



# **Operating Instructions and Parts Manual**

## **7x10-inch Gear Head Mitering Band Saw**

**Model HVBS-710SG**



**WALTER MEIER (Manufacturing) Inc.**

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**Part No. M-413452**

Revision A1 11/2012

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# 1.0 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](http://waltermeier.com).

## WARRANTY

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

|                                                                                                                                               |                                                                                                                     |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                             |                                                                                                                                                                                                                                                   |                                                                                                                                                                                               |                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>90 DAY WARRANTY</b><br>Lathe Accessories<br>Machine Accessories<br>Mobile Bases<br>Safety Equipment<br>Specialty Items<br>Vise Accessories | <b>1 YEAR WARRANTY</b><br>Air Tools-Contractor<br>Air Tools-Industrial<br>Air Tools-Light Industrial<br>Lubrication | <b>2 YEAR WARRANTY</b><br>Body Repair Kits<br>Bottle Jacks<br>Cable Pullers<br>Cold Saws<br>Hoists-Air<br>Hoists-Electric<br>Metal forming<br>Mill/Drills<br>Milling Machines<br>MW Bandsaws<br>MW Drill Presses<br>MW Finishing Equipment<br>MW Lathes<br>MW Precision Vises | <b>3 YEAR WARRANTY</b><br>Palet Trucks<br>Rigging Equip.<br>Service Jacks<br>Stackers<br>Surface Grinders<br>Tapping<br>Trolleys-Air<br>Trolleys-Electric<br>Web Slings<br>Winches-Electric | <b>5 YEAR WARRANTY</b><br>Beam Clamps<br>Chain Hoist-Manual<br>Lever Hoists<br>Pullers-JCH Models<br>Scissor Lift Tables<br>Screw Jacks<br>Trolleys-Gearred<br>Trolleys-Plain<br>Winches-Manual<br>WW Air Filtration<br>WW Bandsaws<br>WW Buffers | <b>5 YEAR WARRANTY</b><br>WW Drill Presses<br>WW Dust Collectors<br>WW Dust Filters<br>WW Dust Fittings<br>WW Jointers<br>WW Lathes<br>WW Planers<br>WW Sanders<br>WW Shapers<br>WW Tablesaws | <b>LIFE WARRANTY</b><br>Fastening Tools<br>Mechanics Hand Tools<br>Striking Tools<br>Vises (no -precision)<br>Clamps |
| <i>Warranty reverts to 1 Year Warranty if woodworking (WW) products listed above are used for industrial or educational purposes.</i>         |                                                                                                                     |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                             |                                                                                                                                                                                                                                                   |                                                                                                                                                                                               |                                                                                                                      |

## 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.

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### 3.0 Safety 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, 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 ANSI 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 machine, 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.
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 contains 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 after maintenance is complete.
16. Make sure workpiece is securely clamped in the vise. Never use your hand to hold the workpiece.
17. Check coolant level frequently. Replace dirty or weak coolant.
18. 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.
19. Inspect blade for cracks, wear or missing teeth. Replace blade if these symptoms are found.
20. Provide for adequate space surrounding work area and non-glare, overhead lighting.
21. Keep the floor around the machine clean and free of scrap material, oil and grease.
22. Keep visitors a safe distance from the work area. **Keep children away.**
23. Make your workshop child proof with padlocks, master switches or by removing starter keys.
24. Give your work undivided attention. Looking around, carrying on a conversation and

“horse-play” are careless acts that can result in serious injury.

25. 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.
26. 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 more safely.
27. Use recommended accessories; improper accessories may be hazardous.
28. Maintain tools with care. Keep blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
29. Make sure the workpiece is securely attached or clamped to the table. Never use your hand to hold the work piece.
30. Turn off the machine and disconnect from power before cleaning. Use a brush to remove chips or swarf — do not use your hands.

31. Do not stand on the machine. Serious injury could occur if the machine tips over.

32. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.

33. 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 or even fatal injury.

## 4.0 About this manual

This manual is provided by Walter Meier (Manufacturing) Inc. covering the safe operation and maintenance procedures for a JET Model HVBS-710SG Band Saw. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. Your machine has been designed and constructed to provide years of trouble-free operation if used in accordance with the instructions set forth in this document.

This manual is not intended to be an exhaustive guide to band saw operations, stock selection, etc. Consult a machinery handbook and/or experienced users for additional information. Whatever accepted methods or materials are used, always make personal safety a priority.

If there are questions or comments, please contact your local supplier or Walter Meier. Walter Meier can also be reached at our web site: [www.waltermeier.com](http://www.waltermeier.com).

Retain this manual for future reference. If the machine transfers ownership, the manual should accompany it.

5.0 Features

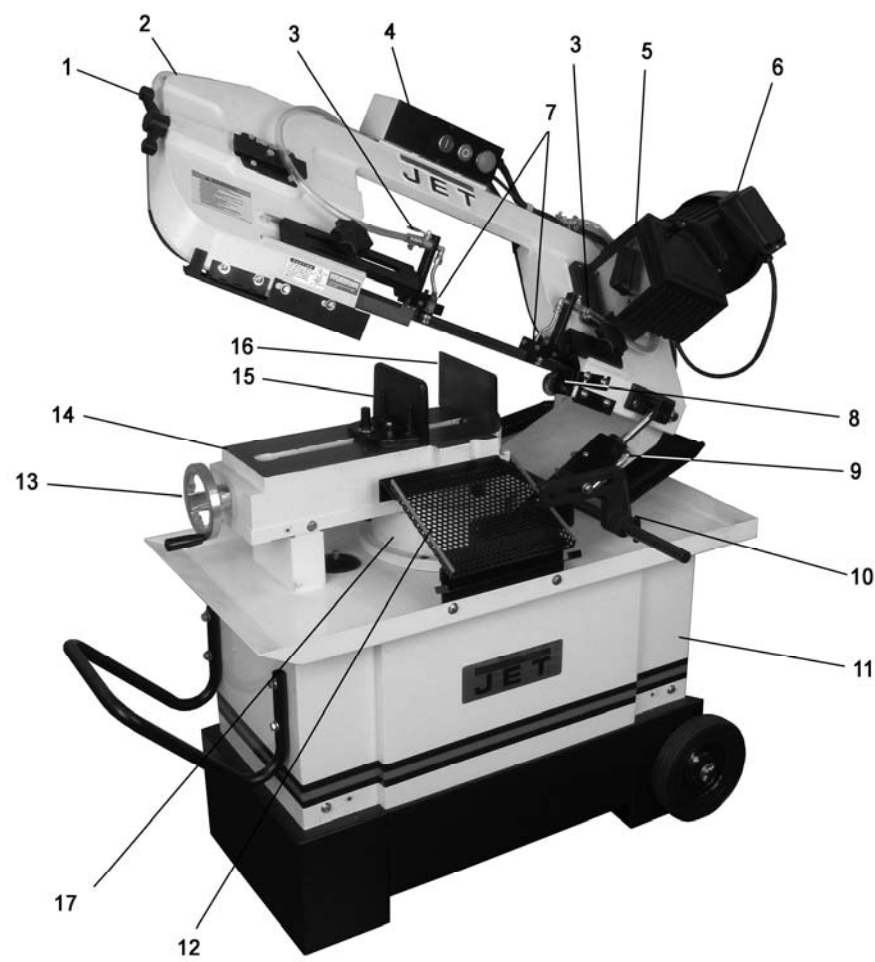


Figure 1

- |                                            |                                       |
|--------------------------------------------|---------------------------------------|
| 1. Blade tension handle                    | 10. Adjustable work stop              |
| 2. Cast iron bow                           | 11. Steel stand with coolant tank     |
| 3. Coolant taps                            | 12. Chip guide plate                  |
| 4. Centralized control switch              | 13. Vise handwheel with quick release |
| 5. 3-speed gearbox                         | 14. Cast iron table                   |
| 6. 1HP motor                               | 15. Adjustable floating vise          |
| 7. Ball bearing blade guides               | 16. Fixed vise                        |
| 8. Chip brush                              | 17. Rotating disc hub for miter cuts  |
| 9. Hydraulic cylinder with valve regulator |                                       |

6.0 Specifications

Model Number ..... HVBS-710SG  
Stock Number .....413452

Materials:  
Frame ..... cast iron  
Table ..... cast iron  
Blade wheels ..... cast iron  
Base ..... steel  
Vertical cutting plate ..... steel  
Blade included ..... bi-metal, variable tooth  
Blade guides ..... ball bearing

#### Capacities:

|                                         |                               |
|-----------------------------------------|-------------------------------|
| Miter angle.....                        | 90 to 45 deg.                 |
| Round capacity at 90° .....             | 7" (180 mm)                   |
| Round capacity at 45° .....             | 4" (100 mm)                   |
| Round capacity at 30° .....             | 6-3/4" (171mm)                |
| Rectangle capacity at 90° (W x H) ..... | 7" x 10-13/64" (180 x 260 mm) |
| Rectangle capacity at 45° (W x H) ..... | 3-3/4" x 4" (95x 100 mm)      |
| Rectangle capacity at 30° (W x H) ..... | 5-3/4" x 6" (146 x 150 mm)    |
| Coolant tank capacity.....              | 9L (2.25 gal)                 |

#### Motor and Electricals:

|                                             |                                        |
|---------------------------------------------|----------------------------------------|
| Motor type .....                            | totally enclosed fan cooled, induction |
| Horsepower .....                            | 1 HP (0.75 kW)                         |
| Phase .....                                 | single                                 |
| Voltage .....                               | 115/230 V (prewired 115V)              |
| Cycle .....                                 | 60Hz                                   |
| Listed FLA (full load amps).....            | 14/7 A                                 |
| Starting amps .....                         | 35A                                    |
| Running amps (no load) .....                | 12A                                    |
| Power transfer .....                        | gearbox                                |
| Control switch.....                         | push button with emergency stop        |
| Motor speed .....                           | 1720 rpm                               |
| Blade speeds.....                           | 150, 210, 250 sfpm                     |
| Power cord length .....                     | 6 feet (180 cm)                        |
| Power cord type .....                       | 16AWGx3c                               |
| Power plug installed .....                  | yes                                    |
| Recommended circuit size <sup>1</sup> ..... | 20A for 115V; 15A for 230V             |
| Noise emission:                             |                                        |
| without load.....                           | 70 dB at 60 inches from blade          |
| with load.....                              | 75 dB at 60 inches from blade          |

#### Coolant pump:

|                                  |            |
|----------------------------------|------------|
| Horsepower .....                 | 1/8 HP     |
| Phase .....                      | single     |
| Voltage .....                    | 115/230 V  |
| Cycle .....                      | 60Hz       |
| Listed FLA (full load amps)..... | 0.5/0.25 A |

#### Weights:

|                       |                 |
|-----------------------|-----------------|
| Net Weight .....      | 396 lb (180 kg) |
| Shipping Weight ..... | 462 lb (210 kg) |

#### Dimensions:

|                                             |                                                     |
|---------------------------------------------|-----------------------------------------------------|
| Blade .....                                 | 3/4"W x 0.032"T x 93"L (19 x 0.9 x 2360 mm)         |
| Blade wheel diameter .....                  | 11-1/2" (292 mm)                                    |
| Vise jaw height .....                       | 4" (102 mm)                                         |
| Vise jaw depth .....                        | 7" (180 mm)                                         |
| Table size (LxW) .....                      | 17" x 7" (432 x 178 mm)                             |
| Table height from floor, horizontal.....    | 22-7/8" (580 mm)                                    |
| Vertical cutting plate .....                | 9-1/2"L x 10"W (241 x 254 mm)                       |
| Cutting plate height from floor .....       | 42-29/32" (1090 mm)                                 |
| Overall assembled, horizontal position..... | 50"L x 31-1/2"W x 48"H (1260 x 800x 1220 mm)        |
| Overall assembled, vertical position .....  | 50"L x 31-1/2"W x 72-29/64"H (1260 x 800 x 1840 mm) |

#### Other:

|                           |                                                                |
|---------------------------|----------------------------------------------------------------|
| Miter stops.....          | 90 and 45 deg.                                                 |
| Blade tension range ..... | 22000-25000 lb/in <sup>2</sup> (1550-1760 kg/cm <sup>2</sup> ) |

<sup>1</sup> subject to local and national electrical codes.

*The specifications in this manual were current at time of publication, 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.*

## 7.0 Set-Up and Assembly

### 7.1 Unpacking and cleanup

Inspect contents of shipping container for shipping damage. Report any damage to your distributor.

Remove all contents from carton, and compare to the contents list in this manual. Report any part shortages to your distributor. Do not discard carton or packing material until machine is assembled and running satisfactorily.

Exposed metal areas have a rust preventative applied. Remove this with a soft rag and solvent or degreaser. Do not use cellulose-based solvents such as paint thinner or lacquer thinner; these will damage painted and plastic surfaces.

### 7.2 Shipping contents

If you do not see a part below, check the machine; some parts may have come pre-assembled to the saw.

Refer to Figures 2 and 3.

- 1 Band Saw
- 1 Workstop bar – A
- 1 Workstop – B
- 1 Workstop rod – C
- 1 Filter screen – D
- 1 Splash guard – E
- 1 Vertical cutting plate – F
- 1 Handle – G
- 1 Axle – H
- 2 Wheels – I
- 2 Stand sides – J
- 2 Stand ends – K
- 1 Support post – L
- 1 Instructions and Parts Manual (not shown)
- 1 Warranty Card (not shown)

Hardware Package (p/n HVBS710S-HP):

- 4 Hex cap screws 5/16"x3/4" – HP-1
- 2 Hex cap screws 1/4"x1/2" – HP-2
- 4 Lock washers 1/4" – HP-3
- 2 Flat washers 1/4" – HP-4
- 4 Hex cap screws 5/16"x1-1/2" – HP-5
- 8 Lock washers 5/16" – HP-6
- 12 Flat washers 5/16" – HP-7
- 4 Hex nuts 5/16" – HP-8
- 2 Cotter pins – HP-9
- 2 Flat washers 1/2" – HP-10
- 2 Hex cap screws 1/4"x5/8" – HP-11

**Tools required for assembly:**

12mm wrench

3, 4, and 6mm hex keys

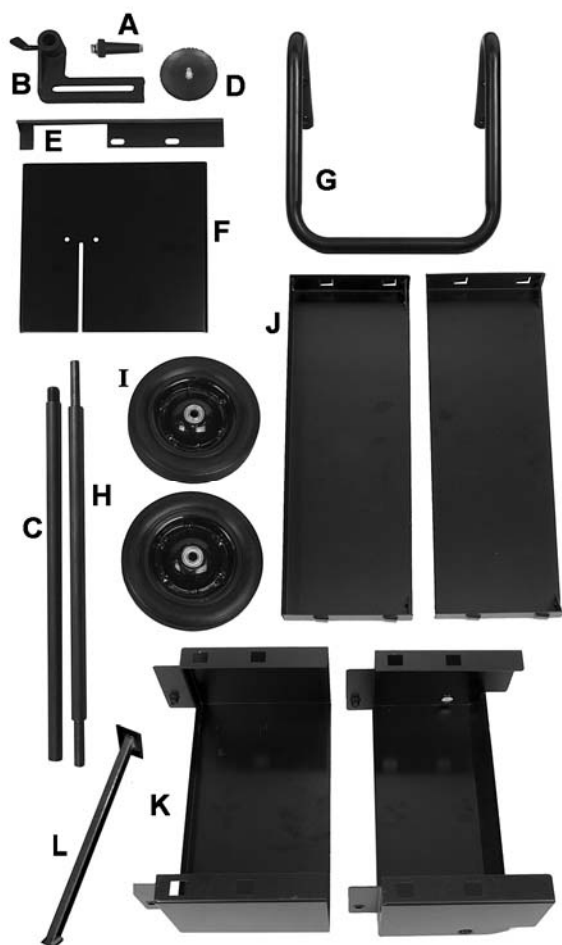


Figure 2

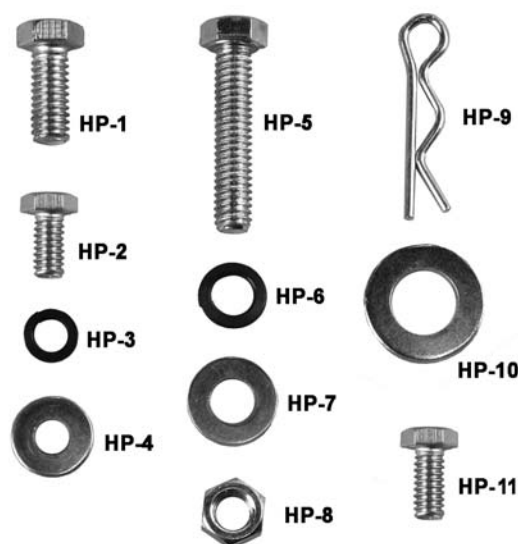


Figure 3

Hardware package HVBS710S-HP

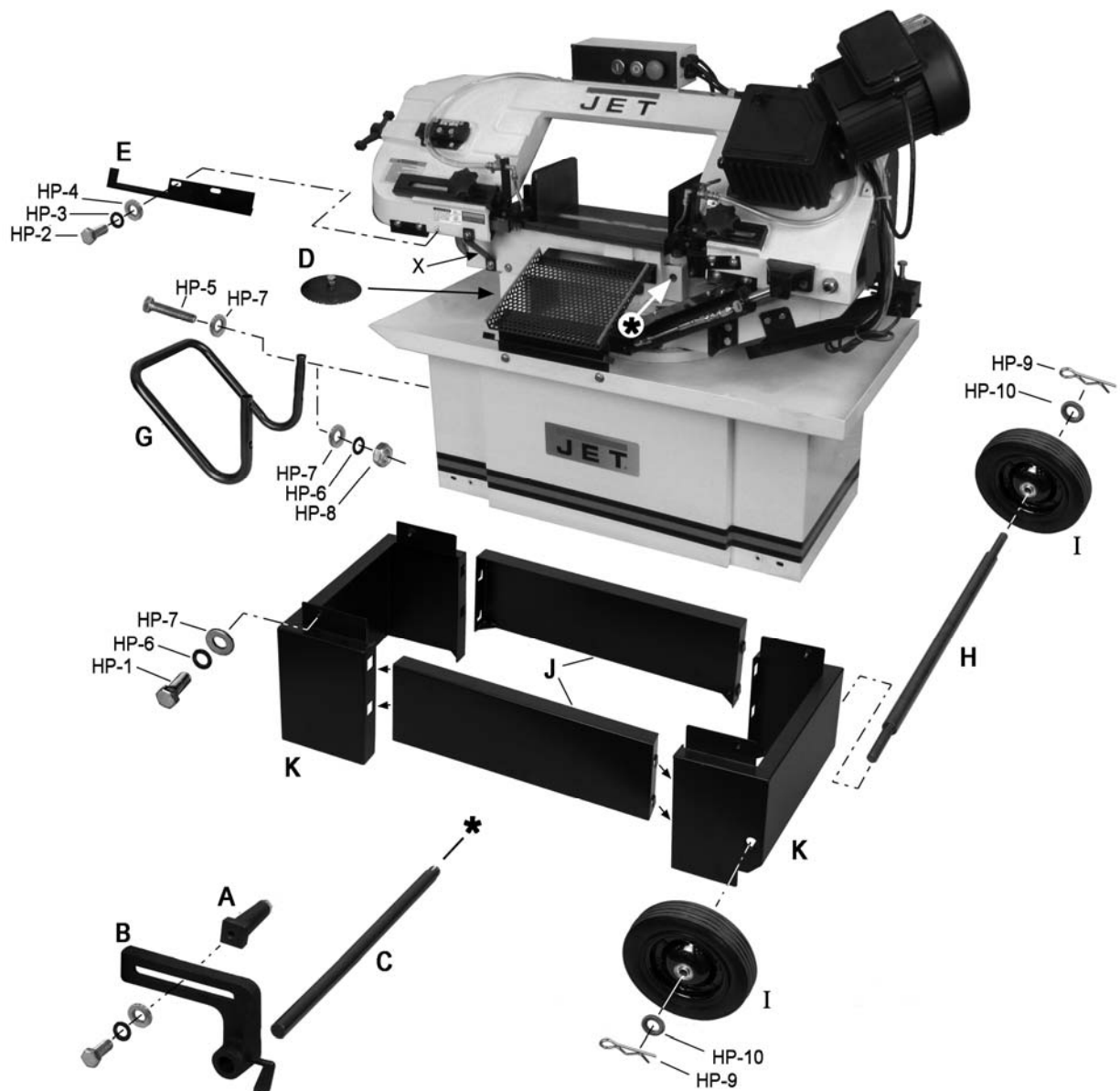


Figure 4

### 7.3 Assembly

Refer to Figure 4.

**⚠ WARNING** Band Saw should be disconnected from electrical power during assembly and setup.

1. Assemble base parts (J,K) according to Figure 4.
2. Install axle and wheels (H,I). Install cotter pin (HP-9) through hole in axle, and bend back legs of cotter pin to secure each wheel.
3. Remove the four brackets holding saw to pallet.
4. Use properly rated lifting equipment (hoist or forklift) with straps placed beneath cast iron portion of saw.
5. Position saw atop base and secure with four screws and washers (HP-1/6/7).
6. Install work stop assembly (A/B/C) into hole on saw base.
7. Install handle (G), and place filter screen (D) over coolant drain hole in pan.
8. Remove shipping bracket (x). Retain this piece in case you must transport the machine in the future.
9. Install guard (E) in place where shipping bracket was removed, with two screws and washers (HP-2/3/4).

## 7.4 Vertical cutting plate

These steps are only necessary when using band saw in vertical position.

1. Disconnect machine from power source.
2. Open valve on hydraulic cylinder (lever parallel to cylinder) and raise bow to vertical position.
3. Remove two screws and remove seat plate, as shown in Figure 5.

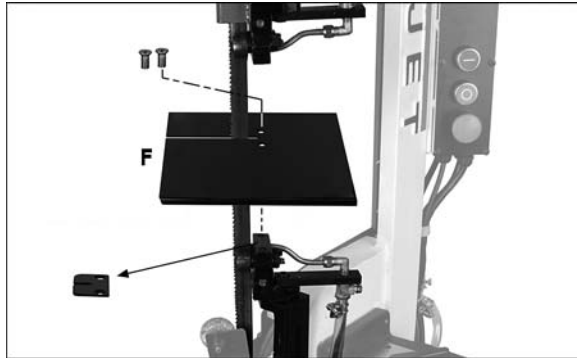


Figure 5

4. Guide blade through slot in vertical cutting plate (F, Figure 5), and tighten with the two screws.
5. Verify that vertical cutting plate is square to blade, using a machinist's square on the plate and against the blade (Figure 6).
6. If adjustment is needed, loosen screws and place shims where required. Tighten screws.

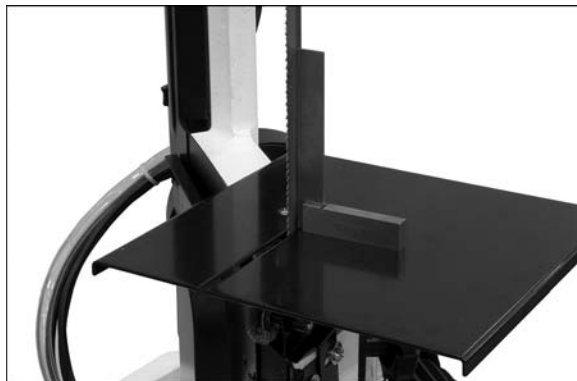


Figure 6

7. Place a level on vertical cutting plate (Figure 7).
8. Loosen hex nut (M, Figure 8) and turn stop screw (N) as needed, until cutting plate is level. Tighten hex nut.
9. Close valve on cylinder (lever perpendicular to cylinder) to secure bow in position.

Reinstall seat plate before using bow in horizontal position.



Figure 7

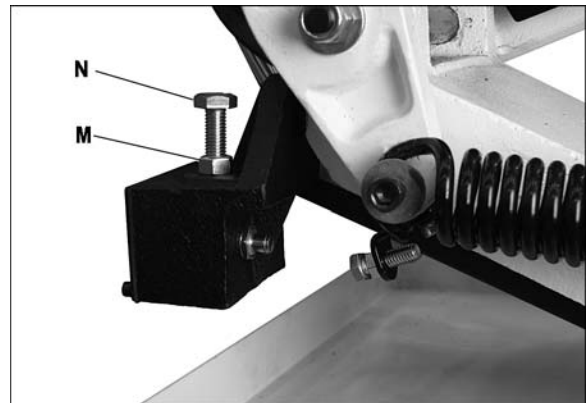


Figure 8

## 7.5 Vertical support post

This is mounted to rear of band saw to help stabilize saw when bow is in vertical position. It is generally not needed when bow is set for 90° cuts before raising it to vertical. **However, if operator raises bow that was set for mitering, the band saw can tip over.** The support post must be installed to prevent this.

### CAUTION

To avoid tipping risk, remember to set bow at 90-degree cut angle before raising to vertical position.

Mount post with two screws and washers to rear of saw, as shown (Figure 9).

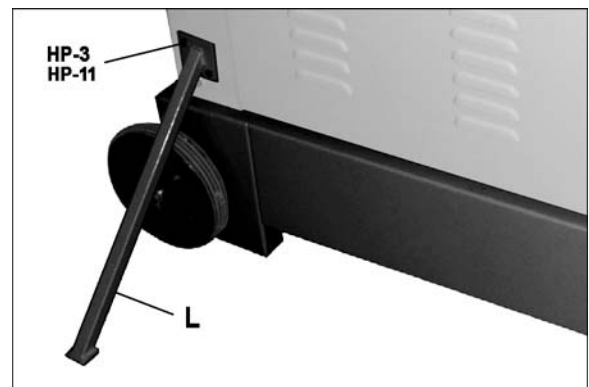


Figure 9

## 7.6 Coolant system

**⚠CAUTION** Make sure there is coolant in the tank before operating, to prevent damage to pump.

Use of a water-soluble coolant will increase cutting efficiency and prolong blade life. Do not use black cutting oil as a substitute.

1. Remove coolant return hose (A, Figure 10) from filter cup, and slide tank out of saw base.
2. Fill tank to approximately 80% of capacity. Full capacity is 9 liters (2.5 gal).
3. Place tank into base. Place coolant return hose into the filter cup. Verify that opposite end of coolant return hose is connected to the coolant pan.
4. The coolant supply hose (B, Figure 17) should connect to the two valves on the blade guide assemblies.

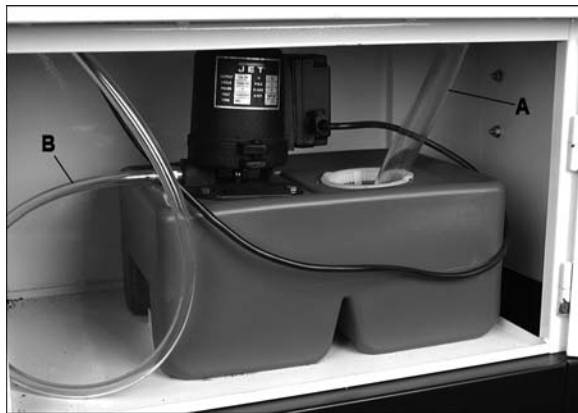


Figure 10

## 8.0 Electrical connections

**⚠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.

The HVBS-710SG Band Saw is rated at 115/230V power, and pre-wired for 115 volt. The band saw comes with a plug designed for use on a circuit with a *grounded outlet* that looks like the one pictured in A, Figure 11.

Before connecting to power source, be sure switch is in *off* position.

It is recommended that the band saw, when operated at 115 volt, be connected to a dedicated 20 amp circuit with a 20 amp circuit breaker or time-delay fuse rated "D". It is

recommended that the band saw, when operated at 230 volt, be connected to a dedicated 15 amp circuit with a 15 amp circuit breaker or time-delay fuse rated "D". **Local codes take precedence over recommendations.**

### 8.1 Grounding instructions

#### 1. All Grounded, Cord-connected Tools:

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 tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged 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.

**⚠WARNING** 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. Failure to comply may cause serious or fatal injury.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

Repair or replace damaged or worn cord immediately.

#### 2. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating **less than 150 volts**:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in A, Figure 11. An adapter, shown in B and C, may be used to connect this plug to a 2-pole receptacle as shown in B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. *This adapter is not permitted in Canada.*

The green-colored rigid ear, lug, and the like, extending from the adapter must be connected

to a permanent ground such as a properly grounded outlet box.

3. *Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating between 150 - 250 volts, inclusive:*

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in **D**, Figure 11. The tool has a grounding plug that looks like the plug illustrated in **D**. Make sure the tool is connected to an outlet having the same configuration as the plug. No adapter is available or should be used with this tool. If the tool must be reconnected for use on a different type of electric circuit, the reconnection should be made by qualified service personnel; and after reconnection, the tool should comply with all local codes and ordinances.

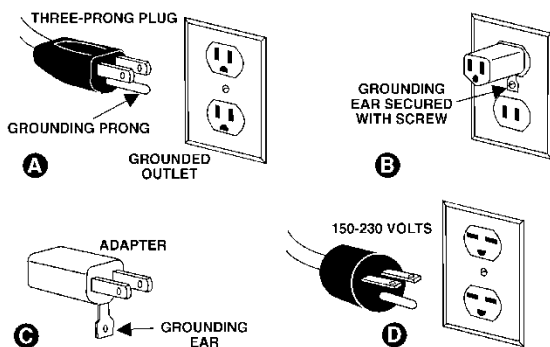


Figure 11

## 8.2 Voltage conversion

1. To switch the incoming power leads for 230 volt operation, follow the wiring diagram on the inside cover of motor junction box. Similar diagrams are shown in Figures 12/13.
2. The plug on the end of the motor cord must be replaced with a UL/CSA listed plug rated for 240V.
3. Change the wiring inside the junction box of the coolant pump, according to the diagram found there.

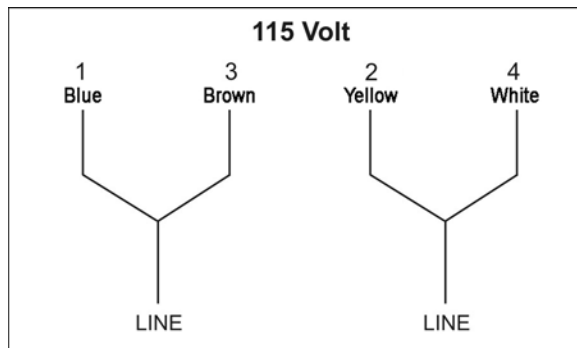


Figure 12

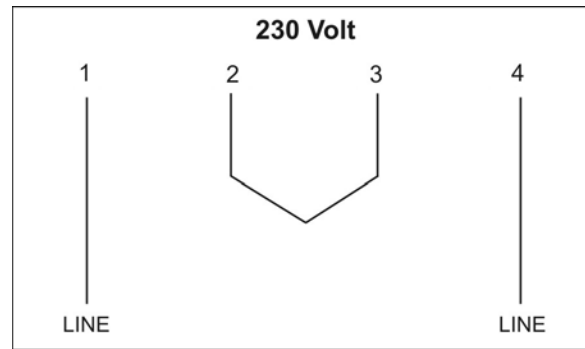


Figure 13

## 8.3 Extension cords

The use of extension cords is discouraged; try to position equipment near the power source. If an extension cord becomes necessary, make sure the cord rating is suitable for the amperage listed on the machine's motor plate. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Use Table 1 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.

| Ampere Rating |               | Volts | Total length of cord in feet |     |                 |     |
|---------------|---------------|-------|------------------------------|-----|-----------------|-----|
| More Than     | Not More Than |       | 25                           | 50  | 100             | 150 |
|               |               | 120   | 25                           | 50  | 100             | 150 |
|               |               | 240   | 50                           | 100 | 200             | 300 |
|               |               |       | AWG                          |     |                 |     |
| 0             | 6             |       | 18                           | 16  | 16              | 14  |
| 6             | 10            |       | 18                           | 16  | 14              | 12  |
| 10            | 12            |       | 16                           | 16  | 14              | 12  |
| 12            | 16            |       | 14                           | 12  | Not Recommended |     |

Extension Cord Recommendations  
Table 1

## 9.0 Adjustments

The settings on your band saw, such as blade squareness and tracking, were carefully performed by the manufacturer. You should, however, verify these before operating, in case misalignment has occurred during shipping.

### 9.1 Squaring blade to table

1. Disconnect machine from power source.
2. Place machinist's square (A, Figure 14) on table and against blade.
3. Check to see that blade contacts the square along entire width of blade.
4. If adjustment is needed, loosen screws (B, Figure 14) and rotate blade guide assemblies until blade makes contact with square along its entire width.
5. Tighten screws (B).

NOTE: If adjustment of squaring blade to table was necessary, re-verify all other blade adjustments.

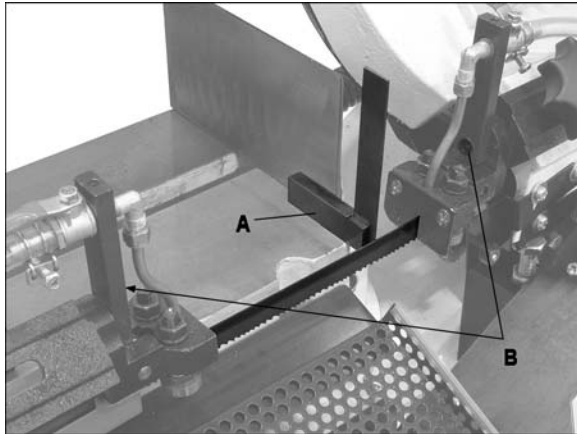


Figure 14

### 9.2 Squaring blade to vise

1. Disconnect machine from power source.
2. Place a machinist's square (A, Figure 15) on the bed against the blade and the fixed vise jaw. The square should lie along entire length of jaw and blade without a gap.
3. If adjustment is necessary, loosen screws holding vise (C, Figure 15) and shift vise until it aligns with square.
4. Retighten screws.

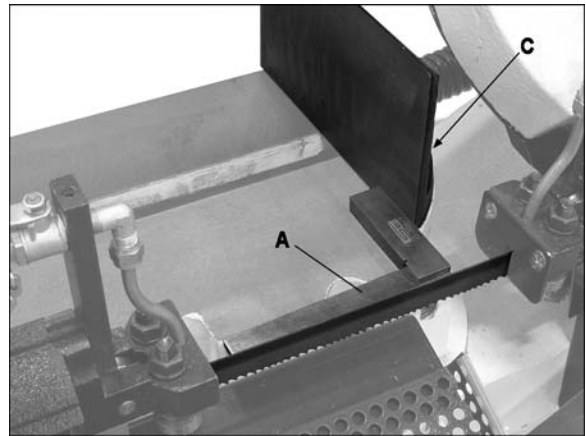


Figure 15

### 9.3 Vise positioning

**⚠WARNING** Keep hands away from blade while adjusting vise. Do not make any adjustments to vise while the machine is running.

The vise has a quick-release feature which allows fast positioning of the floating jaw against the workpiece, and then a final tightening with the handwheel.

1. Make sure fixed jaw (D, Figure 16) has been squared (section 9.2, *Squaring blade to vise*).
2. Position workpiece against fixed jaw.
3. Loosen hexagonal stud (E) on floating jaw.
4. Rotate handwheel (F) slightly counter-clockwise, then push floating jaw by hand until it contacts workpiece and adjusts to its shape.
5. Tighten stud (E).
6. Use handwheel to tighten the clamping pressure.

The quick release function can also be used to quickly disengage floating jaw when the cut is finished.

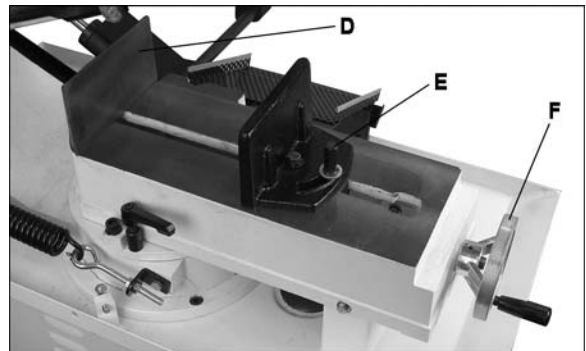


Figure 16

## 9.4 Miter cuts

1. Loosen handle (G, Figure 17).
2. Rotate bow to desired angle up to 45-degrees, using scale indicator on front of base.
3. Tighten handle.

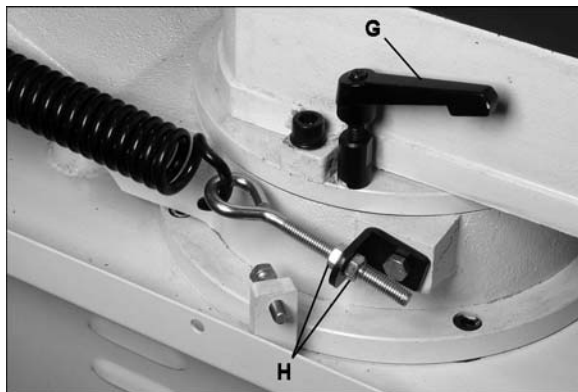


Figure 17

The angle scale is sufficient for most mitering operations. If greater precision is needed, verify setting with a protractor.

If handle (G) movement is obstructed, lift up on handle and rotate it on the pin. Release handle, making sure it seats itself properly on pin.

**CAUTION** Bow should be returned to 90-degree cut angle before lifting into vertical position. See section 7.5.

## 9.5 Setting feed rate

The feed rate of the blade into the workpiece 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.

The hydraulic cylinder resists movement of the bow in the downward direction. It offers no resistance when the bow is raised upward.

To increase feed rate, turn dial (A, Figure 18) counterclockwise. To decrease, turn clockwise.

To close hydraulic flow, turn lever (B) down, perpendicular to cylinder, as shown in Figure 18. To open hydraulic flow, raise lever (B) parallel to cylinder.

Feed rate is adjusted by the operator until the saw is operating efficiently; usually determined by observing chip formation. See section 11.4, *Evaluating cutting efficiency*.

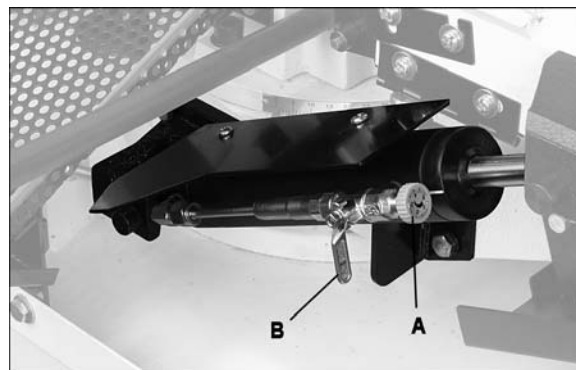


Figure 18

## 9.6 Counterbalance spring

The counterbalance spring helps control the amount of weight the saw bow puts on the workpiece when the hydraulic control valve is fully open. The hydraulic cylinder will not compensate for improper counterbalance.

If the spring is not set properly, one can expect poor performance, crooked cuts, tooth stripping, stalling, and/or the blade running off the wheels.

Spring tension has been set by the manufacturer, and should not require adjustment. If future problems arise, indicating improper counterbalance, adjust spring as follows:

1. Disconnect machine from power source.
2. Turn ON hydraulic cylinder valve and place saw bow in horizontal position.
3. Turn feed rate valve on hydraulic cylinder counterclockwise until it stops.
4. Place a weigh scale (such as a spring or hanging scale) beneath blade tension handle, and lift saw bow. Scale should indicate approximately 5 to 6 kg (11-13 lb).
5. If adjustment is needed, loosen one nut and tighten the other (H, Figure 17) on the eye bolt, until scale indicates 5 to 6 kg.

## 9.7 Blade installation/replacement

**CAUTION** This band saw is designed for use with blades that are 3/4" wide by 0.032" thick x 93" long. Use of blades with different specification may cause inferior performance.

A general-use variable-tooth blade is provided with this band saw.

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 three 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. Raise bow to vertical position, and secure in place by turning off hydraulic cylinder.
3. Remove red blade guard (A, Figure 19) by removing two screws.

**⚠ WARNING** Red blade guard must be reinstalled after new blade is fitted.

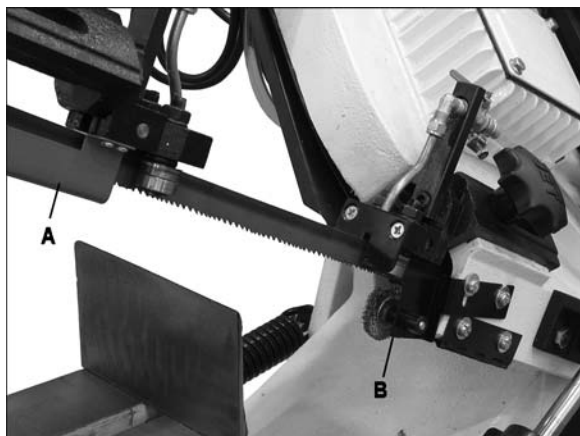


Figure 19

4. Remove brush assembly (B, Figure 19) by removing two screws.
5. Loosen blade tension by turning handle (C, Figure 20) counterclockwise.



Figure 20

6. Open back cover by loosening two lock knobs (D, Figure 20).
7. Carefully remove old blade. *NOTE: Leather gloves are recommended when handling saw blades.*
8. Install new blade first between bearing guides. Make sure blade teeth face same direction as shown on the blade direction label on saw. (If teeth still point in wrong direction despite mounting blade properly, the blade has been turned inside-out. Twist blade right side-out and reinstall.)

9. Position blade around wheels, making sure it rests near the flange on both wheels.
10. Tension blade using handle. Do not over-tension. See *section 9.8, Blade tension*.
11. Close back cover and secure with knobs.
12. Install red blade guard, and brush assembly.
13. Connect machine to power source.
14. Run machine to verify that blade is tracking properly. See *section 9.9, Blade tracking*.

## 9.8 Blade tension

**⚠ WARNING** Disconnect machine from power source, and use caution when working with sharp blade.

Blade tension is vital to achieving proper results from the band saw. For shipping purposes, the blade may not be at full tension – verify tension before operating.

Proper blade tension is 1550 to 1760 kg/cm<sup>2</sup> (22000-25000 lb/in<sup>2</sup>) as measured on a blade tension gauge (not provided).

To set tension without the use of a tension gauge:

1. Disconnect machine from power source.
2. Install blade between wheels and between bearings on blade guides.
3. Lightly tension blade to remove any sag by turning handle (C, Figure 20) slightly clockwise.
4. Turn tension handle (C, Figure 20) 1-3/4 to two revolutions clockwise.

**⚠ CAUTION** Do not overtighten blade; this may cause it to stretch or warp.

5. Close covers, connect to power source, and run saw for 2 to 3 minutes to allow blade to seat properly.
6. Disconnect machine from power source. Open cover and loosen blade until it just begins to sag.
7. Tighten blade until it straightens between blade wheels and all sag is eliminated.
8. Tighten blade by turning handle (C, Figure 20) two full revolutions.

**⚠ CAUTION** Do not overtighten blade; this may cause it to stretch or warp.

**TIP:** Slacken blade tension when finished with operations, to prolong blade life. Make note of indicator position on tension label (E, Figure 20)

for quickly returning tension to its previous setting.

## 9.9 Blade tracking

**⚠WARNING** Tracking the blade requires that the band saw be operating while the back cover is removed. This adjustment should be performed by qualified persons only.

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 occurs, first inspect blade condition, then adjust tracking as follows:

1. Raise bow to vertical position and secure by turning off hydraulic cylinder valve.
2. The blade should be properly tensioned. Refer to *section 9.8 Blade tension*.
3. Open back cover.

**⚠CAUTION** While performing the following steps, keep the blade from rubbing excessively on wheel flange. Excess rubbing will damage wheel and/or blade.

4. Start saw and observe blade movement. Blade should run next to, but not tightly against, wheel flange.
5. If blade will not track in position, loosen screws (F, Figure 21), but do not remove.



Figure 21

6. Turn set screw (G, Figure 21) counter-clockwise so that blade starts to move away from the flange; then immediately turn set screw in the other direction so that blade stops, then moves slowly back toward flange. NOTE: This adjustment is sensitive; do it gradually and in small increments allowing the wheel to respond to the changes.

**⚠WARNING** Keep fingers clear of blade and wheel to avoid injury.

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

NOTE: You may have to repeat the check with the paper several times before the blade and the flange 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.

9. When the paper is cut, back off the set screw slightly. This assures that the blade is not touching the flange of the wheel.
10. Tighten two screws (F, Figure 21).

## 9.10 Test cutting to verify adjustment

Test cuts can be used to determine whether or not you have adjusted the blade accurately. Use 2-inch round bar stock to perform these test cuts, as follows:

1. With bar stock securely clamped in the vise, make a cut through the bar stock. (See Figure 22.)
2. Mark the top of the bar stock.
3. Move the bar stock about 1/4-inch past the blade so that you can begin a second cut.
4. Rotate the bar stock 180 degrees so the mark you made is now at the bottom of the cut.
5. Make a cut through the bar stock.
6. Use a micrometer to measure the thickness variation of the disk you have cut from the bar stock. Measure at top and bottom of disk.

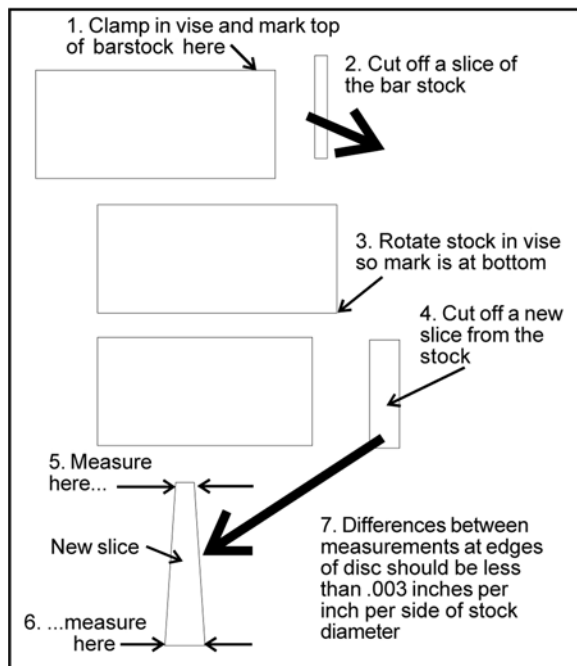


Figure 22

The saw blade can be considered correctly adjusted when the variation measure is no more than 0.012 inch across the face of the disk.

If you do not have a piece of 2-inch bar stock available for a test cut, use a larger diameter test piece rather than a smaller one. The maximum thickness variation on any test piece should be no more than 0.003 inch, per side, per inch of stock diameter.

### 9.11 Setting blade speed

1. Turn machine OFF.
2. Turn lever (Figure 23) to desired setting:
  - #1 – 150 sfpm
  - #2 – 210 sfpm
  - #3 – 250 sfpm

**CAUTION** Do not change blade speed during cutting operation.



Figure 23

Material chips or shavings are the best indicator of proper blade speed and downfeed rate. See *section 11.4, Evaluating cutting efficiency*.

### 9.12 Blade guide adjustment

1. Loosen knobs (A, Figure 24).
2. Slide guide assemblies as close to workpiece as possible, without interfering with the cut. This will prevent excessive blade exposure, and deflection of blade during cutting.
3. Retighten knobs.



Figure 24

The guide bearings 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.
2. Raise bow to vertical and secure in place by turning off hydraulic cylinder.
3. Loosen socket head cap screw (B, Figure 25) and adjust guide assembly until back roller bearing (C) is slightly contacting back edge of blade.
4. Loosen nut (D) and rotate eccentric shaft (E) to adjust side bearing until bearing just touches side of blade. Do not pinch the blade.
5. Blade should still move up and down freely when grasped as in Figure 26. Make sure blade teeth do not interfere with guide bearings.

**WARNING** Make sure power is disconnected and hands are protected before handling blade.

6. Tighten nut (C).
7. Repeat for other blade guide assembly.

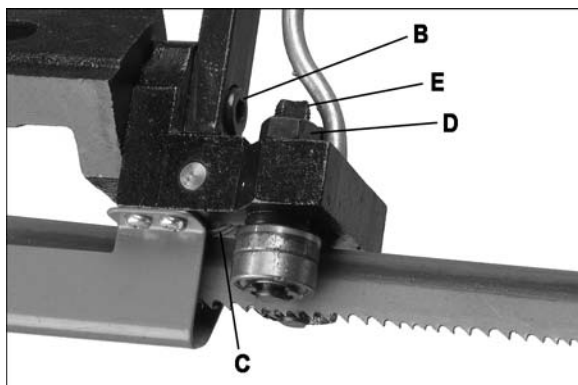


Figure 25



Figure 26

### 9.13 Chip brush

The chip brush (B, Figure 19) must be properly adjusted and maintained in working condition; otherwise damage to blade can occur. Adjust the brush so that its bristles overlap the blade.

Replace brush if it becomes worn or damaged.

### 9.14 Limit switch

The stop screw (F, Figure 27) activates a limit switch to shut off the saw when it reaches down position.

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.

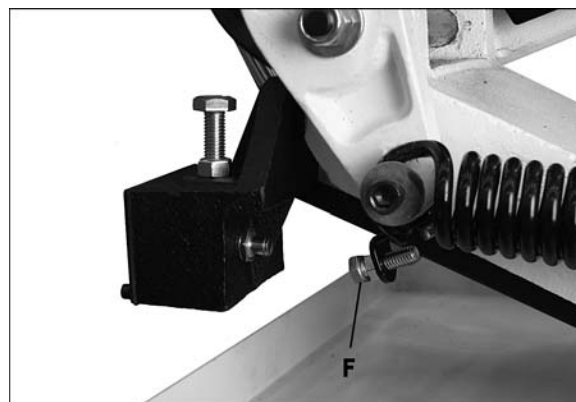


Figure 27

## 10.0 Operating controls

To start saw, push On button (A, Figure 28).

To stop saw before it reaches the end of cut, push Off button (B). The saw will automatically stop at the end of a cut.

The Emergency Stop (C) shuts down all functions on the band saw. The machine will not start if the emergency stop is still engaged. To start the machine, turn the emergency stop button until it disengages.

The flow of coolant to the blade area is controlled by the valves (D).

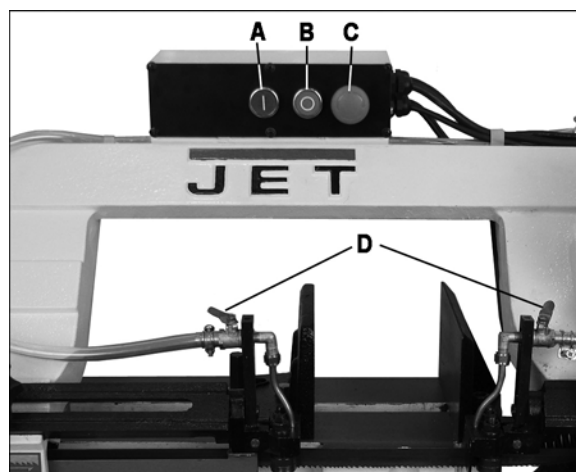


Figure 28

**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.

## 11.0 Operation

### 11.1 Pre-Operation inspection

Give machine an overall inspection and verify the following:

1. Guards and covers are in place and in working order.
2. Blade tooth direction matches diagram on bow.
3. Blade is properly tensioned, and tracking correctly on wheels.
4. Side and rear blade guide bearings are properly adjusted.
5. Coolant level is sufficient.
6. Saw is properly lubricated.
7. Do not begin cut on a sharp edge; file edge first.

### 11.2 Blade break-in procedure

New blades are very sharp and, therefore, have a tooth geometry which is easily damaged if a careful break-in procedure is not followed. Consult the blade manufacturer's literature for break-in of specific blades on specific materials. However, the following procedure will be adequate for break-in of JET-supplied blades on lower alloy ferrous materials.

1. Clamp a round section workpiece in the vise. The workpiece should be 2 inches or larger in diameter.
2. Set the saw on low speed. Start the cut with a very light feed rate.
3. When the saw has completed 1/3 of the cut, increase the feed rate slightly and allow the saw to complete the cut.
4. Keep the same hydraulic cylinder setting and begin a second cut on the same or similar workpiece.
5. When the blade has completed about 1/3 of the cut, increase feed rate. Watch the chip formation until cutting is at its most efficient rate and allow the saw to complete the cut (see section ---, *Evaluating Blade Efficiency*).
6. The blade is now ready for regular service.

### 11.3 General operating procedure

1. Raise bow until it will clear workpiece by a few inches, and close hydraulic cylinder valve to secure it in place.

**NOTE: Never start a cut with blade contacting workpiece.**

2. Place workpiece in vise and tighten vise. The workpiece should be fitted directly between the jaws without adding other objects.

When workpiece to be cut is a profiled section, flat piece or special shape, refer to examples in Figure 29 for proper clamping positions. The top row shows acceptable clamping positions; the bottom row shows **unacceptable** positions.

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

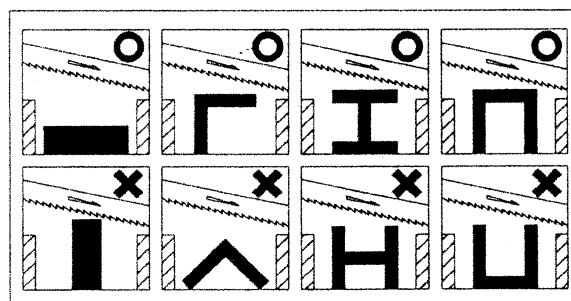


Figure 29

**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.

3. Position work stop if needed.
4. Position blade guides as close to workpiece as possible.
5. Move speed setting handle to desired position. **Do not move speed setting handle during a cutting operation.**
6. Set a suitable downfeed rate for that operation on the hydraulic cylinder dial.
7. Push start button to begin blade rotation. Allow blade to reach full speed before beginning cut.
8. Turn on coolant flow. Adjust flow valves as needed.
9. Open valve on hydraulic cylinder to allow bow to descend in a gradual and controlled manner.
10. The machine will shut off at the completion of the cut. Turn off coolant flow and remove workpiece.
11. Return bow to raised position for next cut.

## 11.4 Evaluating cutting efficiency

Is the blade cutting efficiently? The best way to determine this is to observe the chips formed by the cutting blade.

If chip formation is powdery, then the feed rate is much too light, or the blade is dull.

If chips formed are curled, but colored — that is, either blue or straw-colored from heat generated during the cut — then the feed rate is too high.

If chips are slightly curled and are not colored by heat — the blade is sufficiently sharp and is cutting at its most efficient rate.

## 12.0 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.

Keep all surfaces clean and free of rust, slag, chips, and coolant build-up.

Clear metal particles with a small paint brush or parts cleaning brush.

Clean filter screen.

Do not use compressed air, as it may force chips into the guide bearings and other critical areas of the saw.

Wipe saw down with a clean, dry cloth, and oil all unpainted surfaces with light machine oil.

Keep blade guides clean and free of metal particles.

Check guide bearings frequently to make sure that they are properly adjusted and turning freely.

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

Ball bearings on blade guide assemblies and blade wheels are permanently lubricated and sealed. They require no further lubrication.

Grease the vise lead screw (Figure 30) as needed, with a general purpose grease.

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

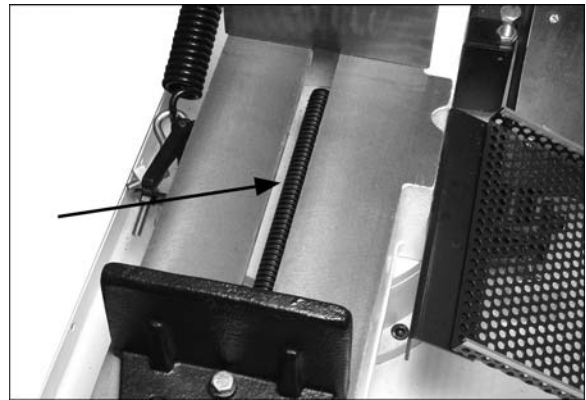


Figure 30

### 12.1 Coolant level

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 to about 80% of full capacity. Full capacity is 9 liters (2.5 gal). Follow coolant manufacturer's instructions for proper use and disposal.

### 12.2 Gear box

To change gear box oil:

1. Disconnect machine from power source.
2. Place bow in vertical position.
3. Remove drain plug (A, Figure 31) and drain oil. (Follow local regulations for disposal of used oil.)

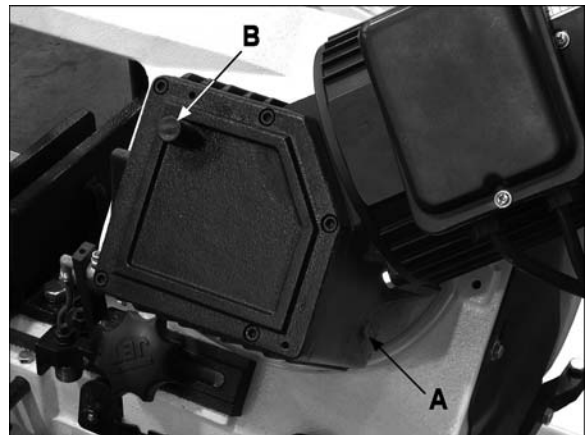


Figure 31

4. Reinstall drain plug and return bow to horizontal position.
5. Remove vent plug (B), and fill gear box through the hole with approximately 0.3L (10.14 oz.) of 90W oil.
6. Reinstall vent plug (B).

Completely drain and refill gear box oil after the first 90 days of operation. Thereafter, change every six months.

Periodically, after draining remove screws, cover and gasket, and wipe out residual oil from gearbox interior with a rag, before refilling. Also do this if changing oil brands.

## 13.0 Troubleshooting the HVBS-710SG

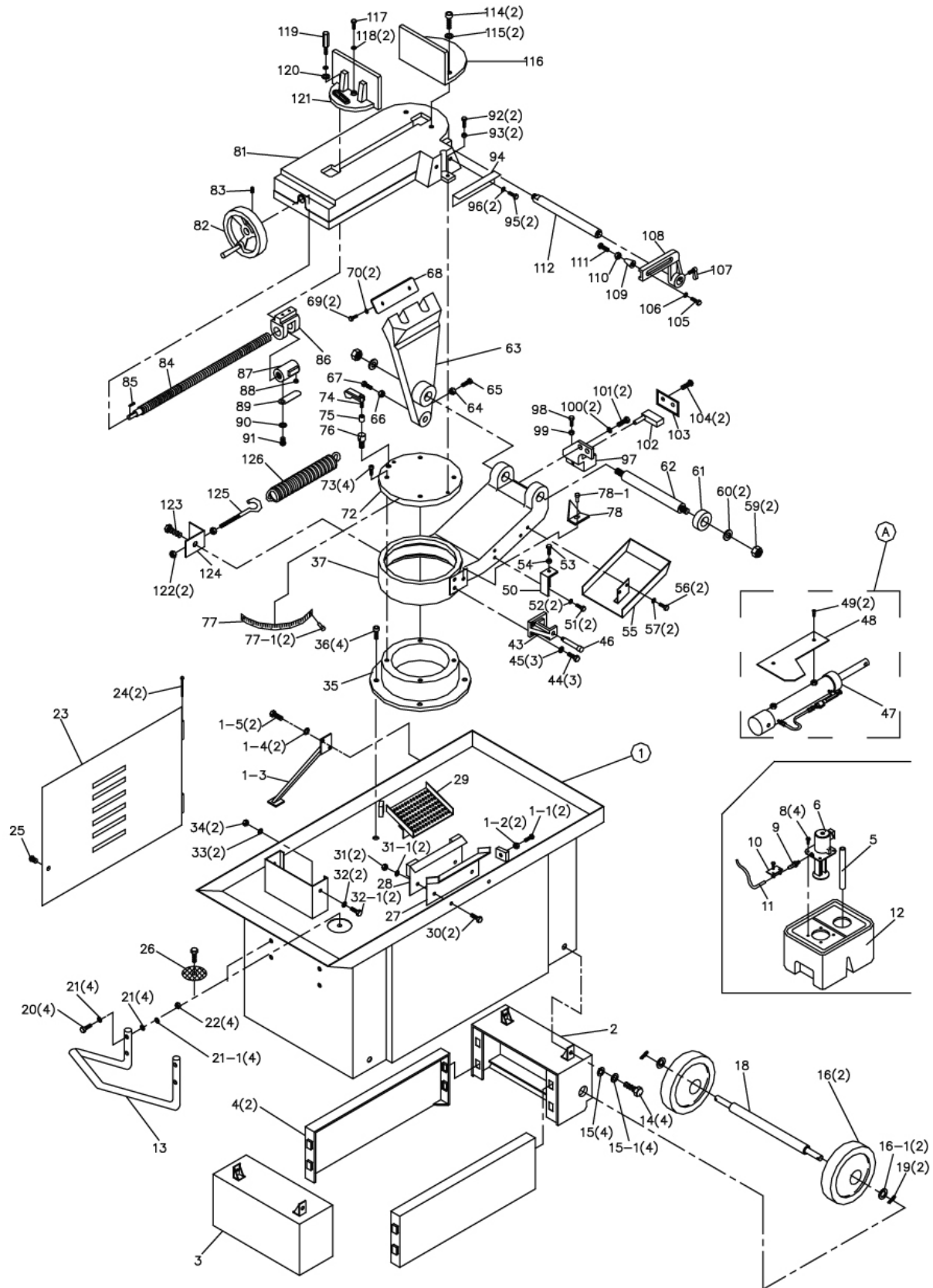
| Trouble                                                 | Probable Cause                                             | Remedy                                                                                                                       |
|---------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| 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.                          | Base on uneven surface.                                    | Adjust base for even support.                                                                                                |
|                                                         | 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>Machinery's Handbook</i> for recommended blade type.                                                                |
|                                                         | Blade is worn, cutting crooked.                            | Replace blade.                                                                                                               |
|                                                         | Incorrect adjustment of bearing guides and guide assembly. | Re-adjust guide assemblies.                                                                                                  |
|                                                         | Workpiece incorrectly positioned in vise.                  | Check positioning and clamping in the vise.                                                                                  |
|                                                         | Poor blade tension.                                        | Check and correct if needed.                                                                                                 |
| Finished surface of workpiece is rough, unsatisfactory. | Blade is dull.                                             | Replace blade.                                                                                                               |
|                                                         | Improper blade for cutting operation.                      | Check <i>Machinery's Handbook</i> for blade recommendations.                                                                 |
|                                                         | Downfeed rate too fast.                                    | Reduce downfeed rate.                                                                                                        |
|                                                         | Blade tension too low.                                     | Increase blade tension.                                                                                                      |
| Excessive blade breakage.                               | Incorrect blade tension.                                   | Adjust blade tension.                                                                                                        |
|                                                         | Incorrect blade speed or downfeed rate.                    | Adjust accordingly.                                                                                                          |
|                                                         | Workpiece loose in vise.                                   | Clamp workpiece securely.                                                                                                    |
|                                                         | Blade rubs on wheel flange.                                | 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.                                                                                 |

| <b>Trouble</b>                      | <b>Probable Cause</b>                                   | <b>Remedy</b>                                                                       |
|-------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------|
| Excessive blade breakage (cont.)    | Blade guides are misaligned.                            | Adjust blade guides as needed.                                                      |
|                                     | Blade too thick for wheel diameter.                     | Use thinner blade.                                                                  |
|                                     | Cracking at weld; poor annealing of blade.              | Replace blade.                                                                      |
| Premature blade dulling.            | Teeth too coarse.                                       | Use finer tooth blade.                                                              |
| Premature blade dulling (cont.)     | 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.                                      |
| Unusual wear on side/back of blade, | Insufficient blade tension.                             | Adjust as needed.                                                                   |
|                                     | Blade guides worn.                                      | Replace guides.                                                                     |
|                                     | Blade guide bearings not adjusted.                      | Adjust blade guide bearings.                                                        |
| No coolant flow.                    | Blade guide bearing bracket is loose.                   | Tighten blade guide bearing bracket.                                                |
|                                     | Pump motor burned out.                                  | Replace pump.                                                                       |
|                                     | Filter screen clogged.                                  | Clean filter screen.                                                                |
|                                     | Coolant level low.                                      | Add coolant to tank.                                                                |

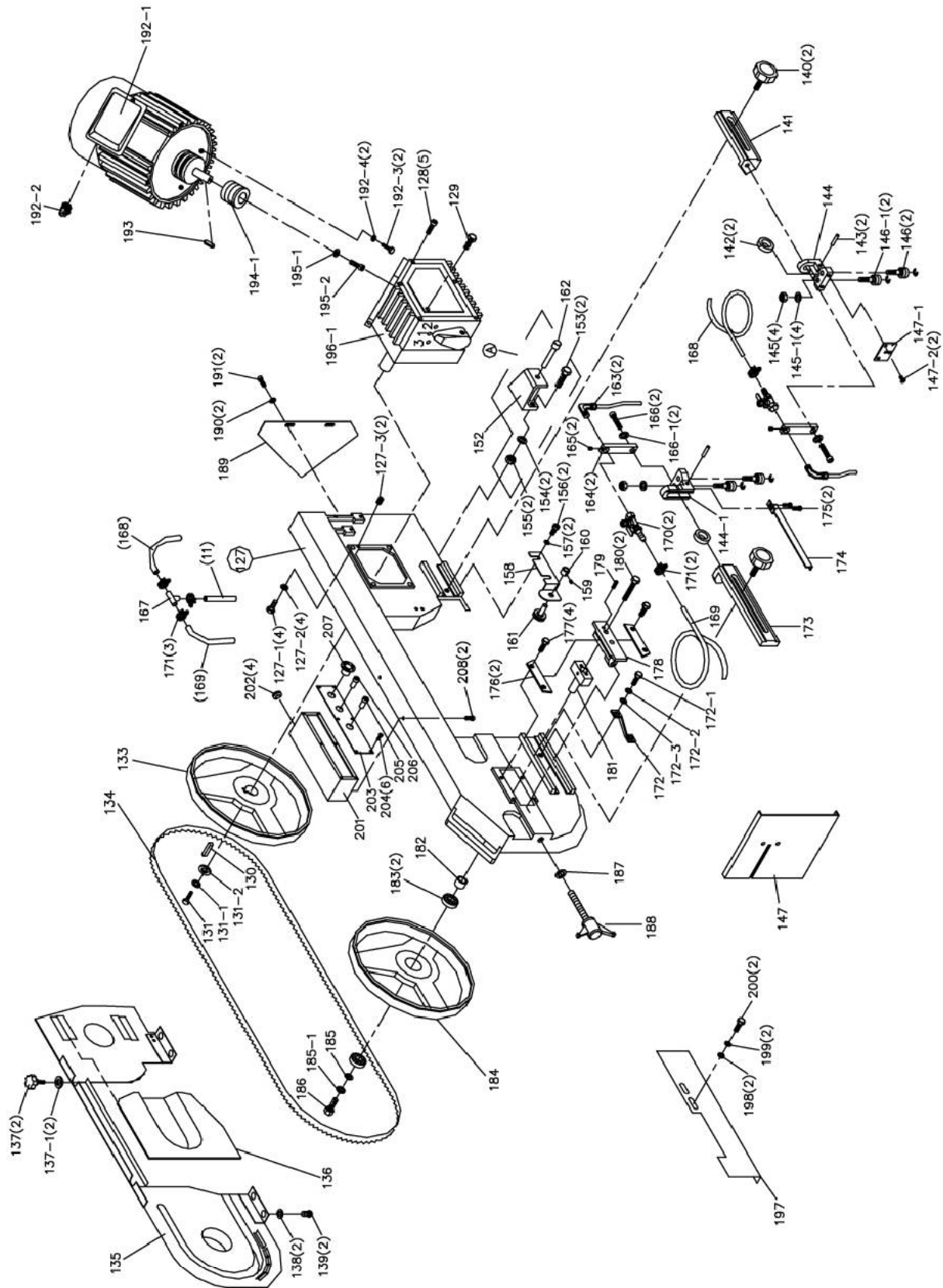
## 14.0 Replacement Parts

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](http://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.

## 14.1.1 HVBS-710SG Table and Stand Assembly – Exploded View



## 14.1.2 HVBS-710SG Bow Assembly – Exploded View



### 14.1.3 HVBS-710SG Assembly – Parts List

| Index No. | Part No.     | Description           | Size           | Qty |
|-----------|--------------|-----------------------|----------------|-----|
| 1         | HVBS710S-1   | Bottom Pan            |                | 1   |
| 1-1       | TS-0060071   | Hex Cap Screw         | 3/8" x 1-1/2"  | 2   |
| 1-2       | TS-0570031   | Hex Nut               | 3/8"           | 2   |
| 1-3       | HVBS710S-1-3 | Support Post          |                | 1   |
| 1-4       | TS-0720071   | Spring Washer         | 1/4"           | 2   |
| 1-5       | TS-0050021   | Hex Cap Screw         | 1/4" x 5/8"    | 2   |
| 2         | HVBS710S-2   | Feet-Stand (Right)    |                | 1   |
| 3         | HVBS710S-3   | Feet-Stand (Left)     |                | 1   |
| 4         | HVBS710S-4   | Panel                 |                | 2   |
| 5         | HVBS710S-5   | Clear Hose            | 1"             | 1   |
| 6         | HVBS710S-6   | Pump                  | 1/8HP 1PH      | 1   |
| 8         | TS-0050011   | Hex Cap Screw         | 1/4" x 1/2"    | 4   |
| 9         | HVBS710S-9   | Hose Fitting          |                | 1   |
| 10        | HVBS710S-10  | Hose Clamp            |                | 1   |
| 11        | HVBS710S-11  | Hose                  | 5/16"          | 1   |
| 12        | HVBS710S-12  | Coolant Tank          | 9L             | 1   |
| 13        | HVBS710S-13  | Handle                |                | 1   |
| 14        | TS-0081031   | Hex Cap Screw         | 5/16" x 3/4"   | 4   |
| 15        | TS-0680031   | Flat Washer           | 5/16"          | 4   |
| 15-1      | TS-0720081   | Spring Washer         | 5/16"          | 4   |
| 16        | HVBS710S-16  | Wheel                 | 8"             | 2   |
| 16-1      | TS-0680061   | Flat Washer           | 1/2"           | 2   |
| 18        | HVBS710S-18  | Axle                  |                | 1   |
| 19        | HVBS710S-19  | Cotter Pin            |                | 2   |
| 20        | TS-0051071   | Hex Cap Screw         | 5/16" x 1-1/2" | 4   |
| 21        | TS-0680031   | Flat Washer           | 5/16"          | 8   |
| 21-1      | TS-0720081   | Spring Washer         | 5/16"          | 4   |
| 22        | TS-0561021   | Hex Nut               | 5/16"          | 4   |
| 23        | HVBS710S-23  | Door                  |                | 1   |
| 24        | HVBS710S-24  | Pin                   |                | 2   |
| 25        | HVBS710S-25  | Lock Knob             | 1/4" x 3/4"    | 1   |
| 26        | HVBS710S-26  | Filter                |                | 1   |
| 27        | HVBS710S-27  | Bracket               |                | 1   |
| 28        | HVBS710S-28  | Bracket               |                | 1   |
| 29        | HVBS710S-29  | Chip Guide Plate      |                | 1   |
| 30        | TS-0081031   | Hex Cap Screw         | 5/16" x 3/4"   | 2   |
| 31        | TS-0561021   | Hex Nut               | 5/16"          | 2   |
| 31-1      | TS-0720081   | Spring Washer         | 5/16"          | 2   |
| 32        | TS-0680031   | Flat Washer           | 5/16"          | 2   |
| 32-1      | TS-0081051   | Hex Cap Screw         | 5/16" x 1"     | 2   |
| 33        | TS-0720081   | Spring Washer         | 5/16"          | 2   |
| 34        | TS-0561021   | Hex Nut               | 5/16"          | 2   |
| 35        | HVBS710S-35  | Lower Disc            |                | 1   |
| 36        | TS-1505021   | Socket Head Cap Screw | M10 x 20       | 4   |
| 37        | HVBS710S-37  | Swivel Base           |                | 1   |
| 43        | HVBS710S-43  | Bottom Support        |                | 1   |
| 44        | TS-0081051   | Hex Cap Screw         | 5/16" x 1"     | 3   |
| 45        | TS-0720081   | Spring Washer         | 5/16"          | 3   |
| 46        | HVBS710S-46  | Support Rod           |                | 1   |
| 47        | HVBS710S-47  | Hydraulic Cylinder    |                | 1   |
| 48        | HVBS710S-48  | Cylinder Cover        |                | 1   |
| 49        | HVBS710S-49  | Round Head Screw      | 1/4" x 1/2"    | 2   |
| 50        | HVBS710S-50  | Support Plate         |                | 1   |
| 51        | TS-0060051   | Hex Cap Screw         | 3/8" x 1"      | 2   |
| 52        | TS-0720091   | Spring Washer         | 3/8"           | 2   |

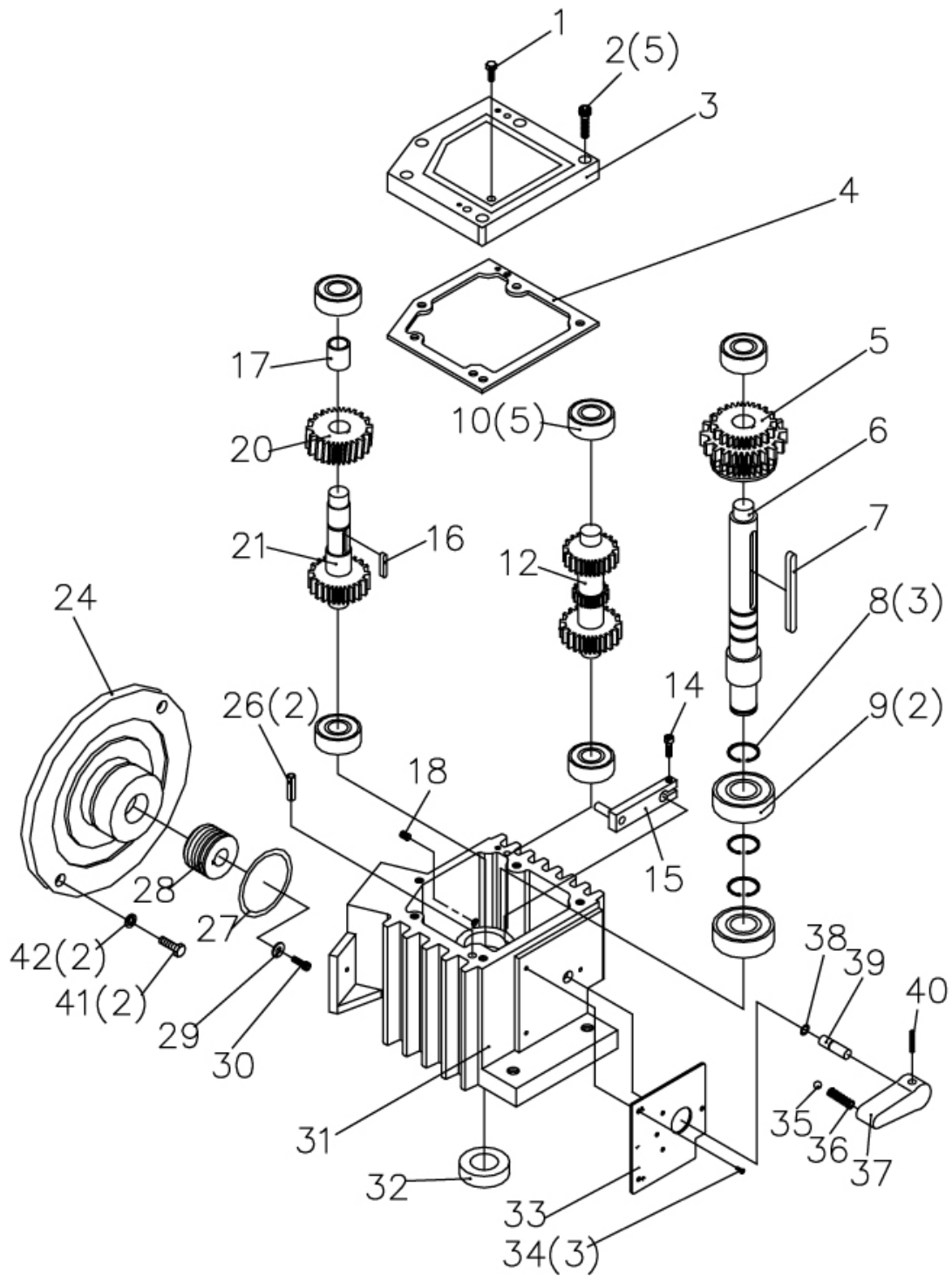
| Index No. | Part No.      | Description           | Size           | Qty |
|-----------|---------------|-----------------------|----------------|-----|
| 53        | TS-1492041    | Hex Cap Screw         | M12 x 40       | 1   |
| 54        | TS-1540081    | Hex Nut               | M12            | 1   |
| 55        | HVBS710S-55   | Splash Guard          |                | 1   |
| 56        | TS-0081031    | Hex Cap Screw         | 5/16" x 3/4"   | 2   |
| 57        | TS-0720081    | Spring Washer         | 5/16"          | 2   |
| 59        | TS-2311181    | Hex Nut               | M18 x 2.5      | 2   |
| 60        | HVBS710S-60   | Washer                |                | 2   |
| 61        | HVBS710S-61   | Bushing               | Ø22 x 28 x 7mm | 1   |
| 62        | HVBS710S-62   | Pivot Shaft           | 22mm           | 1   |
| 63        | HVBS710S-63   | Pivot Arm             |                | 1   |
| 64        | TS-0561021    | Hex Nut               | 5/16"          | 1   |
| 65        | TS-0051071    | Hex Cap Screw         | 5/16" x 1-1/2" | 1   |
| 66        | TS-0570031    | Hex Nut               | 3/8"           | 1   |
| 67        | TS-0060081    | Hex Cap Screw         | 3/8" x 1-3/4"  | 1   |
| 68        | HVBS710S-68   | Plate                 |                | 1   |
| 69        | TS-0060071    | Hex Cap Screw         | 3/8" x 1-1/2"  | 2   |
| 70        | TS-0720091    | Spring Washer         | 3/8"           | 2   |
| 72        | HVBS710S-72   | Upper Disc            |                | 1   |
| 73        | TS-1505021    | Socket Head Cap Screw | M10 x 20       | 4   |
| 74        | HVBS710S-74   | Lock Handle           | 3/8" x 50mm    | 1   |
| 75        | HVBS710S-75   | Bronze Bushing        |                | 1   |
| 76        | HVBS710S-76   | Thrust Shaft          |                | 1   |
| 77        | HVBS710S-77   | Scale                 |                | 1   |
| 77-1      | HVBS710S-77-1 | Rivet                 | 2.3 x 4 mm     | 2   |
| 78        | HVBS710S-78   | Angle Indicator       |                | 1   |
| 78-1      | HVBS710S-77-1 | Rivet                 | 2.3 x 4 mm     | 1   |
| 81        | HVBS710S-81   | Table                 |                | 1   |
| 82        | HVBS710S-82   | Handwheel Assembly    |                | 1   |
| 83        | TS-0270031    | Set Screw             | 5/16" x 3/8"   | 1   |
| 84        | HVBS710S-84   | Lead Screw            |                | 1   |
| 85        | HVBS710S-85   | Key                   | 5 x 20mm       | 1   |
| 86        | HVBS710S-86   | Lead Screw Bracket    |                | 1   |
| 87        | HVBS710S-87   | Acme Nut              |                | 1   |
| 88        | HVBS710S-88   | Button                |                | 1   |
| 89        | HVBS710S-89   | Retainer              |                | 1   |
| 90        | TS-2361051    | Spring Washer         | M5             | 1   |
| 91        | HVBS710S-91   | Round Head Screw      | M5 x 8         | 1   |
| 92        | TS-1506031    | Socket Head Cap Screw | M12 x 30       | 2   |
| 93        | TS-0720111    | Spring Washer         | 1/2"           | 2   |
| 94        | HVBS710S-94   | Top Support           |                | 1   |
| 95        | TS-0081031    | Hex Cap Screw         | 5/16" x 3/4"   | 2   |
| 96        | TS-0720081    | Spring Washer         | 5/16"          | 2   |
| 97        | HVBS710S-97   | 90° Support           |                | 1   |
| 98        | TS-1491061    | Hex Cap Screw         | M10 x 40       | 1   |
| 99        | TS-1540071    | Hex Nut               | M10            | 1   |
| 100       | TS-0720091    | Spring Washer         | 3/8"           | 2   |
| 101       | TS-0060061    | Hex Cap Screw         | 3/8" x 1-1/4"  | 2   |
| 102       | HVBS710S-102  | Limit Switch          |                | 1   |
| 103       | HVBS710S-103  | Limit Switch Cover    |                | 1   |
| 104       | HVBS710S-104  | Hex Cap Screw         | 3/16" x 3/8"   | 2   |
| 105       | TS-0081051    | Hex Cap Screw         | 5/16" x 1"     | 1   |
| 106       | TS-0680031    | Flat Washer           | 5/16"          | 1   |
| 107       | HVBS710S-107  | Thumb Screw           |                | 1   |
| 108       | HVBS710S-108  | Stop Bracket          |                | 1   |
| 109       | HVBS710S-109  | Work Stop             |                | 1   |
| 110       | TS-0561021    | Hex Nut               | 5/16"          | 1   |
| 111       | TS-0081051    | Hex Cap Screw         | 5/16" x 1"     | 1   |

| Index No. | Part No.       | Description                   | Size                | Qty |
|-----------|----------------|-------------------------------|---------------------|-----|
| 112       | HVBS710S-112   | Stop Rod                      |                     | 1   |
| 114       | TS-1492031     | Hex Cap Screw                 | M12 x 35            | 2   |
| 115       | TS-0720111     | Spring Washer                 | 1/2"                | 2   |
| 116       | HVBS710S-116   | Fixed Vise Jaw                |                     | 1   |
| 117       | TS-0060061     | Hex Cap Screw                 | 3/8" x 1-1/4"       | 1   |
| 118       | TS-0720091     | Spring Washer                 | 3/8"                | 2   |
| 119       | HVBS710S-119   | Hexagonal Stud                |                     | 1   |
| 120       | TS-0680041     | Flat Washer                   | 3/8"                | 1   |
| 121       | HVBS710S-121   | Floating Vise Jaw             |                     | 1   |
| 122       | TS-0570031     | Hex Nut                       | 3/8"                | 2   |
| 123       | TS-0060031     | Hex Cap Screw                 | 3/8" x 3/4"         | 1   |
| 124       | HVBS710S-124   | Spring Bracket                |                     | 1   |
| 125       | HVBS710S-125   | Spring Adjusting Rod          | 3/8"                | 1   |
| 126       | HVBS710S-126   | Spring                        |                     | 1   |
| 127       | HVBS710S-127   | Saw Bow                       |                     | 1   |
| 127-1     | TS-0051061     | Hex Cap Screw                 | 5/16" x 1-1/4"      | 4   |
| 127-2     | TS-0720081     | Spring Washer                 | 5/16"               | 4   |
| 127-3     | TS-0267042     | Socket Set Screw              | 1/4" x 3/8"         | 2   |
| 128       | TS-1503051     | Socket Head Cap Screw         | M6 x 20             | 5   |
| 129       | HVBS710SG-129  | Vent Plug                     |                     | 1   |
| 130       | HVBS710S-222   | Key                           | 6 x 6 x 20 mm       | 1   |
| 131       | TS-0060051     | Hex Cap Screw                 | 3/8" x 1"           | 1   |
| 131-1     | TS-0720091     | Spring Washer                 | 3/8"                | 1   |
| 131-2     | TS-0680041     | Flat Washer                   | 3/8"                | 1   |
| 133       | HVBS710S-133   | Drive Wheel                   |                     | 1   |
| 134       |                | Blade (local purchase)        | 3/4" x 0.032" x 93" | 1   |
| 135       | HVBS710S-135   | Blade Back Cover              |                     | 1   |
| 136       | HVBS710S-136   | Wheel Cover                   |                     | 1   |
| 137       | HVBS710S-137   | Knob                          |                     | 2   |
| 137-1     | TS-0680021     | Flat Washer                   | 1/4"                | 2   |
| 138       | TS-0680021     | Flat Washer                   | 1/4"                | 2   |
| 139       | HVBS710S-139   | Round Head Screw              | 1/4" x 1/2"         | 2   |
| 140       | HVBS710S-140   | Adjustable Guide Knob         | 3/8" x 1-1/4"       | 2   |
| 141       | HVBS710S-141   | Adjustable Bracket (Rear)     |                     | 1   |
| 142       | BB-608ZZ       | Ball Bearing                  | 608ZZ               | 2   |
| 143       | HVBS710S-143   | Bearing Pin                   | 8 mm                | 2   |
| 144       | HVBS710S-144   | Adjustable Blade Seat (Rear)  |                     | 1   |
| 144-1     | HVBS710S-144-1 | Adjustable Blade Seat (Front) |                     | 1   |
| 145       | TS-0561032     | Hex Nut                       | 3/8"-24UNF          | 4   |
| 145-1     | TS-0720091     | Spring Washer                 | 3/8"                | 4   |
| 146       | HVBS710S-146   | Eccentric Shaft Assembly      |                     | 2   |
| 146-1     | HVBS710S-146-1 | Center Shaft Assembly         |                     | 2   |
| 147       | HVBS710S-147   | Vertical Cutting Plate        |                     | 1   |
| 147-1     | HVBS710S-147-1 | Seat Plate                    |                     | 1   |
| 147-2     | TS-081F031     | Flat Head Screw               | 1/4" x 1/2"         | 2   |
| 152       | HVBS710S-152   | Top Support                   |                     | 1   |
| 153       | HVBS710S-153   | Hex Cap Screw                 | 3/8" x 1-1/4"       | 2   |
| 154       | TS-0720091     | Spring Washer                 | 3/8"                | 2   |
| 155       | TS-0570031     | Hex Nut                       | 3/8"                | 2   |
| 156       | HVBS710S-139   | Round Head Screw              | 1/4" x 1/2"         | 2   |
| 157       | TS-0680021     | Flat Washer                   | 1/4"                | 2   |
| 158       | HVBS710S-158   | Brush Holder                  |                     | 1   |
| 159       | TS-0267021     | Socket Set Screw              | 1/4" x 1/4"         | 1   |
| 160       | HVBS710S-160   | Fixed Bushing                 |                     | 1   |
| 161       | HVBS710S-161   | Brush                         | 1-1/2" x 6 mm       | 1   |
| 162       | HVBS710S-162   | Support Rod                   |                     | 1   |
| 163       | HVBS710S-163   | Nozzle Cock                   |                     | 2   |

| Index No. | Part No.          | Description                    | Size           | Qty |
|-----------|-------------------|--------------------------------|----------------|-----|
| 164       | HVBS710S-164      | Nozzle Cock Support            |                | 2   |
| 165       | TS-0267051        | Socket Set Screw               | 1/4" x 1/2"    | 2   |
| 166       | HVBS710S-166      | Socket Head Cap Screw          | 5/16" x 1-1/8" | 2   |
| 166-1     | TS-0720081        | Spring Washer                  | 5/16"          | 2   |
| 167       | HVBS710S-167      | Connection Tube                |                | 1   |
| 168       | HVBS710S-168      | Hose                           |                | 1   |
| 169       | HVBS710S-169      | Hose                           |                | 1   |
| 170       | HVBS710S-170      | Valve                          |                | 2   |
| 171       | HVBS710S-171      | Hose Clamp                     |                | 5   |
| 172       | HVBS710S-172      | Shipping Bracket               |                | 1   |
| 172-1     | TS-0050011        | Hex Cap Screw                  | 1/4" x 1/2"    | 1   |
| 172-2     | TS-0720071        | Spring Washer                  | 1/4"           | 1   |
| 172-3     | TS-0680021        | Flat Washer                    | 1/4"           | 1   |
| 173       | HVBS710S-173      | Adjustable Bracket (Front)     |                | 1   |
| 174       | HVBS710S-174      | Blade Guard                    |                | 1   |
| 175       | HVBS710S-175      | Round Head Screw               | 3/16" x 1/4"   | 2   |
| 176       | HVBS710S-176      | Sliding Guide Plate            |                | 2   |
| 177       | TS-0050011        | Hex Cap Screw                  | 1/4" x 1/2"    | 4   |
| 178       | HVBS710S-178      | Blade Tension Sliding Block    |                | 1   |
| 179       | TS-0270071        | Socket Set Screw               | 5/16" x 3/4"   | 1   |
| 180       | TS-0051071        | Hex Cap Screw                  | 5/16" x 1-1/2" | 2   |
| 181       | HVBS710S-181      | Sliding Draw Block             |                | 1   |
| 182       | HVBS710S-182      | Bearing Bushing                |                | 1   |
| 183       | BB-6203ZZ         | Ball Bearing                   | 6203ZZ         | 2   |
| 184       | HVBS710S-184      | Idler Wheel                    |                | 1   |
| 185       | TS-0680031        | Flat Washer                    | 5/16"          | 1   |
| 185-1     | TS-0720081        | Spring Washer                  | 5/16"          | 1   |
| 186       | TS-0081031        | Hex Cap Screw                  | 5/16" x 3/4"   | 1   |
| 187       | TS-0680041        | Flat Washer                    | 3/8"           | 1   |
| 188       | HVBS710S-188      | Blade Tension Handle           |                | 1   |
| 189       | HVBS710S-189      | Support Plate                  |                | 1   |
| 190       | TS-0680021        | Flat Washer                    | 1/4"           | 2   |
| 191       | TS-0050011        | Hex Cap Screw                  | 1/4" x 1/2"    | 2   |
| 192-1     | HVBS710SG-192-1   | Motor                          | 1HP 1PH        | 1   |
|           | HVBS710SG-192-MF  | Motor Fan (not shown)          |                | 1   |
|           | HVBS710SG-192-MFC | Motor Fan Cover (not shown)    |                | 1   |
|           | HVBS710SG-192-JB  | Junction Box                   |                | 1   |
|           | HVBS710SG-192-JBC | Junction Box Cover             |                | 1   |
| 192-2     | HVBS710SG-192-2   | Strain Relief                  |                | 1   |
| 192-3     | TS-1490031        | Hex Cap Screw                  | M8x20          | 2   |
| 192-4     | TS-2361081        | Spring Washer                  | 8 mm           | 2   |
| 193       | HVBS710S-193      | Key                            | 5 mm           | 1   |
| 194-1     | HVBS710SG-328     | Worm Shaft                     |                | 1   |
| 195-1     | HVBS710SG-195-1   | Gear Flange                    |                | 1   |
| 195-2     | TS-1503051        | Socket Head Cap Screw          | M6x20          | 1   |
| 196-1     | HVBS710SG-196-1   | Gear Box Assembly              |                | 1   |
| 197       | HVBS710S-197      | Splash Guard (Front)           |                | 1   |
| 198       | TS-0680021        | Flat Washer                    | 1/4"           | 2   |
| 199       | TS-0720071        | Spring Washer                  | 1/4"           | 2   |
| 200       | TS-0050011        | Hex Cap Screw                  | 1/4" x 1/2"    | 2   |
| 201       | HVBS710S-201      | Control Box                    |                | 1   |
|           | HVBS710S-250      | Magnetic Contactor (not shown) |                | 1   |
| 202       | HVBS710S-202      | Strain Relief Fitting          |                | 4   |
| 203       | HVBS710S-203      | Control Panel                  |                | 1   |
| 204       | HVBS710S-204      | Round Head Screw               | 3/16" x 3/8"   | 6   |
| 205       | HVBS710S-205      | Start Switch                   |                | 1   |
| 206       | HVBS710S-206      | Stop Switch                    |                | 1   |
| 207       | HVBS710S-207      | Emergency Stop Switch          |                | 1   |

| Index No. | Part No.            | Descriptions                                         | Size              | Qty     |
|-----------|---------------------|------------------------------------------------------|-------------------|---------|
| 208 ..... | TS-0050031 .....    | Hex Cap Screw .....                                  | 1/4" x 3/4" ..... | 2       |
| 209 ..... | HVBS710S-WL .....   | Warning Label (not shown) .....                      |                   | 1       |
| 210 ..... | HVBS710S-LBDA ..... | Label – Blade Direction Arrow (not shown).....       |                   | 1       |
| 211 ..... | HVBS710SG-ID.....   | I.D. Label (not shown) .....                         |                   | 1       |
| .....     | HVBS710S-HP .....   | Hardware Package ( <i>see contents page 8</i> )..... |                   | 1       |
| .....     | JETLOGO-1 .....     | JET Logo .....                                       | 2-3/4" x 8" ..... | 1       |
| .....     | STRIPE-1-3/4 .....  | JET Stripe.....                                      | 1-3/4" .....      | per ft. |

### 14.2.1 HVBS-710SG Gearbox Assembly – Exploded View



## 14.2.2 HVBS-710SG Gearbox Assembly – Parts List

| Index No. | Part No.        | Description                         | Size           | Qty |
|-----------|-----------------|-------------------------------------|----------------|-----|
|           | HVBS710SG-196-1 | Gearbox Assembly (index #1 thru 42) |                | 1   |
| 1         | HVBS710SG-129   | Vent Plug                           |                | 1   |
| 2         | TS-1503051      | Socket Head Cap Screw               | M6 x 20        | 5   |
| 3         | HVBS710SG-303   | Gear Box Cover                      |                | 1   |
| 4         | HVBS710SG-304   | Gasket                              |                | 1   |
| 5         | HVBS710SG-305   | Drive Gear Assembly                 |                | 1   |
| 6         | HVBS710SG-306   | Drive Shaft                         |                | 1   |
| 7         | HVBS710SG-307   | Key                                 | 5 x 80 mm      | 1   |
| 8         | HVBS710SG-308   | C-Ring                              | S-25           | 3   |
| 9         | BB-6205         | Ball Bearing                        | 6205           | 2   |
| 10        | BB-6201         | Ball Bearing                        | 6201           | 5   |
| 12        | HVBS710SG-312   | Transfer Gears Assembly             |                | 1   |
| 14        | HVBS710SG-314   | Socket Head Cap Screw               | M5 x 15        | 1   |
| 15        | HVBS710SG-315   | Adjustable Bracket                  |                | 1   |
| 16        | HVBS710SG-316   | Key                                 | 6 x 18 mm      | 1   |
| 17        | HVBS710SG-317   | Bushing                             |                | 1   |
| 18        | HVBS710SG-318   | Drain Plug                          |                | 1   |
| 20        | HVBS710SG-320   | Worm Gear                           |                | 1   |
| 21        | HVBS710SG-321   | Input Gears                         |                | 1   |
| 24        | HVBS710SG-324   | Motor Cover                         |                | 1   |
| 26        | HVBS710SG-326   | Set Pin                             | 6 x 15 mm      | 2   |
| 27        | HVBS710SG-327   | O-Ring                              | G60            | 1   |
| 28        | HVBS710SG-328   | Worm Shaft                          |                | 1   |
| 29        | HVBS710SG-329   | Gear Flange                         |                | 1   |
| 30        | TS-1503051      | Socket Head Cap Screw               | M6 x 20        | 1   |
| 31        | HVBS710SG-331   | Gear Box                            |                | 1   |
| 32        | HVBS710SG-332   | Oil Seal                            | 30 x 42 x 7 mm | 1   |
| 33        | HVBS710SG-333   | Indicator Plate                     |                | 1   |
| 34        | TS-2284081      | Flat Head Screw                     | M4 x 8         | 3   |
| 35        | SB-1/4          | Steel Ball                          | 1/4"           | 1   |
| 36        | HVBS710SG-336   | Compression Spring                  | 1/4"           | 1   |
| 37        | HVBS710SG-337   | Plastic Handle                      |                | 1   |
| 38        | HVBS710SG-338   | O-Ring                              | 7 x 1.5 mm     | 1   |
| 39        | HVBS710SG-339   | Axle                                |                | 1   |
| 40        | HVBS710SG-340   | Set Pin                             | 3 x 20 mm      | 1   |
| 41        | TS-1490031      | Hex Cap Screw                       | M8 x 20        | 2   |
| 42        | TS-2361081      | Spring Washer                       | 8 mm           | 2   |

15.0 Electrical Connections for HVBS-710SG

