Operating Instructions and Parts Manual
12″x20″ Dual Column Band Saw
Model HBS-1220DC

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Part No. M-413400
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1.0 IMPORTANT SAFETY INSTRUCTIONS

WARNING – To reduce risk of injury:

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 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, JET disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear protective eye wear when operating, servicing, or adjusting machinery. Eyewear shall be impact resistant, protective safety glasses with side shields complying with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection.
7. Always wear leather gloves when handling saw blades. The operator shall not wear gloves when operating the machine.
8. Machinery should be anchored to the floor if there is any risk of moving or shifting during operation.
9. Secure work. Always use the vise to hold work, do not hold the work with your hands.
10. All doors shall be closed, all panels replaced, and other safety guards in place prior to the machine being started or operated.
11. The workpiece, or part being sawn, must be securely clamped before the saw blade enters the workpiece.
12. Be sure that the blade is not in contact with the workpiece when the motor is started. The motor shall be started and you should allow the saw to come up to full speed before bringing the saw blade into contact with the workpiece.
13. Keep hands and arms away from the blade area.
14. Saw must be stopped and electrical supply cut off or machine unplugged before reaching into cutting area.
15. Remove any cut off piece carefully while keeping your hands free of the blade area.
16. Saw must be stopped and electrical supply must be cut off before any blade replacement or adjustment of blade support mechanism is done, or before any attempt is made to change the drive belt or before any periodic service or maintenance is performed on the saw.
17. Remove loose items and unnecessary workpieces from area before starting machine.
18. Bring adjustable saw guides and guards as close as possible to the workpiece.
19. Wear proper apparel. No loose clothing or jewelry which can get caught in moving parts. Confine long hair.
20. Anti-skid floor strips, nonslip footwear and safety shoes are recommended.
21. Wear hearing protection (plugs or muffs) if sound reaches unsafe levels.
22. Avoid contact with coolant, especially guarding your eyes.
23. Make certain the switch is in the OFF position before connecting the machine to the power supply.
24. This saw must be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The saw must be grounded to protect the user from electrical shock. **Caution:** For circuits which are far away from the electrical service box, the wire size must be increased in order to deliver ample voltage to the motor. To minimize power losses and to prevent motor overheating and burnout, the use of wire sizes for branch circuits or electrical extension cords according to the following table is recommended.

Conductor length	AWG (American Wire Gauge) Number
	240 volt lines
0-50 ft.	# 14
50-500 ft.	# 14
Over 100 ft.	# 12

Table 1

25. 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.

26. 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.
27. 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.
28. Maintain all machine tools with care. Follow all maintenance instructions for lubricating and the changing of accessories.
29. No attempt shall be made to modify or have makeshift repairs done to the machine. This not only voids the warranty but also renders the machine unsafe.
30. Keep work area clean. Cluttered areas invite accidents. Keep the floor around the machine clean and free of scrap material, oil and grease.
31. Keep visitors a safe distance from the work area. **Keep children away.**
32. Make your workshop child proof with padlocks, master switches or by removing starter keys.
33. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
34. 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.
35. 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.
36. Use only recommended accessories; improper accessories may be hazardous.
37. Keep saw blades sharp and clean for the best and safest performance.
38. Turn off the machine before cleaning. Use a brush or vacuum to remove chips or debris — do not use bare hands. Never brush away chips while machine is in operation.
39. Do not stand on the machine. Serious injury could occur if the machine tips over.
40. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
41. Avoid dangerous working environments. Do not use stationary machine tools in wet or damp locations. Keep work areas clean and well lit.

⚠ **WARNING:** This product can expose you to chemicals including cadmium and DEHP which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to http://www.p65warnings.ca.gov.

⚠ **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. For more information go to http://www.p65warnings.ca.gov/ and http://www.p65warnings.ca.gov/wood.

SAVE THESE INSTRUCTIONS

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.

2.0 **Table of contents**

Section **Page**

3.0 About this manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model HBS-1220DC Horizontal 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 set forth in this document.

If there are questions or comments, please contact your local supplier or JET. JET can also be reached at our web site: www.jettools.com.

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!

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.

Mail the provided registration card, or register your product online -

http://www.jettools.com/us/en/service-and-support/warranty/registration/

4.0 **Specifications**

Table 2

Stock number	**413400**
Model number	HBS-1220DC
Motor and Electricals	
Main motor type	TEFC induction
Horsepower	3 HP (2.2 kW)
Phase	3 PH
Voltage	230/460V, prewired 230V
Cycle	60 Hz
Listed FLA (full load amps)	7.6/3.8 A
Motor speed	1720 RPM
Drive system	V-belt to gearbox
Gear ratio	1:28
Power cable	CSA 14AWGx4C, 600V ST
Recommended circuit size [1]	20 A
Sound emission [2]	70dB
Hydraulic motor	1HP, 230/460V, 3Ph, 4P, 60Hz, 3.2/1.7A
Vise operation	hydraulic
Coolant pump	1/8HP, 230V/460V, 3PH, 2P, 60Hz ,0.26/0.18A
Lamp switch	12V/6W 110-250VAC
Capacities	
90 deg. Round	11.8 in. (300 mm)
90 deg. Square (WxH)	11.8 x 11.8 in. (300 x 300 mm)
90 deg. Rectangle (WxH)	11.8 x 19.6 in. (300 x 500 mm)
Maximum jaw opening	20 in. (500 mm)
Blade provided (WxTxL)	3/4T; 1-5/16 x 0.043 x 155-1/2 in. (34 x 1.1 x 3,950 mm)
Blade wheel diameter	16 in. (406 mm)
Blade speed	variable within 95~295 FPM
Gearbox	2 L (1/2 gal.)
Hydraulic tank	15 L (4 gal.)
Coolant tank	30 L (7.9 gal.)
Main materials	
Stand	Steel
Bow	Cast iron
Blade wheels	Cast iron
Bed	Cast iron
Vise jaws	Cast iron
General dimensions	
Height of bed from floor	27 in. (685.8 mm)
Overall dimensions, assembled (LxWxH)	81 x 42-1/2 x 54-1/2 in. (2057 x 1080 x 1385 mm)
Shipping dimensions (LxWxH)	89.17 x 48.03 x 61.47 in. (2265 x 1220 x 1560 mm)
Weights	
Net weight (approx.)	1420 lbs (645 kg)
Shipping weight (approx.)	1628 lbs (740 kg)

[1] Subject to local and national electrical codes.
[2] The specified values are emission levels and are not necessarily to be seen as safe operating levels. As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.
L = length, W = width, H = height, T = thickness, FPM = feet per minute

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

5.0 Setup and assembly

5.1 Shipping contents

1 Band saw with installed blade
1 Work stop assembly
1 Operating Instructions and Parts Manual
1 Product registration card
1 Factory-cut test piece
1 Tool box (# HBS1220DC-TBC), containing:
- 4 Leveling pads
- 4 Hex cap screws M16x74 (for leveling)
- 4 Hex nuts M16 (for leveling)
- 1 Phillips screwdriver
- 1 Flat blade screwdriver
- 1 Set of hex wrenches, 2.5~10mm
- 1 Open end wrench, 22/24mm

5.2 Uncrating and spotting

1. Finish uncrating the saw and inspect for damage. Should any have occurred, contact your local distributor. Do not discard packing material until saw is assembled and running satisfactorily.
2. Compare contents of shipping carton with *sect. 5.1*. Report shortages, if any, to your distributor.
3. Remove four screws holding machine to shipping pallet.
4. Leave any packing material between vise jaws and bow intact until band saw has been lifted to its final position.
5. Use hooks through the lifting rings on the corners of the saw stand. Make sure straps or chains are clear of any handles or levers. Lift machine with forklift or hoist and transport to desired location. For best performance, the band saw should be located on a level concrete foundation. Allow room for servicing and for moving large stock around the machine when determining location.
6. Install four screws with hex nuts (provided) into flanges on base, and over the leveling pads. Place a level on the table surface and check side-to-side and front-to-back. Adjust leveling screws until machine is level in both directions and tighten nuts.
7. Clean all rust preventative from surfaces with kerosene or cleaner/degreaser. Do not use gasoline, paint thinner, mineral spirits, etc., as these may damage painted surfaces. After cleaning, apply a light coat of oil to exposed metal surfaces.

5.3 Lubrication

The band saw is shipped with appropriate levels of gear and hydraulic oil. The user should verify these by checking sight glass levels before operating.

Work coolant must be supplied by the operator. See *sect. 10.1.3* for information.

6.0 Electrical connections

⚠WARNING Electrical connections must be made by a qualified electrician in compliance with all relevant codes. This machine must be properly grounded while in use to protect the operator from electrical shock and possible fatal injury.

The HBS-1220DC band saw is rated at 230V, 3-phase. It is prewired for 230 volt. Confirm that power available at the saw's location matches that for which the saw is wired.

After wiring, if saw runs backward, disconnect from power and switch any two of the three power leads.

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

6.1 GROUNDING INSTRUCTIONS

Permanently connected tools: This tool should be connected to a grounded metal permanent wiring system; or to a system having an equipment-grounding conductor. Make sure a disconnect is available for the operator. During hard-wiring of the machine, make sure the fuses have been removed or the breakers have been tripped in the circuit to which the band saw will be connected. ALWAYS FOLLOW PROPER LOCK-OUT, TAG-OUT PROCEDURES.

6.2 Converting to 460 volt

The Band Saw is prewired for 230 volt. To change to 460 volt operation, proceed as follows. Additional purchases will be required: see electrical box parts list for any part numbers to order.

1. Open main motor junction box cover, and change leads based on wiring diagram inside cover. This diagram is also shown in Figure 6-1. (Note: In case of discrepancy, diagram inside junction box cover takes precedence.) Reinstall cover.
2. Remove oil pump motor junction box cover, and change incoming leads for oil pump, based on diagram shown in Figure 6-2. Reinstall cover.
3. Remove coolant pump motor junction box cover, and change incoming leads for coolant pump, based on diagram shown in Figure 6-3. Reinstall cover.
4. Open the electrical box.

5. On the transformer, change the wire position from 230V to 460V.
6. Replace the 230V overload relay **for main motor,** with the 460V overload relay for **main motor.** (Note: additional purchase, see parts list for number to order.) Set new relay to 4.5A.
7. Replace the 230V overload relay for **oil pump**, with the 460V overload relay for oil pump. (Note: additional purchase, see parts list for number to order.) Set new relay to 1.4A.
8. Replace the 1A fuse on the primary side with a 0.5A fuse. (Note: additional purchase, see parts list for number to order.)
9. Voltage conversion is now complete.

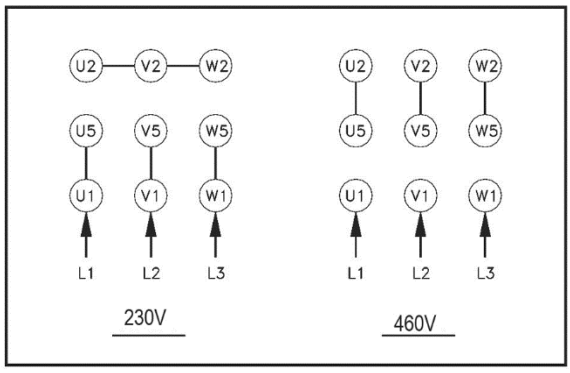


Figure 6-1: main motor wiring

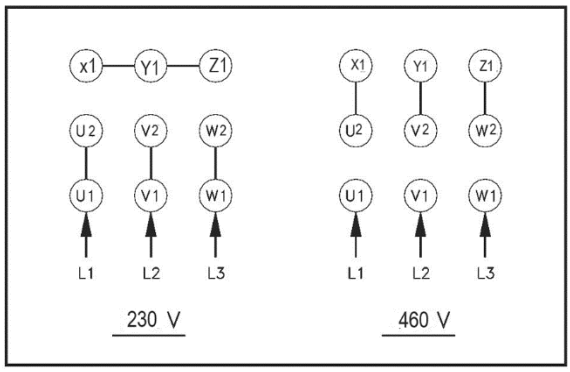


Figure 6-2: oil pump wiring

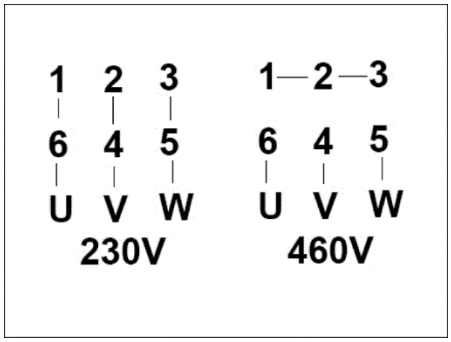


Figure 6-3: coolant pump wiring

7.0 Adjustments

⚠WARNING Disconnect saw from power source before making adjustments, unless indicated otherwise.

7.1 Removing and installing blade

When your machine was shipped, a new blade was supplied and assembled to the saw. When replacement becomes necessary:

1. Raise bow enough for blade to clear table slot. Close the feed rate dial by turning it counterclockwise as far as it will go.
2. Press E-stop button and **disconnect machine from power source.**
3. Remove knobs and open blade wheel covers.
4. Remove red blade guards.
5. Release blade tension by turning tension handle (Figure 7-1) counterclockwise.
6. Remove blade from both wheels and out of each blade guide assembly. **CAUTION: Even dull blades are sharp to the skin. Wear leather work gloves when handling blades.**
7. Clean the swarf out of the blade wheel area.
8. Make sure teeth of new blade are pointing in proper direction of travel.
9. Position new blade on the wheels. **Make sure back of blade is against shoulder of both wheels.**
10. Twist the blade and slip it into the blade guide assemblies NOTE: If roller bearings need adjusting, refer to *sect. 7.6*.
11. When you are sure that back of blade is against shoulder of both wheels and properly inserted into guides, tension the blade.
12. Connect power and jog blade on/off button to be sure blade is in place and tracking properly. If blade is not tracking properly refer to *sect. 7.3.*
13. Adjust wire brush so that it contacts the blade.
14. Install all guards and close covers.

7.2 Blade tension

Blade tension has been preset by the manufacturer for the installed blade at 18,000-20,000 psi (1200-1400 kg/cm^2); if further adjustment is required, or after installing a new blade, turn handwheel (Figure 7-1) clockwise to appropriate tension for the installed blade.

7.3 **Blade tracking**

⚠WARNING Blade tracking requires saw to be operating. It should be performed by qualified persons who are familiar with this adjustment and the dangers associated with it.

Blade tracking has been initially set by the manufacturer. Adjustment is rarely required when blade is correctly welded and used properly. For proper blade tracking, the back of blade should be located against blade wheel shoulder. If it is not, proceed as follows.

NOTE: Do not hurry tracking adjustments. Patience and accuracy here will pay off with more accurate cutting and much longer machine and blade life.

1. Raise bow enough to allow blade to operate.
2. Loosen knobs and open wheel covers.
3. Remove red blade guards.
4. NOTE: Maintain proper tension at all times using blade tensioning mechanism.
5. Slightly loosen screws (A and B, Figure 8-3).
6. Loosen inner screw (C_1).

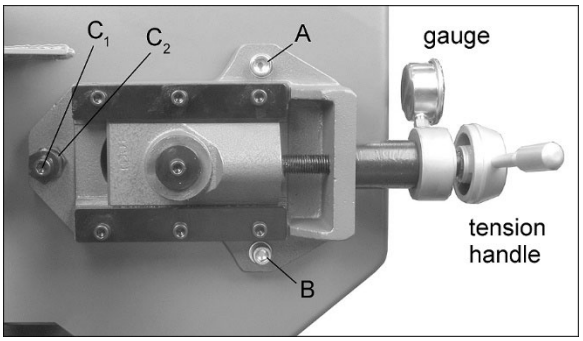


Figure 7-1: blade tension and tracking

⚠CAUTION While performing the following, keep blade from rubbing excessively on wheel shoulder, which can damage wheel and/or blade.

7. Start saw blade, and slowly turn outer screw (C_2) to tilt idler wheel. Turn screw *out* so that blade starts to move away from wheel shoulder; then immediately turn screw *in* so that blade moves slowly back toward shoulder.
8. Turn off saw blade.
9. Hold outer screw (C_2) with a wrench and tighten center screw (C_1). Make sure outer screw does not move while tightening inner screw.
10. Tighten screws A and B.
11. Close blade wheel covers and secure with knobs.
12. Follow blade break-in procedures, *sect. 7.4*.

7.4 **Blade break-in**

A new blade should be “broken in” before normal, extended use. Failure to break in a new blade will shorten the service life of the blade, and result in inefficient cutting performance.

1. Reduce blade speed to 1/2 of normal setting.
2. Set feed rate at 2 to 3 times longer than normal.
3. Make 5 complete cuts at the above settings, through a cylindrical workpiece of about 8-inch diameter. Listen for unusual noises or metallic sounds.
4. If no unusual sounds or other issues are detected, then the blade is ready for normal operations.

7.5 **Support arm adjustment**

The blade guide support arms (Figure 7-2) should be set as close to vise jaw as possible, without causing obstruction. The right arm has minimal adjustment and is set by the manufacturer to clear the fixed vise jaw. The left arm can be moved to accommodate position of floating vise jaw. Loosen handle and slide arm into position, then retighten handle.

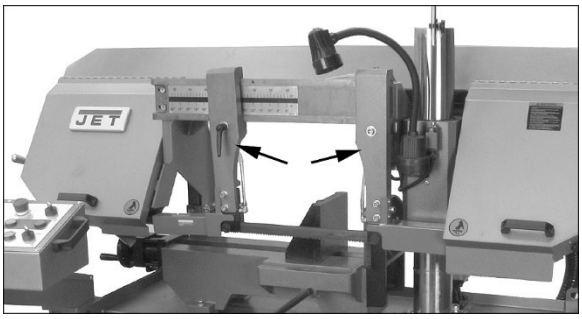


Figure 7-2

7.6 **Blade guide bearing adjustment**

Proper adjustment of blade guide bearings is critical to efficient operation of the saw. The blade guide bearings have been adjusted by the manufacturer. They should rarely require adjustment except after a blade change. Failure to maintain proper blade adjustment may cause serious blade damage or inaccurate cuts.

It is always better to try a new blade when cutting performance is poor. If performance remains poor after changing the blade, make the necessary adjustments.

If a new blade does not correct the problem, check the blade guides for proper spacing. For most efficient operation and maximum accuracy, provide only very slight clearance between blade and guide bearings. The bearings will still turn freely with this clearance. If the clearance is incorrect, the blade may track off the drive wheel.

⚠CAUTION Check blade to make sure welded section is same thickness as rest of blade. If blade is thicker at weld, the guide bearings may be damaged.

If required, adjust guide bearings as follows:

1. Disconnect machine from power source.
2. Two bearing guide assemblies are used in each set of blade guides. The bearings are mounted to eccentric shafts making them adjustable.
3. Loosen hex nut (A, Figure 7-3) while holding the flats of the shaft (B) with a wrench.
4. Position the bearing by turning the shaft. Set the bearing in light contact with blade.
5. Hold the shaft flats stationary while retightening the hex nut.
6. Use knurled knob (C) to tighten carbide guides (D) against blade. Do not overtighten.
7. The back edge of the blade runs against an upper guide (E). This guide is fixed.

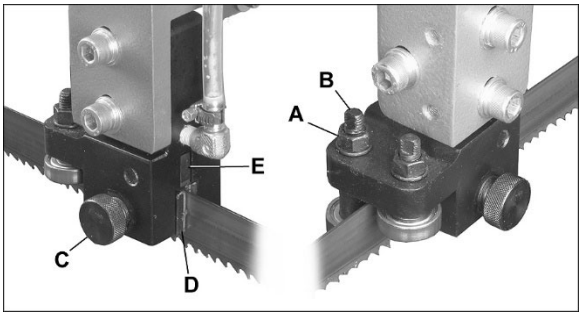


Figure 7-3: blade guides

7.7 Changing blade speed

⚠CAUTION Turn speed adjuster knob only when blade is running. Failure to comply may cause damage to machine.

Figure 7-4: blade speed adjustment

1. Raise blade approximately six inches above workpiece and turn feed rate knob to zero.
2. Turn power on, and turn speed adjuster knob (Figure 8-6) to match appropriate material. Turn counterclockwise to increase speed, clockwise to decrease.
3. The indicator on the mechanism shows speeds in graduations of 93, 115, 165, 200, 260, 295 FPM. The graduations may not match the recommended feed rate; an approximate speed may therefore be required. For example, to set a speed rate of 230 feet per minute, the indicator would be set about midway between 200 and 260 FPM.
4. *Sect. 11.0* shows recommended speeds for basic materials. Refer to a machinist's handbook for more detailed recommendations.

7.8 Vise adjustment

1. Place workpiece between vise jaws with required amount to be cut-off extending out past blade. (Figure 7-6 shows recommended positioning of various workpiece shapes within the vise.)
2. Rotate handwheel to move jaw close to workpiece.
3. Press CLOSE VISE button to tighten jaw against workpiece.
4. Press OPEN VISE button to release workpiece after cut. Use handwheel to retract vise further.

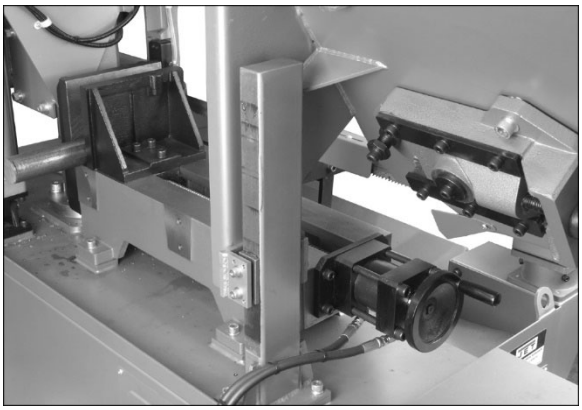


Figure 7-5: vise adjustment

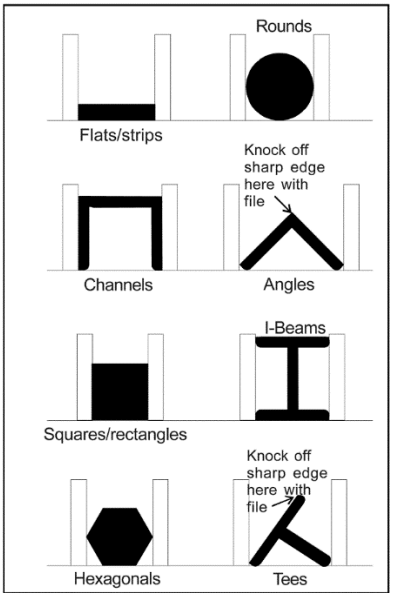


Figure 7-6

7.9 **Adjusting work stop**

The work stop assembly (Figure 7-7) is used when multiple pieces will be cut to identical length. Screw the rod into the threaded hole on the front of fixed jaw, and slide the stop onto the rod. Adjust to desired positions, and tighten all handles and knobs.

The stop can be rotated out of the way when not used.

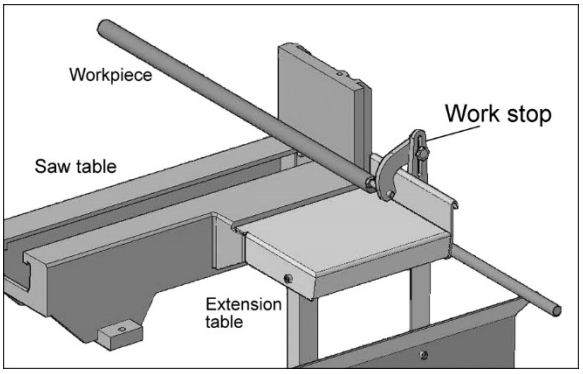


Figure 7-7: work stop

7.10 **Limit switch adjustment**

Limit switches have been correctly adjusted by the manufacturer. If further adjustment is required, proceed as follows.

7.10.1 **Upper Limit Switch**

The upper limit switch stops bow at highest position. It has been correctly set by the manufacturer. If future adjustment is needed, loosen knob and slide rod (A, Figure 7-8). Retighten knob.

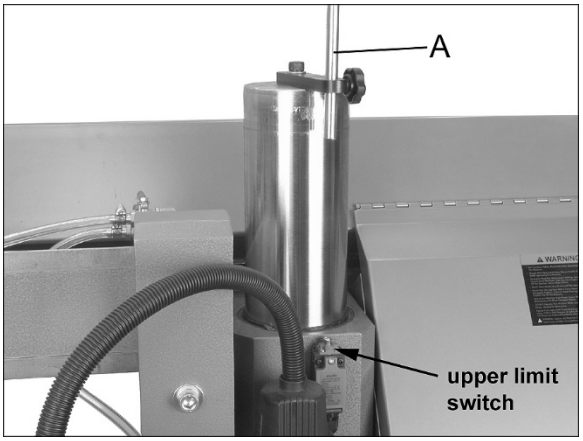


Figure 7-8: upper limit switch

7.10.2 **Lower Limit Switch**

The lower limit switch must be set so that blade stops after workpiece has been cut through. It has been properly set by the manufacturer. If adjustment is needed, loosen jam nut and turn stop screw (B, Figure 7-9) as required. Retighten jam nut.

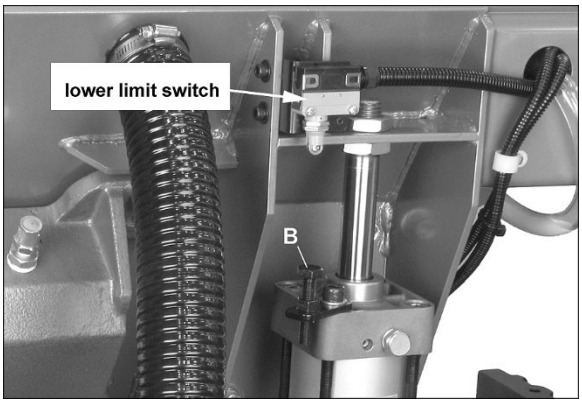


Figure 7-9: lower limit switch

8.0 **Operating controls**

Refer to Figure 8-1.

Power Indicator Light (A) – Illuminates whenever machine is receiving electrical power.

Hydraulic motor (B) – Press to start hydraulic flow.

Bow Up (C_1) – Press to raise bow. Bow will rise until limit switch is activated. *This button is rendered inactive in all modes while blade is engaged in workpiece.*

Bow Down (C_2) – Press to lower bow. Bow will lower until limit switch is activated. *This button is rendered inactive in all modes while blade is engaged in workpiece.*

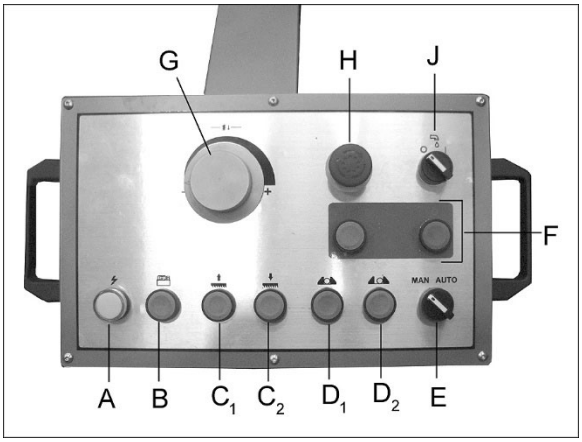


Figure 8-1

Hydraulic Vise Close (D_1) – Press and hold to clamp workpiece in vise, then release.

Hydraulic Vise Open (D_2) – Press and hold to release workpiece in vise.

Manual/Auto Selector (E) – Choose manual or automatic bow movement. In manual mode, bow will stop in lowered position after cut. In auto mode, bow will return to raised position after cut.

Blade Start and Stop (F) – Begins blade action and starts cutting cycle.

Feed Rate Control (G) – sets speed of bow descent, i.e. amount of downward force that is applied to workpiece. The feed rate is proportional to the opening of the valve. Turn knob clockwise to increase feed rate; counterclockwise to reduce feed rate. When set to zero, bow is locked in raised position.

Emergency Stop (H) – Press to instantly stop all machine functions. To restart machine, rotate E-stop button clockwise until it releases. (Note: For normal stopping of blade use the (F) *off* button.)

Coolant Switch (J) – Turn knob to "I" to start coolant flow. Turn to "O" to stop coolant flow. Flow is regulated by the individual valves on the bow.

9.0 Operation

Refer to Figure 8-1.

9.1 General procedure

1. Activate hydraulic motor (B).
2. Set feed rate (G) to zero, and raise bow (C_1).
3. Make sure workpiece is secure within vise (D_1) and set for desired width of cut.
4. Make sure left blade guide bracket is adjusted as close as possible to left vise jaw.
5. Turn selector switch (E) to manual or auto mode (explained in step #8).
6. Activate coolant flow (J).
7. Press Start (F) to begin cutting cycle.
8. Turn feed control (G) to desired rate. Bow will descend until operation is complete.

   Manual mode: Bow remains in down position. Press and hold Bow Up (C_1) to return bow to raised position.

   Auto mode: Bow automatically returns to raised position.

NOTE: Bow Up/Down and Vise Open/Close buttons are rendered inactive while blade is engaging workpiece.

If E-stop (H) is press, all functions will cease. While E-stop is engaged, you may press and hold Blade Up button (C_1) to return bow to raised position. Release the button and bow will stop functioning. To resume operations, rotate E-stop button clockwise until it disengages.

9.2 Blade selection

The HBS-1220DC is provided with a blade adequate for a variety of jobs on a variety of common materials.

Sect. 11.0 shows recommended speeds for various materials. These selections, while appropriate for many shop cutting needs, do not encompass the wide variety of blades of special configuration (tooth pitch and set) and special alloys for cutting unusual or exotic materials.

A coarse blade could be used for a solid steel bar but a finer tooth blade would be used on a thin-wall tube. In general, the blade choice is determined by the thickness of the material; the thinner the material, the finer the tooth pitch.

A minimum of three teeth should be on the workpiece at all times for proper cutting. The blade and workpiece can be damaged if the teeth are so far apart that they straddle the workpiece.

For very high production on cutting of special materials, or for hard-to-cut materials such as stainless steel, tool steel, or titanium, ask your industrial distributor for more specific blade recommendations.

Also, the supplier who provides the workpiece material should be prepared to provide very specific instructions regarding the best blade (and coolant or cutting fluid, if needed) for the material and shape supplied.

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.

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

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

10.0 User-maintenance

⚠WARNING Always disconnect power to machine before performing maintenance, unless indicated otherwise. Failure to comply may result in serious personal injury.

Clean up accumulated saw cuttings after use. Make sure lead screw is kept free of saw cuttings and other material that could cause damage.

Remove dust or debris from motor fan area with a vacuum.

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

Release tension on blade if saw will not be used for a time.

Periodically clean chip sludge from coolant basin.

10.1 Lubrication

See *sect. 10.3,* Table 3, for lubrication chart.

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

Use a light machine oil to lubricate moving parts as needed.

Periodically apply light coat of machine oil to exposed metal surfaces, such as vise bed, to prohibit rust.

10.1.1 Gear box

Drain and refill gear box according to Table 3 recommendations.

Use sight glass (A, Figure 11-2) to check oil level.

To change gear box oil:

1. Connect machine to power and raise bow to a convenient position. Press E-stop.
2. Unscrew and remove drain plug beneath gear box, and allow lubricant to drain completely. Follow local regulations for proper disposal of used oil.

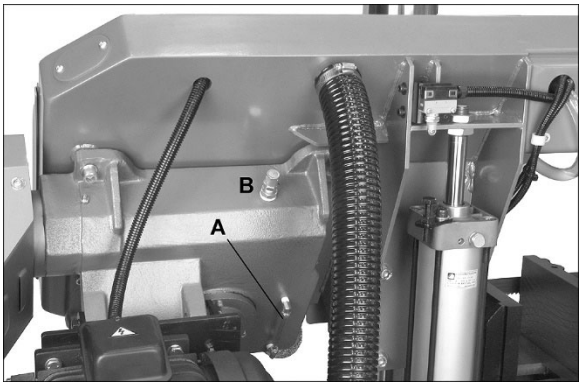


Figure 11-2: gear box drain and fill

3. Reinstall drain plug.
4. Remove fill plug (B) and insert approximately 2L (1/2 gal.) of Mobil® SHC Gear Oil 460, or equivalent, until oil fills the sight glass.
5. Reinstall fill plug.

10.1.2 Servicing hydraulic oil

1. Disconnect machine from power source.
2. Remove hydraulic tank access panel.
3. Check oil level (E, Figure 11-3). If level is below yellow (upper) line, the reservoir should be filled.
4. Disconnect electrical power.
5. Slide out hydraulic tank assembly to access the fill cap.
6. Remove fill cap (not shown).
7. Add oil up to yellow (upper) line. Install fill cap.
8. If a significant amount of oil must be added, check for oil leaks in pump components, lines, and hydraulic cylinder. Correct source of leakage before operating saw.
9. Connect electrical power. Raise and lower bow to confirm that saw is operating correctly.

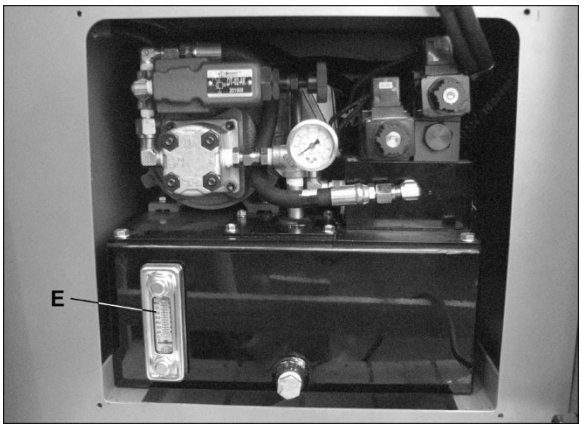


Figure 11-3: hydraulic oil servicing

10.1.3 Coolant

JET offers a bio-degradable, concentrated flood coolant (not provided) formulated for band saws, lathes, and milling machines, with a 20:1 water/coolant mix ratio. See JET website for more information and to order.

414124 JET Bio-Degradable Flood Coolant, 1/2 Gal.

414126 JET Bio-Degradable Flood Coolant, 1 Gal.

414127 JET Bio-Degradable Flood Coolant, 5 Gal.

Filling and Draining

Pour coolant mixture into chip tray so that it drains through strainer into basin. The sight glass is located on front of base.

Numerous cutting fluids on the market are formulated for special applications. Consult your local distributor for details if you have a long range production task or are required to cut more exotic materials. Refer to the cutting fluid provider's instructions for mixing recommendations and fluid life span.

To drain coolant, use drain plug located on front of machine stand. Follow local regulations when disposing of used machine fluids. Apply thread sealing tape to the drain plug before re-installing.

Keep the overflow hole on right side of base, clean and unobstructed.

Different brands of coolant may not mix properly. If changing to new brand, first flush coolant line and sump with an industrial degreaser or cleaner that does not contain silicone or petroleum based ingredients.

10.1.4 **Additional grease/oil points**

See Figures 11-4 and 11-5.

10.2 **Additional servicing**

Any additional servicing should be performed by authorized service personnel.

10.3 **Lubrication recommended schedule**

Item or location	Recommended lubricant	Frequency
Vise lead screw	Light machine oil	Monthly
Hydraulic cylinder pivot areas	Light machine oil	Every 6 months
Blade tension screw	General purpose grease	Every 6 months
Blade brush bearing	Light machine oil	Monthly
Gear box	Mobil® SHC Gear Oil 460, or equivalent multi-purpose gear oil	Check periodically; top off as needed. Change after first 50 hours of operation; then at least once a year (more frequently if heavily used).
Cutting fluid/coolant	(May vary based upon operating needs)	Check level and fluid quality periodically. For flush and refill schedule, refer to cutting fluid/coolant supplier's instructions.
Hydraulic oil	Mobil DTE® Excel Series 32 (or equivalent ISO 32)	Check periodically; top off as needed. Change every 1 to 2 years or after 3000 operating hours, whichever comes first.
Grease fitting, front of column (Figure 11-4)	Mobil Mobilux® 1, or equivalent.	Monthly
Grease fitting, center of driven wheel (Figure 11-4)	Mobil Mobilux® 1, or equivalent.	Monthly
Grease fitting at gear shaft (Figure 11-5)	Mobil Mobilux® 1, or equivalent.	Monthly

Table 3

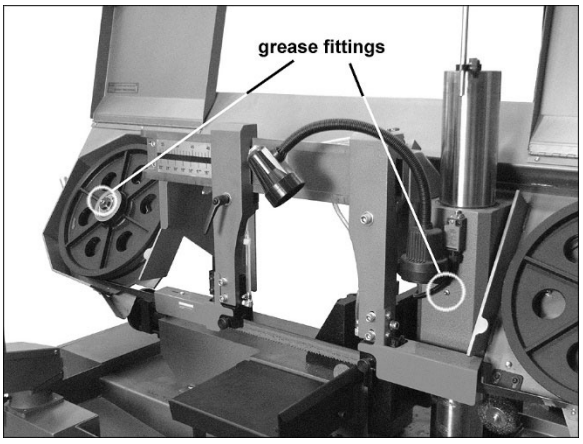


Figure 11-4

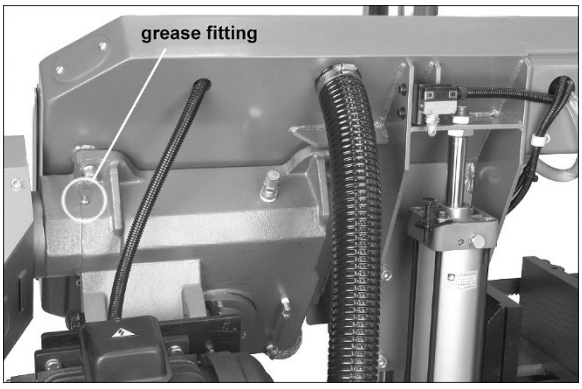
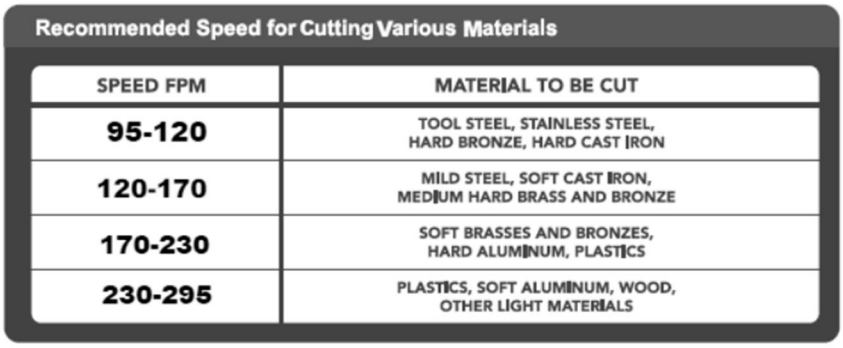


Figure 11-5

11.0 **Blade speed recommendations**



Recommended Speed for Cutting Various Materials

SPEED FPM	MATERIAL TO BE CUT
95-120	TOOL STEEL, STAINLESS STEEL, HARD BRONZE, HARD CAST IRON
120-170	MILD STEEL, SOFT CAST IRON, MEDIUM HARD BRASS AND BRONZE
170-230	SOFT BRASSES AND BRONZES, HARD ALUMINUM, PLASTICS
230-295	PLASTICS, SOFT ALUMINUM, WOOD, OTHER LIGHT MATERIALS

Table 4

12.0 **Troubleshooting HBS-1220DC**

Table 5

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

Symptom	**Possible Cause**	**Correction***
Motor will not start.	No incoming power.	Check plug connection.
	Blown electrical panel fuses or tripped circuit breakers.	Replace fuses, or reset breakers.
	Defective motor, switch, power cable, or plug.	Qualified electrician/service personnel should inspect these items.
Motor runs too hot.	Excessive blade tension.	Reduce tension.
	Drive belt tension too high.	Reduce belt tension.
	Blade too coarse for material (especially with tubular stock).	Use blade with finer tooth pitch.
	Blade too fine for material (especially with heavier, soft material).	Use blade with coarser tooth pitch.
	Insufficient gear lubrication.	Make sure gearbox is filled to sight glass.
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 feed rate and blade speed.
Cuts not square.	Feed rate too fast.	Decrease feed rate.
	Incorrect blade toothing in relation to workpiece.	Check a machinist's handbook for recommended blade type.
	Blade is worn, cutting crooked.	Replace blade.
	Misadjusted or worn blade guides.	Inspect guide assemblies. Adjust or replace items if needed.
	Blade guide assemblies too far apart.	Adjust left guide arm as close to workpiece as possible.
	Workpiece incorrectly positioned in vise.	Check positioning and clamping in the vise.

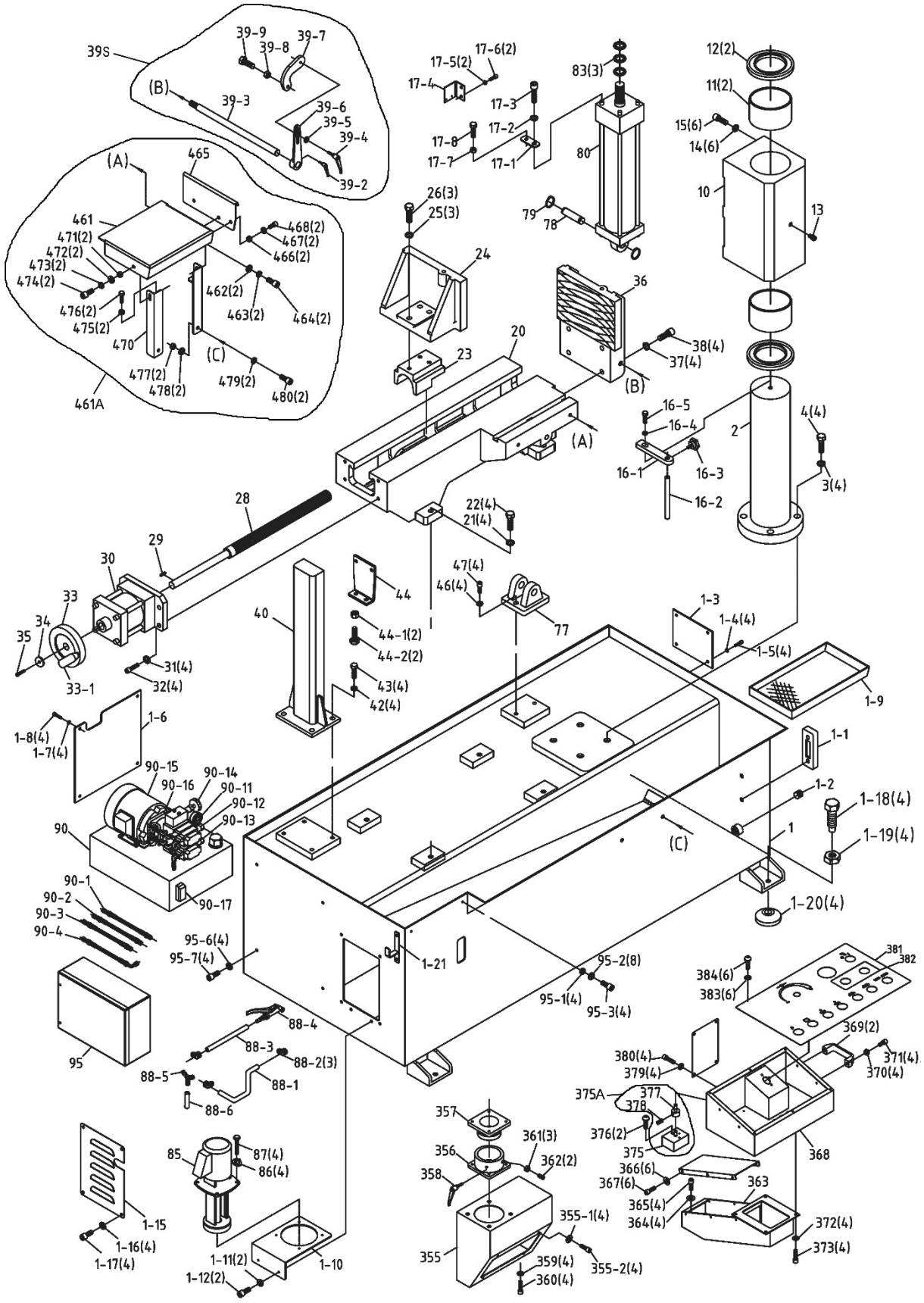
Symptom	Possible Cause	Correction*
Cuts not square (cont.)	Poor blade tension.	Check and correct if needed.
	Blade tracking too far from wheel shoulders.	Adjust blade tracking.
Finished surface of workpiece is rough, unsatisfactory.	Blade is dull.	Replace blade.
	Improper blade for cutting operation.	Check a machinist's handbook for blade recommendations.
	Feed rate too fast.	Reduce feed rate.
Excessive blade breakage.	Incorrect blade tension.	Adjust blade tension.
	Incorrect blade speed or feed rate.	Adjust accordingly.
	Workpiece loose in vise.	Clamp workpiece securely.
	Blade rubs on wheel flange.	Adjust blade tracking.
	Tooth pitch too coarse for material.	Use appropriate blade for material.
	Teeth in contact with workpiece before saw is started.	Start motor before blade contacts workpiece.
	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.
Unusual wear on side/back of blade.	Blade guides worn.	Replace guides.
	Blade guide bearings not adjusted.	Adjust blade guide bearings.
	Blade guide bearing bracket is loose.	Tighten blade guide bearing bracket
Premature blade dulling.	Teeth too coarse.	Use finer tooth blade.
	Blade speed too fast.	Reduce speed.
	Inadequate feed rate.	Adjust cylinder dial setting as needed.
	Hard spots or scale on material.	Hard Spots: Increase feed rate. Scale: Reduce speed and increase feed rate.
	Work hardening of material (especially stainless steel).	Increase feed rate.
	Blade installed backwards.	Remove blade, twist inside-out and re-install.
	Insufficient blade tension.	Adjust tension as needed.
No coolant flow.	Filter screen clogged.	Clean filter screen.
	Coolant level low.	Add coolant to tank.
	Pump motor burned out.	Replace pump.

13.0 **Replacement Parts**

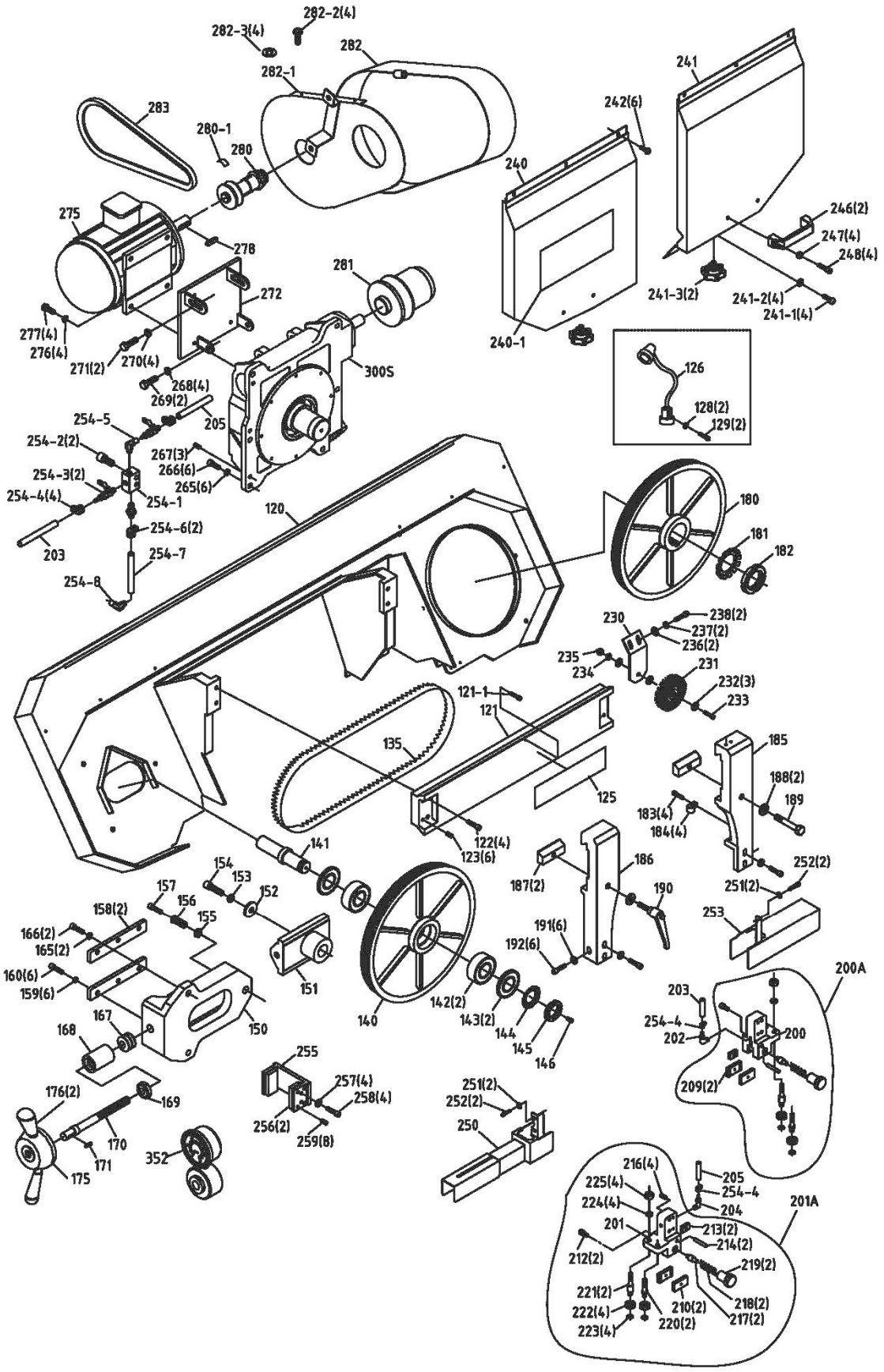
Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Non-proprietary parts, such as fasteners, can be found at local hardware stores, or may be ordered from JET. Some parts are shown for reference only, and may not be available individually.

13.1.1 **HBS-1220DC Base Assembly – Exploded View**



13.1.2 **HBS-1220DC Bow Assembly – Exploded View**



13.1.3 **HBS-1220DC – Parts List**

Index No	Part No	Description	Size	Qty
1	HBS1220DC-1	Stand		1
1-1	HBS1220DC-1-1	Coolant Gauge		1
1-2	HBS1220DC-1-2	Oil Hole Plug	PT3/8	1
1-3	HBS1220DC-1-3	Side Cover		1
1-4	TS-2361061	Lock Washer	M6	4
1-5	TS-1534042	Phillips Pan Hd Machine Screw	M6X12L	4
1-6	HBS1220DC-1-6	Rear Cover		1
1-7	TS-2361061	Lock Washer	M6	4
1-8	TS-1534042	Phillips Pan Hd Machine Screw	M6X12L	4
1-9	HBS1220DC-1-9	Chip Tray		1
1-10	HBS1220DC-1-10	Bracket		1
1-11	TS-2361061	Lock Washer	M6	2
1-12	TS-1534042	Phillips Pan Hd Machine Screw	M6X12L	2
1-15	HBS1220DC-1-15	Left Side Cover		1
1-16	TS-2361061	Lock Washer	M6	4
1-17	TS-1534042	Phillips Pan Hd Machine Screw	M6X12L	4
1-18	HBS1220DC-1-18	Level Screw	M16x74L	4
1-19	TS-154010	Hex Nut	M16	4
1-20	HBS1220DC-1-20	Level Pad		4
1-21	HBS1220DC-1-21	Hook Plate		1
2	HBS1220DC-02	Column		1
3	TS-2361161	Lock Washer	M16	4
4	HBS1220DC-04	Hex Cap Screw	M16X45L	4
10	HBS1220DC-10	Guide Block		1
11	HBS1220DC-11	Bushing	110x115x95L	2
12	HBS1220DC-12	Oil Seal	DKB110x126x12B	2
13	HBS1220DC-13	Grease Fitting	PT1/8	1
14	TS-2361121	Lock Washer	M12	6
15	TS-1506041	Socket Head Cap Screw	M12X35L	6
16-1	HBS1220DC-16-1	Upper Support Plate		1
16-2	HBS1220DC-16-2	Support Rod		1
16-3	HBS1220DC-16-3	Plum Screw	M6x13L	1
16-4	TS-2361101	Lock Washer	M10	1
16-5	TS-1505031	Socket Head Cap Screw	M10X25L	1
17-1	HBS1220DC-17-1	Upper Stop Plate		1
17-2	TS-2361101	Lock Washer	M10	1
17-3	TS-1505021	Socket Head Cap Screw	M10X20L	1
17-4	HBS1220DC-17-4	Lower bracket		1
17-5	TS-2361061	Lock Washer	M6	2
17-6	6286490	Socket Head Cap Screw	M6X15L	2
17-7	TS-1540071	Hex Nut	M10	1
17-8	TS-149105	Socket Head Cap Screw	M10X35L	1
20	HBS1220DC-20	Base		1
21	TS-2361121	Lock Washer	M12	4
22	TS-1506061	Socket Head Cap Screw	M12X45L	4
23	HBS1220DC-23	Vise Nut		1
24	HBS1220DC-24	Floating Vise Jaw		1
25	TS-2361121	Lock Washer	M12	3
26	TS-1506071	Socket Head Cap Screw	M12X50L	3
28	HBS1220DC-28	Lead Screw		1
29	KF2R5525	Key, Dbl Rd Hd	5X5X25L	1
30	HBS1220DC-30	Hydraulic Cylinder		1
31	TS-2361101	Lock Washer	M10	4
32	TS-1505061	Socket Head Cap Screw	M10X40L	4
33	HBS1220DC-33	Handwheel		1
33-1	HBS1220DC-33-1	Handle		1
34	TS-1550041	Flat Washer	M6	1
35	TS-1503031	Socket Head Cap Screw	M6X12L	1
36	HBS1220DC-36	Fixed Vise Jaw		1
37	TS-2361121	Lock Washer	M12	4

Index No	Part No	Description	Size	Qty
38	TS-1506071	Socket Head Cap Screw	M12X50L	4
39S	HBS1220DC-39S	Material Stop Assembly (includes 39-2~39-9)		1
39-2	HBS1220DC-39-2	Lock Handle	M6x20L	1
39-3	HBS1220DC-39-3	Distance Set Rod		1
39-4	HBS1220DC-39-4	Lock Handle	M8x25L	1
39-5	TS-0680031	Flat Washer	5/16”x27xT3mm	1
39-6	HBS1220DC-39-6	Support Rod		1
39-7	HBS1220DC-39-7	Distance Set Bracket		1
39-8	TS-1540071	Hex Nut	M10	1
39-9	TS-1491081	Hex Bolt	M10x50L	1
40	HBS1220DC-40	Sliding Column		1
42	TS-2361121	Lock Washer	M12	4
43	TS-1506031	Socket Head Cap Screw	M12X30L	4
44	HBS1220DC-44	Transport Fixed Plate		1
44-1	TS-1540071	Hex Nut	M10	2
44-2	TS-1491081	Hex Cap Screw	M10x50L	2
46	TS-2361101	Lock Washer	M10	4
47	TS-1491031	Hex Cap Screw	M10X25L	4
77	HBS1220DC-77	Hydraulic Cylinder Bracket		1
78	HBS1220DC-78	Cylinder Pivot Shaft	D20mmx80mmL	1
79	F006047	C-Retaining Ring Ext	S20	2
80	HBS1220DC-80	Hydraulic Cylinder		1
83	TS-1540231	Hex Nut	M24	3
85	HBS1220DC-84	Coolant Pump	1/8HP/230V/460V/3PH	1
86	TS-2361061	Lock Washer	M6	4
87	6286490	Socket Head Cap Screw	M6x15L	4
88	HBS1220DC-88A	Spray Assembly		1
88-1	HBS1220DC-88-1	Net Tube	ID1/2"x2.8tx126cm	1
88-2	HBS1220DC-88-2	Hose Clamp	D19MM	3
88-3	HBS1220DC-88-3	Net Tube	ID1/2"x2.8tx320cm	1
88-4	HBS1220DC-88-4	Spray Nozzle		1
88-5	HBS1220DC-88-5	3 Way Connector	1/2"	1
88-6	HBS1220DC-88-6	Net Tube	ID1/2"x2.8tx10cm	1
90	HBS1220DC-90	Hydraulic Tank Complete Assembly		1
90-1	HBS1220DC-90-1	Hydraulic tube	1/4"X1/4HX1050L	1
90-2	HBS1220DC-90-1	Hydraulic tube	1/4"X1/4HX1050L	1
90-3	HBS1220DC-90-3	Hydraulic tube	1/4"X1/4HX1600L	1
90-4	HBS1220DC-90-4	Hydraulic tube	1/4"X1/4HX2800L	1
90-11	HBS1220DC-90-11	Oil Pressure Gauge		1
90-12	HBS1220DC-90-12	Solenoid Valve	DSG-02-2D2-A2-N	1
90-13	HBS1220DC-90-13	Solenoid Valve	DSG-02-3D4-A2-N	1
90-14	HBS1220DC-90-14	Solenoid Regulator Valve		1
90-15	HBS1220DC-90-15	Motor	1HP, 230/460V/3Ph/4P	1
90-16	HBS1220DC-90-16	Hydraulic Pump		1
90-17	HBS1220DC-90-17	Oil Gauge		1
95	HBS1220DC-95	Electronic Control Box		1
95-1	TS-1540061	Hex Nut	M8	4
95-2	TS-0680031	Flat Washer	5/16"x23xt2mm	8
95-3	TS-1504041	Socket Head Cap Screw	M8x20L	4
95-6	TS-0680031	Flat Washer	5/16"x23xt2mm	4
95-7	TS-1504041	Socket Head Cap Screw	M8x20L	4
120	HBS1220DC-120	Saw Bow		1
121	HBS1220DC-121	Cross-Support Arm		1
121-1	6286490	Socket Head Cap Screw	M6X15L	1
122	TS-1505071	Socket Head Cap Screw	M10X45L	4
123	TS-1525041	Socket Set Screw	M10X20L	6
125	HBS1220DC-125	Scale		1
126	HBS1220DC-126	Work Lamp	110V/ 6W	1
128	TS-2361061	Lock Washer	M6	2
129	6286490	Socket Head Cap Screw	M6X15L	2
135	413404	Saw Blade	(1.1x34x3950mm) 0.043x0.12x155-1/2"	1
140	HBS1220DC-140	Driven Wheel		1

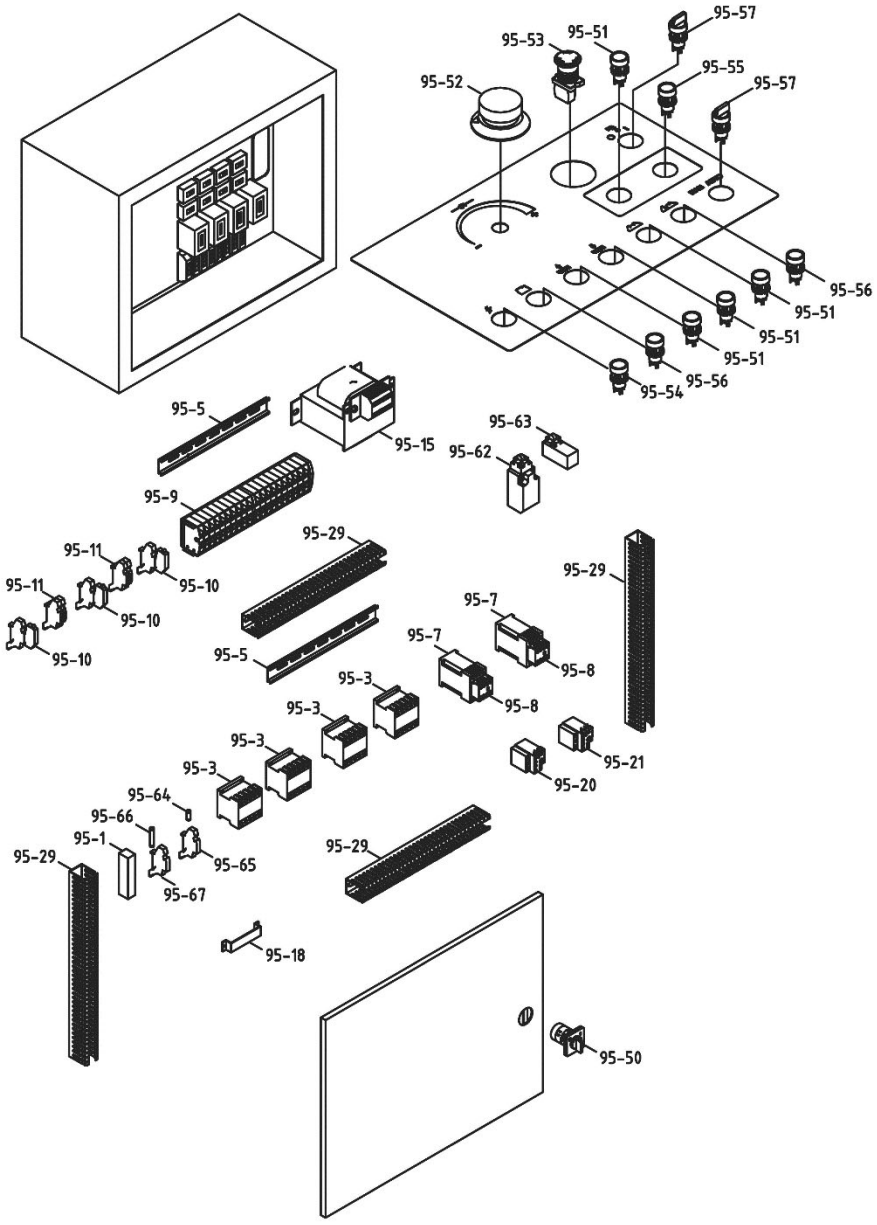
Index No	Part No	Description	Size	Qty
141	HBS1220DC-141	Driven Shaft		1
142	BB-30207J	Tapered Roller Bearing	30207J	2
143	HBS1220DC-143	Bearing Anti-Dust Cover		2
144	HBS1220DC-144	Bearing Lock washer		1
145	HBS1220DC-145	Bearing Lock Nut	M35XP1.5	1
146	HBS1220DC-146	Grease Fitting	PT1/8	1
150	HBS1220DC-150	Tension Slide Bracket		1
151	HBS1220DC-151	Tension Slider		1
152	HBS1220DC-152	Gasket		1
153	TS-2361101	Lock Washer	M10	1
154	TS-1505021	Socket Head Cap Screw	M10X20L	1
155	HBS1220DC-155	Hex Nut	M22 x1.5	1
156	HBS1220DC-156	Adjustable Screw		1
157	HBS1220DC-157	Socket Head Cap Screw	M12X75L	1
158	HBS1220DC-158	Plate		2
159	TS-2361101	Lock Washer	M10	6
160	TS-1505031	Socket Head Cap Screw	M10X25L	6
165	TS-2361141	Lock Washer	M14	2
166	F005477	Socket Head Cap Screw	M14X45L	2
167	HBS1220DC-167	Compression Spring	OD37x70L D=5.5mm	1
168	HBS1220DC-168	Casing	OD50xID41x65L	1
169	BB-51104	Thrust Bearing	51104	1
170	HBS1220DC-170	Blade Tension Shaft		1
171	HBS1220DC-171	Key, Single Rd Hd	6X6X25L	1
175	HBS1220DC-175	Blade Tension knob		1
176	HBS1220DC-176	Handle		2
180	HBS1220DC-180	Driving Wheel		1
181	HBS1220DC-181	Bearing Lock washer		1
182	HBS1220DC-182	Bearing Lock Nut	M65XP2	1
183	TS-1534042	Phillips Pan Hd Machine Screw	M5X10L	4
184	HBS1220DC-184	Hose Clamp	1/4"	4
185	HBS1220DC-185	Right Support Arm		1
186	HBS1220DC-186	Left Support Arm		1
187	HBS1220DC-187	Gib		2
188	TS-0680061	Flat Washer	1/2"X28XT3mm	2
189	TS-1506091	Socket Head Cap Screw	M12X60L	1
190	HBS1220DC-190	Lock Handle	M12X60L	1
191	TS-1550071	Flat Washer	M10	6
192	TS-1505041	Socket Head Cap Screw	M10X30L	6
200A	HBS1220DC-200A	Right Blade Guide Assembly		1
200	HBS1220DC-200	Right Blade Guide		1
201A	HBS1220DC-201A	Left Blade Guide Assembly		1
201	HBS1220DC-201	Left Blade Guide		1
202	HBS1220DC-202	90 Degree Copper Fitting	PT-1/8"X1/4"	1
203	HBS1220DC-203	Tube	1/4"X450mmL	1
204	HBS1220DC-202	90 Degree Copper Fitting	PT-1/8"X1/4"	1
205	HBS1220DC-205	Tube	1/4"X800mmL	1
209	HBS1220DC-209	Guide		2
210	HBS1220DC-210	Guide		2
212	6286490	Socket Head Cap Screw	M6x15L	2
213	HBS1220DC-213	Upper Guide		2
214	HBS1220DC-214	Bearing Pin		2
216	TS-1524051	Socket Head Cap Screw	M8X20L	4
217	HBS1220DC-217	Pressure Shaft		2
218	HBS1220DC-218	Compression Spring		2
219	HBS1220DC-219	Pressure Knob		2
220	HBS1220DC-220	Front Eccentric Shaft		2
221	HBS1220DC-221	Rear Eccentric Shaft		2
222	BB-6200ZZ	Ball Bearing	6200ZZ	4
223	F006040	C-Retaining Ring Ext	S10	4
224	TS-2361101	Lock Washer	M10	4
225	TS-1540071	Hex Nut	M10	4

Index No	Part No	Description	Size	Qty
230	HBS1220DC-230	Brush Holder		1
231	HBS1220DC-231	Wheel Brush		1
232	TS-1550061	Flat Washer	M8	3
233	TS-1504081	Socket Head Cap Screw	M8X40L	1
234	TS-2361081	Lock Washer	M8	1
235	TS-1540061	Hex Nut	M8	1
236	TS-1550041	Flat Washer	M6	2
237	TS-2361061	Lock Washer	M6	2
238	6286490	Socket Head Cap Screw	M6X15	2
240	HBS1220DC-240	Left Driven Wheel Cover		1
240-1	JET-165	JET Logo	165x68	1
241	HBS1220DC-241	Right Drive Wheel Cover		1
241-1	TS-1503041	Socket Head Cap Screw	M6x16L	4
241-2	TS-1550041	Flat Washer	M6	4
241-3	HBS1220DC-241-3	Plum Handle Screw	M6	2
242	TS-2246162	Socket Head Cap Screw	M6X16L	6
246	HBS1220DC-246	D-Handle		2
247	TS-1540061	Hex Nut	M8	4
248	TS-2248202	Socket Head Cap Screw	M8X20L	4
250	HBS1220DC-250	Left Blade Guard		1
251	TS-1550041	Flat Washer	M6	4
252	TS-2246162	Socket Head Cap Screw	M6X16L	4
253	HBS1220DC-253	Right Blade Guard		1
254-1	HBS1220DC-254-1	3 Way Valve		1
254-2	TS-1503071	Socket Head Cap Screw	M6x30L	2
254-3	HBS1220DC-254-3	Copper Ball Valve	PT1/4"X1/4"	2
254-4	HBS1220DC-254-4	Hose Clamp	SUS304X1/4"	4
254-5	HBS1220DC-254-3	90 Degree Copper Fitting	PT1/4"X1/4"	1
254-6	HBS1220DC-254-6	Hose Clamp	SUS304X1/2"	2
254-7	HBS1220DC-254-7	Tube	1/4"	1
254-8	HBS1220DC-254-8	90 Degree Copper Fitting	PT3/8"X1/2"	1
255	HBS1220DC-255	Bracket		1
256	HBS1220DC-256	Sliding plate		2
257	TS-1550061	Flat Washer	M8	4
258	TS-1504041	Socket Head Cap Screw	M8X20L	4
259	TS-1523031	Socket Set Screw	M6X10L	8
265	TS-2361121	Lock Washer	M12	6
266	TS-1506041	Socket Head Cap Screw	M12X35L	6
267	HBS1220DC-267	Socket Set Screw	M12X20L	3
268	TS-0680061	Flat Washer	1/2"X28XT3mm	4
269	TS-1491041	Hex Cap Screw	M12X30L	2
270	TS-0680061	Flat Washer	1/2"X28XT3mm	4
271	TS-1491041	Hex Cap Screw	M12X30L	2
272	HBS1220DC-272	Motor Plate		1
275	HBS1220DC-275	Main Motor	3HP 230/ 460V/ 3Ph /4P	1
276	TS-2361101	Lock Washer	M10	4
277	TS-1491031	Hex Cap Screw	M10X25L	4
278	HBS1220DC-278	Key Single Rd Hd	8X7X40L	1
280S	HBS1220DC-280S	Motor VS Pulley Assembly (includes 280, 280-1)		1
280	HBS1220DC-280	Variable Speed Pulley		1
280-1	HBS1220DC-280-1	Speed Label		1
281	HBS1220DC-281	Spindle Pulley Assembly		1
282	HBS1220DC-282	Motor Pulley Cover		1
282-1	HBS1220DC-282-1	Motor Pulley plate		1
282-2	TS-2246082	Socket Head Button Screw	M6X8L	4
282-3	TS-1550041	Flat Washer	M6	4
283	HBS1220DC-283	V-Belt	1922V403	1
300S	HBS1220DC-300S	Gear Box Complete Set	137.5/ E=22.5	1
301	HBS1220DC-301	Gear Box Body		1
302	HBS1220DC-302	Output Shaft		1
303	HBS1220DC-303	Key, Dbl Rd Hd	15X10X50L	1
304	HBS1220DC-304	Key, Dbl Rd Hd	15X10X45L	1

Index No	Part No	Description	Size	Qty
305	HBS1220DC-305	Worm Gear	ALBC2-E=1/28	1
306	HBS1220DC-306	Bearing Lock Washer		1
307	HBS1220DC-307	Bearing Lock Nut	M55XP2	1
308	HBS1220DC-308	O-Ring	G85,ID85x3.1W	1
309	HBS1220DC-309	Front Large Cap		1
310	HBS1220DC-310	O-Ring	ID245x3.1W	1
311	BB-32013J	Tapered Roller Bearing	32013J	1
312	HBS1220DC-312	Oil Seal	TC75X100X12B	1
313	TS-2361081	Lock Washer	M8	8
314	TS-1504051	Socket Head Cap Screw	M8X25L	8
318	BB-30208	Tapered Roller Bearing	30208	1
319	HBS1220DC-319	Bearing Lock Washer		1
320	HBS1220DC-320	Bearing nut	M40XP1.5	1
321	HBS1220DC-321	Back Cover		1
322	TS-2361061	Lock Washer	M6	3
323	TS-1503061	Socket Head Cap Screw	M6X25L	3
324	HBS1220DC-324	O-Ring	G80XID80X3.1W	1
325	HBS1220DC-325	Worm		1
326	HBS1220DC-326	Key, Dbl Rd Hd	8X7X40L	1
327	HBS1220DC-327	Oil Seal Cover		1
328	BB-30207J	Tapered Roller Bearing	30207J	1
329	HBS1220DC-329	Input shaft cover		1
330	TS-1504041	Socket Head Cap Screw	M8X20L	3
331	BB-30206	Tapered Roller Bearing	30206	1
332	HBS1220DC-332	Oil Seal	TC40X62X9B	1
333	HBS1220DC-333	Collar	OD=40,ID=30,T=16	1
334	HBS1220DC-334	Bearing Nut	M30XP1.5	2
338	BB-6207ZZ	Ball Bearing	6207-Z	1
339	HBS1220DC-339	O-Ring	G65XID65X3.1W	1
340	HBS1220DC-340	Worm cover		1
341	HBS1220DC-341	Grease Fitting	PT1/8"	1
342	HBS1220DC-342	Air Flow Plug Set (includes 342-1)	PT1/2"/PT1/8"	1
342-1	HBS1220DC-342-1	Breather Plug	PT1/8"	1
343	HBS1220DC-343	Oil Plug	PT3/8"	1
344	HBS1220DC-344	PU Transparent Tube	D=6mm/120L	1
345	HBS1220DC-345	90 Degree Copper Fitting	PT1/8"X6mm"	2
352	HBS1220DC-352	Blade Tension Meter		1
355	HBS1220DC-355	Control Arm Support		1
355-1	TS-1550041	Flat Washer	M6	4
355-2	TS-2246122	Socket Head Button Screw	M6X12L	4
356	HBS1220DC-356	Body Frame B		1
357	HBS1220DC-357	Body Frame A		1
358	HBS1220DC-358	Lock Handle	M8XP1.25*25L	1
359	TS-1550061	Flat Washer	M8	4
360	HBS1220DC-360	Socket Head Cap Screw	M8X15L	4
361	TS-1540061	Hex Nut	M8	3
362	TS-1524051	Socket Set Screw	M8X20L	2
363	HBS1220DC-363	Support Arm		1
364	TS-1550061	Flat Washer	M8	4
365	HBS1220DC-360	Socket Head Cap Screw	M8X15L	4
366	TS-1550041	Flat Washer	M6	6
367	TS-2246122	Socket Head Button Screw	M6X12L	6
368	HBS1220DC-368	Control Panel Box		1
369	HBS1220DC-369	D-Handle		2
371	TS-1504051	Socket Head Cap Screw	M8X25L	4
370	TS-1540061	Hex Nut	M8	4
372	TS-1550031	Flat Washer	M5	4
373	TS-1502031	Socket Head Cap Screw	M5X12L	4
375	HBS1220DC-375	Valve		1
375A	HBS1220DC-375A	Valve Assembly (includes # 375, 377, 378)		1
376	TS-2245102	Socket Head Button Screw	M5X10L	2
377	HBS1220DC-377	Connect Shaft		1

Index No	Part No	Description	Size	Qty
378	TS-1523031	Socket Set Screw	M6X10L	1
379	TS-1550031	Flat Washer	M5	4
380	TS-1502031	Socket Head Cap Screw	M5X12L	4
381	HBS1220DC-381	Control Panel		1
382	HBS1220DC-382	Panel Label		
383	TS-1550031	Flat Washer	M5	6
384	TS-2245122	Socket Head Button Screw	M5X12L	6
	HBS1220DC-TBS	Tool Box Set (not shown)		1
461	HBS1220DC-461	Extend Table		1
461A	HBS1220DC-461A	Extend Table Assembly		1
462	TS-1550071	Flat Washer	M10	2
463	TS-2361101	Lock Washer	M10	2
464	TS-1505021	Socket Head Cap Screw	M10x20L	2
465	HBS1220DC-465	Right Fence Plate		1
466	TS-1540071	Hex Nut	M10-1.5P	2
467	TS-2361101	Lock Washer	M10	2
468	TS-1505021	Socket Head Cap Screw	M10x20L	2
470	HBS1220DC-470	Left Bracket		1
470-1	HBS1220DC-470-1	Right Bracket		
471	TS-1540071	Hex Nut	M8	2
472	TS-1550061	Flat Washer	M8	2
473	TS-2361081	Lock Washer	M8	2
474	TS-1504061	Socket Head Cap Screw	M8X30L	2
475	TS-1540071	Hex Nut	M8	2
476	TS-1490051	Hex Cap Screw	M8x30L	2
477	TS-1540071	Hex Nut	M10-1.5P	2
478	TS-1550071	Flat Washer	M10	2
479	TS-2361101	Lock Washer	M10	2
480	TS-1505021	Socket Head Cap Screw	M10x20L	2
	HBS1220DC-461A	Extend Table Assembly (includes 461~480)		1

13.2.1 **HBS-1220DC Electrical Box Assembly – Exploded View**

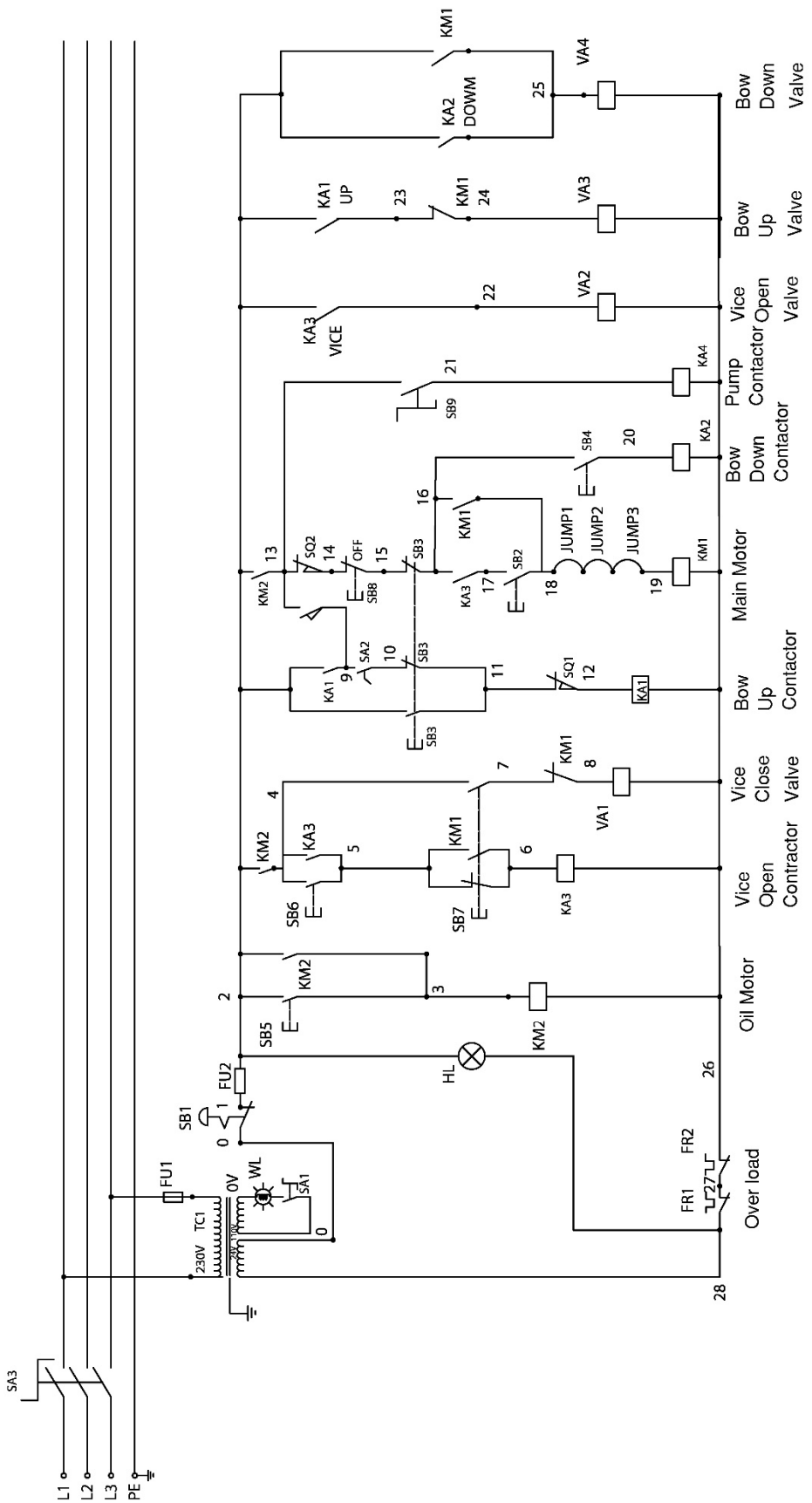


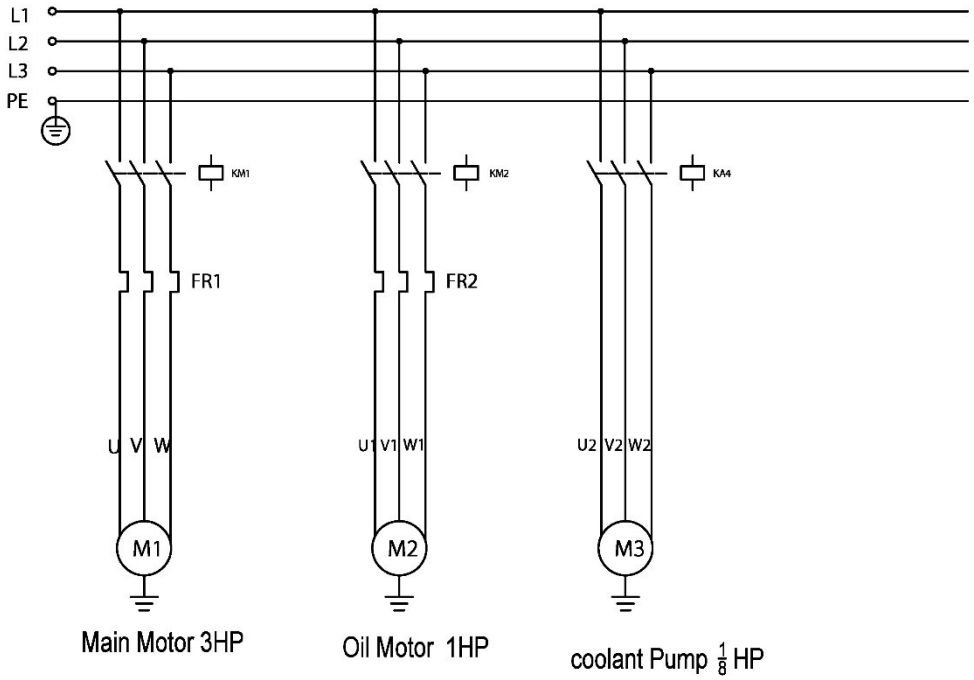
13.2.2 **HBS-1220DC Electrical Box Assembly – Parts List**

Index No	Part No	Description	Size	Qty
95-1	HBS1220DC-95-1	Din Rail End Cap		1
95-3	HBS1220DC-95-3	Contactor	LC1K0910B7/24V	4
95-5	HBS1220DC-95-5	Din Rail	1-3/8 X 3/8 X 7"	2
95-7	HBS1220DC-95-7	Contactor	Cu-11 24v	2
95-8	HBS1220DC-95-8	Contactor	CAUA-4 24v	2
95-9	HBS1220DC-95-9	Terminal Bar 1-Piece		20
95-10	HBS1220DC-95-10	Terminal Bar 1-Piece		3
95-11	HBS1220DC-95-11	Terminal Bar 3-Piece		2
95-15	HBS1220DC-95-15	Transformer	200VAC, 230/460v input. 110v/24V output	1
95-18	HBS1220DC-95-18	Ground Terminal 6-Pole 1-Piece		1
95-20	HBS1220DC-95-20	Overload Relay For Oil Motor (230V)	RHU-2.9(2.9-4A)	1
	HBS1220DC-95-200	Overload Relay For Oil Motor (460V) *	RHU-1.4(1.4-2A)	
95-21	HBS1220DC-95-21	Overload Relay For Main Motor (230V)	RHU-12.5 (9-12.5A)	1
	HBS1220DC-95-210	Overload Relay For Main Motor (460V) *	RHU-4.5(4.5-6.3A)	
95-29	HBS1220DC-95-29	Terminal		4
95-50	HBS1220DC-95-50	Master Power Switch (Auspicious)	C027I	1
95-51	HBS1220DC-95-51	Push Button Switch		4
95-52	HBS1220DC-95-52	Feed Speed Dial		1
95-53	HBS1220DC-95-53	E-Stop Button		1
95-54	HBS1220DC-95-54	Power Lamp	12V/ 6W 110-250VAC	1
95-55	HBS1220DC-95-55	Push Button Stop Switch Red		1
95-56	HBS1220DC-95-56	Push Button Switch		2
95-57	HBS1220DC-95-57	Rotary Switch 2p		2
95-62	HBS1220DC-95-62	Limit Switch		1
95-63	HBS1220DC-95-63	Limit Switch		1
95-64	HBS1220DC-95-64	Fuse (Fu2)	8A250v Ceramic	1
95-65	HBS1220DC-95-65	Fuse Holder		1
95-66	HBS1220DC-95-66	Fuse (Fu1)	1A	1
	HBS1220DC-95-677	Fuse (for 460V) *	0.5A	
95-67	HBS1220DC-95-67	Fuse Holder		1

* Not included; optional parts for 460volt conversion.

14.0 **Electrical Connections for HBS-1220DC Band Saw**





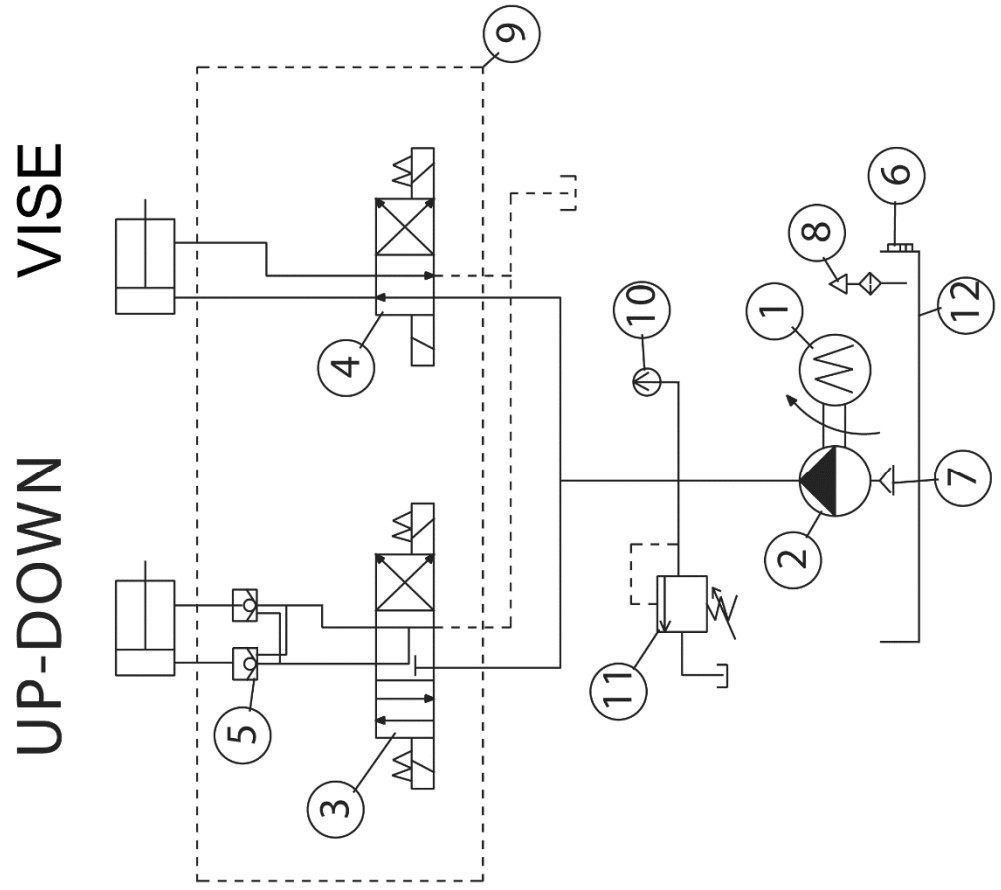
14.1 **Electrical Components**

Item	Description
SA1	Light Switch
SA2	Manual/Auto Switch
SA3	Power Switch
FU1	Fuse 1A
FU2	Fuse 8A
WL	Work Lamp
HL	Signal
SB1	Emergency Stop Switch
SB2	Motor Start Pushbutton
SB3	Up Jog Pushbutton
SB4	Down Jog Pushbutton
SB5	Oil Motor Start Pushbutton
SB6	Vise Open Pushbutton
SB7	Vise Close Pushbutton
SB8	Motor Off Pushbutton
SB9	Pump On/Off Switch

Item	Description
SQ1	Upper Limit Switch
SQ2	Lower Limit Switch
FR1	Main Motor Overload
FR2	Oil Motor Overload
KM1	Main Motor Contactor
KM2	Oil Pump Contactor
KA1	Bow Up Contactor
KA2	Bow Down Contactor
KA3	Vise Open Contactor
KA4	Pump Contactor
JUMP1	Cover Limit Switch
JUMP2	Tension Limit Switch
JUMP3	Door Limit Switch
TC1	Transformer 230/460/24V/110V
VA1	Vise Close Valve
VA2	Vise Open Valve
VA3	Bow Up Valve
VA4	Bow Down Valve

15.0 **Oil valve schematic**

Item	Qty.	Description
1	1	1HP4P5623 1A CE
2	1	HGP-1A-F3R-4B
3	1	D5-3C4-02-AC24
4	1	D5-2D2-02-AC24
5	1	MPC-02-W-30
6	1	LS-3
7	1	MF-03
8	1	AB-1162
9	1	02*2W
10	1	1.5LA*70KG
11	1	DT-02-AK
12	1	360*350*150



16.0 **Warranty and service**

JET warrants every product it sells against manufacturers' defects. If one of our tools needs service or repair, please contact Technical Service by calling 1-800-274-6846, 8AM to 5PM CST, Monday through Friday.

Warranty Period
The general warranty lasts for the time period specified in the literature included with your product or on the official JET branded website.

- JET products carry a limited warranty which varies in duration based upon the product. (See chart below)
- Accessories carry a limited warranty of one year from the date of receipt.
- Consumable items are defined as expendable parts or accessories expected to become inoperable within a reasonable amount of use and are covered by a 90 day limited warranty against manufacturer's defects.

Who is Covered
This warranty covers only the initial purchaser of the product from the date of delivery.

What is Covered
This warranty covers any defects in workmanship or materials subject to the limitations stated below. This warranty does not cover failures due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, improper repair, alterations or lack of maintenance. JET woodworking machinery is designed to be used with Wood. Use of these machines in the processing of metal, plastics, or other materials outside recommended guidelines may void the warranty. The exceptions are acrylics and other natural items that are made specifically for wood turning.

Warranty Limitations
Woodworking products with a Five Year Warranty that are used for commercial or industrial purposes default to a Two Year Warranty. Please contact Technical Service at 1-800-274-6846 for further clarification.

How to Get Technical Support
Please contact Technical Service by calling 1-800-274-6846. **Please note that you will be asked to provide proof of initial purchase when calling.** If a product requires further inspection, the Technical Service representative will explain and assist with any additional action needed. JET has Authorized Service Centers located throughout the United States. For the name of an Authorized Service Center in your area call 1-800-274-6846 or use the Service Center Locator on the JET website.

More Information
JET is constantly adding new products. For complete, up-to-date product information, check with your local distributor or visit the JET website.

How State Law Applies
This warranty gives you specific legal rights, subject to applicable state law.

Limitations on This Warranty
JET LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD OF THE LIMITED WARRANTY FOR EACH PRODUCT. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
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Product Listing with Warranty Period

90 Days – Parts; Consumable items
1 Year – Motors; Machine Accessories
2 Year – Metalworking Machinery; Electric Hoists, Electric Hoist Accessories; Woodworking Machinery used for industrial or commercial purposes
5 Year – Woodworking Machinery
Limited Lifetime – JET Parallel clamps; VOLT Series Electric Hoists; Manual Hoists; Manual Hoist Accessories; Shop Tools; Warehouse & Dock products; Hand Tools; Air Tools

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