



Operating Instructions and Parts Manual 5 x 6-inch Horizontal Band Saw

Model HBS-56S

For use with machines with Serial Numbers 06080307 and higher



WMH TOOL GROUP

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Warranty and Service

WMH Tool Group, Inc., warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Service Centers located throughout the United States can give you quick service. In most cases, any of these WMH Tool Group Authorized Service Centers can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET® tools. For the name of an Authorized Service Center in your area call 1-800-274-6848.

MORE INFORMATION

WMH Tool Group is consistently adding new products to the line. For complete, up-to-date product information, check with your local WMH Tool Group distributor, or visit jettools.com.

WARRANTY

JET products carry a limited warranty which varies in duration based upon the product. (MW = Metalworking, WW = Woodworking)

90 DAY WARRANTY	1 YEAR WARRANTY	2 YEAR WARRANTY	5 YEAR WARRANTY	LIFE LIFETIME WARRANTY		
Lathe Accessories Machine Accessories Mobile Bases Safety Equipment Specialty Items Vise Accessories	Air Tools- Contractor Air Tools-Industrial Air Tools-Light Industrial Lubrication	Body Repair Kits Bottle Jacks Cable Pullers Cold Saws Hoists-Air Hoists-Electric Metalforming Mill/Drills Milling Machines	MW Bandsaws MW Drill Presses MW Finishing Equipment MW Lathes MW Precision Vises Pallet Trucks	Rigging Equip. Service Jacks Stackers Surface Grinders Tapping Trolleys-Air Trolleys-Electric Web Slings Winches-Electric	<i>Warranty reverts to 1 Year Warranty if woodworking (WW) products listed below are used for commercial, industrial or educational purposes.</i> Trolleys-Geared Trolleys-Plain Winches-Manual Manual WW Air Filtration WW Bandsaws Pullers-JCH Models Scissor Lift Tables Screw Jacks WW Dust Filters WW Dust Fittings WW Joints WW Lathes WW Planers WW Sanders WW Shapers WW Tablesaws	Fastening Tools Mechanics Hand Tools Striking Tools Vises (non-precision) Clamps

WHAT IS COVERED?

This warranty covers any defects in workmanship or materials subject to the exceptions stated below. Cutting tools, abrasives and other consumables are excluded from warranty coverage.

WHO IS COVERED?

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WHAT IS THE PERIOD OF COVERAGE?

The general JET warranty lasts for the time period specified in the product literature of each product.

WHAT IS NOT COVERED?

Five Year Warranties do not cover woodworking (WW) products used for commercial, industrial or educational purposes. Woodworking products with Five Year Warranties that are used for commercial, industrial or education purposes revert to a One Year Warranty. This warranty does not cover defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair or alterations, or lack of maintenance.

HOW TO GET SERVICE

The product or part must be returned for examination, postage prepaid, to a location designated by us. For the name of the location nearest you, please call 1-800-274-6848.

You must provide proof of initial purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will repair or replace the product, or refund the purchase price, at our option.

We will return the repaired product or replacement at our expense unless it is determined by us that there is no defect, or that the defect resulted from causes not within the scope of our warranty in which case we will, at your direction, dispose of or return the product. In the event you choose to have the product returned, you will be responsible for the shipping and handling costs of the return.

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WMH TOOL GROUP LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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Warnings

1. Read and understand the entire owner's manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. This band saw is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a band saw, do not use until proper training and knowledge have been obtained.
5. Do not use this band saw for other than its intended use. If used for other purposes, WMH Tool Group disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using this band saw. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this band saw, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.Your risk of exposure 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 face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. **Keep children away.**

Warnings

20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall or lean against the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
23. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
24. Use recommended accessories; improper accessories may be hazardous.
25. Maintain tools with care. Keep blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
26. Make sure the work piece is securely clamped in the vise. Never use your hand to hold the work piece.
27. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
28. Do not stand on the machine. Serious injury could occur if the machine tips over.
29. Never leave the machine running unattended. Turn the power off and do not leave the machine until the blade comes to a complete stop.
30. Remove loose items and unnecessary work pieces from the area before starting the machine.

Familiarize yourself with the following safety notices used in this manual:

CAUTION This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.

WARNING This means that if precautions are not heeded, it may result in serious injury or possibly even death.

- - SAVE THESE INSTRUCTIONS - -

Introduction

This manual is provided by WMH Tool Group covering the safe operation and maintenance procedures for a JET Model HBS-56S Horizontal Band Saw. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. This machine has been designed and constructed to provide years of trouble free operation if used in accordance with instructions set forth in this manual. If there are any questions or comments, please contact either your local supplier or WMH Tool Group. WMH Tool Group can also be reached at our web site: www.wmhtoolgroup.com.

Specifications

Model Number.....	HBS-56S
Stock Number	414457
Round Capacity at 90° (in.).....	5
Round Capacity at 45° (in.).....	2-3/4
Rectangle Capacity at 90° (in.).....	5 x 6
Rectangle Capacity at 45° (in.).....	2-3/4 x 4
Throat Depth (in.).....	5
Vise Swivels (deg.).....	0 to 60
Blade Size (in.).....	1/2
Blade Wheel Diameter (in.).....	7-1/2
Blade Speeds (SFPM)	80, 120 and 200
Bed Height (in.)	29-3/4
Motor	TEFC, 1/2HP, 1Ph, 115/230V (pre-wired 115V)
Overall Dimensions (L x W x H)(in.).....	41.3 x 18.1 x 22
Net Weight (lbs.)	172
Shipping Weight (lbs.).....	176

The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, WMH Tool Group reserves the right to change specifications at any time and without prior notice, without incurring obligations.

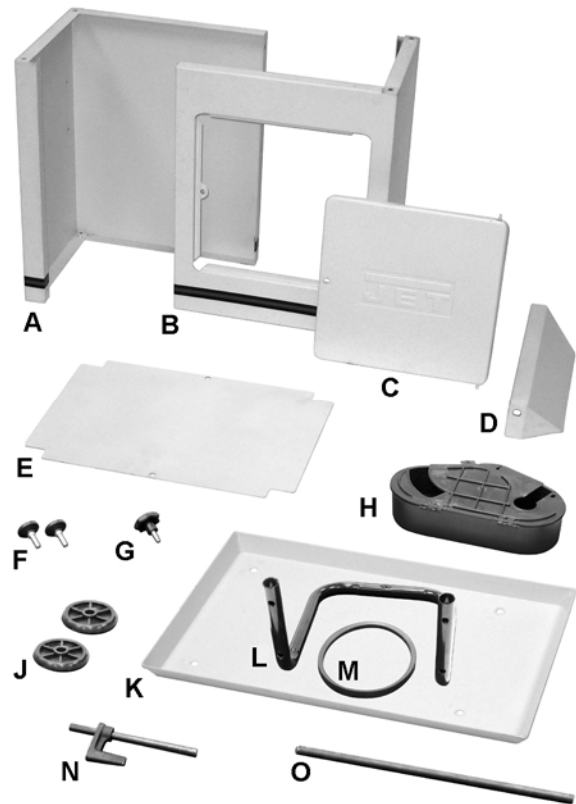
Shipping Contents

Open carton and check for shipping damage. Report any damage immediately to your distributor and shipping agent. Do not discard any shipping material until the band saw is assembled and running properly.

Compare the contents of your container with the following parts list to make sure all parts are intact. Missing parts, if any, should be reported to your distributor. Read the instruction manual thoroughly for assembly, maintenance and safety instructions.

Contents of the Carton

- 1 Band Saw (not shown)
- 1 Side Plate - left (A)
- 1 Side Plate - right (B)
- 1 Front Door (C)
- 1 Wheel Base (D)
- 1 Plate - bottom (E)
- 2 Feet (F)
- 1 Front Door Knob (G)
- 1 Belt Guard (H)
- 2 Wheels (J)
- 1 Chip Pan (K)
- 1 Handle (L)
- 1 V-Belt (M)
- 1 Work Stop Assembly (N)
- 1 Axle (O)
- 1 Owner's Manual (not shown)
- 1 Warranty Card (not shown)



Contents of the Carton



Hardware (Actual Size)

Hardware

- 2 1/4" x 1/2" Hex Cap Screw (Q)
- 4 3/8" x 1-1/4" Hex Cap Screw (R)
- 12 5/16" x 3/4" Hex Cap Screw (S)
- 4 5/16" x 1-1/2" Hex Cap Screw (T)
- 24 5/16" Flat Washers (U)
- 4 10 x 23 x t2 Flat Washer (V)
- 4 5/8" x 30 x t3 Flat Washer (W)
- 2 1/4" Flat Washer (X)
- 2 3x25 Cotter Pin (Y)
- 12 5/16" Hex Nut (Z)

⚠ WARNING

Read and understand the entire contents of this manual before attempting set-up or operation! Failure to comply may cause serious injury.

Assembly of Stand

Tools required for assembly:

Two 1/2-inch wrench (**Note:** A ratchet wrench may speed assembly time.)

1. Assemble left (A) and right (B) *side plates* with six 5/16"x3/4" *hex cap screws* (C₁), twelve 5/16" *flat washers* (D₁) and six 5/16" *hex nuts* (E₁). Tighten the hex nuts.
2. Turn the assembly (from Step 1) on its back (door opening up) and mount the *bottom plate* (F) with two 5/16"x3/4" *hex cap screws* (C₂), four 5/16" *flat washers* (D₂) and two 5/16" *hex nuts* (E₂). Tighten the hex nuts.
3. Install the two *rubber feet* (G) on the bottom of the *left plate* (A).
4. Turn the assembly upside down and install the *wheel base* (H) with four 5/16"x3/4" *hex cap screws* (C₂), eight 5/16" *flat washers* (D₂) and four 5/16" *hex nuts* (E₂).
5. Insert the *axle* (J) through the holes of the *wheel base* (H).
6. Install a *wheel* (K) and two 5/8"x30 *flat washers* (L) on each end of the axle. Insert *cotter pins* (M) through holes on each end of the axle and bend the ends of the cotter pins to secure the wheel on the axle.
7. Install the *handle* (N) to the left *side plate* (A) with four 5/16"x1-1/2" *hex cap screws* (O), four 5/16" *flat washers* (D₄) and four 5/16" *hex nuts* (E₄). Tighten the hex nuts.
8. Install the *door* (P). The upper hinge pin is spring loaded and must be retracted to mount the door to the cabinet.
9. Install the door lock knob.

Installation of the *chip pan* (R) is described in *Mounting Band Saw to Stand* on the following page.

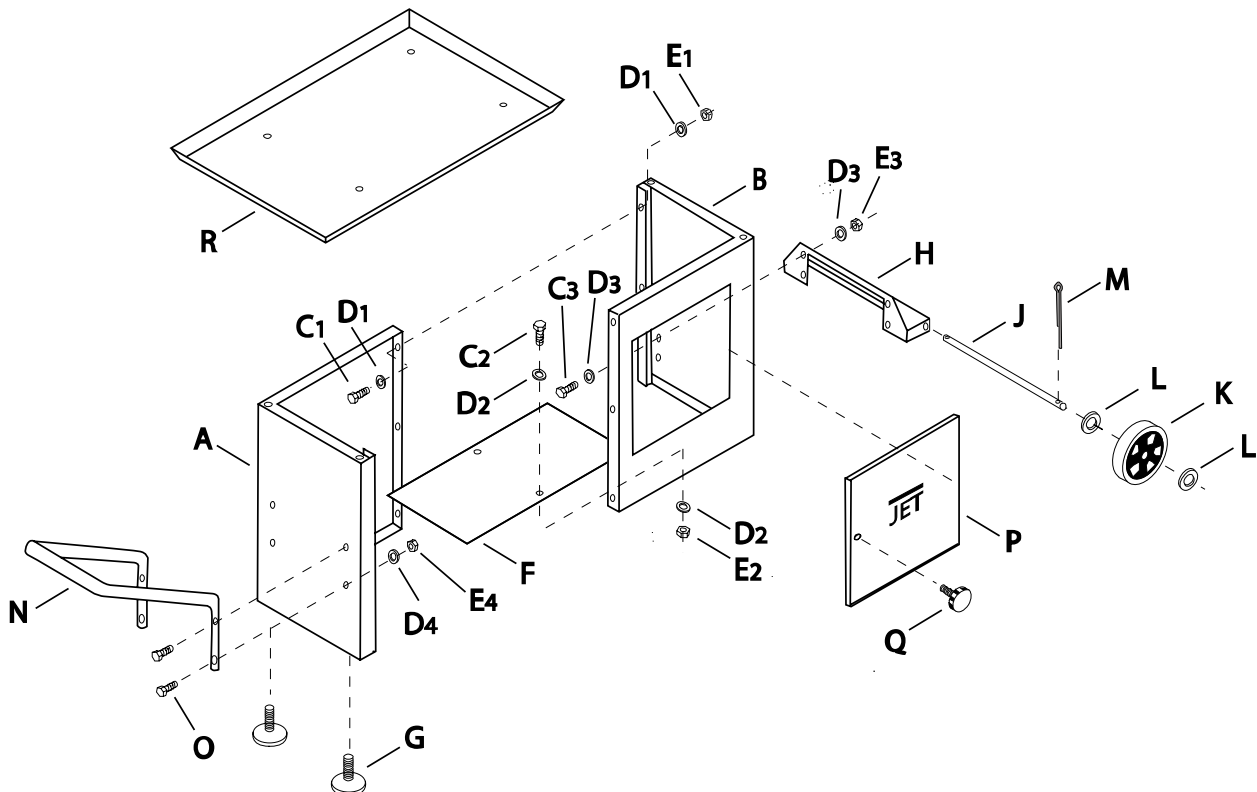


Figure 1

Assembly of Band Saw

Tools required for assembly:

- cross point (Phillips) screwdriver
- 3mm and 4mm hex wrenches (provided)
- 1/2" and 9/16" wrenches

Remove any plastic or holding straps from around the band saw. Areas of the machine have been given a protective coating at the factory. This should be removed using a soft cloth moistened with kerosene or a cleaner-degreaser. Do not use gasoline, paint thinner, or lacquer thinner as these will damage painted surfaces. Do not use an abrasive pad.

Mounting Band Saw to Stand

Referring to Figure 2:

1. Place the *chip pan* (D) on the *stand* (E). The side with the mounting holes further from the edge (F) must be towards the left.
2. Using an assistant, place the *band saw* (C) onto the stand on top of the *chip pan* (D).
3. Align the holes at the four corners of the saw and *chip pan* with the holes in the *stand*. Make sure the front of the band saw faces the same direction as the JET logo on the stand (see photo on cover of this manual).
4. Install a 3/4"x1-1/4" *hex cap screw* (A) with 10 x 23 x t2 *flat washer* (B) in each of the four holes. Tighten the hex cap screws with a 1/2" wrench.

Remove the *bracket* and *two screws* (not shown) which secured the bow during shipment. Retain these items in case they are needed for future transporting of the band saw.

CAUTION When moving the band saw the cutting head, or "bow", should be in the down position.

Pulley Cover and Belt Installation

1. The knob (A, Figure 3) should be loosened so that the motor is allowed to drop freely.
2. Slide the pulley cover down over the pulley shafts as shown in Figure 3. (Slide it onto the gearbox pulley shaft first, then the motor pulley shaft.)
3. Secure the pulley cover with two 1/4-20 x 1/2" hex cap screws and flat washers (B, Figure 3) using a 10mm wrench. Use the slots to adjust the guard so that it will not interfere with the pulleys.

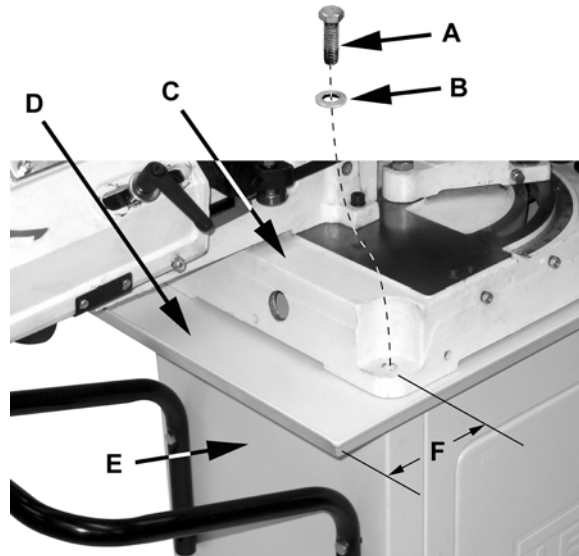


Figure 2

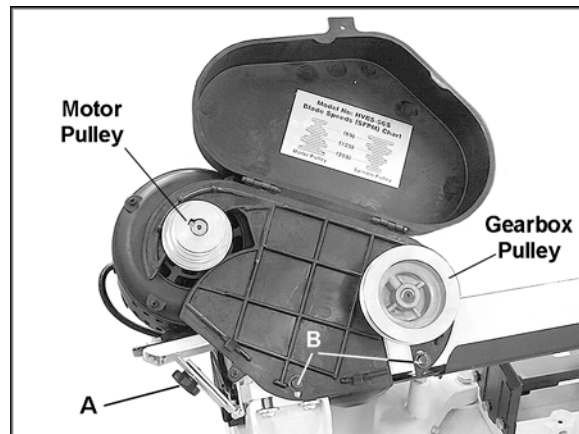


Figure 3

4. Lift up on the motor and install the belt around the pulley grooves, as shown in Figure 4. Allow the motor to drop back down, then push it down farther to tension the belt. (For further information on belt tension and belt position on the grooves, see page 15.)
5. Tighten the knob (A, Figure 3).
6. Close the pulley cover and secure it with the pan head screw and hex nut.



Figure 4

Stock Stop

The stock stop is used for making multiple cuts of the same length.

1. Insert the stock stop rod (A, Figure 5) into the hole at the front of the base as shown.
2. Secure the rod by tightening the socket set screw (B, Figure 5) with a 3mm hex wrench.
3. The stock stop is moved along the rod by loosening the socket set screw (C, Figure 5) with a 4mm hex wrench. The stock stop can be reversed on the rod to accept slightly longer lengths of workpieces. Tighten the socket set screw (C, Figure 5) when the stock stop is positioned as desired.

The stock stop will mount into the hole at the front or the back of the band saw, depending upon the angle of cut being made (explained more fully under “Miter Cuts”).

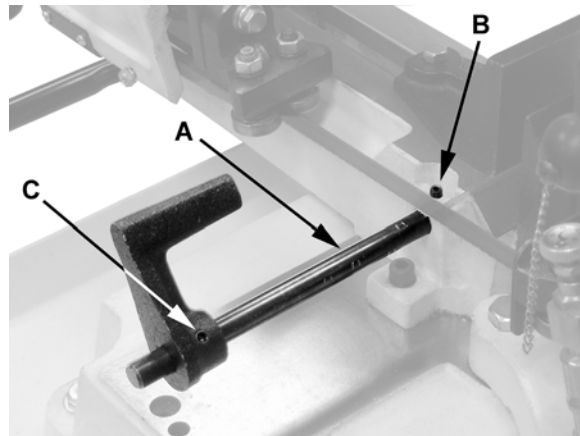


Figure 5

Grounding Instructions

⚠WARNING Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded to help prevent electrical shock and possible fatal injury.

This machine must be grounded. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This band saw is pre-wired for 115 volt and is equipped with an electric cord having an equipment-grounding conductor and a grounding plug similar to that shown in Figure 6. The plug must be inserted into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor, with insulation having an outer surface that is green with or without yellow stripes, is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded. Use only three wire extension cords that have three-prong grounding plugs and three-pole receptacles that accept the machine's plug.

115 Volt Operation

As received from the factory, your band saw is ready to operate at 115 volt power, using an outlet and a plug that look similar to those illustrated in Figure 6.

A temporary adapter, which looks like the adapter illustrated in Figure 7, may be used to connect this plug to a two-pole receptacle as shown, if a properly grounded outlet is not immediately available. The temporary adapter should **only be used until a properly grounded outlet can be installed by a qualified electrician.**

The green colored rigid ear, lug or tab, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box, as shown in Figure 7.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Make sure the voltage of your power supply matches the specifications on the motor plate of the Band Saw.

Conversion to 230 Volt

If 230 volt operation is desired, the following instructions must be followed:

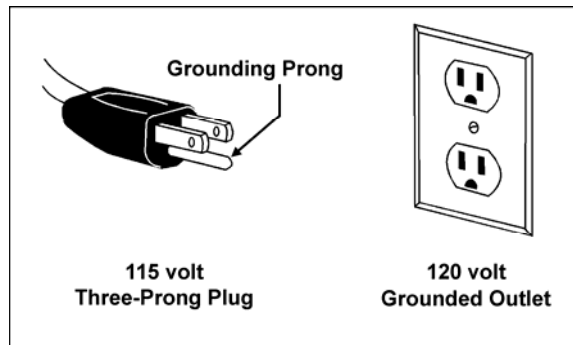


Figure 6

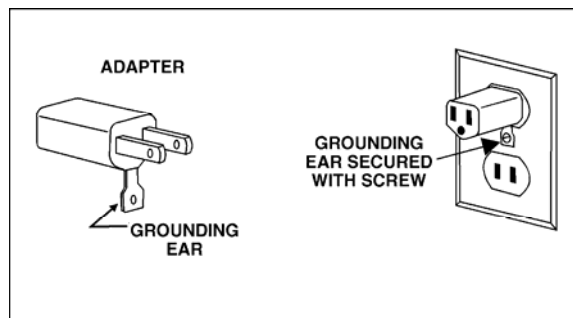


Figure 7

1. Disconnect machine from power source.
2. Open the switch box and connect the leads according to the wiring diagram inside the switch box. This diagram is also shown on page 26 of this manual.
3. The 115V attachment plug supplied with the band saw must be replaced with a UL listed plug suitable for 230 volt operation, similar to the one shown in Figure 8. Contact your local authorized WMH Tool Group service center or qualified electrician for proper procedures to install the plug. The band saw must comply with all local and national codes after the 230 volt plug is installed.
4. Close the switch box
5. The band saw with a 230 volt plug should only be connected to an outlet having the same configuration (Figure 8). No adapter is available or should be used with the 230 volt plug.

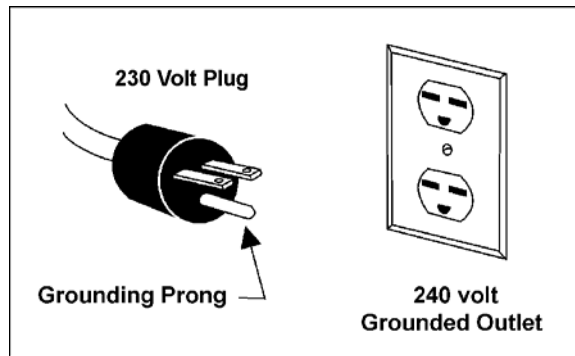


Figure 8

Recommended Gauges (AWG) of Extension Cords

Amps	Extension Cord Length *					
	25 feet	50 feet	75 feet	100 feet	150 feet	200 feet
< 5	16	16	16	14	12	12
5 to 8	16	16	14	12	10	NR
8 to 12	14	14	12	10	NR	NR
12 to 15	12	12	10	10	NR	NR
15 to 20	10	10	10	NR	NR	NR
21 to 30	10	NR	NR	NR	NR	NR

*based on limiting the line voltage drop to 5V at 150% of the rated amperes.

NR: Not Recommended

Figure 9

Extension cords

If an extension cord is necessary, make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersize cord will cause a drop in line voltage resulting in loss of power and overheating.

Use the chart in Figure 9 as a general guide in choosing the correct size cord. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

Adjustments

Squaring Vise to Blade (90° Stop)

For accurate cutting, the vise jaws should be square to the blade. Inspect as follows:

1. Loosen the handle (A, Figure 10) and make sure the bow is swiveled enough that the stop screw (B, Figure 10) is contacting the fixed screw (C, Figure 10).
2. Place a machinist's square on the bed against the blade and the fixed jaw of the vise, as shown in Figure 10. The square should lie along the entire length of the jaw and blade without a gap.
3. If the vise and blade are not square, loosen the hex nut on the stop screw (B, Figure 10) with a 10mm wrench and rotate the stop screw as needed until the vise and blade are square whenever the stop screw is contacting the socket head cap screw (C, Figure 10).

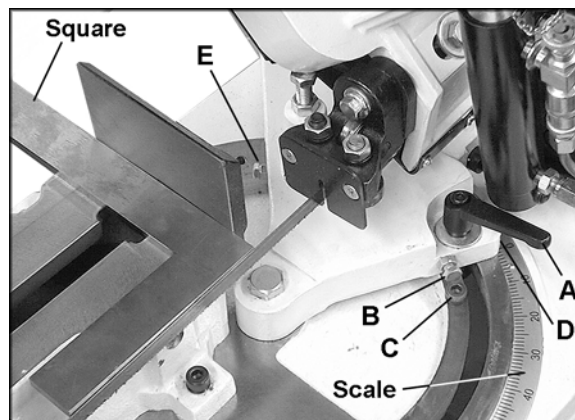


Figure 10

- If the vise and blade are square but the pointer (D, Figure 10) is off slightly, loosen the screw and adjust the pointer until it lines up with zero on the scale. Tighten the screw.

NOTE: The handle (A, Figure 10) is adjustable. Simply lift up on the handle and rotate it on the pin. Release the handle, making sure it seats itself properly on the pin.

Setting 45° Stop

Swivel the bow to the 45° angle. Use a machinist's protractor or similar 45° device to check the blade's angle to the vise.

If adjustment is needed, loosen the hex nut on the 45° stop (E, Figure 10) and rotate the screw as needed with a 10mm wrench. When satisfied, tighten the hex nut.

Setting Downfeed Rate

The downfeed rate of the blade is important to band saw performance. Excessive pressure of blade against the workpiece may break the blade or stall the saw. In contrast, insufficient pressure rapidly dulls the blade.

Turn the valve lever (F, Figure 11) parallel to the hydraulic cylinder (K, Figure 11) to lower the bow. The rate of downfeed is adjusted by the dial (G, Figure 11).

The stop screw (H, Figure 11) prevents the blade from contacting the base after the cut. It has been adjusted at the factory. If future adjustment is ever needed, loosen the hex nut (J, Figure 11) with a 14mm wrench and rotate the screw (H, Figure 11) as needed, then re-tighten the hex nut (J, Figure 11).

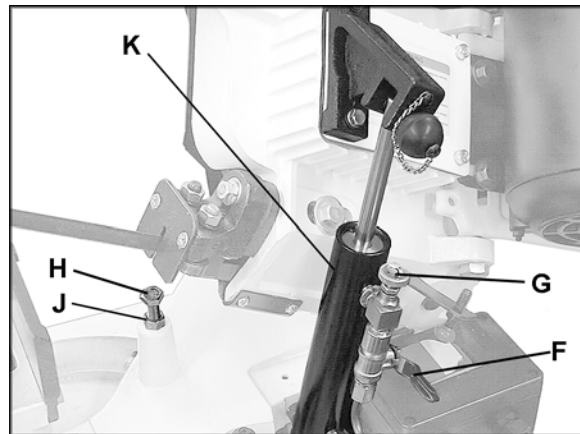


Figure 11

Positioning the Vise

WARNING Keep hands away from blade while adjusting the vise.

- The workpiece is placed against the fixed jaw on the right, which has already been squared (see "Squaring Vise to Blade").
- The vise has a quick-release feature which allows fast positioning of the movable jaw against the workpiece. Disengage the lead screw by rotating the vise handwheel counter-clockwise about 1/2 turn. See Figure 12.

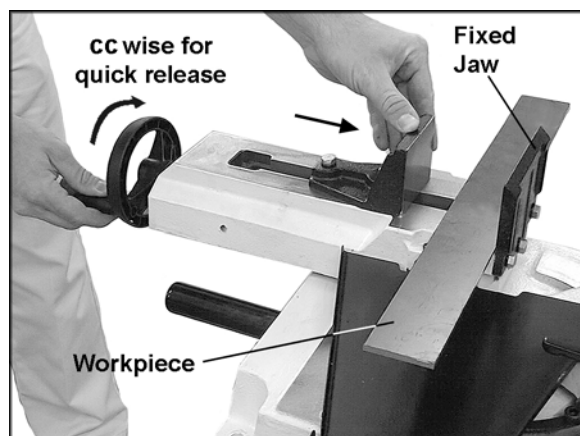


Figure 12

3. Slide the movable jaw by hand until the jaw contacts the workpiece.
4. Rotate the vise handwheel clockwise to re-engage the lead screw, and continue the tightening process of the jaw until the workpiece is securely clamped.
5. The quick release function can be used to back off the movable jaw when the cut is finished.

Miter Cuts

There are two sets of holes in the base for mounting the vise assembly. For miter cuts from 0° up to 45°, mount the vise assembly to the rear set of holes. For miter cuts over 45° up to 60°, use the vise in the front set of holes. See Figure 13.

To change the vise to the 60° position:

1. Disconnect band saw from power source.
2. Raise the bow out of the way. **Make sure the hydraulic cylinder is closed (valve lever perpendicular to cylinder) so the bow remains stationary.**
3. Remove the two socket head cap screws and lock washers which secure the vise, and lift off the vise. See Figure 13.
4. Move the bushings from the first set of holes to the other set of holes as shown.
5. Mount the vise to the new set of holes, tightening the two socket head cap screws and lock washers.
6. Remove the socket head cap screw (C, Figure 10) to allow the bow to swivel.
7. The cutting operation will now take place at the opposite side of the vise. Swivel the bow until the pointer lines up with 60° on the angle scale, and tighten the handle.

NOTE: If the handle becomes too constrained to be easily tightened while at the 60° position, lift up on the handle and use a hex wrench to tighten the pin, then fully tighten using the handle itself. See Figure 14.

8. Move the chip pan and the work stop to the other side of the vise.

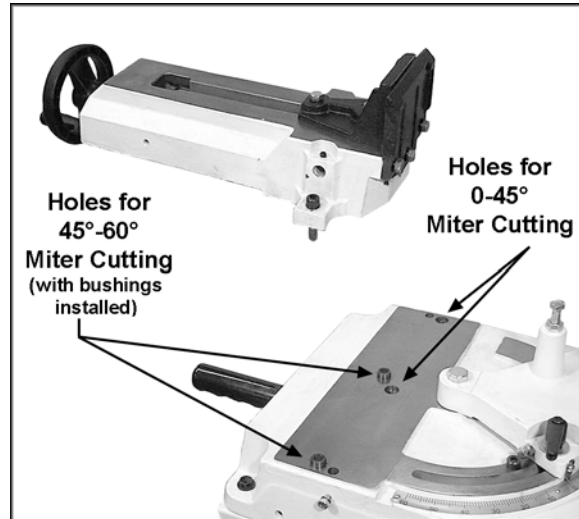


Figure 13



Figure 14

Blade Tension

Use the knob (Figure 15) to tension the blade. Clockwise tightens the blade, counterclockwise loosens it.

Blade Tracking

⚠WARNING Tracking the blade requires that the band saw be operating while the back blade cover is removed. Use extreme caution and keep hands away from blade.

The blade provided with your band saw has already been tracked at the factory and requires no adjustment.

When the blade is replaced, tracking may be required for the new blade. It is recommended that tracking be done by a person experienced in these procedures and aware of the dangers involved.

1. Turn the socket set screw (Figure 15) as needed to shift the angle of the idler wheel. NOTE: This adjustment is sensitive; do it gradually and in small increments allowing the wheel to respond to the changes.
2. Tracking is set properly when the back of the blade lightly touches the wheel shoulder. NOTE: Over-tracking (allowing blade back to rub hard against wheel shoulder) will damage the blade wheels and blade.

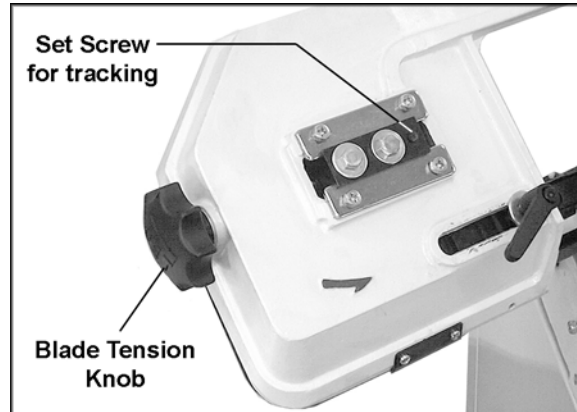


Figure 15

Setting Blade Speed

1. Disconnect band saw from power source.
2. Open the pulley cover.
3. Loosen the knob (see A, Figure 3) and lift up on the motor. Move the belt to the desired pulley grooves. A chart is affixed to the inside of the belt guard showing the positions for the three speeds, 80, 120 and 200 surface feet per minute (SFPM). This chart is also shown in Figure 16.
4. Push the motor back down to tension the belt, and tighten the knob (A, Figure 3).

Material chips or shavings are the best indicator of proper blade speed and downfeed rate. The ideal chip is thin, tightly curled and warm to the touch. Chips that range from golden brown to black indicate excessive force. Blue chips indicate extreme heat from too high a blade speed, which will shorten blade life. Thin or powdered chips indicate insufficient downfeed rate.

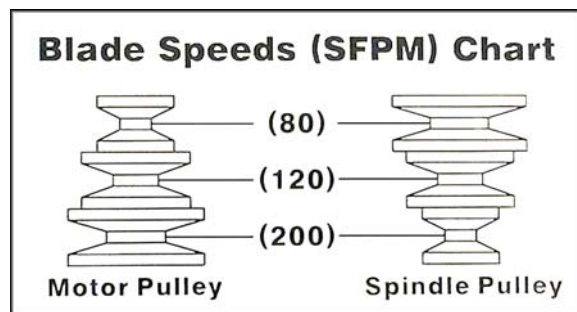


Figure 16

Belt Tension

1. Disconnect band saw from power source.
2. Open the pulley cover.
3. Loosen the knob (see A, Figure 3), and push down on the motor to tighten the belt.
4. Tighten the knob (A, Figure 3).
5. Check the tension by using moderate finger pressure about midway between the pulleys. The belt should deflect about 1/2". See Figure 17.
6. Close the pulley cover.

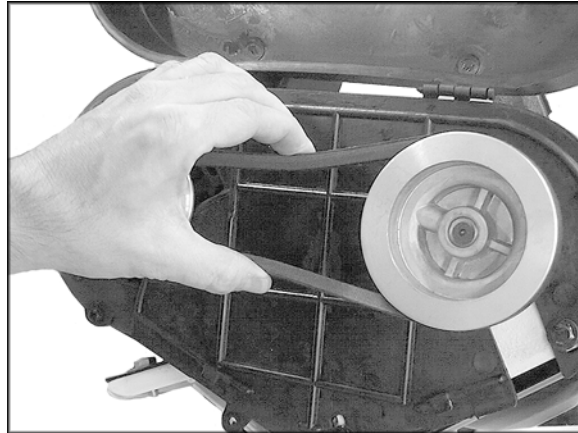


Figure 17

Blade Guide Assembly

The blade guide assembly should be moved as close to the workpiece as possible without interfering with the cutting operation. This allows minimum exposure of the blade. To adjust, loosen handle (A, Figure 18) and slide the assembly into position. Always tighten handle (A, Figure 18) after adjustment.

Guide Bearings

The blade guide bearings come pre-adjusted from the factory, but should be inspected frequently and future adjustments made as needed, especially after changing blades.

The blade should have already been tensioned and tracked properly before adjusting the blade guides.

1. Disconnect band saw from power source.
2. Loosen slightly the hex cap screw (B, Figure 18) with a 12mm wrench.
3. Slide the guide block (C, Figure 18) down until the thrust bearing (D, Figure 18) just contacts the back edge of the blade.
4. Tighten the hex cap screw (B, Figure 18).
5. The front bearing (E, Figure 18) is eccentric, and should be adjusted so that it just contacts the blade without pinching the blade or interfering with its movement. Proceed as follows:
6. Loosen the hex nut (F, Figure 18) with a 14mm wrench.
7. Use a 12mm wrench to rotate the small hex nut just above the bearing (G, Figure 18) until the bearing is just contacting the blade.

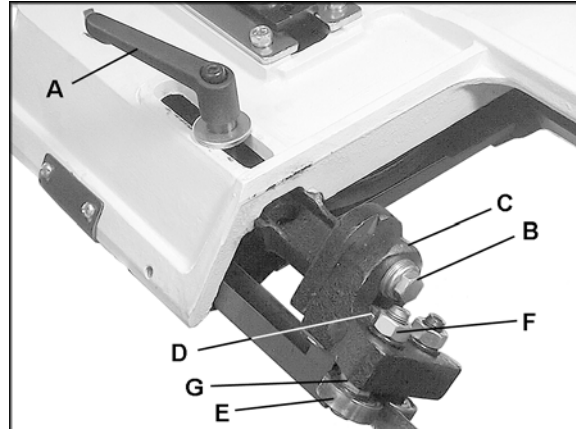


Figure 18

8. Hold the bearing at that position with the wrench on the hex nut, to prevent the bearing from moving. At the same time, tighten the upper hex nut (F, Figure 18) with the other wrench.
9. Repeat these steps for the other blade guide assembly.

Blade Replacement

⚠WARNING Use caution and proceed slowly when working with or around a band saw blade. Use gloves when handling it.

1. Disconnect band saw from power source.
2. Remove the knob and the back blade cover from the band saw. See Figure 19.
3. Loosen the handle on the blade guide (A, Figure 18) and lower the blade guide as far as it will go. See Figure 19.
4. Release tension on the blade.
5. Remove old blade and install new one by placing it between the guides and around the band wheels. Make sure the blade is oriented properly so that the teeth will point downward and into the workpiece (Figure 20). An arrow on the the body of the bow indicates blade direction (shown in Figure 15).
6. The blade should be tensioned and tracked properly before operating. See “Blade Tension” and “Blade Tracking” above.

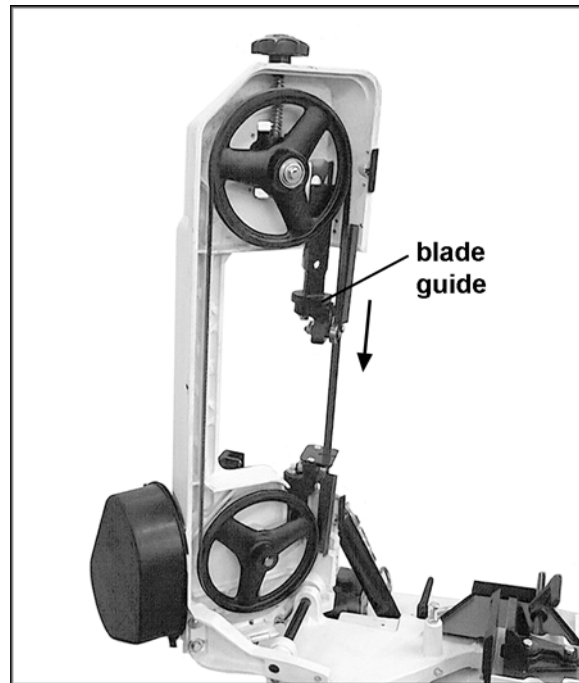


Figure 19

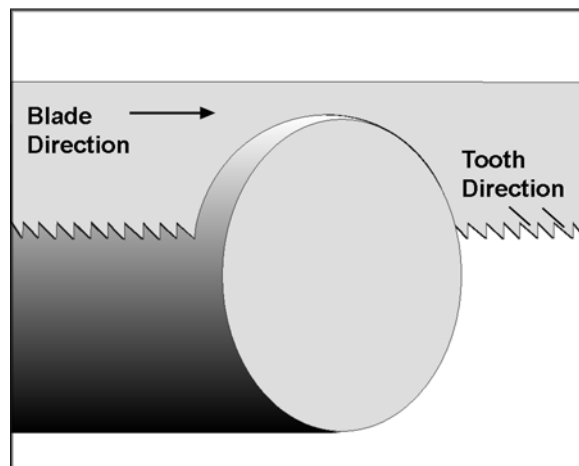


Figure 20

Automatic Shut-Off

At the end of a cut, the screw (A, Figure 21) contacts the paddle switch, shutting off the machine. The screw has been set at the factory. If future adjustment is needed, loosen the hex nut (B, Figure 21) with a 12mm wrench and rotate the screw as needed, then re-tighten the hex nut.

NOTE: The bow must be raised in order to re-start the band saw.

Switch Lock-Out

The switch has a removable piece (C, Figure 21). When this is removed, the band saw cannot be activated. To start the band saw, first snap this piece back into place.

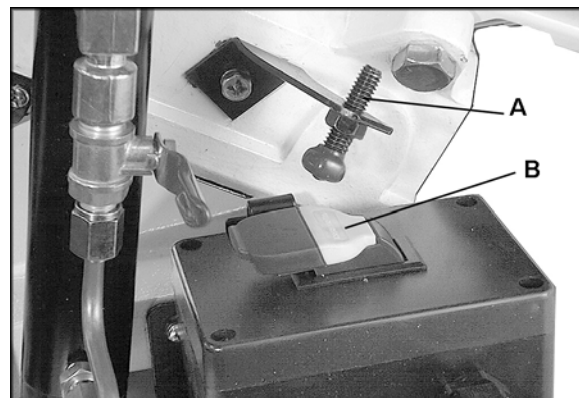


Figure 21

Vertical Bow Position

1. The band saw can be placed in vertical position to facilitate blade changes, maintenance, etc. Unscrew the knob (Figure 22) and slide it out to disengage the hydraulic cylinder.
2. Raise the bow all the way.
3. The stop screw (Figure 23) has been pre-set at the factory. If further adjustments are needed, loosen the hex nut and rotate the screw as needed. Re-tighten the hex nut.

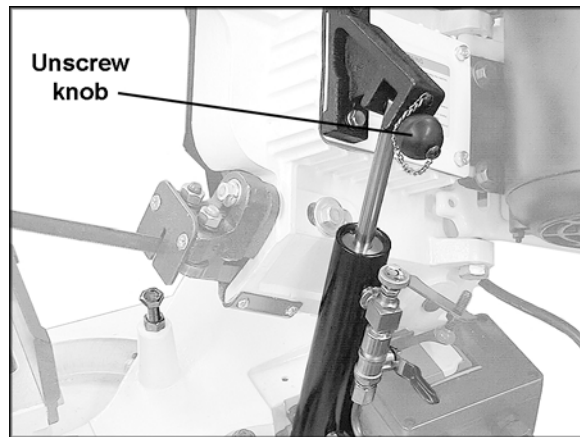


Figure 22

Operation

Important: This band saw is designed for dry cutting operations only.

General Operating Procedure:

1. Verify that all guards, covers, etc. are in place and in working order, the blade is tensioned properly, and the blade guides are set correctly.
2. Position belt on the pulleys to achieve desired speed. Close pulley guard when finished.
3. Place workpiece in vise and tighten vise. The workpiece should be fitted directly between the jaws without adding other objects.



Figure 23

When the workpiece to be cut is a profiled section, flat piece or special shape, refer to the examples shown in Figure 24 for proper clamping positions. The top row shows acceptable clamping positions, the bottom row shows **unacceptable** positions.

If the thickness of the profiled section is very thin, a piece which duplicates the profile should be fitted inside the workpiece itself, to prevent the workpiece being crushed between the jaws.

WARNING Never hold a workpiece by hand when cutting it – the workpiece should be firmly secured in the vise. Do not reach into the cutting area during cutting operations.

4. Pull up the paddle switch to start blade movement.

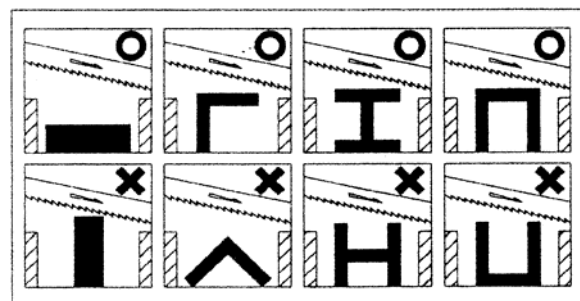


Figure 24

5. Open the valve on the hydraulic cylinder to allow the bow to descend in a gradual and controlled manner.
6. The machine will shut off at the completion of the cut. Remove the workpiece.
7. Close the hydraulic cylinder valve, and raise the bow in preparation for the next cut.

Maintenance

▲WARNING Before doing maintenance on the machine, disconnect it from the electrical supply by pulling out the plug or switching off the main switch. Failure to comply may cause serious injury.

Clean the machine of chips, shavings, etc. with a rag or brush. Do not use your hands.

If the power cord is worn, cut, or damaged in any way, have it replaced immediately.

The ball bearings on the blade guide assemblies are self-contained and sealed. They require no further lubrication.

Occasionally grease the lead screw on the vise.

Troubleshooting

Trouble	Probable Cause	Remedy
Motor will not start.	No incoming power.	Check plug connection.
	Blown electrical panel fuses.	Replace fuses.
	Defective motor, switch, power cable, or plug.	Qualified electrician/service personnel should inspect these items.
Band Saw vibrates excessively.	Stand on uneven surface.	Adjust stand for even support.
	Saw blade has cracks.	Replace blade immediately.
	Too heavy a cut.	Reduce downfeed rate.
Miter cuts not accurate.	Setting of the miter stops is not correct.	Unloosen the screws and adjust the stops to correct positions. Use an adjustable square or protractor to check angle settings.
Cuts not square.	Downfeed rate too fast.	Reduce downfeed rate.
	90° angle stop not set correctly.	Adjust stop until blade is square with vise.
	Incorrect blade tothing in relation to workpiece.	Use proper blade size and tooth for that particular workpiece.
	Incorrect adjustment of bearing guides and guide assembly.	Re-adjust these. See page 16.
	Workpiece incorrectly positioned in vise.	Check positioning and clamping in the vise. See Figure 24.
	Poor blade tension.	Check and correct if needed. See page 14.
Finished surface of workpiece is rough, unsatisfactory.	Blade is dull, or its parameters are not right for thickness of piece being cut.	Sharpen or replace dull blade. Make sure blade is proper size and tooth for workpiece.
	Downfeed rate too fast.	Reduce downfeed rate.
	Blade tension too low.	Increase blade tension.
	Blade speed not correct.	Move belt to proper pulley grooves.

Parts

Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 800-274-6848 between 7:30 a.m. and 5:30 p.m. (CST), Monday through Friday. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Parts List: HBS-56S Band Saw

Index No.	Part No.	Description	Size	Qty
1	TS-0051031	Hex Cap Bolt	5/16"x3/4"	4
2	TS-0561011	Hex Nut	1/4"	1
3	TS-0680021	Flat Washer	1/4"	4
8	TS-0680031	Flat Washer	5/16"	11
11	TS-0051051	Hex Cap Bolt	5/16"x1"	4
12	TS-0561021	Hex Nut	5/16"	4
16	HVBS462-016	Electric Cord		1
17	HVBS462-017	Pivoting Rod		1
19	HVBS462-019	Stock Stop		1
20	TS-0270021	Socket Set Screw	5/16"x5/16"	4
21	HVBS462-021	Stock Stop Rod		1
24	TS-0561021	Hex Nut	5/16"	1
25	TS-0051031	Hex Cap Bolt	5/16"x3/4"	1
26	HVBS56M-026E	Plum Knob		1
27	HVBS462-027	Wheel Handle		1
28	HVBS462-028	Hand Wheel		1
31	HVBS56M-031	Screw	5/16"x1"	1
35	TS-0680041	Flat Washer	3/8"x1"	3
44	HB56M-044	Electric Cable		1
50	TS-0081031	Hex Cap Bolt	5/16"x3/4"	3
51	TS-0680031	Flat Washer	5/16"	3
54	HVBS56M-054	Pivot Bracket		1
57	HVBS56M-057	Adjustable Bracket LH		1
57A	HVBS56M-057A	Adjustable Bracket Assembly LH		1
58	HVBS462-058	Knob	1/4"	1
60	HVBS462-060	C-Clip	S10	4
61	BB-6000ZZ	Ball Bearing	6000ZZ	6
62	HVBS462-062	Guide Pivot		2
62-1	HVBS462-062-1	Centrifugal Guide Pivot		2
62-1A	HVBS462-062-1A	Eccentric Shaft Assembly (Includes: #60,61,62-1)		1
62A	HVBS462-062A	Center Shaft Assembly (Includes: #60-62)		1
63	HVBS462-063	Bearing Shaft Pin		2
64-1	HVBS462-064-1	Blade Seat Left		1
64-2	HVBS462-064-2	Blade Seat Right		1
65	HVBS56M-065	Adjustable Bracket RH		1
65A	HVBS56M-065A	Adjustable Bracket Assembly RH		1
66	HVBS56M-066	Lock Knob		1
68	TS-0813021	Flat Head Machine Screw	1/4"X3/8"	2
69	HVBS462-069	Deflector Plate		1
70	TS-0561031	Hex Nut	3/8"	4
71	HVBS462-071	Blade Wheel Drive		1
72	HVBS462-072	Bearing Cover		2
73	HVBS462-073	Key	5x5x25	3
74	HVBS56M-060	C-Clip	S15	1
75	HVBS462-075	Hex Cap Bolt (w/Washer)	1/4"x1/2"	6
77	HVBS462-077	Idle Blade Wheel		1
78	TS-0680031	Flat Washer	5/16"	2
79	HVBS462-079	Blade Tension Knob	3/8"	1
80	HVBS462-080	Spring		1
81	HVBS56M-081	Saw Bow		1
83	TS-0070031	Hex Cap Screw	1/2"x1-1/2"	2
84	HVBS56M-084	Motor Mount Plate		1
84-1	HVBS56M-084-1	Tension Bracket		1
85	HVBS463-085	Motor	1/2HP 1ph	1
86	HVBS462-086	Motor Pulley		1
87	BB-6202ZZ	Ball Bearing	6202ZZ	6
88	HVBS462-088	Bearing Bushing		1

Parts List: HBS-56S Band Saw

Index No.	Part No.	Description	Size	Qty
89	OS-15375	Oil Seal		2
90	HVBS462-090	Transmission Wheel Shaft		1
91	HVBS462-091	Worm Gear		1
92	HVBS462-092	Gear Box Gasket		1
93	HVBS462-093	Gear Box Cover		1
94	HVBS462-094	Worm Gear (w/Shaft)		1
95	HVBS462-095	Spring Pin		1
96	HVBS462-096	Bearing Bushing		1
97	TS-0050011	Hex Cap Bolt	1/4"x1/2"	2
97-1	TS-0680021	Washer	1/4"	2
99	HVBS462-099	Spacer		1
100	HVBS462-100	Flat Cross Head Screw	5/32"x3/8"	8
101	HVBS462-101	Worm Gear Pulley		1
102	TS-0720081	Lock Washer	5/16"	2
103	HVBS462-103	Blade Tension Sliding Plate		1
104	TS-0270051	Socket Set Screw	5/16"x1/2"	2
105	HVBS462-105	Spring Pin		1
106	HVBS462-106	Sliding Plate Draw Block		1
107	HVBS462-107	Blade Wheel Shaft		1
108	HVBS462-108	Shaft Block		1
109	HVBS462-109	Blade Tension Sliding Guide		2
110	HVBS462-110	Motor Pulley Cover Assembly		1
112	VB-A22	V-Belt	A22	1
113	414301	Blade	5" X .025 X 64.5	1
114	TS-0680041	Flat Washer	3/8"	4
117	TS-0090061	Hex Screw	3/8"x1-1/4"	1
120	HVBS462-120	Bushing		2
123	TS-0050031	Hex Cap Screw	1/4"x3/4"	1
124	HVBS463-124	Machine Screw	3/16"x3/4"	1
125	TS-0051031	Hex Cap Bolt	5/16"x3/4"	1
126	HVBS462-126	Bushing		1
132	HVBS462-132	Blade Guard-Right		1
132-1	HVBS462-132A	Blade Guard-Left		1
141	TS-0561021	Hex Nut	5/16"	1
142	HBS56S-142	Switch Cut Off Trip		1
143	TS-0050011	Hex Cap Screw	1/4"x1/2"L	1
144	TS-0813021	Flat Head Machine Screw	1/4"X3/8"	2
145	TS-0813021	Flat Head Machine Screw	1/4"x3/8"	1
159-1	HBS56S-159-1	Nut		1
254	HBS56S-254	Support Rod		1
255	TS-0267032	Socket Set Screw	1/4"x5/16"	1
256	TS-0680011	Flat Washer	3/16"	1
257	JMLVS-108	Hex Cap Bolt	3/16"x3/8"	1
258	HBS56S-258	Cylinder Assembly		1
259	HBS56S-259	Cylinder Upper Support		1
262	TS-0050051	Hex Cap Bolt	1/4"x1"	2
263	TS-0720071	Spring Washer	1/4"	2
300	HBS56S-300	Stand Top		1
301	HBS56S-301	Working table		1
303	HBS56S-303	Wall plate		1
304	HBS56S-304	Swivel Base(Upper)		1
307	HBS56S-307	Acme Screw		1
308	HBS56S-308	Bushing		2
309	TS-0680011	Flat Washer	3/16"	2
310	TS-0208081	Hex Socket Head Screw	5/16"x1-1/2"	2
311	TS-0081031	Hex Cap Bolt	5/16"x3/4"	3
312	TS-0680032	Flat Washer	5/16"	5

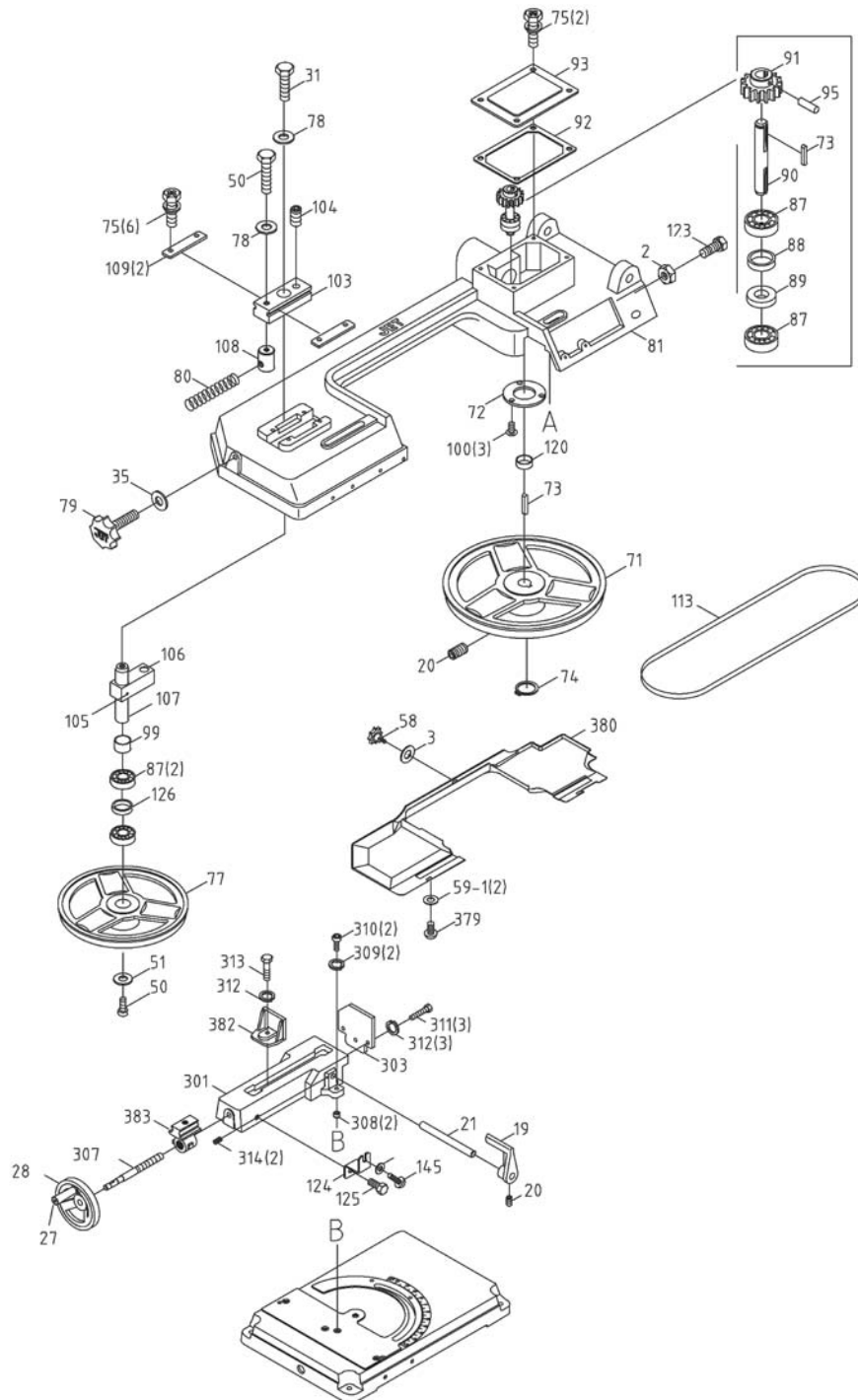
Parts List: HBS-56S Band Saw

Index No.	Part No.	Description	Size	Qty
313	TS-0208071	Hex Socket Head Screw	5/16"x1-1/4"	2
314	TS-0267041	Set Screw	1/4"x3/8"	2
315	HBS56S-315	Positioning Ring		1
316	TS-0561051	Hex Nut	1/2"	1
318	TS-0070071	Hex Cap Bolt	1/2"x2 1/2"L	1
319	TS-0561031	Hex Nut	3/8"	1
320	TS-0070071	Hex Cap Bolt	1/2"x2-1/2"	1
324	HBS56S-324	Handle		1
325	HBS56S-325	Carriage Screw	3/8"	1
328	HBS56S-328	Switch Base		1
329	HBS56S-329	Cross Round Head Screw	3/16"x3/8"	2
330	HBS56S-330	Switch		1
330-1	HBS56S-330-1	ON/OFF Switch		1
330-2	HBS56S-330-2	Screw		4
330-3	HBS56S-330-3	Electrical Box		1
330-4	HBS56S-330-4	Cable Connector		2
330-5	HBS56S-330-5	Screw		2
338	HBS56S-338	Scale		1
350	TS-0570011	Hex Nut	1/4"	4
351	TS-0050031	Hex Cap Screw	1/4"x3/4"	4
352	HBS56S-352	Scale		1
353	HBS56S-353	Cross Round Head Screw	3/16"x1/2"	1
354	TS-0050051	Hex Cap Bolt	1/4"x1"	2
355	TS-0570011	Hex Nut	1/4"	2
356	TS-0051051	Hex Cap Bolt	5/16"x1"	1
379	HBS814GH-200	Cross Round Head Screw	1/4"-20x3/8"	2
380	HVBS56M-380	Blade Back Safety Cover		1
382	HBS56S-382	Movable vise plate		1
383	HBS56S-383	Bracket		1
384	HBS56S-384	Stand Complete Assembly		1
384-1	HBS56S-384-1	Side Plate(left)		1
384-2	HBS56S-384-2	Side Plate(Right)		1
384-3	HBS56S-384-3	Chip Pan		1
384-4	HBS56S-384-4	Front Door		1
384-5	HBS56S-384-5	Knob		1
384-6	HBS56S-384-6	Wheel Base		1
384-7	HBS56S-384-7	Hand Rod		1
384-8	HBS56S-384-8	Rubber Head Screw		2
384-9	TS-0051031	Hex Head Screw	5/16" -18x3/4"	12
384-10	TS-0680031	Flat Washer	5/16"x23xt2mm	24
384-11	TS-0561021	Hex Nut	5/16"-18	12
384-12	TS-0051071	HexHead Screw	5/16"-18x1-1/2"	4
384-13	TS-0680031	Flat Washer	5/16" x 23xt2mm	8
384-14	TS-0561021	Hex .Nut	5/16"-18	4
384-15	HBS56S-384-15	Plate		1
384-16	HBS56S-384-16	Color Strip		1
385	HBS56S-385	Wheel Complete Assembly		1
385-1	HBS56S-385-1	Wheel		1
385-2	7015-308	Flat Washer	5/8"x30xt3	4
385-3	5519932	Cotter Pin	3x25	2
385-4	HBS56S-385-4	Wheel Rod		1
386	TS-0060061	Hex Head Screw	3/8"-16x1-1/4"	4
387	HBS814GH-092	Flat Washer	10x23xt2	4
388	HBS56S-388	Cap Screw		1
389	HBS56S-389	Protect Plate		1
390	HBS56S-390	Rivet	Ø2x5	3
392	TS-081C022	Cross Round Head Screw	10-24x3/8"	1

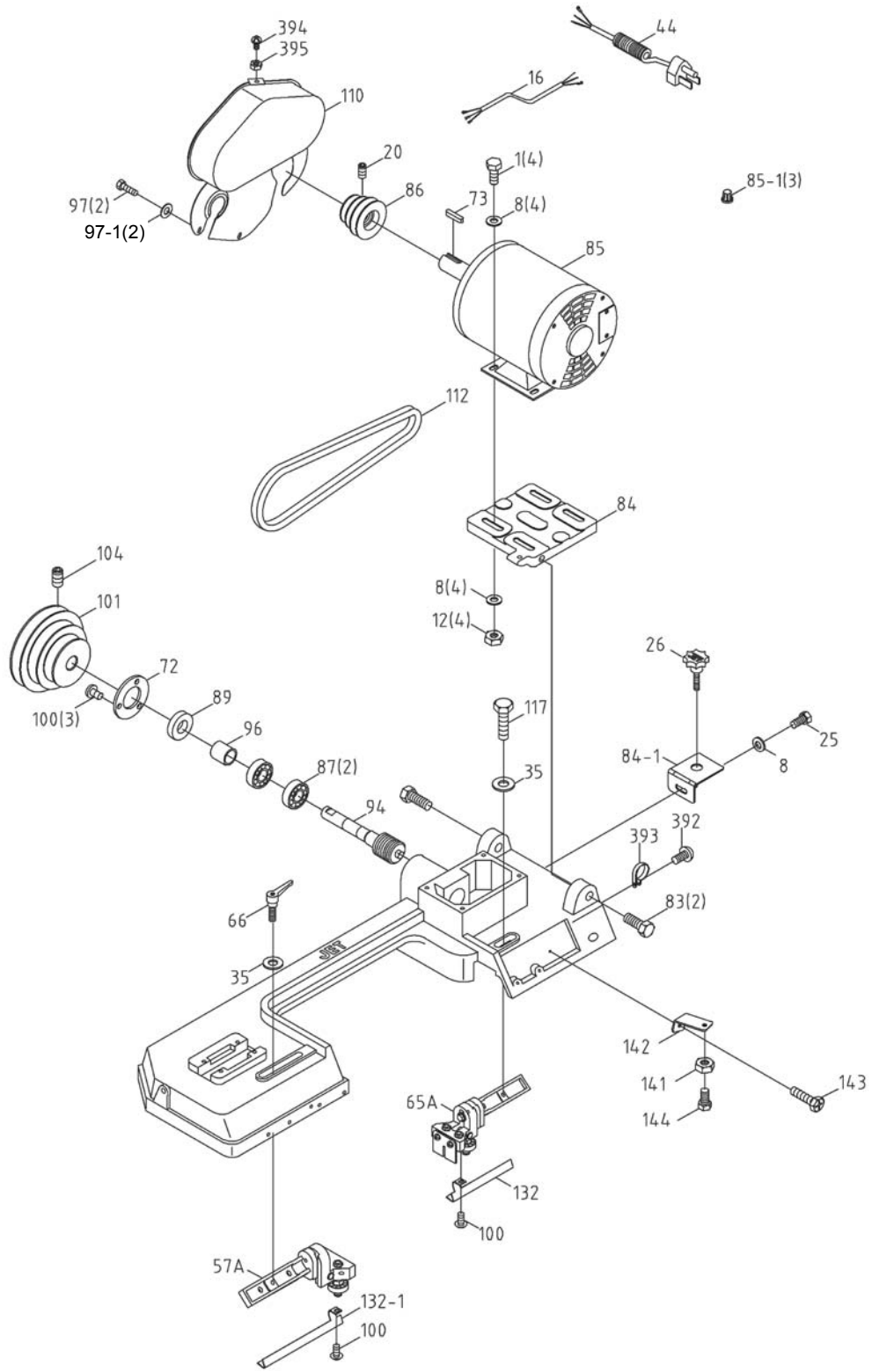
Parts List

Index No.	Part No.	Description	Size	Qty
393	HBS56S-393	Wire Ring		1
394	TS-081C032	Cross Round Head Screw	10-24x1/2"	1
395	TS-0560071	Hex Nut	10-24	1
NS-1	HVBS463-085-01	Capacitor Cover (not shown)		1
NS-2	HVBS462-085-02	Capacitor (not shown)		1

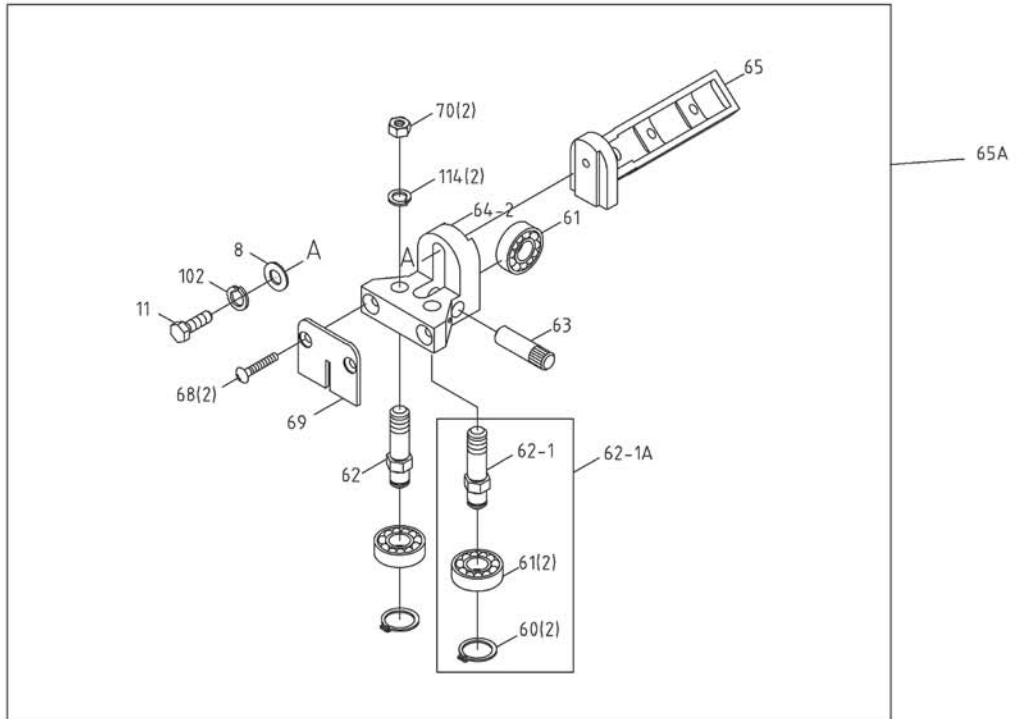
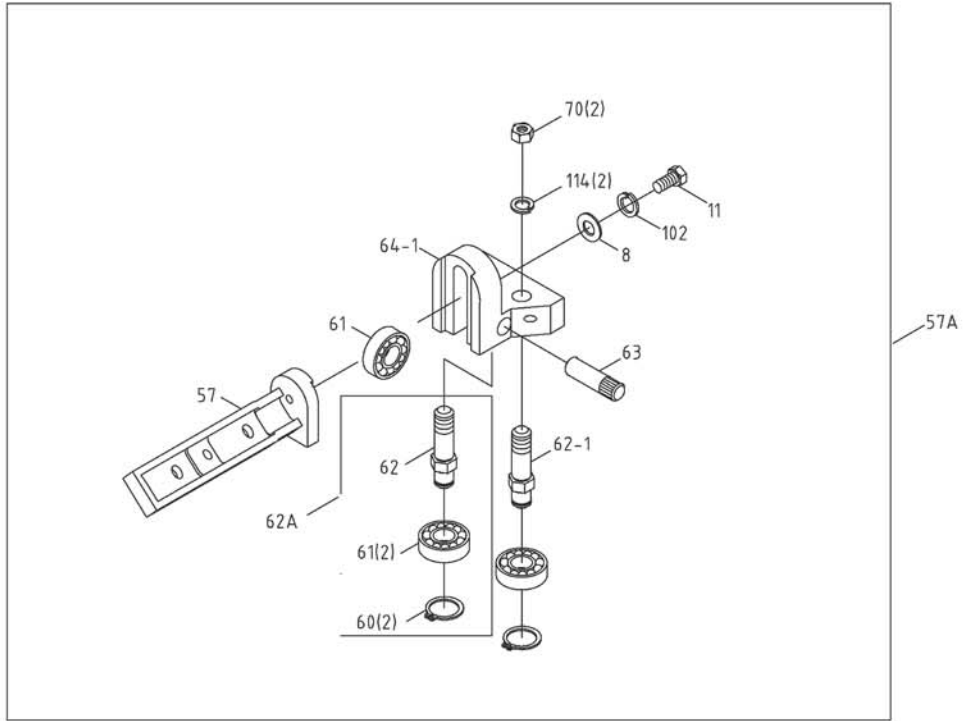
Bow Assembly



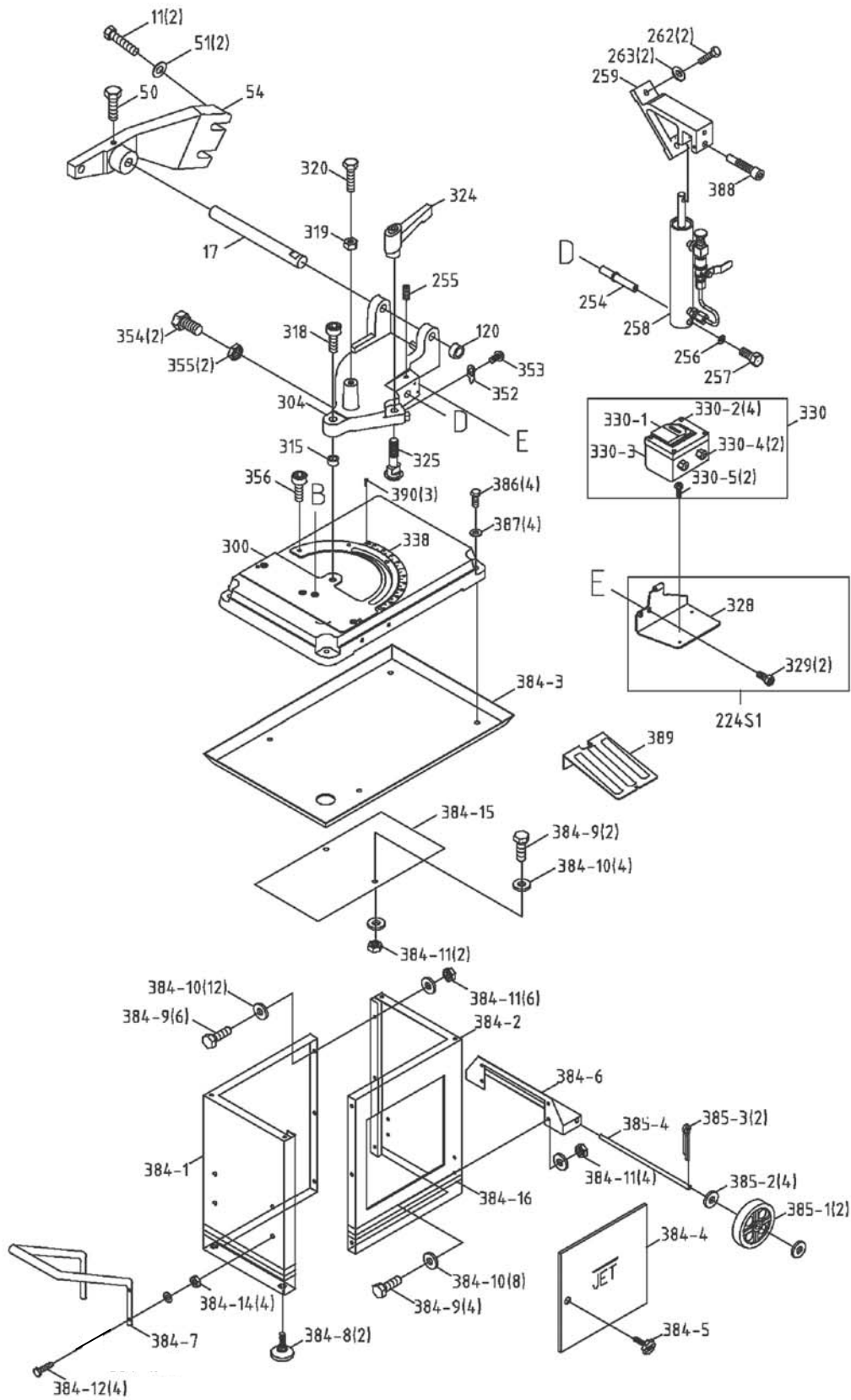
Bow Assembly (Page 2 of 3)



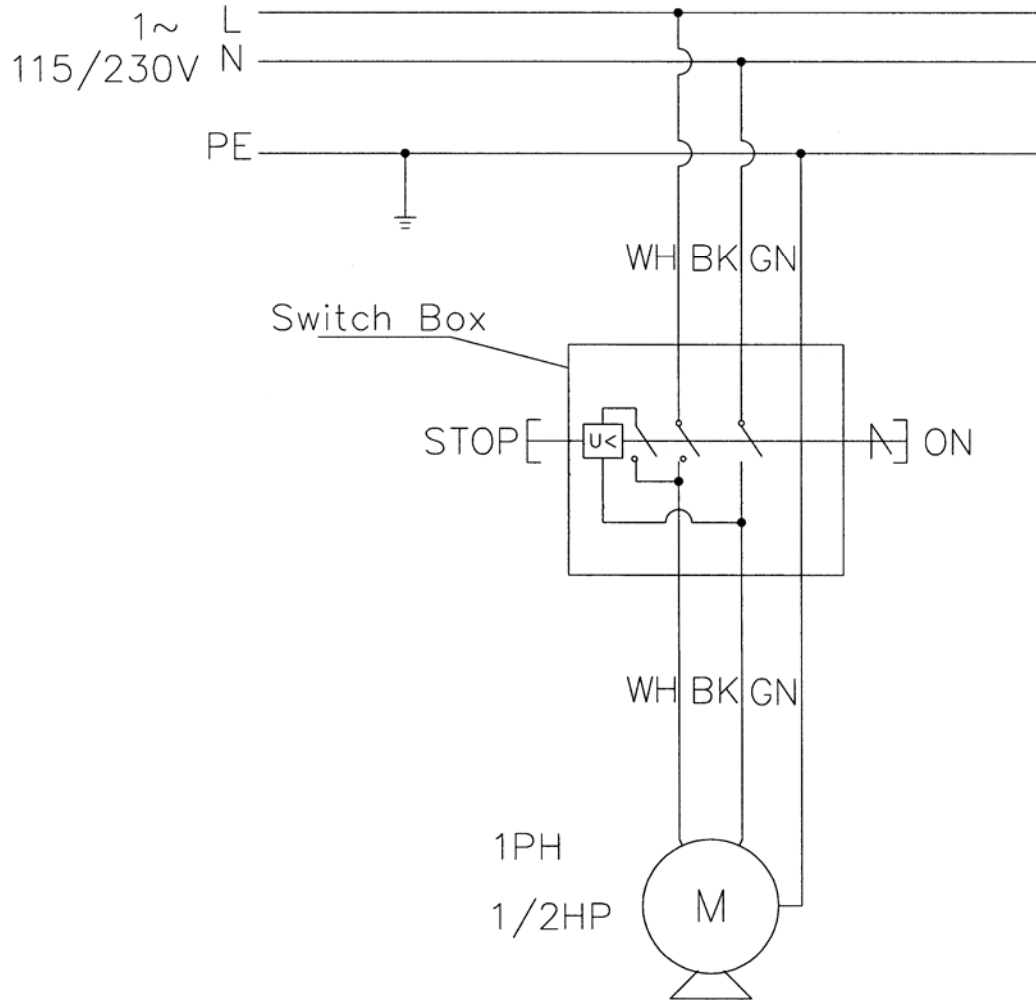
Bow Assembly (Page 3 of 3)



Base and Cabinet Assembly



Electrical Connections



STOP : Stop Button Switch
ON : Start Button Switch



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