



# Operating Instructions and Parts Manual

## Horizontal-Vertical Band Saw

Models HVBS-712, HVBS-712D



HVBS-712D Deluxe model shown



## 1.0 IMPORTANT SAFETY INSTRUCTIONS

Read and understand the entire instruction manual before operating machine.

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.

### WARNING – To reduce risk of injury:

1. 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.
2. Replace warning labels if they become obscured or removed.
3. Do not use this band saw for other than its intended use. If used for other purposes, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
4. Always wear ANSI Z87.1 approved safety glasses or face shield while using this band saw. (Everyday eyeglasses only have impact resistant lenses; they are *not* safety glasses.)
5. Before operating this machine, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Do not wear loose clothing. Confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do not wear gloves.
6. Wear hearing protection (plugs or muffs) during extended periods of operation.
7. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
8. Reduce the risk of unintentional starting. Make sure switch is in off position before plugging in.
9. Make certain the machine is properly grounded.
10. Make all machine adjustments or maintenance with the machine unplugged from the power source.
11. 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.
12. 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 completion of maintenance.
13. 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.
14. Provide for adequate space surrounding work area and non-glare, overhead lighting.
15. Keep work area clean. Keep floor around the machine free of scrap material, oil and grease. Cluttered areas and benches invite accidents.
16. Keep visitors a safe distance from the work area. Keep children away.
17. Make your workshop child-proof with padlocks, master switches or by removing starter keys.
18. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
19. Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
20. 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.
21. Use recommended accessories; improper accessories may be hazardous.
22. Maintain tools with care. Keep saw blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
23. Turn off the machine before cleaning. Use a brush to remove chips or debris — do not use your hands.
24. Do not stand on the machine. Serious injury could occur if the machine tips over, or if the cutting tool is unintentionally contacted.
25. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
26. Remove loose items and unnecessary workpieces from the area before starting the machine.

27. Make sure workpiece is securely clamped in vise. Never use your hand to hold the workpiece.
28. Never reach around or over a moving saw blade.
29. Do not remove jammed cutoff pieces until blade has stopped.
30. Feed work into a blade or cutter only against the direction of rotation of the blade or cutter.
31. Maintain proper adjustment of blade tension, blade guides and thrust bearings.
32. Minimize blade exposure by adjusting blade guides to just clear workpiece.
33. Check coolant level daily. Replace dirty or weak coolant.
34. Don't use in dangerous environment. Don't use power tools in damp or wet location, or expose them to rain. Keep work area well lighted.
35. Use proper extension cord. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 (sect. 6.3) shows correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

**⚠ WARNING:** This product can expose you to chemicals including titanium dioxide which is known to the State of California to cause cancer, and lead which is known to the State of California to cause cancer and birth defects or other reproductive harm.

**⚠ WARNING:** Some dust, fumes and gases created by power sanding, sawing, grinding, drilling, welding and other construction activities contain chemicals known to the State of California to cause cancer and 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 dust masks that are specifically designed to filter out microscopic particles.

**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 possibly even fatal, injury.

## SAVE THESE INSTRUCTIONS

### 2.0 On-off switch padlock

To avoid accidental starting by young children or others not qualified to use the tool, the use of a padlock (not provided) is required.

To lock out the on-off switch (Figure 2-1):

1. Open padlock.
2. Insert through hole in switch guard.
3. Close padlock.
4. Store key in a safe place out of the reach of children.

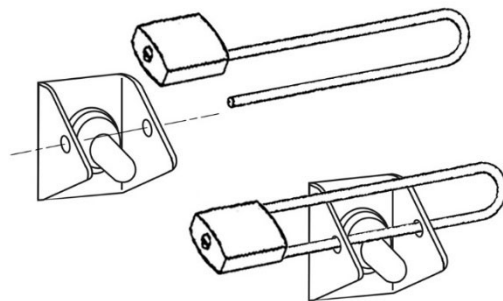


Figure 2-1

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## 4.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model HVBS-712 and HVBS-712D 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 consistent, long-term operation if used in accordance with the instructions as set forth in this document.

If there are questions or comments, please contact your local supplier or JET.

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

** WARNING** Read and understand the entire contents of this manual before attempting assembly or operation! Failure to comply may cause serious injury!

## 5.0 Specifications

Model number ..... HVBS-712D ..... HVBS-712  
 Stock number ..... 414560 ..... 414559

### Motor and electricals:

#### Main motor:

Motor type ..... totally enclosed fan cooled, induction, capacitor start .....  
 Horsepower ..... 3/4 HP (0.56 kW) ..... 3/4 HP (0.56 kW)  
 Phase ..... 1 ..... 1  
 Voltage ..... 115/230V (prewired 115V) ..... 115/230V (prewired 115V)  
 Cycle ..... 60Hz ..... 60Hz  
 Listed FLA (full load amps) ..... 12/6 A ..... 12/6 A  
 Starting amps ..... 36A/18A ..... 36A/18A  
 Running amps (no load) ..... 9.8A/4.9A ..... 9.8A/4.9A  
 Start capacitor ..... 300MFD 125VAC ..... 300MFD 125VAC  
 Motor speed ..... 1720 RPM ..... 1720 RPM

#### Pump motor:

Horsepower ..... 1/8HP (90W) ..... 1/8HP (90W)  
 Phase/voltage ..... 1 ..... 1  
 Voltage ..... 120/240V (prewired 120V) ..... 120/240V (prewired 120V)  
 Cycle ..... 60Hz ..... 60Hz  
 Listed FLA ..... 0.5/0.2 A ..... 0.5/0.2 A  
 Pump motor speed ..... 3450 RPM ..... 3450 RPM  
 Capacitor ..... 1µF 400V ..... 1µF 400V

Power transfer ..... v-belt ..... v-belt  
 On/off switch ..... toggle ..... toggle  
 Power cable ..... 16AWG x 3C, length 6-1/2 ft. (200cm) ..... 16AWG x 3C, length 6-1/2 ft. (200cm)  
 Power plug installed ..... 120V ..... 120V  
 Recommended circuit and fuse/breaker size <sup>1</sup> ..... 15A ..... 15A

### Capacities:

Round at 90 degrees ..... 7 in. (177.8mm) ..... 7 in. (177.8mm)  
 Round at 45 degrees ..... 5 in. (127mm) ..... 4-1/2 in. (114.3mm)  
 Rectangle at 90 degrees ..... 1(H) x 12(W) in. ..... 1(H) x 12(W) in.  
 ..... 2(H) x 11-1/4(W) in. ..... 2(H) x 11-1/2(W) in.  
 ..... 4(H) x 11(W) in. ..... 4(H) x 11(W) in.  
 ..... 7(H) x 10-1/4(W) in. ..... 7(H) x 10-3/8(W) in.  
 Rectangle at 45 degrees ..... 6(H) x 4(W) in. ..... 6-1/2(H) x 4-1/2(W) in.  
 Square at 90 degrees ..... 7 x 7 in. ..... 7 x 7 in.  
 Square at 45 degrees ..... 5 x 5 in. ..... 4-1/2 x 4-1/2 in.  
 Gearbox oil capacity ..... 3/4 pint (0.35 L) ..... 3/4 pint (0.35 L)  
 Coolant tank capacity ..... 2.5 gal. (9 L) ..... 2.5 gal. (9 L)

### Bow and blade:

Blade type (provided) ..... Bi-metal, 5/8T ..... Bi-metal, 5/8T  
 Blade size ..... 3/4 x 0.032 x 93 in.(19 x 0.81 x 2362mm) ..... 3/4 x 0.032 x 93 in.(19 x 0.81 x 2362mm)  
 Number of blade speeds ..... 4 ..... 4  
 Blade speeds ..... 86, 132, 178, 260 SFPM ..... 86, 132, 178, 260 SFPM  
 Blade wheel diameter ..... 11-3/4 in. (298.5mm) ..... 11-3/4 in. (298.5mm)  
 Gear ratio ..... 1/20 (M2.5x20T) ..... 1/20 (M2.5x20T)

### Bed and vise:

Bed height from floor (without wheels) ..... 22.4 in. (569mm) ..... 22.4 in. (569mm)  
 Vise swivel ..... 45 deg. ..... 45 deg.  
 Vise detents ..... 0, 15, 30, 45 deg. ..... n/a

<sup>1</sup> Subject to local/national electrical codes.

Main materials:

Bed.....	cast iron, ground surface.....	cast iron, ground surface
Bow.....	cast iron.....	cast iron
Stand.....	steel.....	steel
Blade drive system.....	steel, heat-treated worm driving a bronze worm gear in oil bath.....	
Side blade guides.....	ball bearings mounted on eccentric shafts.....	
Rear blade guides.....	ball bearings.....	ball bearings
Band wheels.....	ball bearings.....	ball bearings

Dimensions:

Table plate dimensions.....	12 x 12 in. (305 x 305mm).....	12 x 12 in. (305 x 305mm)
Overall dimensions, assembled.....	48 x 17 x 40 in.....	48 x 17 x 40 in.
.....	(1219 x 432 x 1016 mm).....	(1219 x 432 x 1016 mm)
Overall dimensions, shipping.....	51.18 x 19.2 x 44.88 in.....	51.18 x 19.2 x 44.88 in.
.....	(1300 x 488 x 1140 mm).....	(1300 x 488 x 1140 mm)
Stand wheels.....	8 in. (203mm).....	8 in. (203mm)

Weights:

Net weight.....	374 lbs. (170 kg).....	374 lbs. (170 kg)
Shipping weight.....	418 lbs. (190 kg).....	418 lbs. (190 kg)

The specifications in this manual were current at time of publication, but because of our policy of continuous improvement, JET reserves the right to change specifications at any time and without prior notice, without incurring obligations.

## 6.0 Setup and assembly

**⚠WARNING** Read and understand all instructions before attempting assembly. Band Saw must be disconnected from power during all assembly procedures. Failure to comply may cause serious injury.

### 6.1 Shipping contents

See Figures 6-1, 6-2.

- 1 Band saw (not shown)
- 1 Pulley cover – A
- 1 Table Plate – B
- 1 Handle with washer and nut – C
- 4 Wheels – D
- 2 Axles – E
- 2 Supports (1 long, 1 short) – F (712D only)
- 1 Filter assembly – G
- 1 Work stop assembly – H (712D only)
- 1 Work stop assembly – I (712 only)
- 1 Hardware package (p/n HVBS712-HP):
  - 1 Lock screw – HP1
  - 2 Hex cap bolts 1/4 x 1/2 – HP2
  - 2 Flat washers 1/4 – HP3
  - 2 Wire nuts – HP4
  - 4 Flat head screws 1/4 x 3/8 – HP5
  - 4 Flat washers 5/8 – HP6
  - 4 Cotter pins – HP7

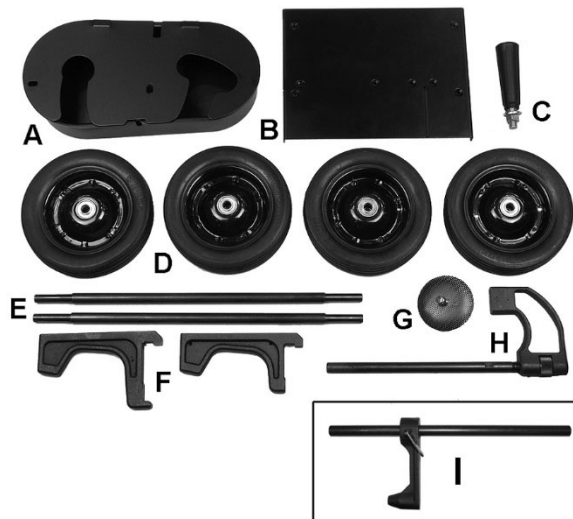


Figure 6-1: shipping contents

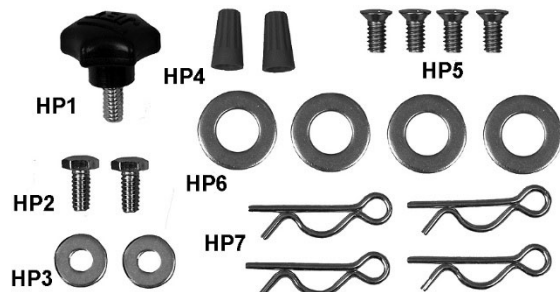


Figure 6-2: hardware package HVBS712-HP

### 6.2 Tools required for assembly

Wrenches, 10mm and 19mm  
#2 cross point screwdriver  
Pliers

### 6.3 Unpacking and cleanup

1. Inspect all contents for shipping damage. Compare contents of shipping carton with contents list in this manual. Report any damage or part shortages to your distributor.
2. Do not discard packing material until saw is assembled and running properly.
3. Remove rust protectant from exposed surfaces, such as bed, vise assembly, etc., with a clean rag and a cleaner/degreaser. Apply a light coat of oil on these surfaces to inhibit rust.

### 6.4 Assembly

Note: Most figures in this manual show 712D Deluxe model. Procedures for 712 basic model will be identical, except where noted.

1. Remove braces holding saw stand to pallet, and carefully raise saw from pallet, using properly rated lifting equipment (hoist or forklift) with straps placed beneath cast iron portion of saw.
2. Slide axles through holes in stand, and install four wheels with flat washers and cotter pins (Figure 6-3). Bend ends of cotter pins to secure wheel, then carefully lower saw to floor.

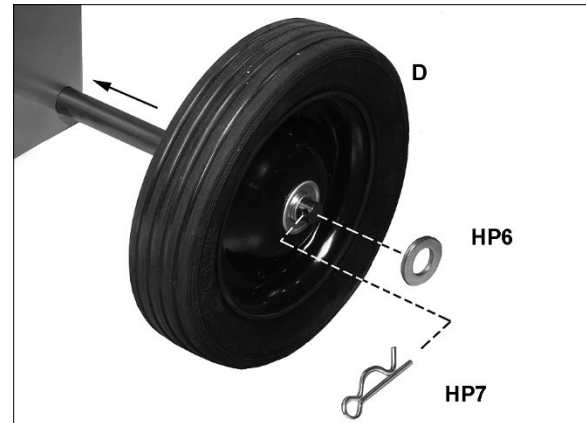


Figure 6-3: installing wheels

3. Remove shipping bracket (Figure 6-4). Then reinstall bottom hex nut beneath plate. Retain shipping bracket in case machine must be transported in future.



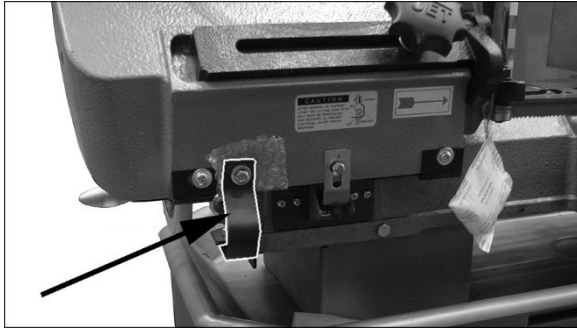


Figure 6-4: shipping bracket removal

4. Install handle with flat washers and nut (C, Figure 6-5), using 19mm wrench. To install, raise bow to vertical position and open guard. **CAUTION:** Spring-tensioned stop bracket (see Figure 7-1) must be rotated out of the way before raising bow.

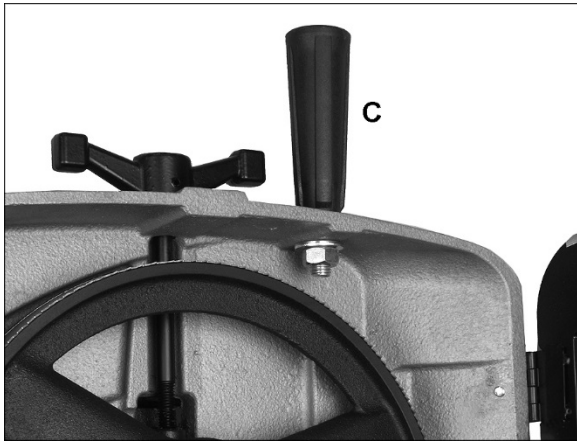


Figure 6-5: installing handle

5. **712D only:** Install work stop rod (H<sub>1</sub>, Figure 6-6) into hole and tighten knurled nut (H<sub>2</sub>). Install work stop onto rod threads by rotating collar (H<sub>3</sub>). Secure position of work stop by tightening set screw (H<sub>4</sub>) onto rod flat.

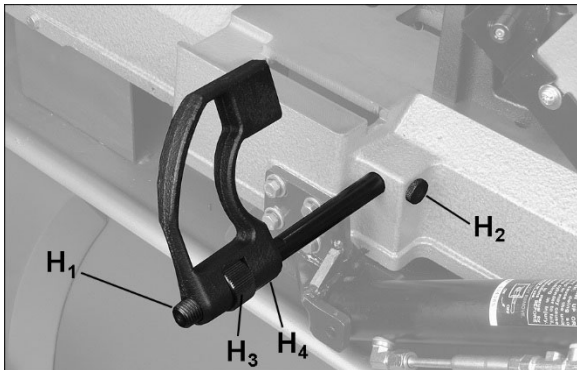


Figure 6-6: installing work stop (712D only)

**712 only:** Install work stop rod into hole and tighten knurled nut (H<sub>2</sub>). Slide stop block onto rod and secure with thumb screw. See Figure 6-7.

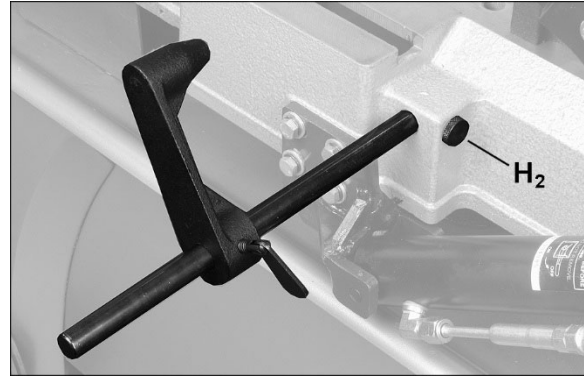


Figure 6-7: installing work stop (712 only)

6. Slide pulley cover (A, Figure 6-8) over spindles and secure with screws and washers (HP2/HP3), using 10mm wrench.
7. Install lock screw (HP1) to secure pulley cover.

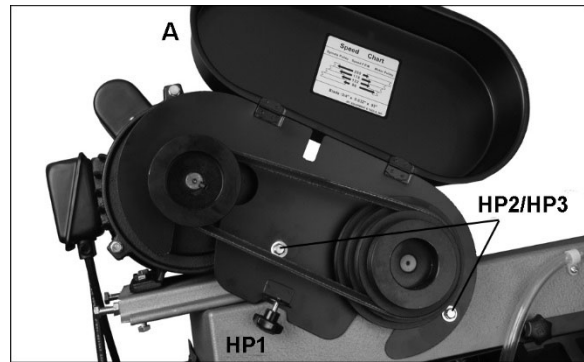


Figure 6-8: installing pulley cover

8. The table plate (B, Figure 6-9) may be used as cutting table in vertical mode (models 712 and 712D), or may be used as infeed table in horizontal mode (**712D only**). To use as infeed table for model 712D, place supports (F) on channel of saw bed as shown, and install plate with flat head screws (HP5).

To use plate as cutting table in vertical mode, refer to sect. 7.2.

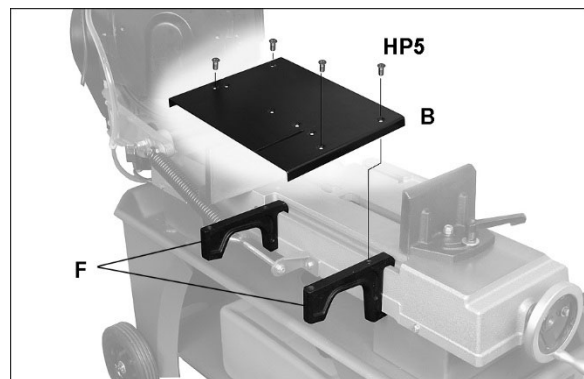


Figure 6-9: installing infeed table (712D only)

9. Place filter assembly (G, Figure 6-10) over drain hole.

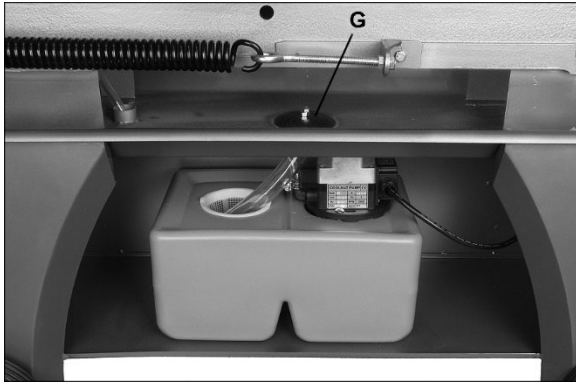


Figure 6-10: coolant tank

## 6.5 Coolant tank preparation

Use of a water-soluble coolant will increase cutting efficiency and prolong blade life. Do not use black cutting oil as a substitute. Change cutting oil often and follow manufacturer's instructions as to its uses and precautions.

1. Disconnect machine from power source.
2. Pour coolant into hole through strainer cup. Fill tank to approximately 80% of capacity.
3. Make sure coolant hose is properly connected at each end, and return hose is connected to drain hole and positioned in strainer cup, as shown in Figure 6-10.

## 7.0 Electrical connections

The HVBS-712 and HVBS-712D Band Saw is rated at 115/230V power, and is 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 7-1.

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

It is recommended that the band saw be connected to a dedicated 15 amp circuit with circuit breaker or fuse. If connected to a circuit protected by fuses, use time delay fuse marked "D". **Local codes take precedence over recommendations.**

### 7.1 GROUNDING INSTRUCTIONS

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

When operated at **115-volt**, this tool is intended for use on a circuit that has an outlet that looks like the one illustrated in **A**, Figure 7-1. 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. 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. **Note:** *In Canada, the use of a temporary adaptor is not permitted by the Canadian Electrical Code, C22.1.*

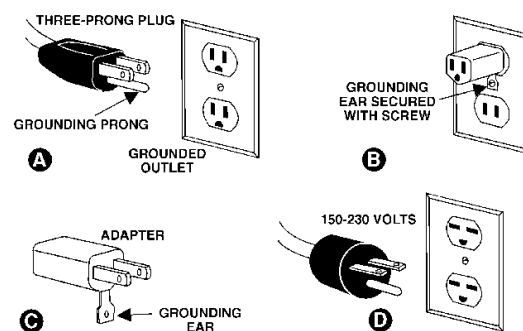


Figure 7-1: grounding

When operated at **230-volt**, this tool is intended for use on a circuit that has an outlet that looks like the one illustrated in **D**, Figure 7-1. 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.

## 7.2 Voltage conversion

**Conversion from 115V to 230V must be done by a qualified electrician.**

The Band Saw is prewired for 115 volt. To change incoming leads for 230 volt operation:

1. Open main motor junction box cover, and change leads based on wiring diagram inside cover. This diagram is also shown in Figure 7-2. (NOTE: In case of discrepancy, diagram inside junction box cover takes precedence.) Reinstall cover.
2. Remove pump motor junction box cover, and change incoming leads for coolant pump, based on diagram shown in Figure 7-3. Reinstall cover.
3. The plug on end of power cord must be replaced with a UL/CSA listed plug rated for 230 volt operation.

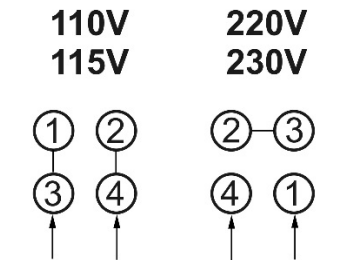


Figure 7-2: main motor wiring

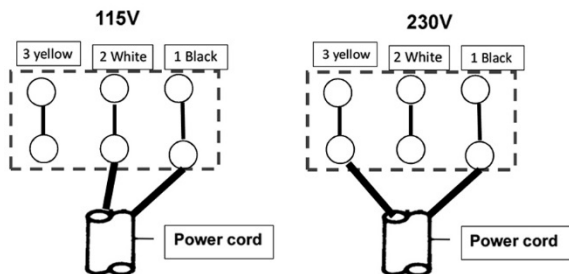


Figure 7-3: coolant pump wiring

## 7.3 Extension cords

The use of extension cords is discouraged; try to position machines near the power source. If an extension cord is necessary, make sure it is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

Table 1 shows correct size to use depending on cord length and nameplate ampere rating. 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	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	

Table 1: Extension cord recommendations

## 8.0 Adjustments

**⚠WARNING** Always disconnect band saw from power source before making adjustments, unless indicated otherwise.

### 8.1 Tools required for adjustments

(all may not be needed depending on adjustment)  
 #2 cross point screwdriver  
 Wrenches, 10/12/14mm  
 Hex keys, 3/4/6mm  
 Square  
 Straight edge  
 Clamp

### 8.2 Vertical bow position

1. Disconnect band saw from power source.
2. Rotate stop bracket (A, Figure 8-1) and hold it out of the way, while lifting bow to upright position. **Pinch point – use caution!**

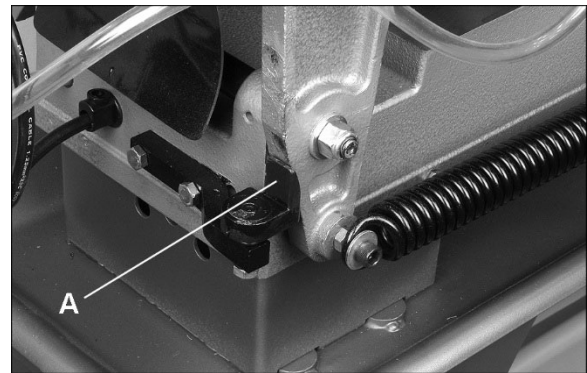


Figure 8-1: disengaging stop bracket

Steps 3 through 6 are for Model **712D ONLY**. For Model 712, proceed to step 7.

3. The blade guide brackets can be rotated to facilitate a more comfortable operating position while in vertical mode. Remove screw (B, Figure 8-2) with 6mm hex key and position bracket in adjacent channel. Re-install screw.
4. Repeat above step for top blade guide bracket. NOTE: Loosen set screw (C, Figure 8-3) and slide coolant valve assembly out of slot to access screw (B). When adjustment is

complete, reinstall coolant valve assembly and tighten set screw (C).

5. Verify that blade guide bearings are set correctly in relation to blade (see sect. 8.6).

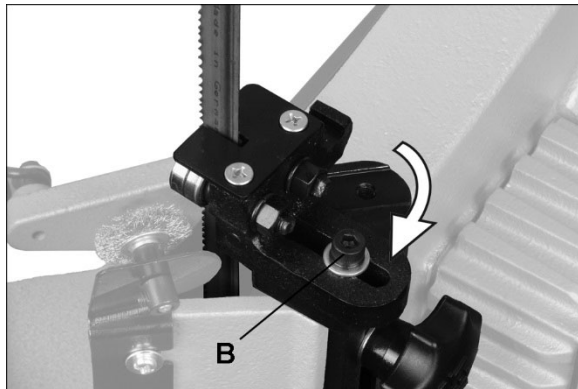


Figure 8-2: lower blade guide rotation (712D only)

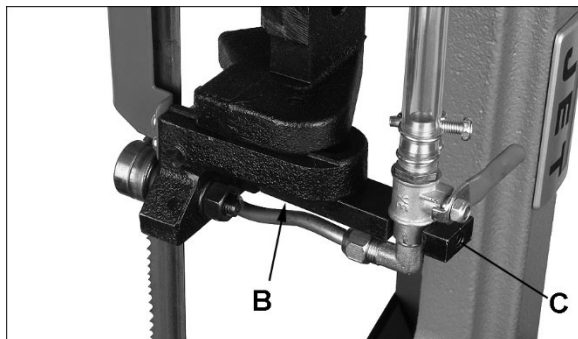


Figure 8-3: upper blade guide rotation (712D only)

6. Place smaller support (F, Figure 8-4) onto groove of blade guide, and adjust height of blade guide until support sits level on bow frame, as shown (712D only).
7. Remove deflector plate (D).
8. Install table plate (B) and secure with four screws (for 712D) or two screws (for 712).

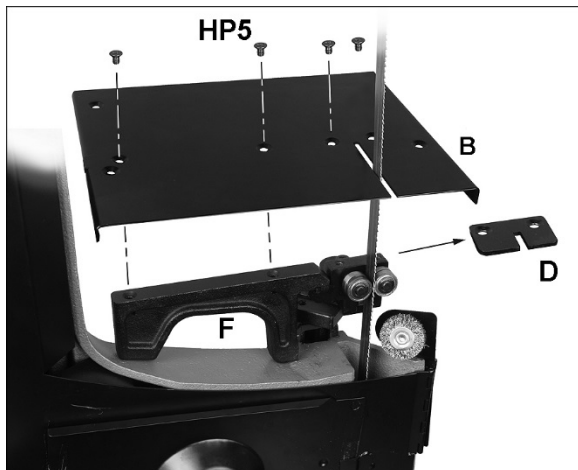


Figure 8-4: installing cutting plate

9. Place a square on table plate and against blade. Make any needed adjustments until table plate is square with blade.

### 8.3 Blade Speed

1. Disconnect band saw from power source.
2. Place bow in horizontal position.
3. Open pulley cover, and loosen hex nuts (K, Figure 8-5). Turn screw (L) out to relieve pressure on motor mount plate.
4. Turn screws (M) clockwise to push motor mount plate, relieving tension on belt.
5. Move belt to desired pulley combination. Refer to chart inside pulley cover (reproduced in Figure 8-6).



Figure 8-5: blade speed adjustment

6. Tension belt by backing off screws (M) with 12mm wrench. Slide motor back into position. Finger pressure on belt between the pulleys should cause approximately 1/2-inch deflection. Do not overtighten belt.
7. Tighten hex nuts (K) and turn screw (L) to tighten motor mount plate.
8. Close pulley cover.

General rule for band saw blade speed: The harder the material being cut, the slower the blade speed. Refer to a machinist's handbook for recommended speeds.

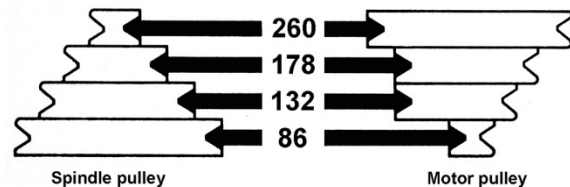


Figure 8-6

### 8.4 Blade guides

1. Disconnect band saw from power source.
2. Loosen knob (N, Figure 7-7) and slide blade guide assembly (O) as close as possible without interference to material being cut. Tighten knob.

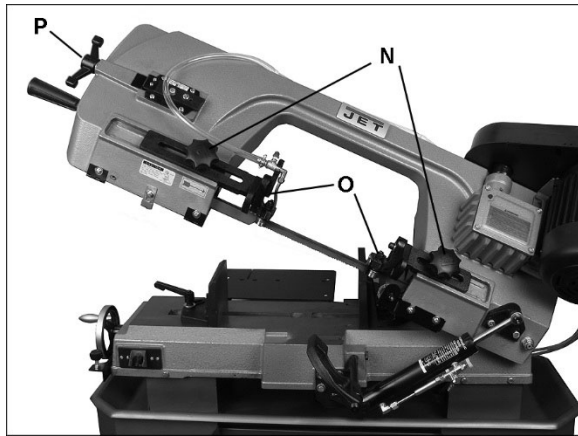


Figure 8-7: blade guide adjustment

## 8.5 Blade replacement

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

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

1. Disconnect machine from power source.
2. Raise bow to vertical position.
3. Open rear guard by removing two knobs (see Figure 8-10).
4. Remove red guard from upper blade guide by removing two screws.

**⚠ WARNING** It is essential that red blade guard be installed after new blade has been fitted. Failure to comply may cause serious injury.

5. Release tension on blade by turning tension handle (P, Figure 8-7) counterclockwise. Remove blade. (Use gloves when handling sharp blades).
6. Install new blade between blade guide assemblies and around each wheel. Make sure blade teeth are pointing in proper direction. See Figure 8-8.
7. Increase blade tension just enough to hold blade on wheels. Make sure back of blade rests lightly against shoulder of both wheels. Twist blade slightly to allow it to slip into guides.

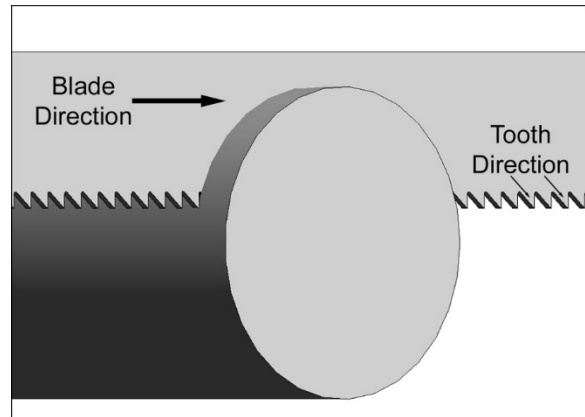


Figure 8-8

8. Install red blade guard with screws.
9. Tension blade fully (see sect. 8.8 *Blade tension*.)
10. Place two to three drops of lightweight oil on blade.
11. Adjust blade guide bearings (see sect. 8.6 *Blade guide bearings*).
12. Connect machine to power source.
13. Run saw and make sure blade is tracking properly (sect 8.9. *Blade tracking*.)
14. Follow blade break-in procedures (sect. 9.1).

## 8.6 Blade guide bearings

1. Disconnect machine from power source.
2. Loosen bolt (Q, Figure 8-9) and adjust assembly so that rear bearing (R<sub>1</sub>) is approximately 0.002 to 0.003 inches from back of blade. Also, inside bearing (R<sub>2</sub>) should very lightly contact blade. Tighten bolt (Q).
3. Inside bearing (R<sub>2</sub>) is fixed. Outside bearing (R<sub>3</sub>) rotates on an eccentric shaft. Rotate nut (S) with 14mm wrench to adjust eccentric bearing to a clearance of 0.001 inches from blade.
4. Repeat above steps for opposite blade guide assembly.

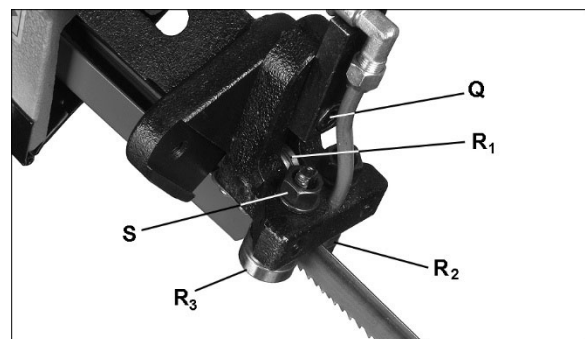


Figure 8-9: blade guide setting

## 8.7 Chip brush

The wire chip brush must be properly adjusted and maintained in working condition; otherwise damage to blade can occur. Adjust brush so that its bristles overlap blade.

Replace brush if it becomes worn or damaged.

## 8.8 Blade tension

1. Disconnect machine from power source.
2. Open rear guard by removing 2 knobs (see Figure 8-10). Observe position of blade on wheel. If blade is not adjacent to wheel flange, first adjust blade tracking according to *sect. 8.9 Blade tracking*.
3. If blade is properly adjacent to wheel flange, slide blade guide assemblies as far apart as possible, and tighten in position with knobs (N, Figure 8-7).
4. Push on blade to test tension. Finger pressure should cause approximately 0.004" deflection. Turn blade tension handle (P, Figure 8-7) until proper tension is achieved. For more precise measurement use blade tension gauge (not provided).
5. Return blade guides to operating position.

## 8.9 Blade tracking

**⚠WARNING** Blade tracking adjustment requires running saw with rear guard open. This adjustment must be completed by qualified persons only. Failure to comply may cause serious injury.

Blade tracking has been set by the manufacturer and should not need immediate adjustment. If blade tracking should ever require adjustment:

1. Confirm that blade tension is properly set.
2. Set saw to slowest speed.
3. Raise bow to vertical position.
4. Open blade cover.

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

5. Run saw and observe blade. Blade should run next to but not tightly against wheel shoulder.
6. If blade is not tracking properly, loosen bolts (T<sub>1</sub>, Figure 8-10) with 12mm wrench.
7. Turn set screw (T<sub>2</sub>) with 4mm hex key, while observing blade tracking on wheel. Turn set screw clockwise to track closer to wheel shoulder. Turn set screw counterclockwise to track away from wheel shoulder. **NOTE:** This adjustment is sensitive; start with 1/4-turns on

set screw and allow blade to respond to changes.

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

8. Test the setting by placing a six-inch length of paper between blade and wheel. The paper should not be cut as it passes between wheel shoulder and blade.
9. Turn set screw (T<sub>2</sub>) a small amount. Repeat insertion of paper between the shoulder and the blade until paper is cut into two pieces.

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

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

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

11. Once tracking is set, tighten bolts (T<sub>1</sub>).

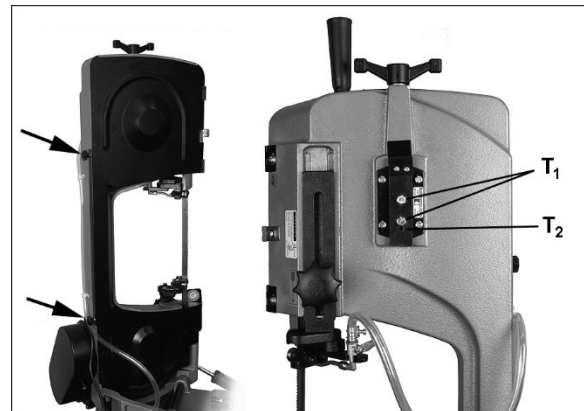


Figure 8-10: blade tracking adjustment

## 8.10 Test cut 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 vise, make a cut through the bar stock. (See Figure 8-11.)
2. Mark the top of 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 mark you made is now at bottom of cut.
5. Make a cut through the bar stock.

- 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.

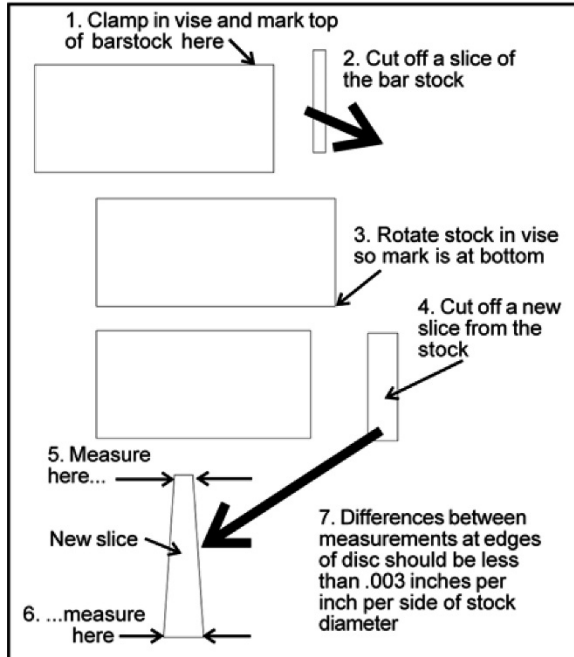


Figure 8-11

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.

### 8.11 Setting feed rate

Feed rate of blade into workpiece is important to band saw performance. Excessive pressure of blade against workpiece may cause stalling or blade breakage. In contrast, insufficient pressure rapidly dulls the blade.

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

To increase feed rate, turn dial ( $U_1$ , Figure 8-12) counterclockwise. To decrease, turn clockwise.

To close hydraulic flow, turn lever ( $U_2$ ) down, perpendicular to cylinder. To open hydraulic flow, turn lever ( $U_2$ ) parallel to cylinder, as shown.

Feed rate is adjusted by operator until saw is operating efficiently, usually determined by observing chip formation. See section 9.3, *Evaluating cutting efficiency*.

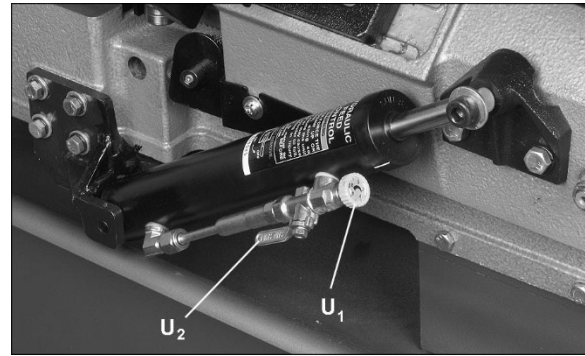


Figure 8-12: feed rate adjustment

### 8.12 Counterbalance spring

The counterbalance spring helps control amount of weight, or feed pressure, the bow puts on workpiece when hydraulic control valve is fully open. The hydraulic cylinder will not compensate for improper counterbalance. If spring is improperly set, one can expect poor performance, crooked cuts, tooth stripping, stalling, and/or blade running off 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:

- Disconnect machine from power source.
- Open hydraulic cylinder valve and place bow in horizontal position. Turn hydraulic cylinder dial counterclockwise until it stops.
- Place a weigh scale (such as spring or hanging scale) beneath blade tension handle, and lift saw bow. Scale should indicate approximately 5 to 6 kg (11-13 lb).
- If adjustment is needed, loosen one nut and tighten the other (Figure 8-13) on eye bolt, until scale indicates 5 to 6 kg (11-13 lb).

A good indication of proper feed pressure is the color and shape of the cutting chips. If the chips are thin or powdered, increase feed pressure. If the chips are burned and heavy, decrease feed pressure. If they are still burned and heavy, reduce blade speed. Optimum feed pressure has been set when the chips are curled, silvery, and warm.

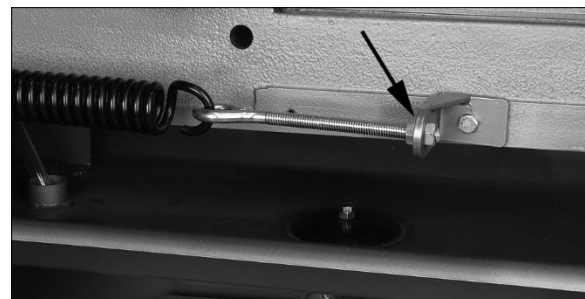


Figure 8-13: feed pressure adjustment

### 8.13 Blade-to-table squareness

The blade must be perpendicular to table to ensure a straight cut. This setting should be confirmed by the user. Special blade setting gauges can be purchased for this type of inspection; however, it can also be done using more common shop items, as follows.

1. "Extend" the blade surface by clamping a straight, flat object to blade. (Figure 8-14 uses small, lightweight aluminum ruler.) Use lightweight clamp.
2. Place square on table and against ruler. The square should lie flat against ruler without a gap.
3. If there is a gap, loosen bolt (Q, Figure 8-9) on each blade guide assembly and rotate blade guide assembly until gap is eliminated between square and ruler.
4. Retighten bolts (Q, Figure 8-9).
5. After making this adjustment, be sure to reinspect other blade adjustments as noted in this manual.

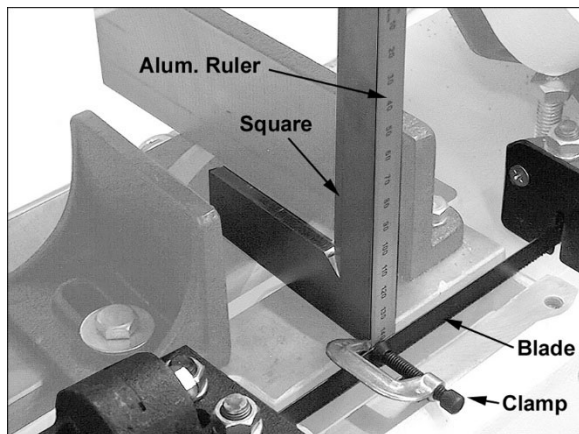


Figure 8-14: table/blade squareness

### 8.14 Auto shut-off adjustment

The saw is properly adjusted when blade shuts off just after cut completion. To set this:

- If saw completes cut but blade continues moving, adjust trip tab (V, Figure 8-15) downward.
- If blade stops before cut is complete, adjust trip tab (V) upward.
- If blade stops descending and continues running without completing the cut, turn stop bolt (W) down.

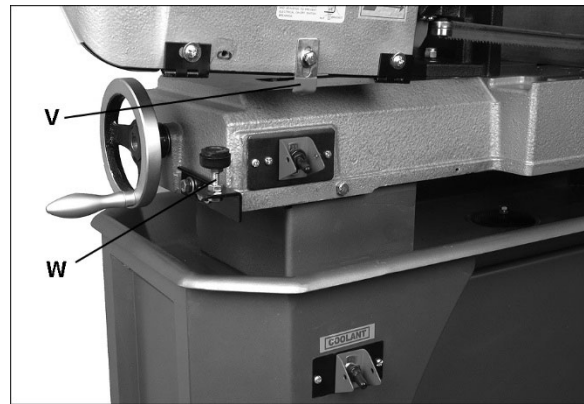


Figure 8-15: shut-off adjustment

### 8.15 Vise positioning (712D only)

Use handwheel (A, Figure 8-16) to move floating jaw to open and close vise.

To move complete right jaw assembly, loosen handle (B).

Vise can be adjusted for square and miter cuts. Loosen handle (C), pull out stop pin (D), and rotate fence to desired angle on scale. For standard angles (0/15/30/45 deg.), allow stop to reengage at detent, otherwise rotate stop to keep it disengaged.

NOTE: Scale is for reference only; check angles with protractor if greater precision is needed. (Model 712 scale is located at rear of bed.)

Slightly loosen handle (D) on floating jaw to allow it to conform to tapered or irregularly-shaped pieces. Then tighten handle before operating.

TIP: Always verify 90-degree vise position by using a square against blade and vise.

The vise handles are adjustable. Pull up on handle and rotate it on pin, then allow it to drop back onto pin. **Make sure vise handles are positioned to prevent contact with descending bow.**

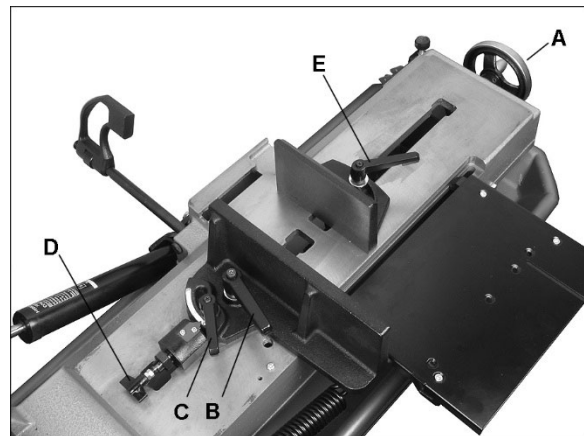


Figure 8-16: vise positioning (712D only)



## 8.16 Vise positioning (712 only)

To set vise for 90 to 45 degree cutting:

1. Remove bolt and nut assemblies (F, Figure 8-17).
2. Position vise and reinstall as shown in Figure 8-17. Pay particular attention to bolt hole location.
3. Set vise to desired angle, reinstall nuts and bolts, and tighten nut and bolt assemblies.
4. Adjust floating vise parallel to fixed vise by loosening bolt (G, Figure 8-18), adjusting to parallel, and tightening bolt.

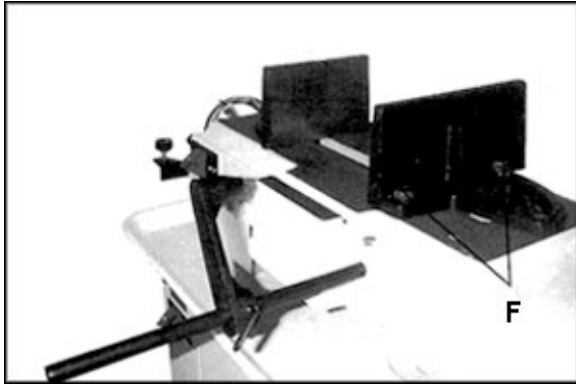


Figure 8-17: vise positioning (712 only)

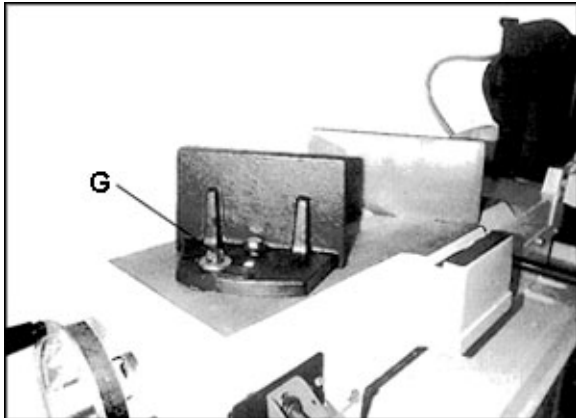


Figure 8-18: vise positioning (712 only)

To set vise for maximum width of stock cutting:

1. Remove nut and bolt assemblies.
2. Position vise and reinstall bolt assemblies as shown in Figure 8-17.

## 9.0 Operation

### 9.1 Blade break-in

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.

3. Clamp a round section workpiece in the vise. The workpiece should be 2 inches or larger in diameter.
4. Set the saw on low speed. Start the cut with a very light feed rate.
5. When the saw has completed 1/3 of the cut, increase feed rate slightly and allow saw to complete the cut.
6. Keep the same hydraulic cylinder setting and begin a second cut on the same or similar workpiece.
7. When blade has completed about 1/3 of cut, increase feed rate. Watch chip formation until cutting is at its most efficient rate and allow saw to complete the cut (see sect. 9.3, *Evaluating cutting efficiency*).
8. The blade is now ready for regular service.

### 9.2 General operating procedure

**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.

1. Give machine an overall inspection. Verify that all guards, covers, etc. are in place and in working order, the blade is tensioned properly and tooth direction matches arrow on bow. Check that blade guides and wire brush are set correctly.
2. Raise bow until it will clear workpiece by a few inches, and secure in position by closing cylinder valve.

**CAUTION** Always secure bow in raised position before loading material. Never start a cut with blade contacting workpiece.

3. Position workpiece in vise and tighten vise. Workpiece should be fitted directly between the jaws without adding other objects. When work piece is profiled section, flat piece or special shape, refer to examples in Figure 9-1 for proper clamping positions. The top row shows acceptable clamping positions, the bottom row show *unacceptable* positions.

If the thickness of profile 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.

**WARNING** Do not load/unload material from vise while machine is running. Never hold workpiece by hand when cutting; workpiece must be firmly secured in vise. Do not reach into cutting area during cutting operations.

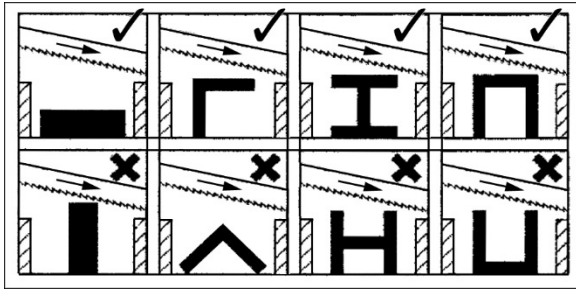


Figure 9-1: clamping positions

4. Adjust left blade guide to minimize exposed blade area.
5. Set suitable feed rate on cylinder dial.
6. Open coolant valve, and open valve on hydraulic cylinder to allow bow to descend in gradual and controlled manner.
7. Switch trip tab must turn off saw at completion of cut.

### 9.3 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.

## 10.0 User-maintenance

**⚠WARNING** Always disconnect power to machine before performing maintenance. Failure to do this may result in serious personal 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. Do not use compressed air, as it may force chips into the guide bearings and other critical areas of the saw.

Clean drain filter assembly.

Make frequent inspections of motor fan, and blow out (with low pressure air hose) or vacuum any accumulation of foreign material to maintain normal motor ventilation.

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.

Periodically inspect belt for wear or fraying. Replace if needed.

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

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

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

### 10.1 Lubrication

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

Lubricate the vise lead screw as needed with #2 tube grease.

Drain and refill gear box oil after first 90 days of operation. Thereafter, change every six months. Use 90W oil.

To change gear box oil:

1. Disconnect machine from power source.
2. Place bow in horizontal position.
3. Remove four screws from gear box and remove cover plate and gasket. If more space is needed to access gearbox, remove belt and adjust motor away.
4. Hold a container under lower right corner of gear box with one hand while slowly raising bow with the other. Drain completely.
5. Return bow to horizontal position. Wipe out remaining oil with a rag.
6. Replace gasket and cover. Fasten cover with screws.
7. Remove vent plug (Figure 10-1) with 8mm wrench, and fill gear box with approximately 1/2 pint of 90W oil, through the hole. Reinstall vent plug.



Figure 10-1: gearbox

## 10.2 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 tank, pour coolant into hole through strainer cup to about 80% of full capacity. Full capacity is 9 liters (2.5 gal). Follow coolant manufacturer's instructions for proper use and disposal.

## 10.3 Additional servicing

Any additional servicing on the band saw should be performed by an authorized service representative.

# 11.0 Troubleshooting HVBS-712/712D Band Saw

## 11.1 Mechanical and electrical problems

Symptom	Possible Cause	Correction *
Motor will not start.	No incoming power.	Check plug connection. If satisfactory, check breaker or fuse.
	Low voltage.	Check power line for proper voltage.
	Open circuit in motor or loose connection.	Inspect all lead connections on motor for loose or open connections.
Motor will not start, or motor stalls, resulting in blown fuse or tripped breaker.	Too many tools running on one circuit.	Reduce number of tools connected to circuit.
	Short circuit in line cord or plug.	Inspect cord or plug for damaged insulation and shorted wires.
	Short circuit in motor or loose connections.	Inspect all connections on motor for loose or shorted terminals or worn insulation.
	Incorrect fuses or circuit breakers in power line.	Install correct fuses or circuit breakers.
Motor overheats.	Motor overloaded.	Reduce load on motor: increase speed or decrease feed pressure.
	Air circulation through motor is restricted.	Clean motor fan with compressed air to restore normal air circulation.
Machine slows when operating.	Excessive feed pressure.	Adjust spring tension to reduce feed pressure, or increase speed using belt adjustment.
	Belt loose.	Tighten belt.
Loud, repetitive noise coming from machine.	Pulley setscrews are missing or loose.	Inspect setscrews. Replace or tighten if necessary.
	Motor fan is hitting the cover.	Tighten fan or shim cover.
	V-belt is defective.	Replace V-belt.
Excessive vibrations.	Base on uneven surface.	Move to level surface.
	Saw blade has cracks.	Replace blade immediately.
	Too heavy a cut.	Reduce feed rate and blade speed.
No coolant flow.	Coolant level low.	Add coolant to tank.
	Filter screen clogged.	Clean filter screen.
	Pump motor faulty.	Replace pump.

\* **WARNING:** Some corrections may require a qualified electrician.

## 11.2 Operational problems

Symptom	Possible Cause	Correction
Cuts not square.	Blade not square to vise/material.	Adjust vise square to blade.
	Blade surface not perpendicular to table.	Adjust blade guides until perpendicular.
	Workpiece shifting in vise.	Properly secure workpiece by tightening vise handles. If irregular-shaped workpiece, use appropriate clamping technique or jig.
	Low blade tension.	Increase tension.
	Blade guides out of adjustment.	Adjust blade guides.
	Blade is worn, cutting crooked.	Replace blade.
	Feed pressure too great.	Reduce feed pressure.
	Blade guides incorrectly set.	Readjust guide assemblies.
	Incorrect blade tothing in relation to workpiece.	Check Machinery's Handbook for recommended blade type.
Miter cuts not accurate.	Improper setting of vise jaws.	Use adjustable square or protractor to verify angle settings.
	Blade worn; cutting crooked.	Replace blade.
Premature dulling of blade teeth	Improper blade break-in.	Follow proper break-in procedure.
	Excessive blade speed, blade teeth overheating.	Decrease speed.
	Inadequate feed rate.	Adjust cylinder dial setting as needed.
	Improper tooth pitch for material.	Use proper blade.
	Hard spots or scale on material.	Scale: reduce speed and increase feed rate. Hard Spots: increase feed rate.
	Work hardening of material (especially stainless steel).	Increase feed rate.
	Blade installed backwards.	Remove blade and twist inside-out.
	Insufficient blade tension.	Adjust as needed.
Finished surface of workpiece is rough, unsatisfactory.	Improper blade break-in.	Follow proper break-in procedure.
	Improper speed or feed rate.	Adjust as needed.
	Dull or damaged teeth.	Replace blade.
	Poor weld on blade.	Replace or re-weld blade.
	Incorrect choice of blade.	Check a machinist's handbook for blade recommendations.
Excessive blade breakage.	Incorrect blade tension.	Adjust accordingly.
	Incorrect blade speed or downfeed rate.	Adjust accordingly.
	Workpiece loose in vise.	Clamp workpiece securely.
	Blade rubs on wheel shoulder.	Adjust blade tracking.
	Teeth too coarse for material.	Use appropriate blade for material.
	Teeth in contact with workpiece before saw is started.	Blade must be running before contact with workpiece.
	Blade guides misaligned.	Adjust blade guides.
	Blade too thick for wheel diameter.	Use thinner blade.
	Cracking at weld; poor annealing of blade.	Replace blade.

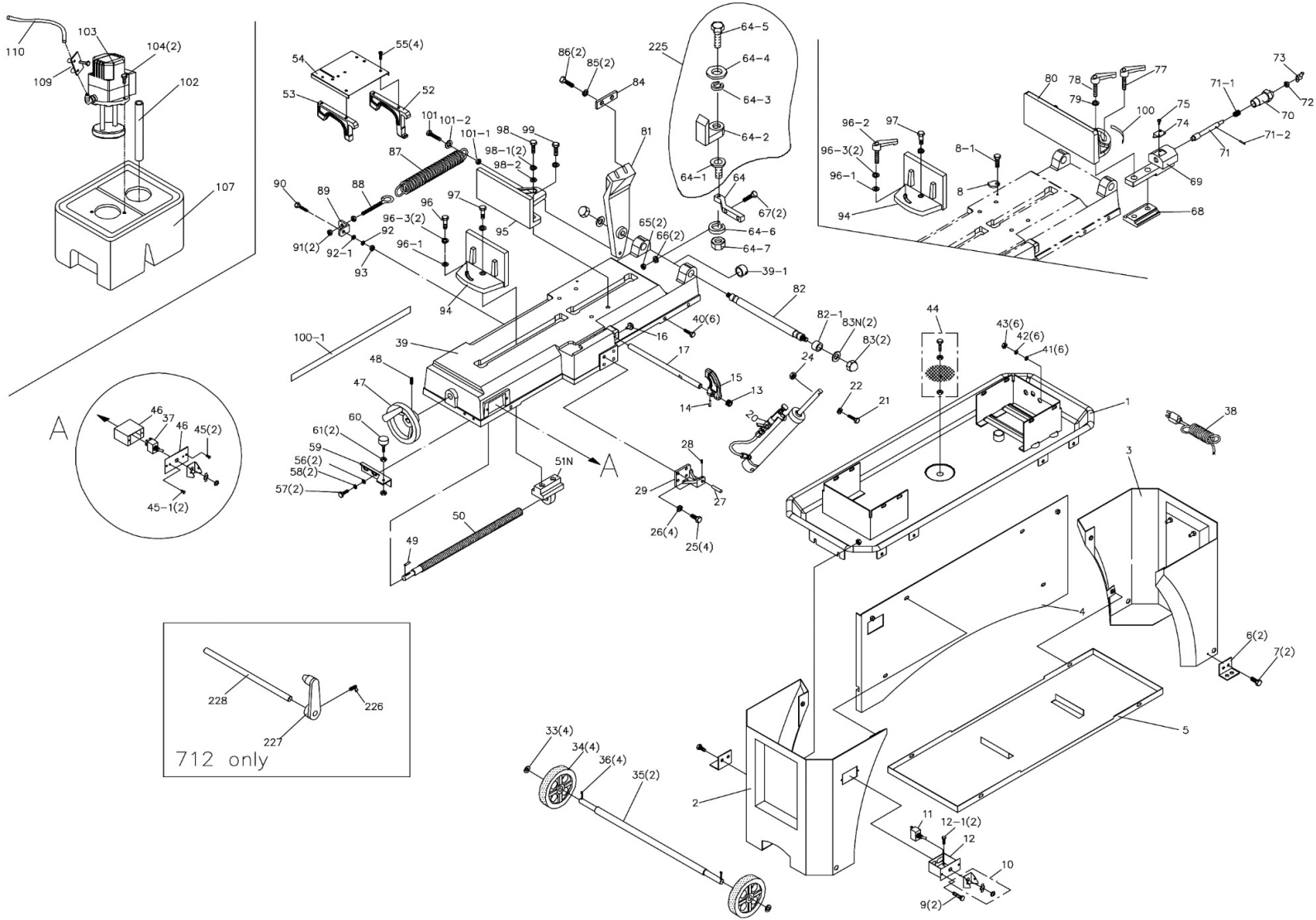
## 12.0 Replacement Parts

Replacement parts are listed on the following pages. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

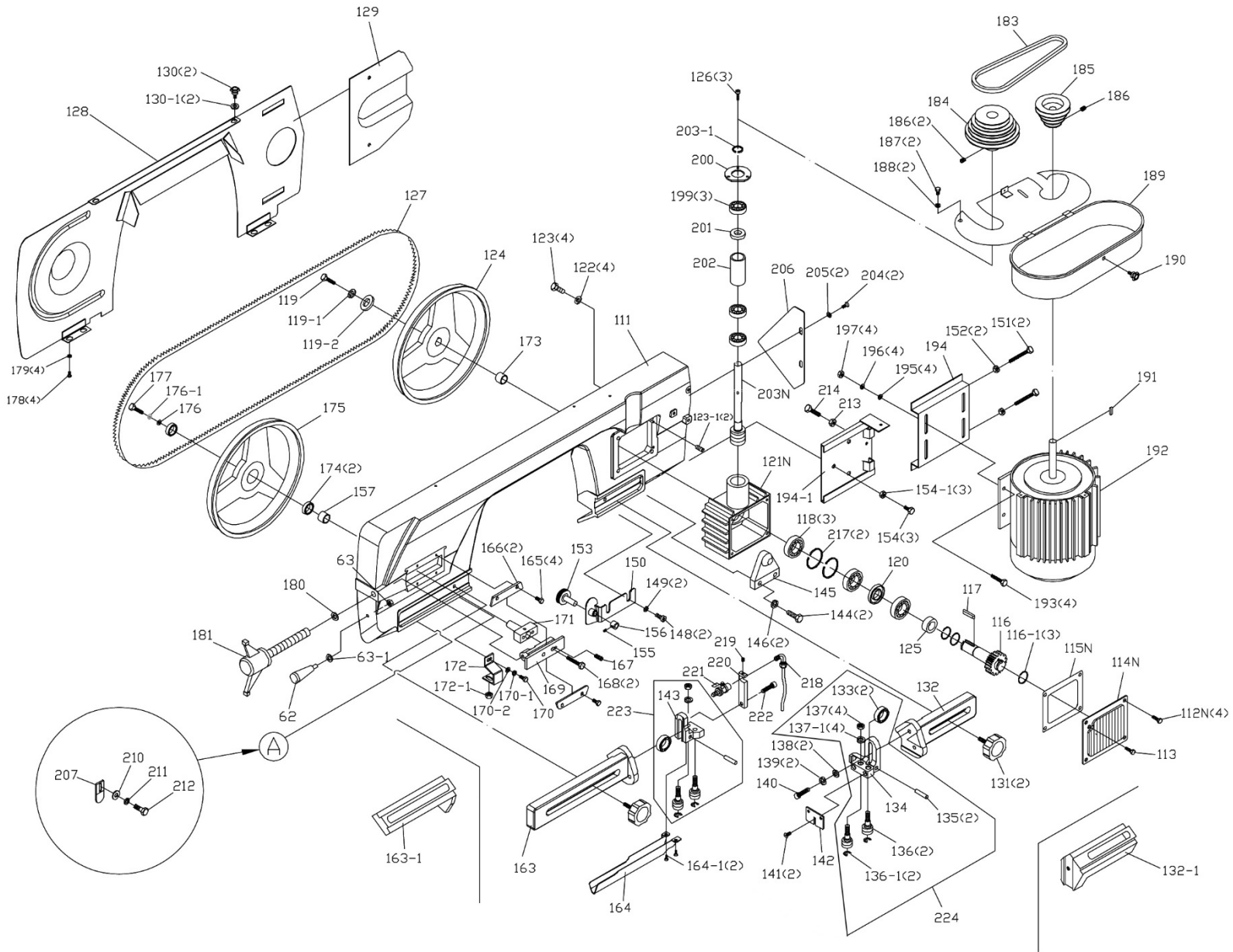
Some parts are shown for reference only, and may not be available individually.

Non-proprietary parts, such as fasteners, can usually be found at local hardware stores, or may be ordered from JET.

# 12.1.1 HVBS-712/712D Bed and Stand Assembly – Exploded View



## 12.1.2 HVBS-712/712D Bow Assembly – Exploded View



### 12.1.3 HVBS-712/712D – Parts List

Index No	Part No	Description	Size	Qty
	HVBS712-SA	Stand Assembly (includes #1 thru 5)		1
1	HVBS712-01	Water Tray		1
2	HVBS712-02	Stand – Left		1
3	HVBS712-03	Stand – Right		1
4	HVBS712-04	Front Plate		1
5	HVBS712-05	Pump Support Plate		1
6	HVBS712-06	Shipping Brace		2
7	TS-0051011	Hex Cap Screw	5/16" x 1/2"	2
8	HVBS712-08	90-Degree Plate		1
8-1	TS-081F032	Phillips Pan Head Machine Screw	1/4" x 1/2"	1
9	6293226	Phillips Pan Head Machine Screw	3/16" x 3/8"	2
10	HVBS712-10	Switch Guard Kit		1
11	HVBS712-11	Toggle Switch		1
	HVBS712-11A	Toggle Switch with Guard Assembly (includes #10,11)		1
12	HVBS712-12	Electrical Box		1
12-1	5711571	Phillips Pan Head Machine Screw	3/16"x1/4"	2
13	HVBS712-13	Threaded Collar (712D only)		1
14	HVBS712-14	Plastic Knob (712D only)	1/4" x 1/2"	1
15	HVBS712-15	Work Stop (712D only)		1
16	HVBS712-16	Knob	1/4" x 1/2"	1
17	HVBS712-17	Work Stop Rod (712D only)		1
20	HVBS712-18	Hydraulic Cylinder Assembly		1
21	TS-1505061	Socket Head Cap Screw	M10x40	1
22	TS-1550071	Flat Washer	M10	1
24	TS-1540071	Hex Nut	M10	1
25	TS-0060051	Hex Cap Screw	3/8" x 1"	4
26	TS-0720091	Lock Washer	3/8"	4
27	HVBS712-27	Cylinder Support Shaft		1
28	TS-0267041	Set Screw	1/4" x 3/8"	1
29	HVBS712-29	Lower Cylinder Support		1
33	TS-0680081	Flat Washer *	5/8"	4
34	5518229N	Wheel	8"	4
35	HVBS712-35	Wheel Shaft		2
36	5518231N	Cotter Pin *		4
37	HVBS7MW-31AN	Toggle Switch with Guard Assembly		1
38	HVBS7MW-26	Power Cord	18AWGx3C	1
	HVBS7MW-26-1	Power Cord for Motor (not shown)		1
	HVBS7MW-26-2	Power Cord for Pump (not shown)		1
39	HVBS712-39	Bed		1
39-1	HVBS712-39-1	Strain Relief	MG16A-10B	1
40	TS-0051051	Hex Cap Screw	5/16 "x 1"	6
41	TS-0680031	Flat Washer	5/16"	5
42	TS-0720081	Lock Washer	5/16"	5
43	TS-0561021	Hex Nut	5/16"	5
44	HVBS7MW-29	Filter Assembly		1
45	HVBS7MW-30	Pan Head Cross Screw	3/16" x 3/8"	2
45-1	5711571	Phillips Pan Head Machine Screw	3/16"x1/4"	2
46	HVBS712-46	Main Switch Box		1
47	HVBS712-47	Handwheel		1
48	TS-0270031	Set Screw	5/16" x 3/8"	1
49	HVBS712-49	Round Key	5x20	1
50	HVBS712-50	Lead Screw		1
51N	HVBS7MW-35	Nut Seat		1
52	HVBS712-52	Support B (712D only)		1
53	HVBS712-53	Support A (712D only)		1
54	HVBS712-54	Table Plate		1
55	F010696	Socket Head Flat Screw *	1/4" x 3/8"	4
56	TS-0680031	Flat Washer	5/16"	2
57	TS-0051031	Hex Cap Screw	5/16" x 5/8"	2
58	TS-0720081	Lock Washer	5/16"	2



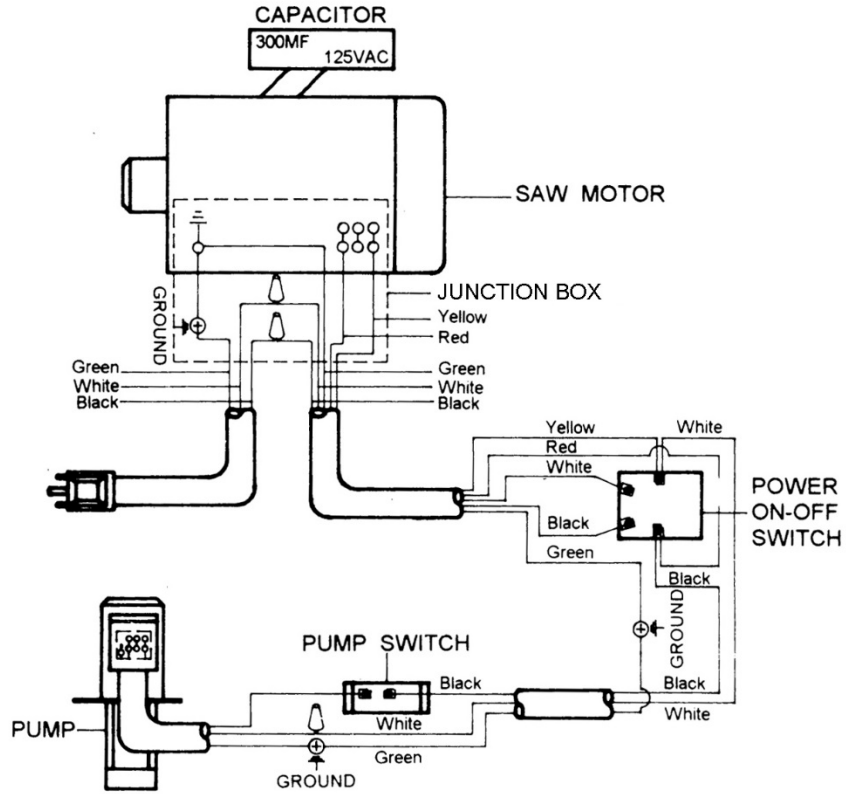
Index No	Part No	Description	Size	Qty
59	HVBS7MW-37	Support Plate		1
60	HVBS7MW-38	Stop Screw		1
61	TS-0561021	Hex Nut	5/16"	2
62	HVBS712-62	Plastic Knob	M12	1
63	TS-1540081	Hex Nut	M12	1
63-1	TS-2360121	Flat Washer	M12	2
64	HVBS7MW-41	90 degree Support		1
64-1	HVBS7MW-151	Support Screw		1
64-2	HVBS7MW-152	Bracket		1
64-3	HVBS7MW-153	Spring		1
64-4	HVBS7MW-154	Spring Cap		1
64-5	HVBS7MW-155	Socket Head Cap Screw	3/16" x 1/2"	1
64-6	TS-0720091	Lock Washer	3/8"	1
64-7	TS-0561031	Hex Nut	3/8"	1
65	TS-0561031	Hex Nut	3/8"	2
66	TS-0720091	Lock Washer	3/8"	2
67	TS-0060071	Hex Cap Screw	3/8" x 1-1/2"	2
68	HVBS712-68	T- Block		1
69	HVBS712-69	Miter Vise Support Bracket		1
70	HVBS712-70	Angle Lock Screw		1
71	HVBS712-71	Locking Pin		1
71-1	HVBS712-71-1	Spring		1
71-2	JNS7033-33	Roll Pin	Ø3x25L	1
72	TS-0561011	Hex Nut	1/4"	1
73	HVBS712-73	Plastic Knob	1/4"	1
74	HVBS712-74	Indicator		1
75	HVBS710S-175	Round Cross Screw	3/16" X 1/4"	2
77	HVBS712-77	Quick Handle	1/2" x 1-1/2"	1
78	HVBS712-78	Quick Handle	1/2" x 2-1/2"	1
79	TS-0680061	Flat Washer	1/2"	1
80	HVBS712-80	Vise Jaw, Right (712D only)	Deluxe model	1
81	HVBS712-81	Pivot Arm		1
82	HVBS712-82	Support Shaft	Ø22	1
82-1	HVBS712-82-1	Spacer		1
83	HVBS712-83	Locking Nut	1/2"	2
83N	TS-0680061	Flat Washer	1/2"	2
84	HVBS7MW-60	Arm Support Plate		1
85	TS-0720091	Lock Washer	3/8"	2
86	TS-0060071	Hex Cap Screw	3/8" x 1-1/2"	2
87	HVBS712-87	Extension Spring		1
88	HVBS712-88	Eye Bolt		1
89	HVBS712-89	Spring Bracket		1
90	TS-0051051	Hex Cap Screw	5/16" x 1"	2
91	TS-0561031	Hex Nut	3/8"	2
92	TS-0720081	Lock Washer	5/16"	1
92-1	TS-0680031	Flat Washer	5/16"	1
93	TS-0561021	Hex Nut	5/16"	1
94	HVBS712-94	Vise Jaw – Left (712 & 712D)	Deluxe Model	1
95	HVBS7MW-58	Vise Jaw – Right (712 only)	Base Model	1
96	TS-0060071	Hex Cap Screw	3/8 x 1-1/2"	1
96-1	TS-0680041	Flat Washer	3/8"	2
96-2	HVBS712-96-2	Quick Handle	3/8" x 1-1/2"	1
96-3	TS-0720091	Lock Washer	3/8"	2
97	TS-0060071	Hex Cap Screw (712 only)	3/8" x 1-1/2"	1
98	TS-0070031	Hex Cap Screw	1/2" x 1-1/2"	1
98-1	TS-0720111	Lock Washer	1/2"	2
98-2	TS-0680061	Flat Washer	1/2"	1
99	TS-0100041	Hex Cap Screw	1/2" x 1-1/4"	1
100	HVBS712-100	Scale (712D only)	Deluxe Model	1
100-1	HVBS712-100-1	Scale (712 only)	Base Model	1
101	TS-0209081	Socket Head Cap Screw	3/8" x 1-3/4"	1
101-1	TS-0561031	Nut	3/8"	1

Index No	Part No	Description	Size	Qty
101-2	TS-0680041	Flat Washer	3/8"	1
102	HVBS712-102W	Hose	1"	1
103	HVBS712-103W	Coolant Pump	1/8HP 115/230V	1
104	TS-0050031	Hex Cap Screw	1/4" x 3/4"	4
107	HVBS712-107N	Coolant Tank		1
109	HVBS7MW-68	Hose Clamp	13mm	1
110	HVBS712-110W	Hose	5/16"	1
111	HVBS712-111W	Bow		1
112N	HVBS712-112N	Hex Cross Head Bolt	1/4" X1/2"	4
113	HVBS7MW-71	Vent Plug		1
114N	HVBS7MW-72G	Gear Box Cover		1
115N	HVBS7MW-73	Gear Box Gasket		1
116	HVBS712-116N	Worm Gear		1
116-1	HBS916W-49	C-Ring	S25	1
117	HVBS7MW-142	Key	6x6x20	1
118	BB-6005Z	Ball Bearing	6005	3
119	TS-0060051	Hex Cap Screw	3/8" x 1"	1
119-1	TS-0720091	Lock Washer	3/8"	1
119-2	HVBS7MW-145	Flat Washer	3/8"x35x4	1
120	HVBS7MW-78	Oil Seal	25. 47. 7	1
121N	HVBS7MW-79G	Gear Box		1
122	TS-0720081	Lock Washer	5/16"	4
123	TS-0081051	Hex Cap Screw	5/16" x 1-1/4"	4
123-1	TS-0207072	Socket Head Cap Screw	1/4" X 1/4"	2
124	HVBS7MW-80N	Blade Drive Wheel		1
125	HVBS7MW-81	Worm Bushing		1
126	TS-0206021	Socket Head Cap Screw	3/16" x 3/8"	3
127	414304	Bi-Metal Blade	3/4x0.035x93 6/10VT	1
128	HVBS712-128W	Rear Guard		1
129	HVBS7MW-83	Wheel Cover		1
130	HVBS7MW-85	Plum Screw		2
130-1	TS-0680021	Flat Washer	1/4"	2
131	HVBS7MW-86	Lock Knob		2
132	HVBS712D-132	Adjustable Bracket – Right (712D only)	Deluxe Model	1
132-1	HVBS7MW-87	Adjustable Bracket – Right (712 only)	Base Model	2
133	BB-608ZZ	Ball Bearing	608ZZ	2
134	HVBS712-134W	Adjustable Blade Seat – Right		1
135	HVBS7MW-90	Bearing Pin		2
136	HVBS7MW-91	Eccentric Shaft Assembly (outside)		2
136-1	HVBS7MW-91A	Center Shaft Assembly (inside)		2
137	TS-0561031	Hex Nut	3/8" x 24UNF	4
137-1	TS-0720091	Lock Washer	3/8"	4
138	TS-0680031	Flat Washer	5/16"	2
139	TS-0720081	Lock Washer	5/16"	2
140	HVBS712-140W	Hex Socket Cap Screw	5/16" x 1-1/8"	1
141	HVBS712-141W	Flat Pan Head Screw	1/4" X 3/8"	2
142	HVBS712-142	Deflector Plate		1
143	HVBS712-143W	Adjustable Blade Seat – Left		1
144	TS-0060031	Hex Cap Screw	3/8" X 3/4"	2
145	HVBS712-145N	Upper Cylinder Support		1
146	TS-0720091	Lock Washer	3/8"	2
148	TS-0813032	Round Head Screw	1/4" x 1/2"	2
149	TS-0680021	Flat Washer	1/4"	2
150	HVBS712-150N	Brush Holder		1
151	TS-0051071	Hex Cap Screw	5/16" X 1-1/2"	2
152	TS-0561021	Nut	5/16"	2
153	HVBS7MW-100	Wire Brush		1
154	TS-0051021	Hex Cap Screw	5/16" x 5/8"	3
154-1	TS-0720081	Lock Washer	5/16"	3
155	TS-0267021	Set Screw	1/4"	1
156	HVBS7MW-109	Brush Support		1
157	HVBS712-157W	Bearing Bushing – Left		1

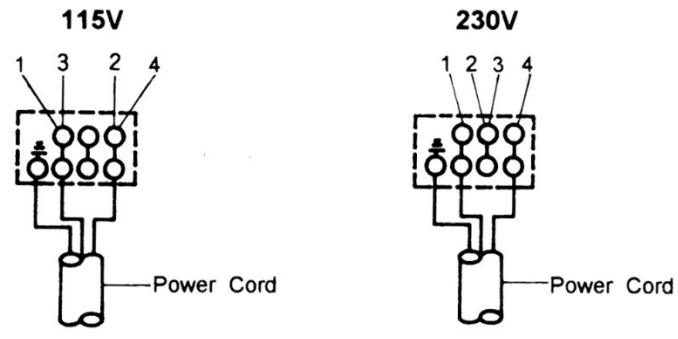
Index No	Part No	Description	Size	Qty
163	HVBS712D-163	Adjustable Bracket – Left (712D only)	Deluxe Model	1
163-1	HVBS712-163-1	Adjustable Bracket – Left (712 only)	Base model	1
164	HVBS712-164W	Blade Guard		1
164-1	HVBS712-164-1	Round Head Screw	3/16" x 1/4"	2
165	TS-0050011	Hex Cap Screw	1/4" x 1/2"	4
166	HVBS7MW-111	Guide Plate		2
167	TS-0270071	Set Screw	5/16" x 3/4"	1
168	TS-0051071	Hex Cap Screw	5/16" x 1-1/2"	2
169	HVBS712-169W	Blade Tension Block		1
170	TS-0050011	Hex Cap Screw	1/4" x 1/2"	1
170-1	TS-0720071	Lock Washer	1/4"	1
170-2	TS-0680021	Flat Washer	1/4"	1
171	HVBS712-171	Sliding Draw Block		1
172	HVBS7MW-164	Shipping Bracket (for shipping purposes only)		1
172-1	TS-0561021	Nut	5/16"	1
173	HVBS712-173W	Bearing Bushing – Right		1
174	BB-6203ZZ	Ball Bearing	6203ZZ	2
175	HVBS7MW-119	Blade Idler Wheel		1
176	TS-0680031	Flat Washer	5/16"	1
176-1	TS-0720081	Lock Washer	5/16"	1
177	TS-0081031	Hex Cap Screw	5/16" x 3/4"	1
178	TS-081F031	Round Head Screw	1/4" x 1/2"	2
179	TS-0680021	Flat Washer	1/4"	2
180	TS-0680041	Flat Washer	3/8"	1
181	HVBS712-181W	Blade Tension Handle		1
183	VB-3V270	V-Belt	3V270	1
184	HVBS7MW-123	Worm Pulley		1
185	HVBS7MW-124	Motor Pulley		1
186	TS-0267041	Set Screw	1/4" X 3/8"	3
187	HVBS7MW-125	Hex Cap Screw *	1/4" X 1/2"	2
188	TS-0680021	Flat Washer *	1/4"	2
189	HVBS7MW-126	Pulley Cover		1
190	HVBS7MW-127	Lock Screw *		1
191	HVBS7MW-141	Key	5x5x20	1
192	HVBS7MW-129	Motor	3/4HP 1PH	1
	HVBS7MW-129A	Motor Fan (not shown)		1
	HVBS7MW-129B	Motor Fan Cover (not shown)		1
	HVBS7MW-129C	Capacitor Cover (not shown)		1
	HVBS7MW-JBC	Junction Box Cover (not shown)		1
	HVBS7MW-129SC	Start Capacitor (not shown)	300MFD 125VAC	1
193	TS-0081051	Hex Cap Screw	5/16" x 1"	4
194	HVBS7MW-130G	Motor Mount Plate (upper)		1
194-1	HVBS7MW-138G	Motor Support Plate (bottom)		1
195	TS-0680031	Flat Washer	5/16"	4
196	TS-0720081	Lock Washer	5/16"	4
197	TS-0561021	Hex Nut	5/16"	4
199	BB-6003Z	Ball Bearing	6003	3
200	HVBS7MW-162	Block Plate		1
201	HVBS7MW-134	Oil Seal	17 x 35 x 7	1
202	HVBS7MW-135	Bearing Bushing		1
203N	HVBS712-203N	Worm Shaft		1
203-1	HVBS7MW-131	C-Ring	S17	1
204	TS-0050021	Hex Cap Screw	1/4" X 5/8"	2
205	TS-0680021	Flat Washer	1/4"	2
206	HVBS7MW-137	Rubber Flap		1
207	HVBS7MW-116	Switch Cut-Off		1
210	TS-0680021	Flat Washer	1/4"	1
211	TS-0720071	Lock Washer	1/4"	1
212	TS-0050011	Hex Cap Screw	1/4" x 1/2"	1
213	TS-0561021	Hex Nut	5/16"	1
214	TS-0051071	Hex Cap Screw	5/16" X 1-1/2"	1
217	HVBS7MW-77	C-Ring	R47	2

Index No	Part No	Description	Size	Qty
218	HVBS7MW-101	Nozzle Cock		1
219	TS-0267021	Set Screw	1/4"x1/4"	3
220	HVBS712-103-1	Nozzle Cock Support		1
221	HVBS7MW-104	Valve		1
222	HVBS710S-166	Hex Socket Cap Screw	5/16" X 1-1/8"	2
223	HVBS712-218W	Left Blade Guide Assembly		1
224	HVBS712-219W	Right Blade Guide Assembly		1
225	HVBS7MW-152A	Arm Stop Assembly CP (incl. #64-1 thru 64-5)		1
226	HVBS7MW-44	Thumb Screw (712 only)	Base model	1
227	HVBS7MW-45	Stop Block (712 only)	Base model	1
228	HVBS7MW-46	Stop Rod (712 only)	Base model	1
	JET-113	JET Logo with 3M Adhesive (not shown)	113 x 47mm	1
	LM000136	ID Label HVBS-712 (not shown)	Base model	1
	LM000137	ID Label HVBS-712D (not shown)	Deluxe model	1
	LM000138	Motor Label (not shown)		1
	HBS1018W-205	Warning Label (not shown)		1
	HVBS712-HP	Hardware Package (includes items with *)		

# 13.0 Electrical Connections – HVBS-712/712D Band Saw



**Main Motor Dual Voltage Wiring**



**Coolant Pump Dual Voltage Wiring**

