 17   | XPK12M      | KEY 5 X 5 X 30MM              |
| 18   | XP6003      | BALL BEARING 6003ZZ           |
| 19   | XM1014019   | BEARING BUSHING               |
| 20   | XM1014020   | WORM SHAFT                    |
| 21   | XM1014021   | PUMP                          |
| 21-1 | XM1014021-1 | S. CAPACITOR 4MFD/300VAC      |
| 22   | XPW06       | FLAT WASHER 1/4"              |
| 23   | XPS04       | PHLP HD SCR 1/4"-20 X 1/2"    |
| 24   | XM1014024   | COUPLER 3/8" X 5/16"          |
| 25   | XM1014025   | HOSE 5/8" X 200MM             |
| 26   | XM1014026   | HOSE OD12 X ID8 X 2000        |
| 27   | XPS06       | PHLP HD SCR #10-24 X 3/8"     |
| 28   | XM1014028   | FITTING 1/8"PT X 5/16"D X 90° |
| 29   | XM1014029   | HOSE CLIP 5/8"                |
| 30   | XM1014030   | COOLANT TANK                  |

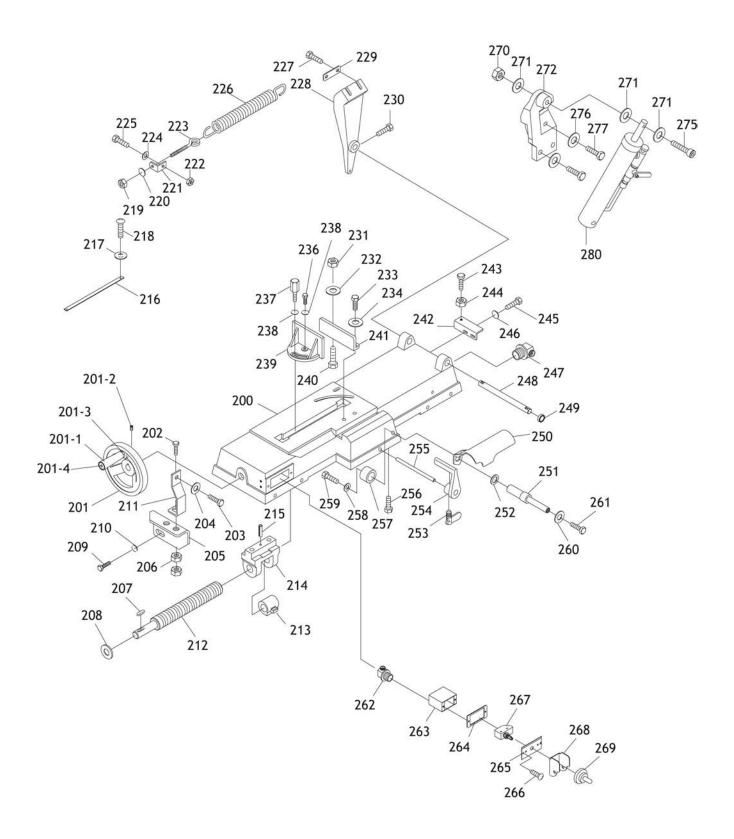
| REF | PART #    | DESCRIPTION               |
|-----|-----------|---------------------------|
| 32  | XM1014032 | STRAIN RELIEF 1/2"        |
| 33  | XM1014033 | ELECTRICAL BOX            |
| 34  | XM1014034 | STAND COMPLETE ASSEMBLY   |
| 35  | XM1014035 | FILTER                    |
| 36  | XPN08     | HEX NUT 3/8"-16           |
| 37  | XPW07     | FLAT WASHER 5/16"         |
| 38  | XPB03     | HEX BOLT 5/16"-18 X 1"    |
| 39  | XPB24     | HEX BOLT 3/8"-16 X 1-1/4" |
| 40  | XM1014040 | SWITCH CUT OFF TIP        |
| 41  | XM1014041 | HANDLE                    |
| 42  | XPHTEK6   | TAP SCREW #10 X 3/8"      |
| 43  | XM1014043 | TOGGLE SWITCH COVER       |
| 44  | XM1014044 | SWITCH COVER              |
| 45  | XM1014045 | COVER                     |
| 46  | XM1014046 | SWITCH                    |
| 47  | XM1014047 | WHEEL                     |
| 48  | XM1014048 | COTTER PIN 3 X 25MM       |
| 49  | XM1014049 | AXLE                      |
| 50  | XPB24     | HEX BOLT 3/8"-16 X 1-1/4" |
| 51  | XPW02     | LOCK WASHER 3/8"          |
| 52  | XPN08     | HEX NUT 3/8"-16           |
| 53  | XM1014053 | BUSHING                   |
| 54  | XM1014054 | BUSHING                   |
| 55  | XPR11M    | EXT RETAINING RING 25MM   |
| 56  | XM1014056 | METAL FOOT                |
| 57  | XPN08     | HEX NUT 3/8"-16           |
| 58  | XPW02     | FLAT WASHER 3/8"          |
| 59  | XM1014059 | HIGH/LOW LABEL            |
| 60  | XM1014060 | OIL SEAL 25 X 10 X 2      |
| 61  | XM1014061 | BALL VALVE                |





| REF | PART #    | DESCRIPTION                    |
|-----|-----------|--------------------------------|
| 100 | XM1014100 | BODY FRAME                     |
| 101 | XM1014101 | KNOB BOLT                      |
| 102 | XPW02     | FLAT WASHER 3/8"               |
| 103 | XPLW04    | LOCK WASHER 3/8"               |
| 104 | XPB24     | HEX BOLT 3/8"-16 X 1-1/4"      |
| 105 | XPS04     | PHLP HD SCR 1/4"-20 X 1/2"     |
| 106 | XPW06     | FLAT WASHER 1/4"               |
| 107 | XM1014107 | SWITCH CUT OFF TIP             |
| 108 | XM1014108 | BLADE 0.032 X 3/4 X 93 X 6-10T |
| 110 | XM1014110 | DRIVE WHEEL ASSEMBLY           |
| 111 | XPR11M    | EXT RETAINING RING 25MM        |
| 112 | XPS01     | PHLP HD SCR 10-24 X 1/2"       |
| 113 | XM1014113 | BLADE COVER (FRONT)            |
| 116 | XM1014116 | KNOB BOLT                      |
| 117 | XM1014117 | BRUSH ASSEMBLY                 |
| 118 | XPS06     | PHLP HD SCR 10-24 X 3/8"       |
| 120 | XPW02     | FLAT WASHER 3/8"               |
| 121 | XPB24     | HEX BOLT 3/8"-16 X 1-1/4"      |
| 122 | XM1014122 | KNOB BOLT                      |
| 123 | XM1014123 | BLADE BACK COVER               |
| 124 | XPW06     | FLAT WASHER 1/4"               |
| 125 | XPS04     | PHLP HD SCR 1/4"-20 X 1/2"     |
| 126 | XPW06     | FLAT WASHER 1/4"               |
| 128 | XPS04     | PHLP HD SCR 1/4"-20 X 1/2"     |
| 129 | XPB07     | HEX BOLT 5/16"-18 x 3/4"       |
| 130 | XPW07     | FLAT WASHER 5/16"              |
| 131 | XPCB11    | CARRIAGE BOLT 5/16"-18 X 1"    |
| 132 | XM1014132 | MOTOR MOUNT BRACKET            |
| 133 | XPW06     | FLAT WASHER 1/4"               |
| 134 | XM1014134 | SUPPORT PLATE                  |
| 136 | XPB07     | HEX BOLT 5/16"-18 x 3/4"       |
| 137 | XM1014137 | GEAR BOX ASSEMBLY              |
| 138 | XM1014138 | BEARING COVER                  |
| 139 | XPK12M    | KEY 5 X 5 X 30MM               |
| 140 | XM1014140 | SPINDLE PULLEY                 |

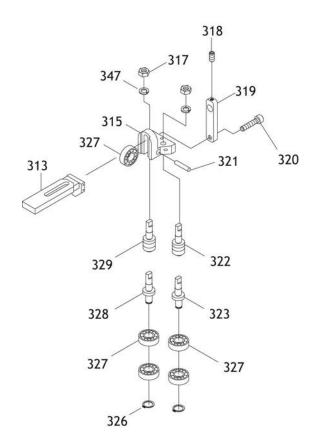
| REF   | PART #      | DESCRIPTION                 |
|-------|-------------|-----------------------------|
| 141   | XPSS03      | SET SCREW 1/4"-20 X 3/8"    |
| 142   | XM1014142   | COMPRESSION SPRING          |
| 143   | XM1014143   | BLADE TENSION SLIDING BLOCK |
| 144   | XM1014144   | SLIDING PLATE               |
| 145   | XPLW01      | LOCK WASHER 5/16"           |
| 146   | XPB07       | HEX BOLT 5/16"-18 x 3/4"    |
| 147   | XPB11       | HEX BOLT 5/16"-18 X 1-1/2"  |
| 148   | XPW07       | FLAT WASHER 5/16"           |
| 149   | XPSS18      | SET SCREW 5/16"-18 X 3/4"   |
| 150   | XPB06       | HEX BOLT 5/16"-18 X 2"      |
| 151   | XPN02       | HEX NUT 5/16"-18            |
| 152   | XM1014152   | MOTOR MOUNT PLATE           |
| 153   | XPB19       | HEX BOLT 1/4"-20 X 1/2"     |
| 154   | XM1014154   | MOTOR PULLEY                |
| 155   | XPW06       | FLAT WASHER 1/4"            |
| 156   | XPK12M      | KEY 5 X 5 X 30MM            |
| 157   | XPSS03      | SET SCREW 1/4"-20 X 3/8"    |
| 158   | XPN02       | HEX NUT 5/16"-18            |
| 159   | XPW07       | FLAT WASHER 5/16"           |
| 160   | XM1014160   | MOTOR                       |
| 160-1 | XM1014160-1 | MOTOR FAN COVER             |
| 160-2 | XM1014160-2 | MOTOR FAN                   |
| 160-3 | XM1014160-3 | CAPACITOR COVER             |
| 160-4 | XM1014160-4 | S. CAPACITOR 150MFD/250VAC  |
| 160-5 | XM1014160-5 | ELECTRICAL BOX COVER        |
| 160-6 | XM1014160-6 | 13 AMP CIRCUIT BREAKER      |
| 160-7 | XM1014160-7 | POWER CORD                  |
| 160-8 | XM1014160-8 | COMPLETE WIRING HARNESS     |
| 161   | XM1014161   | MOTOR PULLEY COVER          |
| 162   | XM1014162   | KNOB BOLT 1/4"-20 X 5/8"    |
| 163   | XPVM27      | V-BELT M-27 3L270           |
| 164   | XM1014164   | VERTICAL SAW TABLE          |
| 165   | XM1014165   | TABLE SUPPORT               |
| 166   | XPFH19      | FLAT HD SCR 1/4"-20 X 3/8"  |
| 167   | XPNO5       | HEX NUT 1/4"-20             |

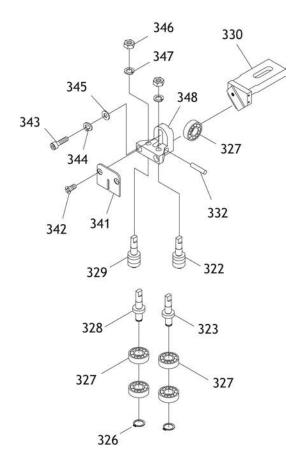


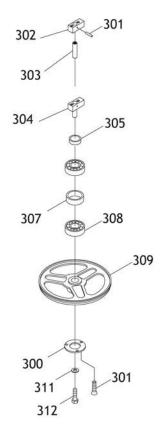


| REF   | PART #      | DESCRIPTION                   |
|-------|-------------|-------------------------------|
| 200   | XM1014200   | BASE                          |
| 201   | XM1014201   | WHEEL                         |
| 201-1 | XM1014201-1 | WHEEL HANDLE                  |
| 201-2 | XPSS17      | SET SCREW 5/16"-18 X 5/16"    |
| 201-3 | XPN08       | HEX NUT 3/8-16"               |
| 201-4 | XM1014201-4 | SPECIAL CAP SCREW             |
| 202   | XPB25       | HEX BOLT 3/8"-16 X 1-3/4"     |
| 203   | XPB11       | HEX BOLT 5/16"-18 X 1-1/2"    |
| 204   | XPW06       | FLAT WASHER 1/4"              |
| 205   | XM1014205   | SUPPORT PLATE                 |
| 206   | XPN08       | HEX NUT 3/8"-16               |
| 207   | XPK20M      | KEY 5 X 5 X 15MM              |
| 208   | XPW01       | FLAT WASHER 1/2"              |
| 209   | XPB07       | HEX BOLT 5/16"-18 x 3/4"      |
| 210   | XPW07       | FLAT WASHER 5/16"             |
| 211   | XM1014211   | FIXED PLATE                   |
| 212   | XM1014212   | ACME SCREW                    |
| 213   | XM1014213   | ACME NUT ASSY                 |
| 214   | XM1014214   | BRACKET                       |
| 215   | XM1014215   | PIN 5 X 34MM                  |
| 216   | XM1014216   | SCALE                         |
| 217   | XPW03       | FLAT WASHER #10               |
| 218   | XPS06       | PHLP HD SCR #10-24 X 3/8"     |
| 219   | XPN08       | HEX NUT 3/8"-16               |
| 220   | XPW02       | FLAT WASHER 3/8"              |
| 221   | XM1014221   | SPRING HANDLE BRACKET         |
| 222   | XPN02       | HEX NUT 5/16"-18              |
| 223   | XM1014223   | SPRING ADJUSTING ROD          |
| 224   | XPW07       | FLAT WASHER 5/16"             |
| 225   | XPB07       | HEX BOLT 5/16"-18 x 3/4"      |
| 226   | XM1014226   | EXTENSION SPRING              |
| 227   | XPB16       | HEX BOLT 3/8"-16 X 1-1/2"     |
| 228   | XM1014228   | PIVOT BRACKET                 |
| 229   | XM1014229   | SPACER PLATE                  |
| 230   | XPS35       | PHLP HD SCREW 5/16"-18 X 3/4" |
| 231   | XPN06       | HEX NUT 1/2"-12               |
| 232   | XPW01       | FLAT WASHER 1/2"              |
| 233   | XPB42       | HEX BOLT 1/2"-12 X 2"         |
| 234   | XPW01       | FLAT WASHER 1/2               |
| 236   | XPB16       | HEX BOLT 3/8"-16 X 1-1/2"     |

| REF | PART #    | DESCRIPTION                   |
|-----|-----------|-------------------------------|
| 237 | XM1014237 | SPECIAL BOLT 3/8"-18 X 1-1/2" |
| 238 | XPW02     | FLAT WASHER 3/8"              |
| 239 | XM1014239 | VISE JAW BRACKET (FRONT)      |
| 240 | XPB72     | HEX BOLT 1/2"-13 X 2"         |
| 241 | XM1014241 | VISE JAW BRACKET (REAR)       |
| 242 | XM1014242 | SUPPORT PLATE                 |
| 243 | XPB25     | HEX BOLT 3/8"-16 X 1-3/4"     |
| 244 | XPN08     | HEX NUT 3/8"-16               |
| 245 | XPB07     | HEX BOLT 5/16"-18 x 3/4"      |
| 246 | XPW07     | FLAT WASHER 5/16"             |
| 247 | XM1014247 | STRAIN RELIEF 5/8"            |
| 248 | XM1014248 | SUPPORT ROD                   |
| 249 | XM1014249 | BUSHING                       |
| 250 | XM1014250 | CYLINDER PROTECTOR            |
| 251 | XM1014251 | CYLINDER LOWER SUPPORT        |
| 252 | XM1014252 | SPACER WASHER                 |
| 253 | XM1014253 | TAB SCREW 5/16"-18 X 1/2"     |
| 254 | XM1014254 | STOP BLOCK                    |
| 255 | XM1014255 | STOCK STOP ROD                |
| 256 | XPB07     | HEX BOLT 5/16"-18 x 3/4"      |
| 257 | XM1014257 | BUSHING                       |
| 258 | XPW07     | FLAT WASHER 5/16"             |
| 259 | XPB07     | HEX BOLT 5/16"-18 x 3/4"      |
| 260 | XPW07     | FLAT WASHER 5/16"             |
| 261 | XPB09     | HEX BOLT 5/16"-18 X 1/2"      |
| 262 | XM1014262 | STRAIN RELIEF 1/2"            |
| 263 | XM1014263 | SWITCH BOX                    |
| 264 | XM1014264 | RUBBER GASKET                 |
| 265 | XM1014265 | MOUNTING PLATE                |
| 266 | XPHTEK4   | #10-24 X 3/8"                 |
| 267 | XM1014267 | TOGGLE SWITCH                 |
| 268 | XM1014268 | SWITCH COVER                  |
| 269 | XM1014269 | TOGGLE SWITCH COVER           |
| 270 | XPN08     | HEX NUT 3/8"-16               |
| 271 | XPW02     | FLAT WASHER 3/8"              |
| 272 | XM1014272 | CYLINDER UPPER SUPPORT        |
| 275 | XPSB29    | CAP SCREW 3/8"-16 X 2-1/4"    |
| 276 | XPW07     | FLAT WASHER 5/16"             |
| 277 | XPB03     | HEX BOLT 5/16"-18 X 1"        |
| 280 | XM1014280 | CYLINDER SET                  |









| REF | PART #    | DESCRIPTION                 |
|-----|-----------|-----------------------------|
| 300 | XM1014300 | RETAINER                    |
| 301 | XM1014301 | ROLL PIN 4 X 22MM           |
| 302 | XM1014302 | HOUSING                     |
| 303 | XM1014303 | AXLE                        |
| 304 | XM1014304 | AXLE ASSEMBLY               |
| 305 | XM1014305 | SPACER                      |
| 307 | XM1014307 | SPACER                      |
| 308 | XP6202    | BEARING 6202-ZZ             |
| 309 | XM1014309 | WHEEL                       |
| 310 | XPFH01    | FLAT HD SCR #10-24 X 3/8"   |
| 311 | XM1014311 | LOCK WASHER 5/16"           |
| 312 | XPB07     | HEX BOLT 5/16"-18 X 3/4"    |
| 313 | XM1014313 | GUIDE SLIDE                 |
| 315 | XM1014315 | GUIDE CASTING               |
| 317 | XPN11     | HEX NUT 3/8"-24             |
| 318 | XPSS03    | SET SCREW 1/4"-20"X 3/8"    |
| 319 | XM1014319 | EXTENSION                   |
| 320 | XPSB11    | CAP SCREW 5/16"-18 X 1-1/4" |

| REF | PART #    | DESCRIPTION                 |
|-----|-----------|-----------------------------|
| 321 | XM1014321 | ROLL PIN 10 X 42MM          |
| 322 | XM1014322 | ECCENTRIC SET               |
| 323 | XM1014323 | ECCENTRIC ONLY              |
| 326 | XPR39M    | EXTERNAL RETAINING RING 8MM |
| 327 | XP6000    | BALL BEARING 6000ZZ         |
| 328 | XM1014328 | ECCENTRIC ONLY              |
| 329 | XM1014329 | ECCENTRIC SET               |
| 330 | XM1014330 | GUIDE CASTING               |
| 332 | XM1014332 | ROLL PIN 10 X 42MM          |
| 341 | XM1014341 | STOP PLATE                  |
| 342 | XPFH03    | FLAT HD SCR 1/4"-20 X 1/2"  |
| 343 | XPSB11    | CAP SCREW 5/16"-18 X 1-1/4" |
| 344 | XPLW01    | LOCK WASHER 5/16"           |
| 345 | XPW07     | FLAT WASHER 5/16"           |
| 346 | XPN11     | HEX NUT 3/8"-24             |
| 347 | XPLW04    | LOCK WASHER 3/8"            |
| 348 | XM1014348 | GUIDE HOUSING               |



# **Notes**



# **Warranty Registration**

| e  |   |   |
|--|---|---|
|  |   |   |
|  | _State  | Zip   |
| e #  | _Email  | Invoice #   |
| el #Serial #   | Dealer Name   | Purchase Date   |
|  | -   |   |
| Advertisement  | Friend  | Local Store<br>Other:   |
|  |   | ears20+ Years   |
|  |   | 10+   |
| Do you think your machine r  | epresents a good value?   | Yes No  |
| Would you recommend Shop   | Fox products to a friend?   | Yes No  |
| What is your age group?<br>20-29<br>50-59  | 30-39<br>60-69  | 40-49<br>70+  |
| \$20,000-\$29,000  | \$30,000-\$39,000   | \$40,000-\$49,000<br>\$70,000+  |
| Which of the following maga  | azines do you subscribe to?   |   |
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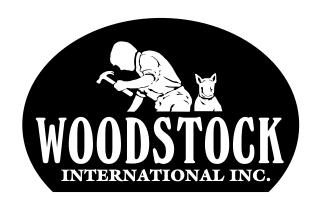
#### **WARRANTY**

Woodstock International, Inc. warrants all Shop Fox machinery to be free of defects from workmanship and materials for a period of two years from the date of original purchase by the original owner. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, lack of maintenance, or reimbursement of third party expenses incurred.

Woodstock International, Inc. will repair, replace, or arrange for a dealer refund at its expense and at its option, the Shop Fox machine or machine part, which in proper and intended use has proven to be defective, provided that the original owner returns the product prepaid to an authorized warranty or repair facility as designated by our Bellingham, Washington office with proof of their purchase of the product within two years, and provides Woodstock International, Inc. reasonable opportunity to verify the alleged defect through inspection. If it is determined there is no defect, or that the defect resulted from causes not within the scope of Woodstock International Inc.'s warranty, then the original owner must bear the cost of storing and returning the product.

This is Woodstock International, Inc.'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 that Shop Fox machinery complies with the provisions of any law, acts or electrical codes. We do not reimburse for third party repairs. In no event shall Woodstock International, Inc.'s liability under this limited warranty exceed the purchase price paid for the product, and any legal actions brought against Woodstock International, Inc. 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.

Every effort has been made to ensure that all Shop Fox machinery meets high quality and durability standards. We reserve the right to change specifications at any time because of our commitment to continuously improve the quality of our products.



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