

Operating Instructions and Parts Manual Geared Head Horizontal Band Saw Model HBS-814GH



WALTER MEIER (Manufacturing) Inc.

Warranty and Service

Walter Meier (Manufacturing) 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 Walter Meier 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

Walter Meier is consistently adding new products to the line. For complete, up-to-date product information, check with your local Walter Meier distributor, or visit waltermeier.com.

WARRANTY

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



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?

This warranty covers only the initial purchaser of the product.

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.

HOW STATE LAW APPLIES

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

LIMITATIONS ON THIS WARRANTY

WALTER MEIER (MANUFACTURING) INC., 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.

WALTER MEIER 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. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

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Table of Contents

Warranty and Service	2
Table of Contents	3
Warning	4
Introduction	6
Specifications	6
Unpacking	7
Contents of the Shipping Container	7
Installation and Assembly	
Installing Motor	8
Wheels and Leveling Stands	8
Stock Stop	8
Shut-Off Switch	9
Coolant Hose	9
Grounding Instructions	9
Extension cords	
Adjustments	11
Vise	
Squaring Vise to Blade	11
Positioning the Vise	
Miter Cuts	
Setting Downfeed Rate	12
Blade Tension	12
Blade Tracking	12
Setting Blade Speed	
Blade Guides	
Blade Replacement	
Bow Stop	
Operation	
Troubleshooting	
Replacement Parts	
Base Assembly	
Bow Assembly	
Parts List: HBS-814GH Band Saw	
Gear Box Assembly	
Parts List: Gear Box Assembly	
Electrical Control Box Assembly	
Parts List: Electrical Control Box Assembly	
Electrical Connections.	



- 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.
- Do not use this band saw for other than its intended use. If used for other purposes, Walter Meier (Manufacturing) Inc., 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.
- 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.**



- 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. Check coolant level daily. Replace dirty or weak coolant.
- 29. Do not stand on the machine. Serious injury could occur if the machine tips over.
- 30. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
- 31. 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:

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

AWARNING 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 Walter Meier (Manufacturing) Inc., covering the safe operation and maintenance procedures for a JET Model HBS-814GH 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 Walter Meier. Walter Meier can also be reached at our web site: www.waltermeier.com.

Specifications

Model Number	HBS-814GH
Stock Number	
Round Capacity at 90° (in.)	8
Round Capacity at 45° (in.)	6-1/2
Rectangle Capacity at 90° (W x H) (in.)	14 x 8; 2 x 14
Rectangle Capacity at 45° (W x H) (in.)	6-1/2 x 6; 2 x 7
Throat Depth (in.)	8
Vise Swivel (deg.)	45
Blade Wheel Diameter (in.)	12
Blade Speeds (SFPM)	
Bed Height (in.)	26
Motor	1HP, 1Ph, 110/220V (pre-wired 110V)
Overall Dimensions (L x W x H)(in.)	51-1/2 x 18-1/8 x 44-7/8
Net Weight (lbs.)	287
Shipping Weight (lbs.)	
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The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, Walter Meier reserves the right to change specifications at any time and without prior notice, without incurring obligations.

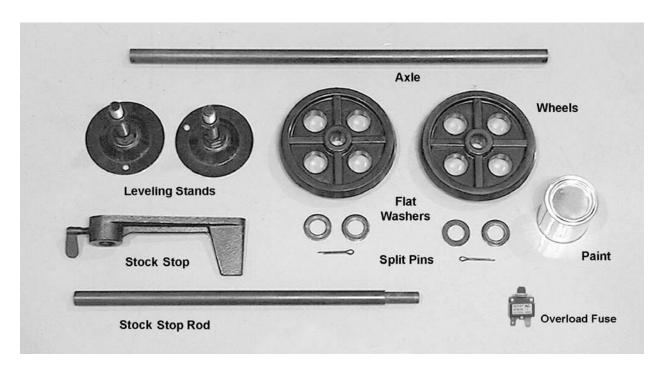
Unpacking

Open shipping container and accessory boxes, 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 Shipping Container

- 1 Band Saw
- 2 Leveling Stands (with hex nuts)
- 2 Wheels
- 1 Axle
- 4 Flat Washers
- 2 Split Pins
- 1 Stock Stop
- 1 Stock Stop Rod
- 1 Can White Touch-Up Paint
- 1 Overload Fuse 10A
- 1 Owner's Manual
- 1 Warranty Card



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

Installation and Assembly

Remove all crating and plastic from around the band saw. Remove any lag screws or holding straps which secure the band saw to the wood pallet.

Unpainted areas of the machine have been treated with a rust preventative. This should be removed with a soft cloth and a mild solvent. Do not use paint thinner, lacquer thinner, gasoline or mineral spirits; these will damage painted and plastic surfaces. Do not use an abrasive pad.

Installing Motor

Mount the motor to the gearbox using the four M10 x 30 socket head cap screws and four M10 lock washers, through the holes in the motor's flange. See Figure 1. The key in the motor shaft must line up with the keyway in the gearbox opening.

Wheels and Leveling Stands

- 1. Slide the band saw at an angle so that the edges hang over the sides of the pallet.
- Insert the axle through the holes at the right end of the band saw cabinet (opposite the end where the lifting handle is mounted). See Figure 2.
- Install a wheel and two flat washers on each end of the axle. Insert a split pin through the hole in the axle and bend the ends of the split pin to secure the wheel on the axle.
- 4. Install the two leveling stands at the left end of the band saw (the end where the lifting handle is mounted). See Figure 2. Screw the leveling stand into the hole beneath the band saw cabinet, and tighten the top hex nut against the bottom of the cabinet.
- 5. The leveling stands can be later adjusted for level by rotating the stand and re-tightening the hex nut against the cabinet.
- 6. Roll the band saw off the pallet.

Stock Stop

- 1. Insert the stock stop rod into the hole at the front of the base (Figure 3).
- Secure the rod by tightening the hex cap screw below the casting.
- 3. Slide the stock stop onto the rod, and tighten the thumb screw. The stock stop can be mounted so it faces either direction.

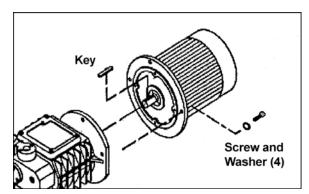


Figure 1

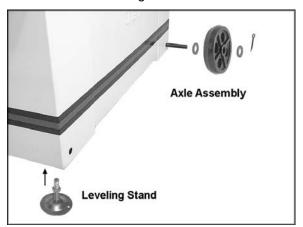


Figure 2

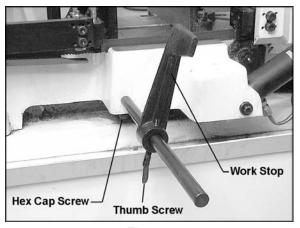


Figure 3

Shut-Off Switch

Remove the screw and hex nuts which held the bow to the base during shipment. These should be retained in case of future transportation of the Band Saw.

The screw below the limit switch, shown in Figure 4, has been pre-set at the factory so that the switch will contact the screw and stop the blade after each cutting operation.

Coolant Hose

Before operating, the coolant drain hose (Figure 5) must be connected to the coolant pan and the other end of the hose placed into the filter cup in the tank as shown.

The hose from the coolant pump is attached to a valve which should be inserted into the hole on the guide assembly (see Figure 17).

Grounding Instructions

AWARNING

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.

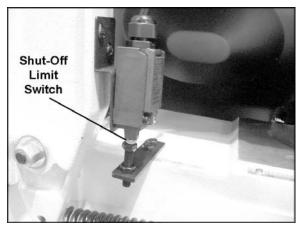


Figure 4

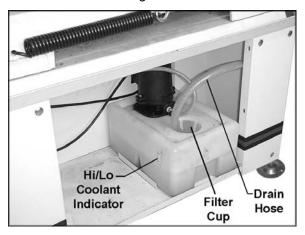


Figure 5

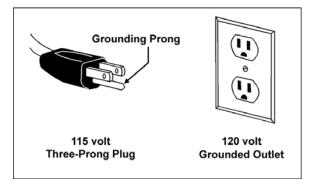


Figure 6

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.

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

Conversion to 220 Volt

If 220 volt, single phase operation is desired, the following instructions must be followed:

- Disconnect machine from power source.
- Open the electrical box and change the position of the fuse from the 115V slot to the 220V slot. An electrical drawing is included inside the electrical box, and is also shown on page 31 of this manual.
- 3. The 115V attachment plug supplied with the band saw must be replaced with a UL-listed plug suitable for 220 volt operation. The band saw must comply with all local and national codes after the 220 volt plug is installed. The band saw with a 220 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 220 volt plug.

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 only three wire extension cords that have three-prong grounding plugs and three-pole receptacles that accept the machine's plug.

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.

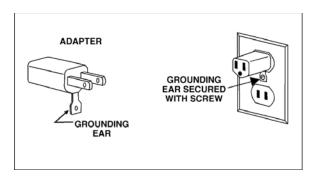


Figure 7

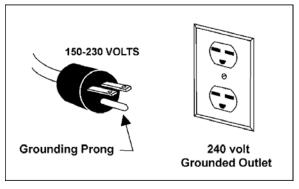


Figure 8

Recommended Gauges (AWG) of Extension Cords

		Extension Cord Length *				
Amps	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

Adjustments

Vise

There are two sets of holes in the bed to mount the right jaw. The inner hole and slot (A, Figure 10) are used for miter cuts. The outer hole and slot (B, Figure 10) are used for square, or 90° cuts. Figure 10 shows the vise located in the "A" position for miter cuts.

Use only position "A" for miter cuts. If the "A" position is used for square cuts, it leaves more blade exposed to the right of the jaw.

Squaring Vise to Blade

- To set up for square cutting, move the right jaw to "B" position (Figure 10). Place a machinist's square on the bed against the blade and the right vise jaw. The square should lie along the entire length of the jaw and blade without a gap.
- 2. If adjustment is necessary, slightly loosen the front screw on the right jaw. Loosen the hex nut at the center of the right jaw and adjust jaw so the square lines up properly.
- 3. Re-tighten the hex nut and the front screw.
- 4. Loosen the handle (C, Figure 10) on the left jaw. Move the left jaw until it contacts flush with the right jaw.
- 5. Tighten the handle (C, Figure 10). The vise is now set for square cuts.

Positioning the Vise

AWARNINGKeep hands away from blade while adjusting the vise.

- The workpiece is placed against the fixed jaw, which has already been squared (see "Squaring Vise to Blade"), or has been locked at the appropriate angle (see "Miter Cuts").
- 2. The vise has a quick-release feature which allows fast positioning of the movable jaw against the workpiece and then a final tightening with the handle. Lift up on the quick release lever (D, Figure 11), then push the movable jaw by hand until it contacts the workpiece.
- 3. Push down the quick release lever (D, Figure 11).
- Turn the lead screw handle (E, Figure 11) clockwise to continue the tightening process of the movable jaw until the workpiece is securely clamped.

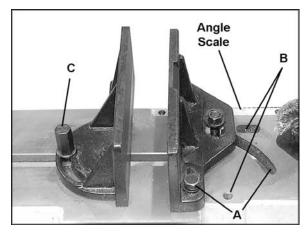


Figure 10 (fixed jaw shown in "A" position for mitering)

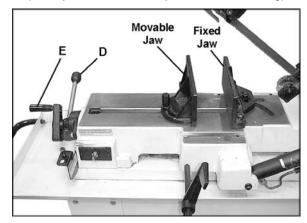


Figure 11

The quick release function can also be used to back off the movable jaw when the cut is finished.

Miter Cuts

- 1. For miter cuts, move the fixed jaw to the inner holes, or "A" position, as shown in Figure 10.
- 2. Rotate the fixed jaw to the desired angle, and tighten the center hex nut.
 - NOTE: There is an angle scale on the back side of the bed. This is for reference only. Check angles with a protractor if greater precision is needed.
- Adjust the movable jaw in the manner described above, and tighten the handle (C, Figure 10).

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 (Figure 12) counterclockwise to lower the bow. The rate of downfeed is controlled by the dial setting (Figure 12).

Blade Tension

Blade tension has been set at the factory. When installing a new blade, use the tension handle (Figure 13) to adjust blade tension (clockwise to tighten). Tension is set properly when the indicator moves into the "green" area on the scale.

Blade Tracking

that the band saw be operating while the back cover is removed. Use extreme caution.

Blade tracking has been tested at the factory. Adjustment is rarely required when the blade is used properly and if the blade is correctly welded. If a tracking problem should occur, adjust the machine as follows:

- 1. Raise the bow to its highest position. Make sure the hydraulic cylinder valve is closed so the bow remains in place.
- The blade should be properly tensioned. NOTE: Keep proper tension on the blade at all times using the blade tension adjustment.
- 3. Open the back wheel cover.

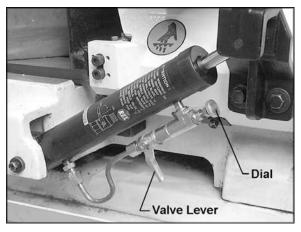


Figure 12

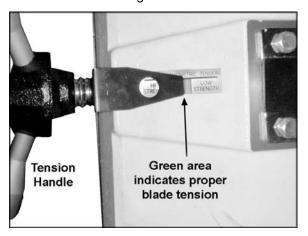


Figure 13

Mhile performing the following steps, keep the blade from rubbing excessively on the shoulder of the wheel. Excessive rubbing will damage the wheel and/or the blade.

- 4. Start the saw. Turn the set screw (Figure 14) to tilt the idler wheel until the blade is touching the shoulder of the idler wheel.
- 5. Turn the set screw (Figure 14) so the blade starts to move away from the shoulder of the wheel; then immediately turn the set screw in the other direction so the blade stops; then moves slowly towards the shoulder. NOTE: This adjustment is sensitive; do it gradually and in small increments allowing the wheel to respond to the changes.

AWARNING Keep your fingers clear of the blade and wheel to avoid injury.

- 6. Turn the set screw to stop the shifting of the blade on the wheel as it gets closer to the wheel shoulder. Put a six-inch length of paper between the blade and the wheel. See Figure 15. The paper should not be cut as it passes between the wheel shoulder and the blade.
- Turn the set screw a small amount. Repeat the insertion of the paper between the wheel shoulder and the blade until the paper is cut into two pieces.

NOTE: You may have to repeat the check with the paper several times before the blade and the shoulder cut the paper into two pieces. Do not hurry the adjustment. Patience and accuracy here will pay off with better, more accurate, quieter cutting and longer machine and blade life.

8. When the paper is cut, back off the set screw slightly. This assures that the blade is not touching the shoulder of the wheel.

IMPORTANT: If the blade is allowed to run against the shoulder of the wheel, it will wear off the shoulder.

Setting Blade Speed

Rotate the dial (see Figure 16) to the desired setting – 135, 197 or 256 feet per minute.

ACAUTION Do not change blade speed during a cutting operation.

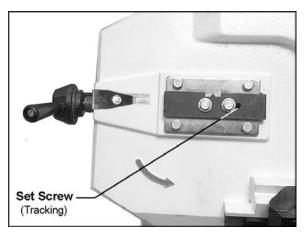


Figure 14

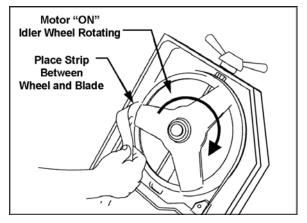


Figure 15

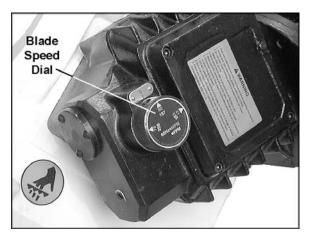


Figure 16

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.

Blade Guides

Loosen the handle (Figure 17) and slide the guide assembly as close to the workpiece as possible. This will prevent excessive exposure of the blade during operation.

[NOTE: The handle (Figure 17) can be adjusted out of the way. Lift up on the handle and rotate it on the pin. Release the handle, making sure it seats itself properly on the pin.]

The guide bearings and carbide guide blocks come pre-adjusted from the factory, but should be inspected frequently and adjustments made as needed. For most efficient operation and maximum accuracy, provide 0.001" clearance between the blade and the guide bearings. The bearings will still turn freely with this clearance. If the clearance is incorrect, the blade may track off the drive wheel.

- 1. Disconnect machine from power source.
- Loosen the two socket head cap screws (A, Figure 18) and move the guide seat (B, Figure 18) up or down until the guide blocks (D, Figure 18) are positioned adequately across the width of the blade.
- Loosen the socket head cap screws (C, Figure 18) on the carbide guide blocks (D, Figure 18) and shift both guide blocks until they place a light pressure on the blade. Retighten the socket head cap screws (C, Figure 18).
- 4. The outer guide bearing (E, Figure 18) is mounted to an eccentric bushing and is adjustable. Loosen the hex nut (F, Figure 18) and rotate the bearing shaft (G, Figure 18) with a wrench until the bearing (E, Figure 18) clears the blade by approximately .001". Do not pinch the blade.
- 5. Re-tighten hex nut (F, Figure 18).
- 6. Repeat these steps for the other blade guide assembly.

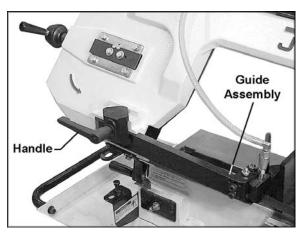


Figure 17

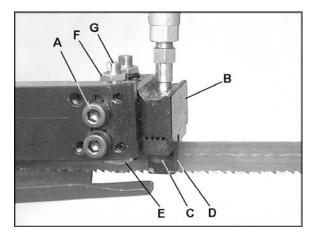


Figure 18

Blade Replacement

A general-use variable-tooth blade is provided with this metal cutting band saw. Additional blades can be used and are available from your JET distributor.

The choice of blade pitch is governed by the thickness of the work to be cut: the thinner the workpiece, the more teeth advised. A minimum of 3 teeth should engage the workpiece at all times. If the teeth of the blade are so far apart that they straddle the work, severe damage to the workpiece and to the blade can result.

- 1. Disconnect machine from power source.
- 2. Loosen the handle (Figure 17) and move the blade guides away from the wheel, as shown in Figure 19.
- 3. Raise the bow, making sure the hydraulic cylinder is closed so the bow will remain stationary.
- 4. Open the back cover, by loosening the two knobs and the four screws on the brackets.
- 5. Loosen tension on the blade.
- 6. Remove the blade from between the guides and from around the wheels. (Use gloves when handling sharp blades!).
- Install new blade on wheels, making sure the teeth point downward in the proper cutting direction. See Figure 20; also notice the blade direction arrow on the front of the bow.
- Increase blade tension just enough to hold the blade on the wheels. Make sure back of blade rests lightly against the shoulder of both wheels.
- 9. Twist blade slightly to allow it to slip into the guides.
- 10. The blade should be tensioned and tracked properly before use. See "Blade Tension" and "Blade Tracking" above.

Bow Stop

The stop screw (Figure 21) controls the depth of fall of the bow to prevent the blade from hitting the bed casting. The stop screw has been set at the factory. If future adjustment is needed, loosen the hex nut and rotate the screw, then retighten the hex nut.

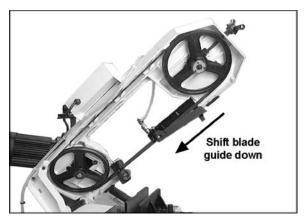


Figure 19

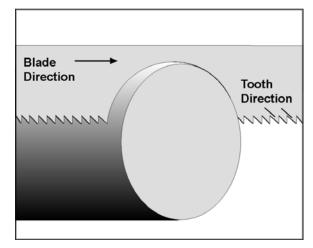


Figure 20



Figure 21

Operation

Figure 22 shows the control panel functions.

The **Emergency Stop** shuts down all functions on the band saw. The machine will not start if the emergency stop is still engaged. To start the machine, twist the emergency stop button until it pops back out.

IMPORTANT: When cutting magnesium, never use soluble oils or emulsions (oil-water mix) as water will greatly intensify any accidental magnesium chip fire. See your industrial coolant supplier for specific coolant recommendations when cutting magnesium.

General Operating Procedure:

- Give machine an overall inspection. Verify that all guards, covers, etc. are in place and in working order, the blade is tensioned properly and the tooth direction matches the arrow on the bow. Check that the blade guides are set correctly, and also the wire brush.
- Place workpiece in vise and tighten vise. The workpiece should be fitted directly between the jaws without adding other objects.

When the workpiece to be cut is a profiled section, flat piece or special shape, refer to the examples shown in Figure 23 for proper clamping positions. The top row shows acceptable clamping positions, the bottom row shows *un*acceptable 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.

AWARNING 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.

- 3. Rotate the speed dial to the desired setting. Do not rotate the speed dial during a cutting operation.
- 4. Set a suitable downfeed rate for that operation on the cylinder dial.
- 5. Push the start button to start the blade circulating.
- 6. Turn on the coolant flow.

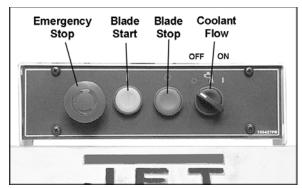


Figure 22

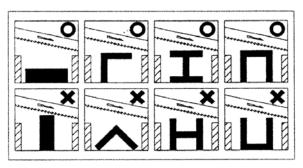


Figure 23

- Open the valve on the hydraulic cylinder to allow the bow to descend in a gradual and controlled manner.
- 8. The machine will shut off at the completion of the cut. Turn off the coolant flow, and remove the workpiece.
- Return the bow to vertical position for the next cut.

Maintenance

AWARNING 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 band saw regularly after each day's work. Clear metal shavings with the provided brush, do not use your hands. Do not use compressed air.

To prevent corrosion of machined surfaces when a soluble oil is used as coolant, pay particular attention to wiping dry the surfaces where fluid accumulates and does not evaporate quickly, such as between the machine bed and vise.

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

All ball bearings are permanently lubricated and sealed. They require no further lubrication.

Grease the vise lead screw as needed.

Place a thin coat of oil on the bed surface on which the vise jaw slides.

Maintain coolant level. Low coolant level can cause foaming and high blade temperatures. Replace dirty coolant; dirty or weak coolant can clog the pump, cause crooked cuts, a low cutting rate and/or permanent blade damage. To fill the tank, remove the filter cup and pour coolant into the hole. A "Hi/Lo" mark on the tank indicates proper level (see Figure 5).

Maintain oil level in the gear box, using SAE No. 10. To check level of the gear box oil, place bow in down position so that oil drains down. Check level in sight glass on side of gear casing. Correct level is the dot in the middle of the sight glass. Figure 24 shows the locations of the fill hole, sight glass and drain plug for the gear box.

Completely drain and refill the gear box oil once a year.

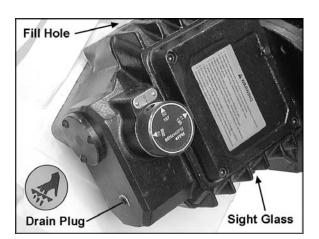


Figure 24

Troubleshooting

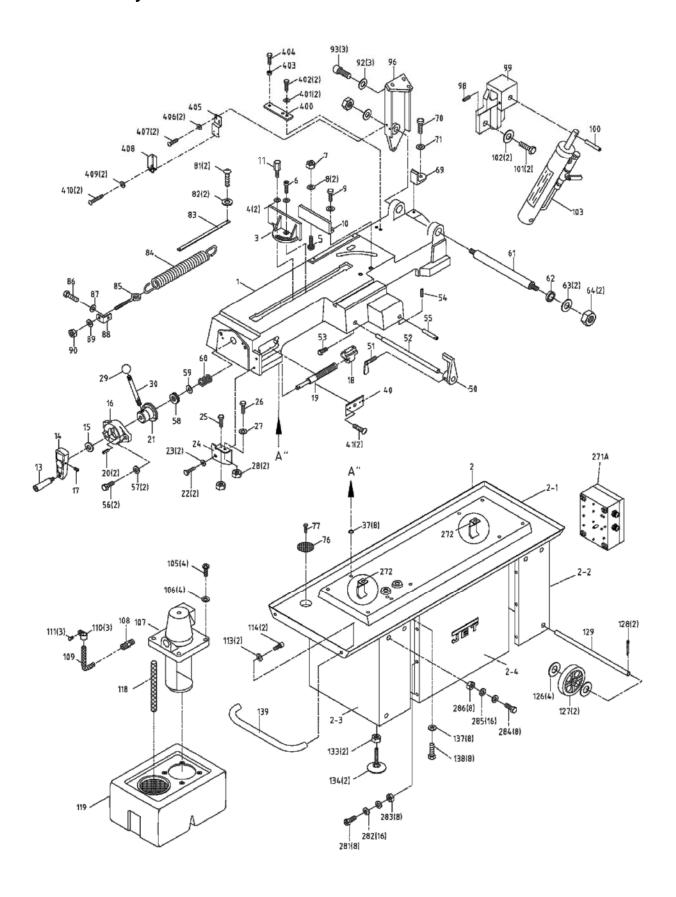
Trouble	Probable Cause	Remedy	
Motor will not start.	No incoming power.	Check plug connection.	
	Blown electrical panel fuses.	Replace fuses.	
	Thermal overload has tripped.	Wait several minutes for overload to reset itself.	
	Defective motor, switch, power cable, or plug.	Qualified electrician/service personnel should inspect these items.	
Overload trips	Motor is overheating.	Check that motor air intakes are clear.	
frequently.	Downfeed rate too fast.	Reduce downfeed rate.	
	Motor is faulty.	Motor should be inspected by qualified electrician/service personnel.	
Band Saw vibrates	Base on uneven surface.	Adjust base for even support.	
excessively.	Saw blade has cracks.	Replace blade immediately.	
	Too heavy a cut.	Reduce downfeed rate and blade speed.	
Miter cuts not accurate.	Setting of the miter stops is not correct.	Loosen the screws and adjust the stops to correct positions. Use an adjustable square or protractor to check angle settings.	
	Blade is worn, cutting crooked.	Replace blade.	
Cuts not square.	Feed pressure too great.	Decrease feed pressure.	
	90° angle stop is not set correctly.	Adjust stop until blade is square with vise.	
	Incorrect blade toothing in relation to workpiece.	Check <i>Machinist's Handbook</i> for recommended blade type.	
	Blade is worn, cutting crooked.	Replace blade.	
	Incorrect adjustment of bearing guides and guide assembly.	Re-adjust these. See page 14.	
	Workpiece incorrectly positioned in vise.	Check positioning and clamping in the vise.	
	Poor blade tension.	Check and correct if needed.	
Finished surface of	Blade is dull.	Replace blade.	
workpiece is rough, unsatisfactory.	Improper blade for cutting operation.	Check <i>Machinist's Handbook</i> for blade recommendations.	
	Downfeed rate too fast.	Reduce downfeed rate.	
	Blade tension too low.	Increase blade tension.	

Trouble	Probable Cause	Remedy
Excessive blade	Incorrect blade tension.	Adjust accordingly (see page 12).
breakage.	Incorrect blade speed or downfeed rate.	Adjust acccordingly.
	Workpiece loose in vise.	Clamp workpiece securely.
	Blade rubs on wheel shoulder.	Adjust blade tracking.
	Teeth too coarse for material.	Use appropriate blade for material being cut.
	Teeth in contact with workpiece before saw is started.	Start motor before blade contacts workpiece.
	Blade guides are misaligned.	Adjust as needed. See page 14.
	Blade too thick for wheel diameter.	Use thinner blade.
	Cracking at weld; poor annealing of blade.	Replace blade.
Premature Blade	Teeth too coarse.	Use finer tooth blade.
Dulling.	Blade speed too fast.	Reduce speed.
	Inadequate downfeed rate.	Adjust cylinder dial setting as needed.
	Hard spots or scale on material.	Scale: Reduce speed and increase downfeed rate. Hard Spots: Increase downfeed rate.
	Work hardening of material (especially stainless steel)	Increase downfeed rate.
	Blade installed backwards.	Remove blade, twist inside-out and re-install.
	Insufficient blade tension.	Adjust as needed.

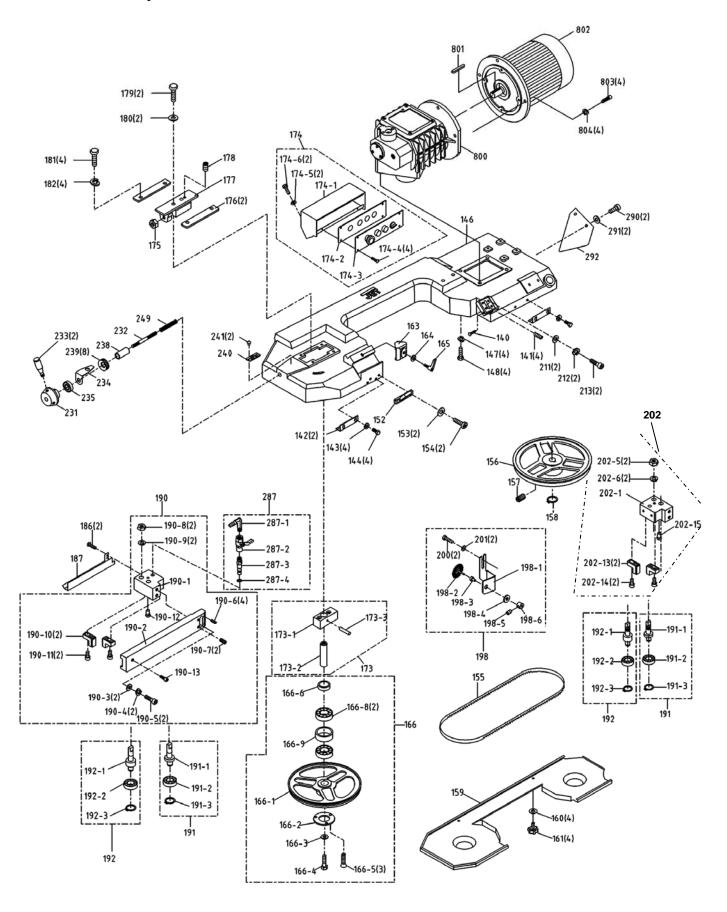
Replacement Parts

Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday (see our website for business hours, www.waltermeier.com). Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Base Assembly



Bow Assembly



Parts List: HBS-814GH Band Saw

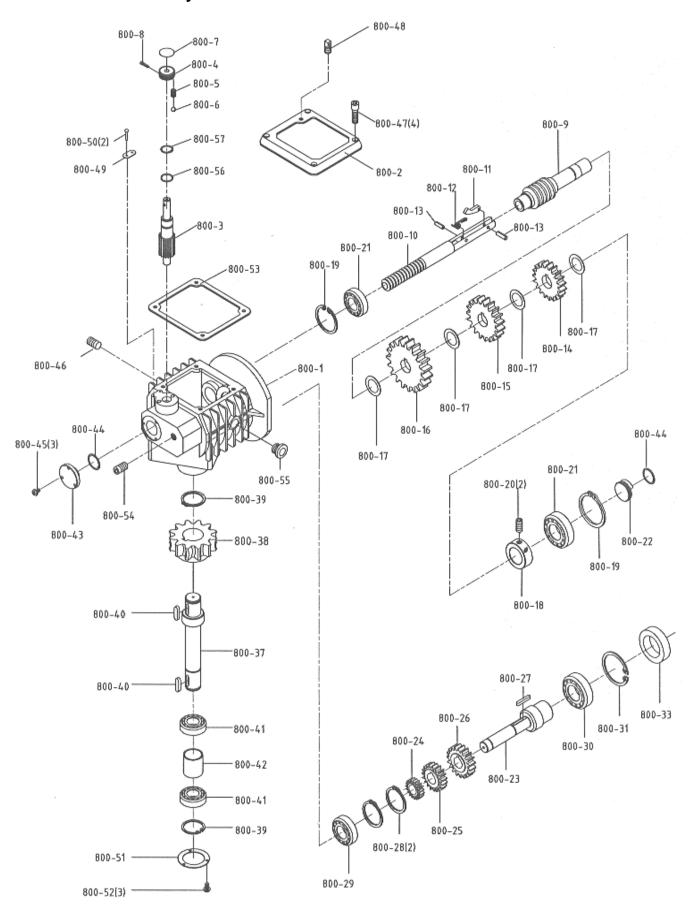
Index No.	Part No.	Description	Size	Qty
		Base		
		Stand Complete Assembly		
		Coolant Pan		
		Leg (Right)		
2-3	. HBS814GH-002-3	Leg (Left)		1
		Panel		
3	. HBS814GH-003	Vise Jaw Bracket (Front)		1
		Washer		
5	. HBS814GH-005	Carriage Bolt	1/2"-12 x 2"	1
		Socket Head Cap Screw		
		Hex Nut		
		Washer		
		Hex Cap Screw		
		Vise Jaw Bracket (Rear)		
		Miter Clamp Bolt		
		Handle		
		Crank		
		Washer		
16	. HBS814GH-016	Thrust Flange	4/48.00	1
		Socket Set Screw		
-		Acme Nut		
		Acme Screw		
		Pin		
		Vise Cam		
22	. TS-0051021	Hex Cap Screw	5/16"-18 x 5/8"L	2
23	. HBS814GH-023	Washer	8 x 25 x 3	2
		Shipping Bracket		
		Hex Cap Screw		
		Hex Cap Screw		
		Washer		
		Hex Nut		
		Knob		
		Shaft		
		Fiber washer		
-		Cover		_
		Phillips Pan Head Machine Screw		
		•		
		Stop Block		
		Thumb Screw		
52	. HBS814GH-052	Stock Stop Rod		1
53	. TS-0051031	Hex Cap Screw	5/16"-18 x 3/4"L	1
		Socket Set Screw		
55	. HBS814GH-055	Cylinder Lower Support		1
		Hex Cap Screw		
		Washer		
58	. HBS814GH-058	Bearing		1
59	. HBS814GH-059	Washer		1
		Spring		
		Pivot Shaft		
		Bushing		
		Washer		
		Hex Nut		
		Bracket		
		Hex Cap Screw		
		Masher		
		Screen		
		Hex Cap Screw		
81	. 1S-081C022	Phillips Pan Head Machine Screw	#10-24 x 3/8"L	2

Index No.		Description	Size	Qty
82	TS-069204	.Flat Washer	#10	2
		.Scale		
84	HBS814GH-084	.Spring		1
85	HBS814GH-085	.Spring Adjusting Screw		1
86	TS-0051031	.Hex Cap Screw	5/16"-18 x 3/4"L	1
		.Washer		
		.Spring Handle Bracket		
		.Washer		
		.Hex Nut		
		.Washer		
93	TS-0209061	.Socket Head Cap Screw	3/8"-16 x 1-1/4"L	3
		.Rear Pivot Bracket		
		Socket Set Screw		
		.Cylinder Upper Support		
		.Shaft		
		.Hex Cap Screw		
		.Washer		
103	HBS814GH-103	.Cylinder Complete Set		1
		.Cross Round Head Screw		
		.Washer		
		.Pump		
		.Close Nipple		
		.Hose		
110	HBS814GH-110	.Hose Clip	5/8"	3
111	TS-081C022	.Phillips Pan Head Machine Screw	#10-24 x 3/8"L	3
113	HBS814GH-092	.Washer	10 x 23 x 2	2
114	TS-0209031	.Socket Head Cap Screw	3/8"-16 x 3/4"L	2
118	HBS814GH-118	.Hose	OD16 x ID13 x 260)1
119	HBS814GH-119	.Coolant Tank		1
126	HBS814GH-126	.Washer	5/8" x 40 x 3"	4
127	HBS814GH-127	.Wheel		2
128	5519932	.Cotter Pin	3 x 25L	2
129	HBS814GH-129	.Wheel Rod		1
133	6290483	.Hex Nut	1/"2-12	2
		.Coaster of Stand		
137	TS-0680041	.Washer	3/8"	8
138	TS-0060051	.Hex Cap Screw	3/8"-16 x 1"L	8
		.Handle		
140	HBS814GH-140	.Flat Cross Head Screw	M5-0.8 x 12L	1
141	TS-1523051	.Socket Set Screw	M6-1 x 15L	4
142	HBS814GH-142	.Door Clip Lower		2
		.Washer		
144	TS-0050011	.Hex Cap Screw	1/4"-20 x 1/2"L	4
146	HBS814GH-146	.Body Frame		1
147	TS-0720091	Lock Washer	3/8"	4
148	TS-0060061	.Hex Cap Screw	3/8"-16 x 1-1/4"L	4
		.Upper Bracket hold down		
		.Washer		
154	TS-0060051	.Hex Cap Screw	3/8"-16 x 1"	2
		.Blade		
		.Drive Wheel		
		.Socket Set Screw		
		.C-Retainer Ring		
		.Blade Back Cover		
		.Washer		
		.Knob		
		.Clamp Block Guide Arm		
		.Flat Washer		
		.Grip		

Index No.		Description	Size	Qty
		Idler Wheel Assembly		
		Idler Wheel		
		Bearing Cover		
		Washer		
		Hex Cap Screw		
		Phillips Flat Head Screw		
166-6	HBS814GH-166-6	Bushing		1
166-8	BB-6202ZZ	Bearing	6202ZZ	2
		Bushing		
		Shaft Assembly		
		Sliding Plate Draw Block		
173-2	HBS814GH-173-2	Blade Wheel Shaft		1
		Pin		
174	HBS814GH-174	Control Box Assembly		1
174-1	HBS814GH-174-1	Control Box		1
		Control Plate		
174-3	HBS814GH-174-3	Label for Name Plate		1
		Phillips Pan Head Machine Screw		
		Flat Washer		
174-6	TS-1482031	Hex Cap Screw	M6-1.0 x 15L	2
175	TS-0561031	Hex Nut	3/8-16	1
176	HBS814GH-176	Sliding Plate		2
		Blade Tension Slide Block		
178	TS-0270071	Socket Set Screw	5/16"-18 x 3/4"L	1
179	TS-0051071	Hex Cap Screw	5/16"-18 x 1-1/2"L.	2
180	HBS814GH-180	Washer	8 x 12 x 2	2
181	TS-0051031	Hex Cap Screw	5/16"-18 × 3/4"L	4
182	TS-0720081	Lock Washer	5/16"	4
186	HBS814GH-200	Phillips Pan Head Machine Screw	1/4"-20 x 3/8"L	1
187	HBS814GH-187	Blade Guard		1
		Blade Guide Assembly		
		Blade Guide		
		Adjustable Bracket (Front)		
190-3	HBS814GH-211	Washer	8 x 18 x 1.5	2
190-4	TS-0720081	Lock Washer	5/16"	2
		Socket Head Cap Screw		
		Socket Set Screw		
		Socket Head Cap Screw		
		Hex Nut		
		Lock Washer		
		Carbide Guide		
190-11	TS-0207041	Socket Head Cap Screw	1/4"-20 x 3/4"L	2
190-12	HBS814GH-190-12	Top Guide Left		1
		Socket Head Cap Screw		
		Eccentric shaft Assembly		
-		Eccentric shaft		
		Bearing		
		C-Retaining Ring		
		Bearing Shaft Assembly		
192-1	HBS814GH-192-1	Bearing Shaft		2
		Bearing		
		C-Retaining Ring		
		Brush Assembly		
		Brush Support		
		Brush		
		Bushing		
		Washer		
		Socket Set Screw		
198-6	HBS814GH-198-6	Bushing		1

Index No.	Part No.	Description	Size	Qty
		.Phillips Pan Head Machine Screw		
		.Flat Washer		
202	HBS814GH-202	.Blade Guide Assembly		1
202-1	HBS814GH-202-1	.Blade Adjustable		1
		.Hex Nut		
		.Lock Washer		
		.Carbide Guide		
202-14	TS-0207041	.Socket Head Cap Screw	1/4"-20 x 3/4"L	2
202-15	HBS814GH-202-15	.Top Guide Right		1
		.Washer		
		.Lock Washer		
		.Socket Head Cap Screw		
231	HBS814GH-231	.Handle Body		1
		.Blade Tension Bar		
		.Knob		
		.Indicator plate		
		.Thrust Rearing		
		.Sleeve		
		.Spring		
		.Scale		
		.Rivet		
249	HBS814GH-249	.Spring		1
		.Electrical Control Box		
272	HBS814GH-272	.Cable Clamp		2
		.Pan Head Phillips Screw		
		.Washer		
		.Hex Nut		
		.Hex Cap Screw		
		.Washer		
		.Hex Nut		
287	HBS814GH-287	.Valve Assembly		1
287-1	HBS814GH-287-1	.Micro Control Block	PT1/8" x 1/4"	1
		.Valve		
		.Jet Pipe		
287-4	HBS814GH-287-4	.O-Ring	8 x 4.5 x 1.9	1
		.Cross Socket Head Screw		
		.Washer		
		.Support Plate		
		Limit Plate		
		.Washer		
402	TS-0207031	.Socket Head Cap Screw	1/4"-20 x 5/8"	2
403	TS-05/0011	.Nut	1/4″	1
404	IS-02080/1	.Socket Head Cap Screw	5/16″-18 x 1-1/4″	1
		.Bracket		
		.Washer		
		.Pan Head Phillips Screw		
		.Limit Switch		
		.Washer		
		.Pan Head Phillips Screw		
800	HBS814GH-800	.Gear Box Assembly		1
		.Key		
802	HBS814GH-802	.Motor1HP, 1	10/220V, 60HZ,1PH	1
	HBS814GH-MF	.Motor Fan (not show)		1
		.Motor Fan Cover (not show)		
		Socket Head Cap Screw		
804	15-2361101	.Lock Washer	M10	4

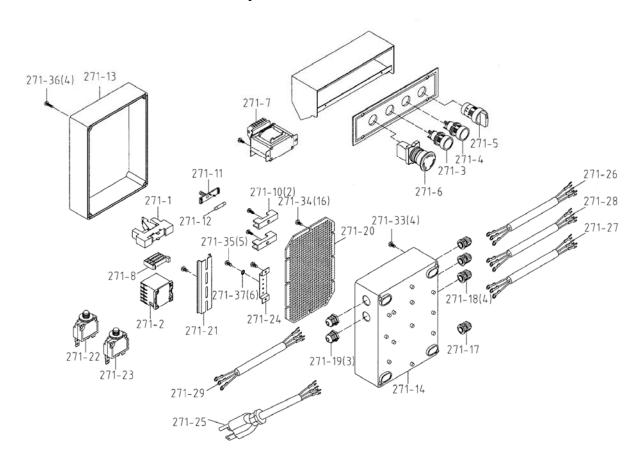
Gear Box Assembly



Parts List: Gear Box Assembly

Index No.	Part No.	Description	Size	Qty
	HBS814GH-800	Gear Box Assembly		1
		Gear Box Enclosure		
		Gear Box Cover		
800-3	HBS814GH-800-3	Speed-Changing Gear Shaft		1
800-4	HBS814GH-800-4	Speed Lever		1
800-5	HBS814GH-800-5	Spring		1
800-6	SB-8MM	Steel Ball	8	1
		Speed Indicator Dial		
800-8	TS-1502071	Socket Head Cap Screw	M5-0.8 x 28L	1
800-9	HBS814GH-800-9	Worm Shaft		1
800-10	HBS814GH-800-10	Speed-Changing Rod		1
		Speed-Changing Key		
		Torsion Spring		
		Pin		
800-14	HBS814GH-800-14	Gear		1
		Gear		
		Gear		
		Washer		
		Bushing Bracket		
		C-Retainer Ring		
		.Socket Set Screw		
		Bearing		
		Cover		
		Gear Shaft		
		Gear		
		Gear		
		Gear		
		Key		
		C-Retainer Ring		
		Bearing		
		Bearing		
		C-Retainer Ring		
		Oil Seal		
		Drive Gear Shaft		
		Worm Gear		
		C-Retainer Ring		
		Key		
		Bearing		
		Bearing Spacer		
		Cover		
		O-Ring		
		Cross Round Head Screw		
800-46	HBS814GH-800-46	Plug	PT3/8"	1
		Socket Head Cap Screw		
800-48	HBS814GH-800-48	Vent Plug		1
800-49	HBS814GH-800-49	Scale		1
		Rivet		
		Bearing Cover		
		Cross Round Head Screw		
		Gear Box Gasket		
		Plug		
		Oil level gauge		
		O- Ring		
		C-Retainer Ring		

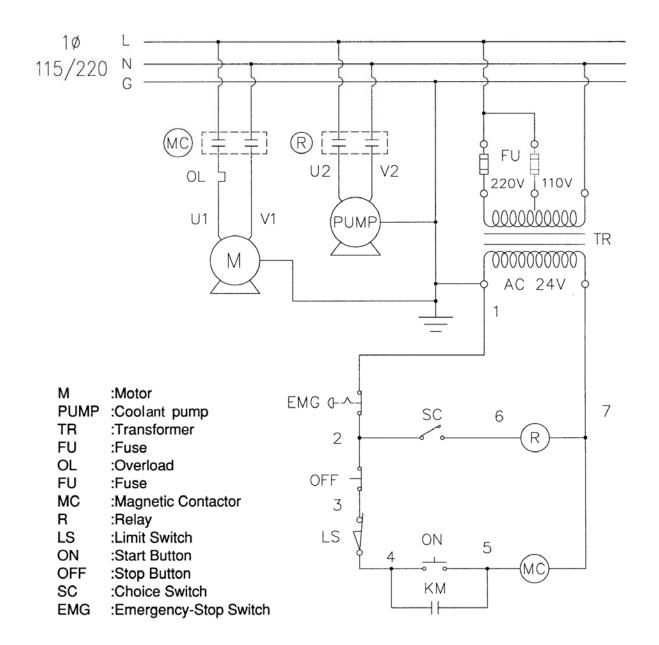
Electrical Control Box Assembly



Parts List: Electrical Control Box Assembly

Index No.	Part No.	Description	Size	Qty
	. HBS814GH-271A	Electrical Control Box Assembly		1
		Relay		
271-2	. HBS814GH-271-2	.Magnetic Contactor		1
271-3	. HBS814GH-271-3	.Push-Button Stop		1
		.Push-Button Switch		
		.Selector Switch		
		.Emergency-Stop Switch		
		.Transformer		
271-8	. HBS814GH-271-8	.End Clip Dinn		1
		.Fuse-Base		
		Fuse-Lid		
		.Fuse		
		.Cover Electrical Enclosure		
		.Electrical Enclosure		
		.Cord Grip (18/2 SJT)		
		.Cord Grip (14/3 SJT)		
		.Mount Grill		
		Din-Rails		
		.Auto-Reset		
		.Auto-Reset		
		.Ground strip		
		Power Cable		
		.Motor Cable		
		.Limit Cable		
		.Pump Cable		
271-29	. HBS814GH-271-29	Control Cable		1
271-33	. TS-133032	Phillips Pan Head Machine Screw	M5 × 8	4
		.Tap Screw		
		Phillips Pan Head Machine Screw		
		Phillips Pan Head Machine Screw		
		.Washer		
271-38	. HBS814GH-271-38	.Spark Eliminator (not shown)	1 μ F/120 Ω 2E/1G30	1

Electrical Connections





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