



Operating Instructions and Parts Manual

Metal/Wood Working MWEVS Band Saw

Model VBS-18MWEVS



JET

427 New Sanford Road
LaVergne, Tennessee 37086
Ph.: 800-274-6848
www.jettools.com

Part No. M-414428
Edition 3 06/2024
Copyright © 2021 JET



1.0 IMPORTANT SAFETY

INSTRUCTIONS

WARNING – To reduce risk of injury:

1. Read and understand entire owner's manual before attempting assembly or operation.
2. Read and understand the entire owner's manual before attempting assembly or operation.
3. 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.
4. Replace the warning labels if they become obscured or removed.
5. 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.
6. 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.
7. Always wear approved safety glasses/face shields while using this band saw. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
8. Before operating this band saw, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do not wear gloves.
9. Wear ear protectors (plugs or muffs) during extended periods of operation.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the OFF position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded.
13. Make all machine adjustments or maintenance with the machine unplugged from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately after completion of maintenance.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. Keep children away.
20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and "horse-play" are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall into the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
23. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and more safely.
24. Use recommended accessories; improper accessories may be hazardous.
25. Maintain tools with care. Keep saw blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
26. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris — do not use your bare hands.
27. Do not stand on the machine. Serious injury could occur if the machine tips over.
28. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.

29. Remove loose items and unnecessary work pieces from the area before starting the machine.
30. Keep hands out of the line of saw blade.
31. When feeding small work pieces into blade, always use push stick, fixture, or similar device to keep hands at a safe distance.
32. Raise or lower blade guide only when machine has been turned off and blade has stopped moving.
33. Adjust upper blade guides to just clear workpiece (approximately 1/8").
34. Always wear leather gloves when handling saw blades. The operator should not wear gloves when operating the band saw.
35. Maintain proper adjustment of blade tension, blade guides, and thrust bearings.
36. Make sure blade tension, tracking and blade guides are all properly adjusted.
37. Make relief cuts where possible, when cutting curved stock.
38. Hold stock firmly and flat against table.
39. Do not allow the saw blade to rest against the workpiece when the saw is not running.
40. The saw must be stopped, and the electrical supply must be cut off before any blade replacement, drive belt replacement, or any periodic service or maintenance is performed on the machine.
41. Remove cut off pieces carefully, keeping hands away from the blade. The saw must be stopped, and the electrical supply cut off or machine unplugged before reaching into the cutting area.
42. 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.

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.

READ and SAVE THESE INSTRUCTIONS

2.0 Table of Contents

Section	Page
1.0 IMPORTANT SAFETY INSTRUCTIONS.....	2
2.0 Table of Contents.....	4
3.0 About This Manual	6
4.0 Specifications for VBS-18MWEVS	7
4.1 Overall Dimensions	8
5.0 Setup and Assembly	9
5.1 Shipping Contents.....	9
5.2 Tools Required for Assembly	9
5.3 Unpacking and Cleanup.....	9
5.4 Assembly	9
5.5 Handwheel	9
5.6 Installing and Aligning Table	10
5.7 Installing Guide Rail	10
5.8 Fence Assembly and Alignment	10
5.9 Miter Gauge	11
6.0 Electrical Connections	11
6.1 GROUNDING INSTRUCTIONS.....	11
6.2 Single Phase Connections.....	11
6.3 Circuit Information	12
7.0 Adjustments.....	12
7.1 Aluminum Resaw Fence	12
7.2 Fence Fine Adjust	12
7.3 Table Tilt	12
7.4 Adjusting 90-Degree Table Stop	13
7.5 Leveling Table Insert.....	13
7.6 Installing/Changing Blades	13
7.7 Blade Tension	14
7.8 Adjusting Blade Tension Lever	14
7.9 Blade Tracking	15
7.10 Overview – Bearing Adjustments	15
7.11 Upper Blade Guides.....	15
7.12 Upper Thrust Bearing	16
7.13 Lower Blade Guides.....	16
7.14 Guide Post	17
7.15 Guide Post Parallelism	17
7.16 Brushes.....	17
7.17 Drive Belt Changing, Replacement, and Tensioning	17
8.0 Operating Controls	19
8.1 Start/Stop Switch.....	19
8.2 Setting Speed Digital Readout	20
8.3 Variable Speed Control Dial.....	20
9.0 Operation – Non-Metal	20
9.1 General Procedure	20
9.2 Ripping	21

9.3 Crosscutting.....	21
9.4 Resawing	21
9.5 Blade Lead	22
10.0 Operation – Metal	22
10.1 General Procedure	22
10.2 Blade Break-In Procedure	22
10.3 Evaluating Cutting Efficiency.....	22
11.0 Blade Selection Guide	23
11.1 Width.....	23
11.2 Pitch	23
11.3 Shape.....	23
11.4 Set	24
11.5 Material.....	24
11.6 Blade Breakage.....	24
12.0 Non-Metal Blade Chart.....	25
13.0 Speed and Pitch Chart – Metal	26
14.0 Typical Band Saw Operations.....	27
15.0 User-Maintenance	28
15.1 Lubrication Points.....	28
15.2 Additional Servicing.....	28
16.0 Troubleshooting VBS-18MWEVS Band Saw	29
16.1 Operational Problems	29
16.2 Mechanical and Electrical Problems.....	31
17.0 Replacement Parts.....	32
18.1.1 VBS-18MWEVS MW/WW Band Saw Assembly – Exploded View.....	33
18.1.2 VBS-18MWEVS WW/MW Band Saw Assembly – Parts List	35
18.2.1 VBS-18MWEVS Rip Fence Assembly – Exploded View	39
18.2.2 VBS-18MWEVS Fence Assembly – Parts List	39
18.3.2 VBS-18MWEVS Trunnion Support Bracket Assembly – Parts List.....	41
18.4.1 VBS-18MWEVS Miter Gauge Assembly – Exploded View	42
18.4.2 VBS-18MWEVS Miter Gauge Assembly – Parts List.....	42
18.5.1 VBS-18MWEVS Guide Bar Bracket Assembly – Exploded View	43
18.5.2 VBS-18MWEVS Guide Bar Bracket Assembly – Parts List	43
18.6.1 VBS-18MWEVS Upper Wheel Assembly – Exploded View	44
18.6.2 VBS-18MWEVS Upper Wheel Assembly – Parts List	44
18.7.1 VBS-18MWEVS Lower Wheel Assembly – Exploded View	45
18.7.2 VBS-18MWEVS Lower Wheel Assembly – Parts List.....	45
18.8.1 VBS-18MWEVS Lower Blade Guide Assembly – Exploded View	46
18.8.2 VBS-18MWEVS Lower Blade Guide Assembly – Parts List.....	46
18.9.1 VBS-18MWEVS Upper Blade Guide Assembly – Exploded View	47
18.9.2 VBS-18MWEVS Upper Blade Guide Assembly – Parts List	47
18.10.1 VBS-18MWEVS Speed Control & Switch Assembly – Exploded View	48
18.10.2 VBS-18MWEVS Speed Control & Switch Assembly – Parts List	48
18.11.1 VBS-18MWEVS AC Inverter Assembly – Exploded View.....	49
18.11.2 VBS-18MWEVS AC Inverter Assembly – Parts List.....	49
19.0 Electrical Connections for VBS-18MWEVS.....	50
20.0 Warranty and Service	51

3.0 About This Manual

This manual is provided by JET, covering the safe operation and maintenance procedures for a JET Model VBS-18MWEVS 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.

This manual is not intended to be an exhaustive guide to band saw operational methods, use of jigs or after-market accessories, choice of stock, etc. Additional knowledge can be obtained from experienced users or trade articles. Whatever accepted methods are used, always make personal safety a priority.

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.

4.0 Specifications for VBS-18MWEVS

Model number / Stock number **VBS-18MWEVS / 414428**
Band saw nominal size 18 in.

Motor and electricals:

Motor type totally-enclosed, powered fan-cooled, iron motor housing
Horsepower / Phase / Voltage 2 HP / 3Ph / 230V
Cycle 60Hz
Listed FLA (full load amps) 6.2A
Running amps (no load) @ low / high speed 0.72A / 2.84A
Motor speed 1720 RPM
Power transfer poly v-belt
On/off switch push button with paddle stop
Power supply 230V / single phase
Power cord length 6 ft. (183 cm)
Power plug installed N/A
Recommended circuit size¹ 20A
Sound emission² 75 dB at 40" (1000mm) from blade, without load

Capacities and speeds:

Wheel diameter 18-1/2 in. (470 mm)
Resaw capacity (cutting height) 16 in. (406 mm)
Throat capacity 18 in. (457 mm)
Maximum rip left of blade with fence 16 in. (406 mm)
Maximum rip right of blade with fence 4-1/2 in. (114 mm)
Blade length 150 in. (min. 149; max. 150.9 in.)
Minimum blade width 1/8 in. (3 mm)
Maximum blade width 1-1/4 in. (31 mm)

Blade speed (Variable by inverter):

Wood Working 540 - 3600 SFPM
Metal Working 100 - 650 SFPM

Blade Provided:

Wood Working (installed) 150" (L) x 3/4" (W) x 0.0256" (Thk.) x 6 TPI / 3810 x 19 x 0.64mm x 6TPI
Metal Working (with shipment) 150" (L) x 3/4" (W) x 0.0300" (Thk.) x 8 TPI / 3810 x 19 x 0.82mm x 8TPI

Main Materials:

Table ground cast iron
Trunnion cast iron
Frame steel
Band wheels cast iron
Tires yellow polyurethane
Blade guides ball bearing
Resaw fence extruded aluminum
Handwheels plastic
Paint finish powder coating

Table, fence, miter gauge:

Table dimensions LxWxThk 27-1/4 x 20 x 1-5/8 in. (692 x 508 x 41 mm)
Table tilt Left 5°, Right 45°
Table height from floor 37 in. (940 mm)
Miter T-slot WxH 3/4 in. W x 0.375 in. H (19.1 x 9.5 mm)
Resaw fence size LxWxH 22-1/2 x 1-51/64 x 6-7/64 in. (572 x 46 x 155 mm)
Miter gauge angle Left 45°, Right 45°

Dimensions:

Footprint (base size), LxWxH 29-1/2 x 21-5/8 x 2 in. (750 x 550 x 50.8 mm)
Overall dimensions, LxWxH 36 x 34 x 80 in. (914 x 864 x 2032 mm)
Shipping package dimensions 34-39/64 x 26 x 85-7/64 in. (879 x 660 x 2162 mm)

Dust collection:

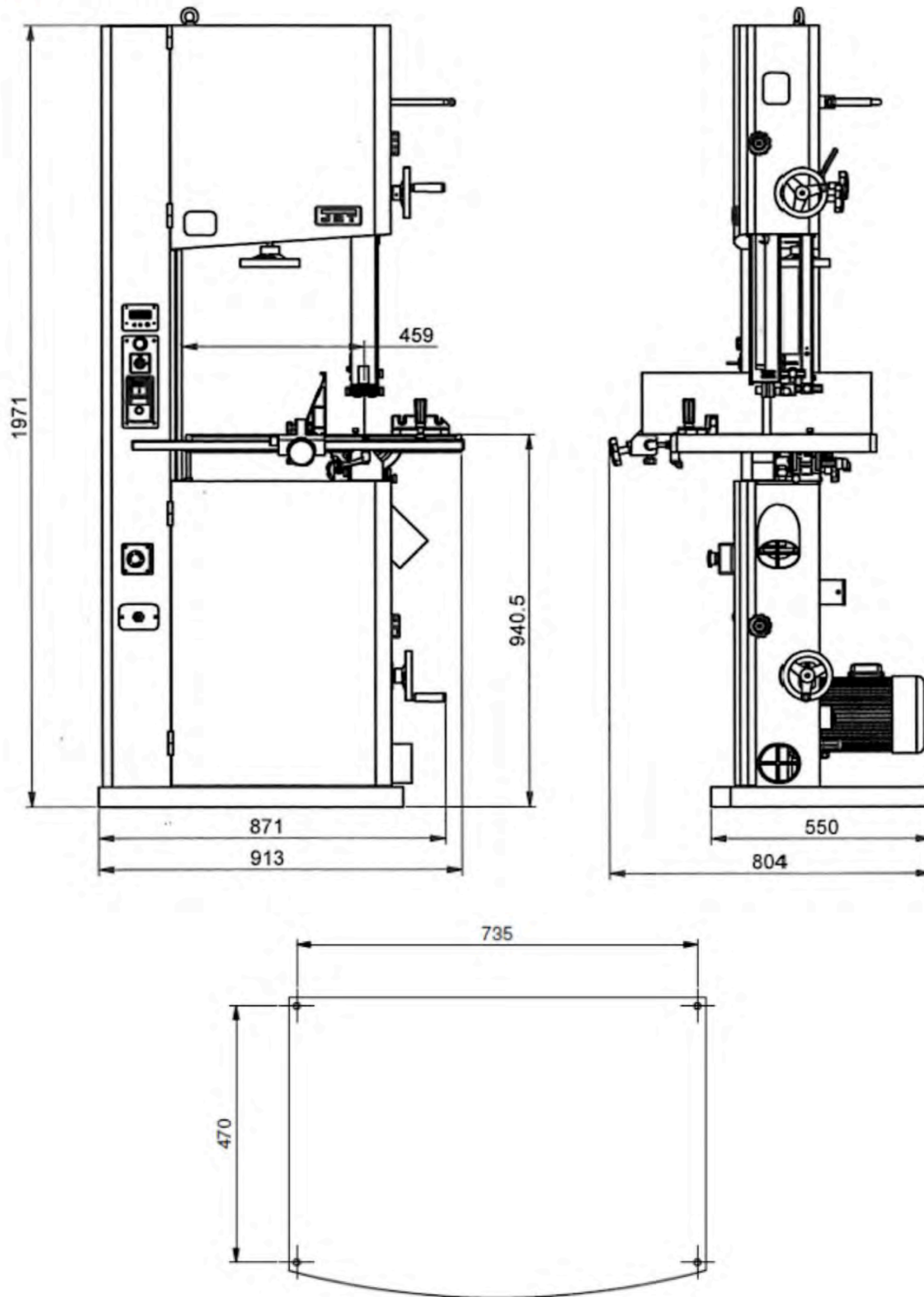
Dust port outside diameter 4 in. (100 mm) x 2
Minimum extraction volume required 400 CFM

Weights:

Net 498 lbs (219 kg)
Shipping 626 lbs (283 kg)

¹ Subject to local/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.

4.1 Overall Dimensions



5.0 Setup and Assembly

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

5.1 Shipping Contents

Refer to Figure 5-1A and 5-1B.

- 1 Band saw (not shown)
- 1 Fence body – A
- 1 Resaw fence – B
- 1 Table – C
- 1 Table insert – D
- 1 Guide rail – E
- 1 Lifting ring – F
- 2 Hand wheel with handle – G
- 1 Miter gauge assembly – H
- 1 Saw Blade for Metal Working – I
- 1 Poly-V Belt for Metal working – J
- 1 Owner's manual (not shown)
- 1 Warranty card (not shown)
- 1 Hardware package containing:
 - 2 Socket hd button screws – HP1
 - 2 Flat washers – HP2
 - 4 Hex cap screws – HP3
 - 4 Lock washers – HP4
 - 4 Flat washers – HP5
- 1 Table slot handle assembly – HP6



Figure 5-1A: Contents

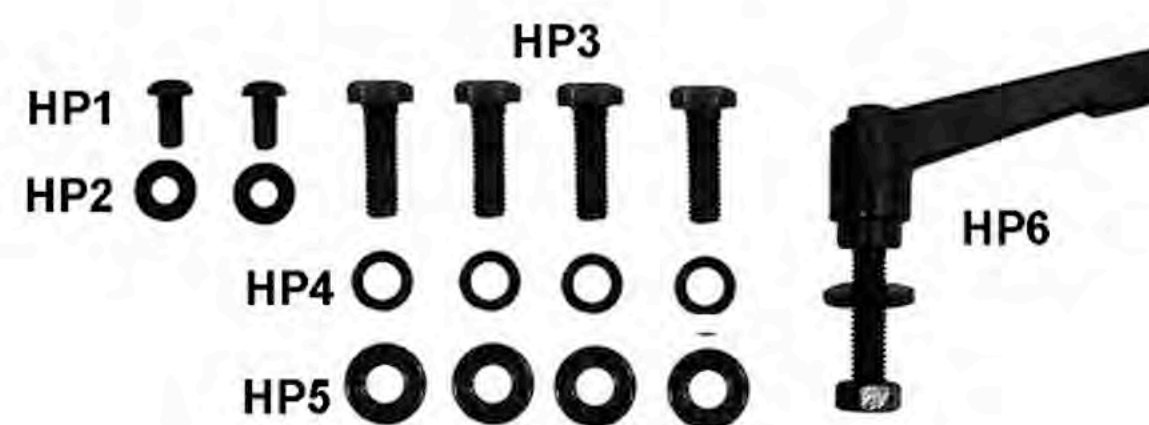


Figure 5-1B: Contents

5.2 Tools Required for Assembly

The tools listed below are not included but are required for assembly.

- 1 2.5mm hex key
- 1 3mm hex key
- 1 straight edge
- 1 17mm wrench
- 1 13mm wrench

5.3 Unpacking and Cleanup

Remove crate and packing material from band saw except for the transport skid on the bottom. Inspect the machine for damage. Report any damage to your distributor and shipping agent. Do not discard packing material until machine is assembled and running satisfactorily.

Move the saw to its permanent working location. The site should be dry, well lit, and have enough room to handle long stock and servicing or adjustment of the machine from any side.

Install lifting ring atop band saw and use hoist to move saw off skid. Clean all rust protected surfaces with a mild solvent or diesel fuel and a soft cloth. Do not use lacquer thinner, paint thinner, or gasoline, as these will damage painted surfaces.

5.4 Assembly

⚠ WARNING Band saw must be disconnected from power source during assembly procedures. Failure to comply may cause serious injury.

5.5 Handwheel

Install handwheel (G, Figure 5-2) onto shaft, and tighten two set screws with 3mm hex key.



Figure 5-2

5.6 Installing and Aligning Table

⚠CAUTION Table is heavy. Mounting with the help of another person is recommended.

Refer to Figures 5-3 through 5-4:

1. Slide table so that saw blade passes through slot (A).
2. Line up table to trunnions and insert four hex cap screws with lock washers and flat washers (Figure 5-4). Hand tighten screws only.
3. Check that table is parallel to blade: Move blade tension lever to *Full Tension* position (shown in Figure 7-9), and place a long straightedge flush against blade, making sure it contacts both front and back of blade. See Figure 5-5. (Do not deflect blade by pushing into it.)
4. Use a gauge to carefully measure distance from miter slot to straight edge. Take measurements at both front and back of table – these should be identical.
5. If miter slot is not parallel to blade, shift table as needed.
6. Tighten the four screws (Figure 5-4) securely.
7. Install table insert (D, Figure 5-3). (See sect. 7.5 to level insert with table.)
8. Install slot handle assembly (HP6) and tighten.

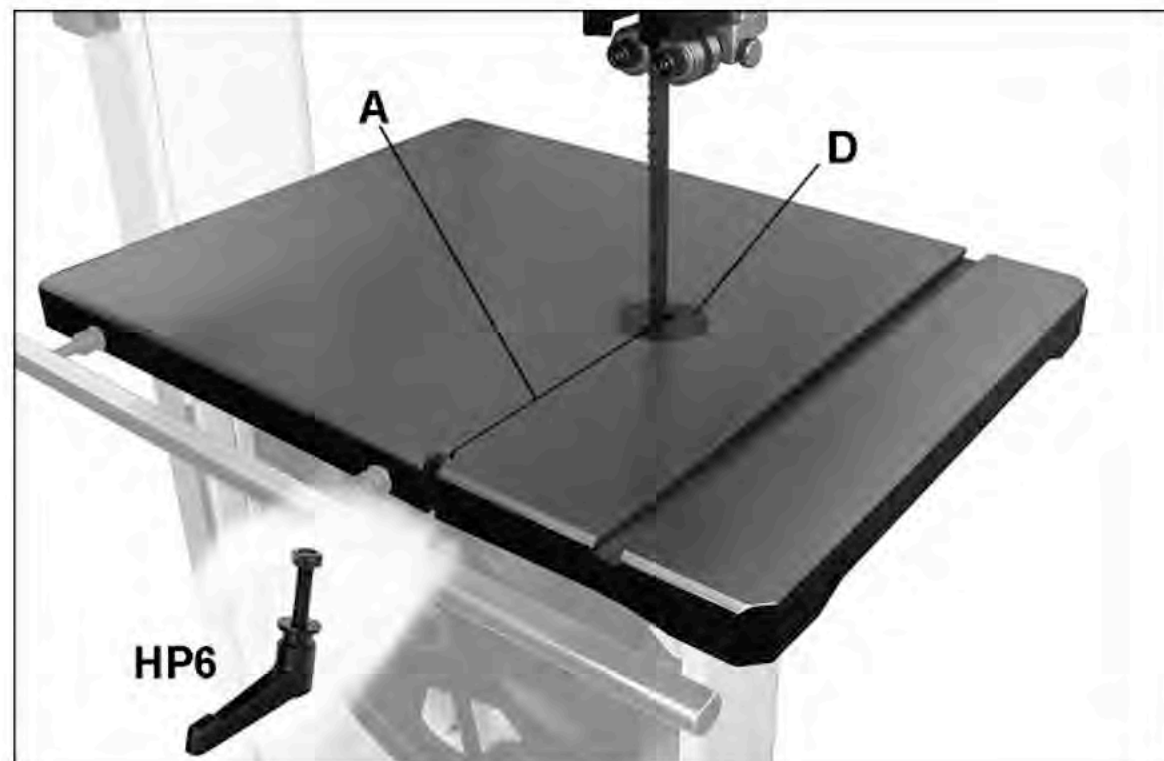


Figure 5-3



Figure 5-4

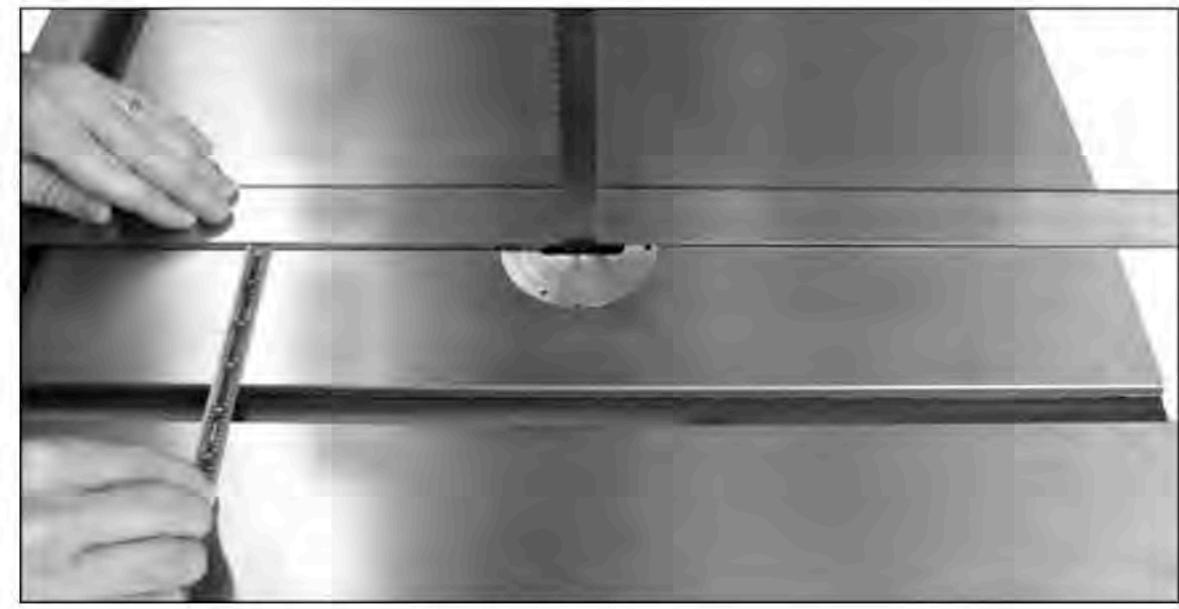


Figure 5-5

5.7 Installing Guide Rail

Refer to Figure 5-6.

1. Attach guide rail (E) to table by inserting the two threaded studs into the table edge. Secure with the included fasteners (see inset). Do not fully tighten yet until fence adjustments have been made in the following section.



Figure 5-6

5.8 Fence Assembly and Alignment

Refer to Figure 5-7.

1. Slide fence body (A, Figure 5-7) onto guide rail and move fence body to right of blade.
2. Install resaw fence (B) and tighten with two knobs (A₁).
3. Slide resaw fence against edge of miter slot, as shown, and tighten handle (A₂) to lock position. The fence should align parallel to miter slot along entire length of fence.

If adjustment is needed:

4. Loosen and rotate hex nuts on guide rail studs (A₃) as needed, until resaw fence is parallel to miter slot.
5. Tighten nuts on guide rail studs.

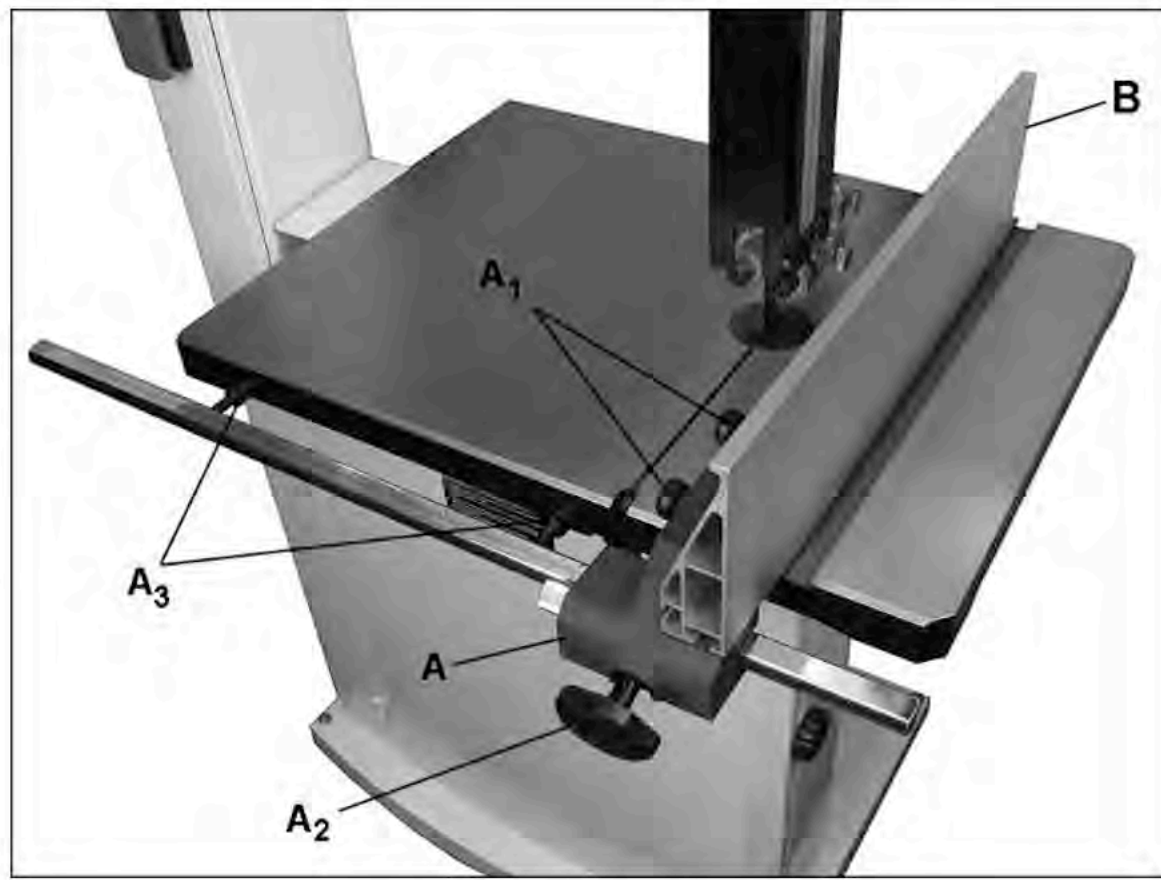


Figure 5-7

5.9 Miter Gauge

Refer to Figure 5-8.

1. Slide miter gauge into table slot.
2. Use a square to verify that miter gauge face is square to blade.
3. If miter gauge is not square to blade, loosen lock knob (H₁, Figure 5-8) and adjust to proper setting. Tighten lock knob.
4. If pointer is not at 90 degrees, loosen screw (H₂) and shift pointer to 90 degrees.
5. Tighten screw.

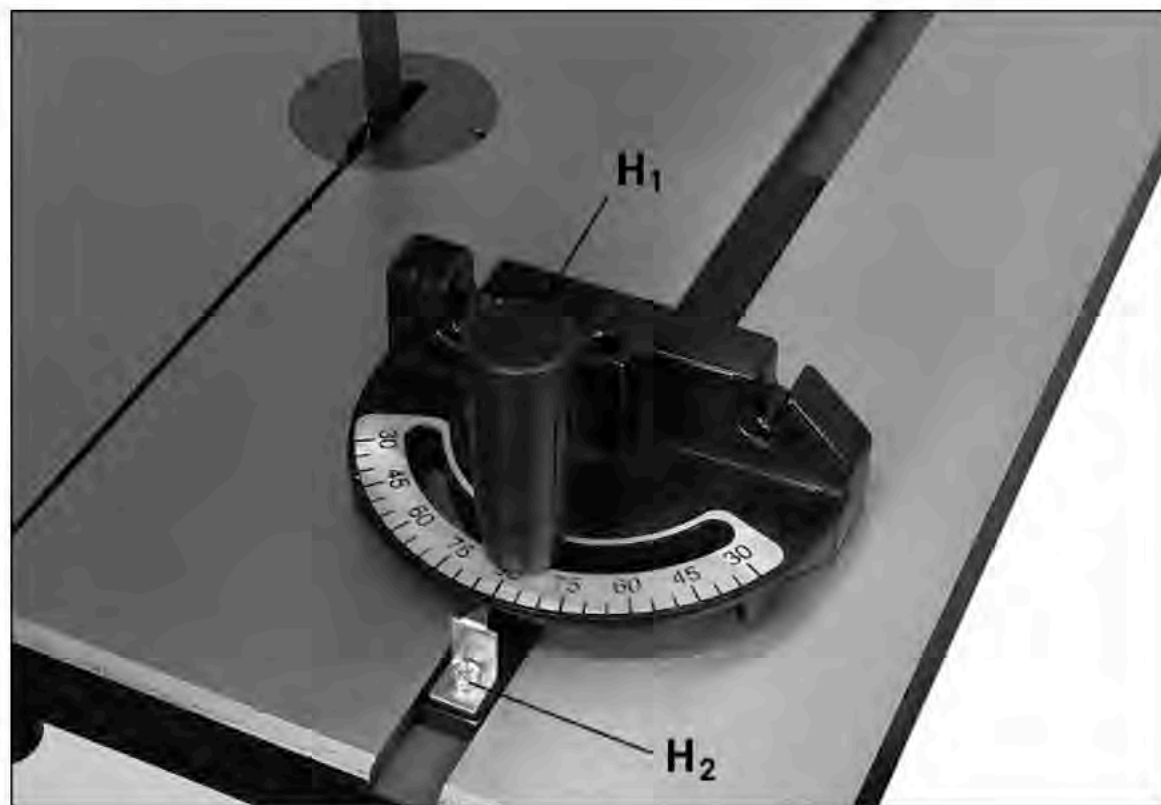


Figure 5-8

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 to help prevent electrical shock and possible fatal injury.

6.1 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.

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

⚠ WARNING Check with 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.

6.2 Single Phase Connections

Model VBS-18MWEVS Band Saw is wired from the factory for 230 Volt, single phase operation.

It is not supplied with a plug. You may either install a UL/CSA-listed plug suitable for 230 Volt operation, or "hard-wire" the Band Saw directly to a service panel.

It is recommended that the single phase Band Saw be connected to a grounded and dedicated 30-amp circuit with circuit breaker or time delay fuse marked "D". Local codes take precedence over recommendations.



Figure 6-1

Important: In all cases, make certain the receptacle in question is properly grounded. If you are not sure, have a registered electrician check the receptacle.

6.3 Circuit Information

The Band Saw should be connected to a dedicated circuit with a circuit breaker or time delay fuse rated "D" with the appropriate amperage rating. See Table 1 for recommended circuit sizes. **Local codes take precedence over recommendations.**

Model	Voltage	Recommended Circuit*
414428, VBS-18MWEVS	230 V	20A

* Local codes take precedence over recommendations.

Table 1

7.0 Adjustments

7.1 Aluminum Resaw Fence

Refer to Figures 7-1 and 7-2.

Loosen knobs (A) until lock bar protrudes enough on which to slide the aluminum fence plate from one end, as shown in Figure 7-1. Retighten knobs.

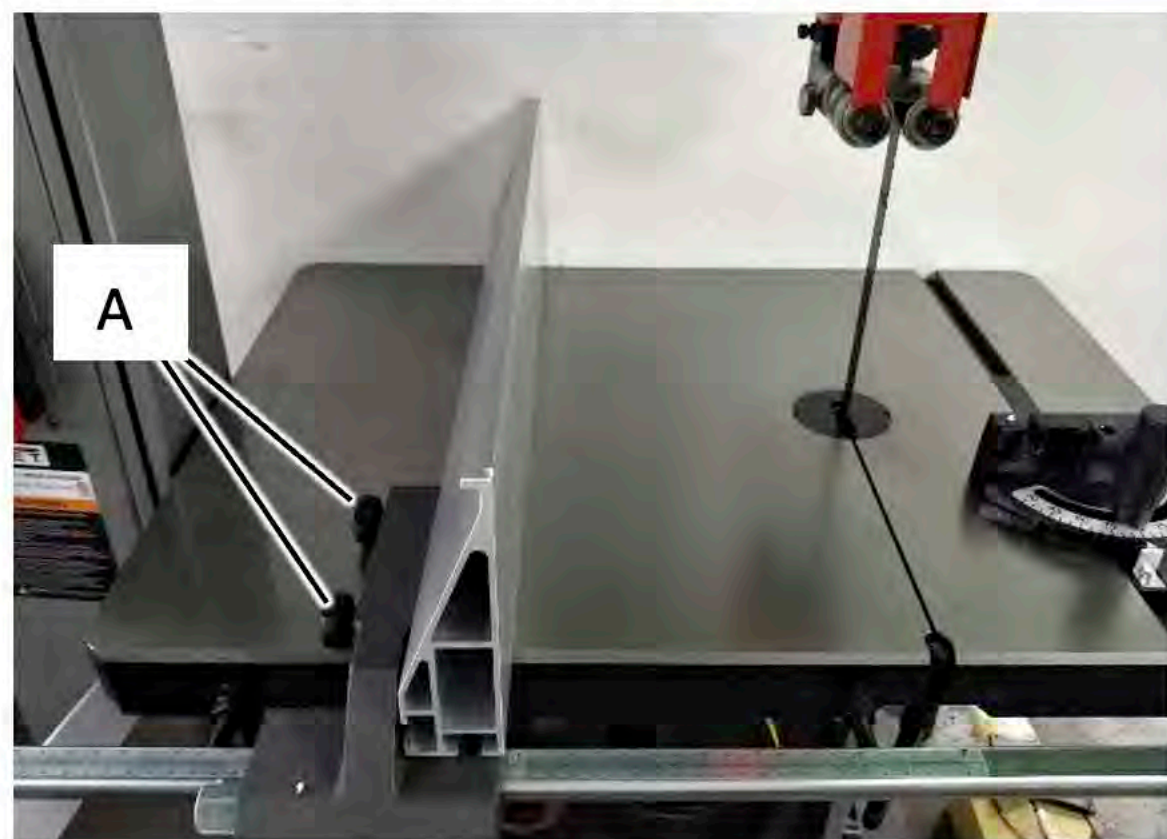


Figure 7-1: Vertical Position

The aluminum fence plate can be installed in one of two positions; vertically (resaw position), as shown in Figure 7-1; or horizontally as shown in Figure 7-2.

Horizontal position is useful for smaller workpieces. (Zero setting of cursor cannot be used with horizontal fence position.)

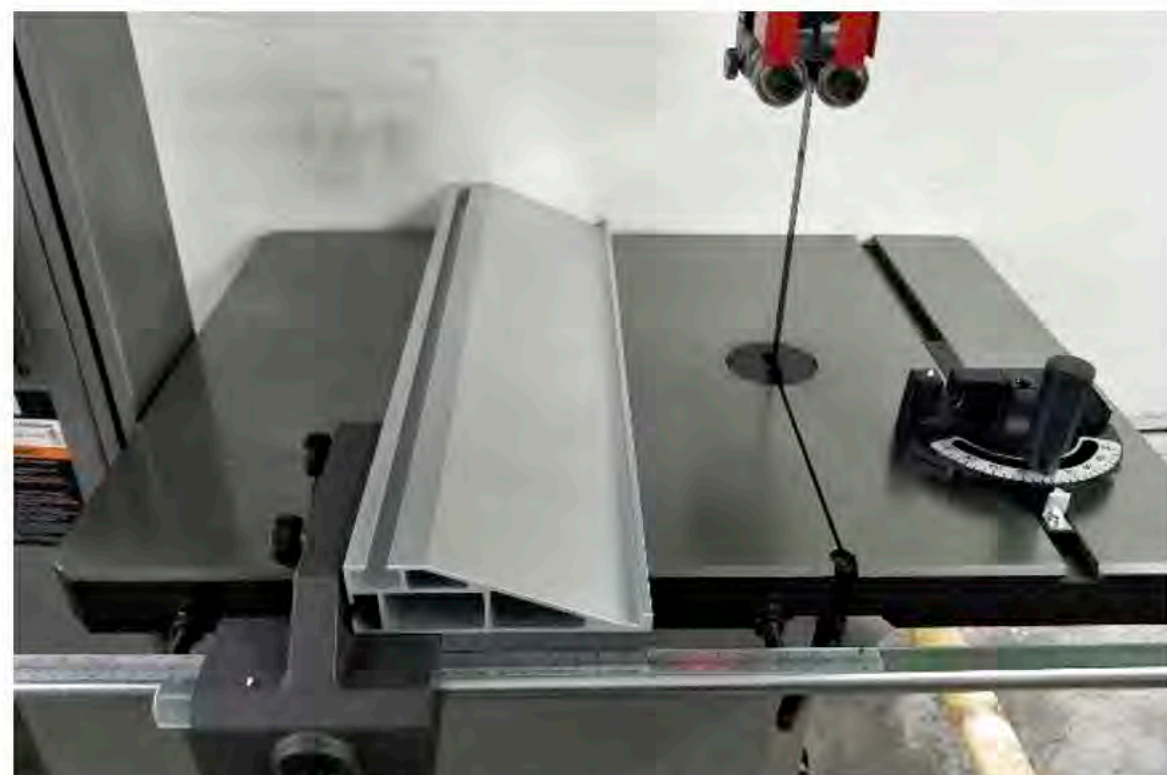


Figure 7-2: Horizontal Position

7.2 Fence Fine Adjust

Refer to Figure 7-3.

1. Loosen fence lock knob (A, Figure 7-3).
2. Loosen knob (B).
3. Slide fence to approximate position, based on the scale measurement aligning with the right side of resaw fence.
4. Tighten knob (B).
5. Rotate knurled knob (C) to achieve fine adjustment.
6. When setting is reached, tighten fence lock knob (A).

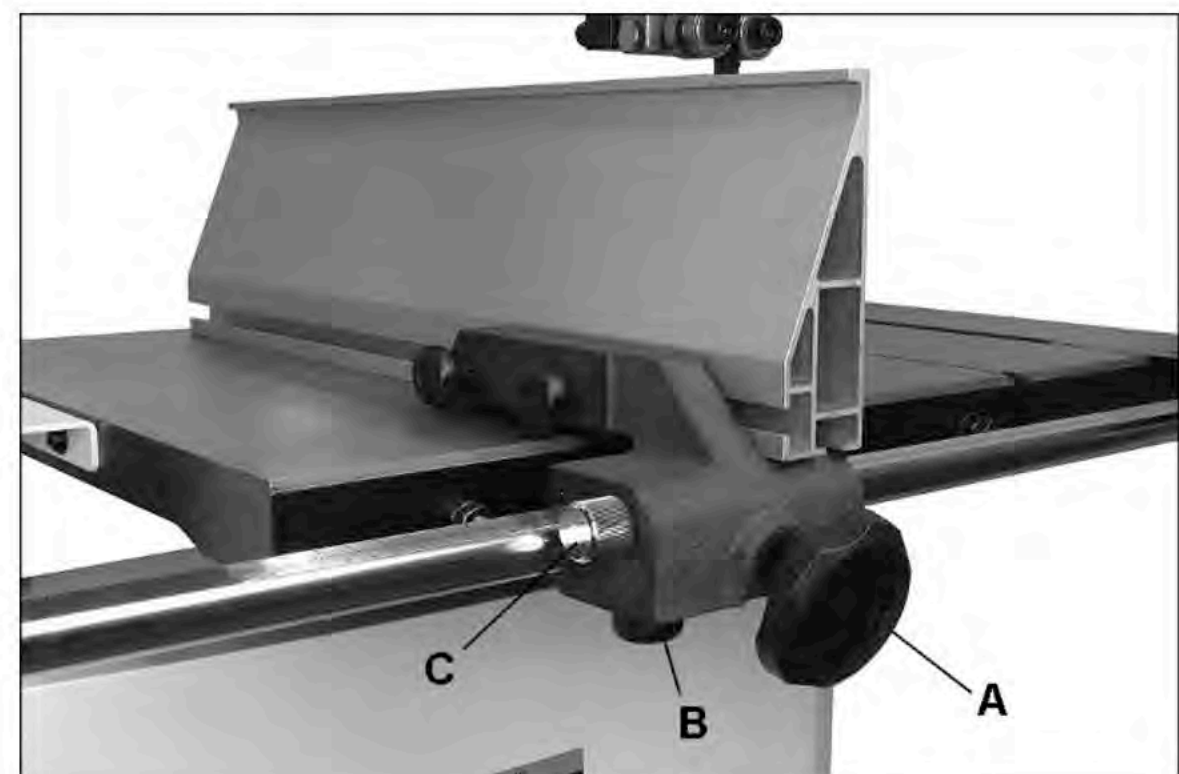


Figure 7-3

7.3 Table Tilt

Refer to Figure 7-4.

1. Disconnect machine from power source.
2. Loosen lock handle (D).
3. Tilt table up to 45 degrees to the right (as viewed from operator side), or up to 5 degrees to the left.
4. Tighten lock handle.

Note: Table stop bolt (F, Figure 7-4) must be pivoted out of the way to tilt table to the left.

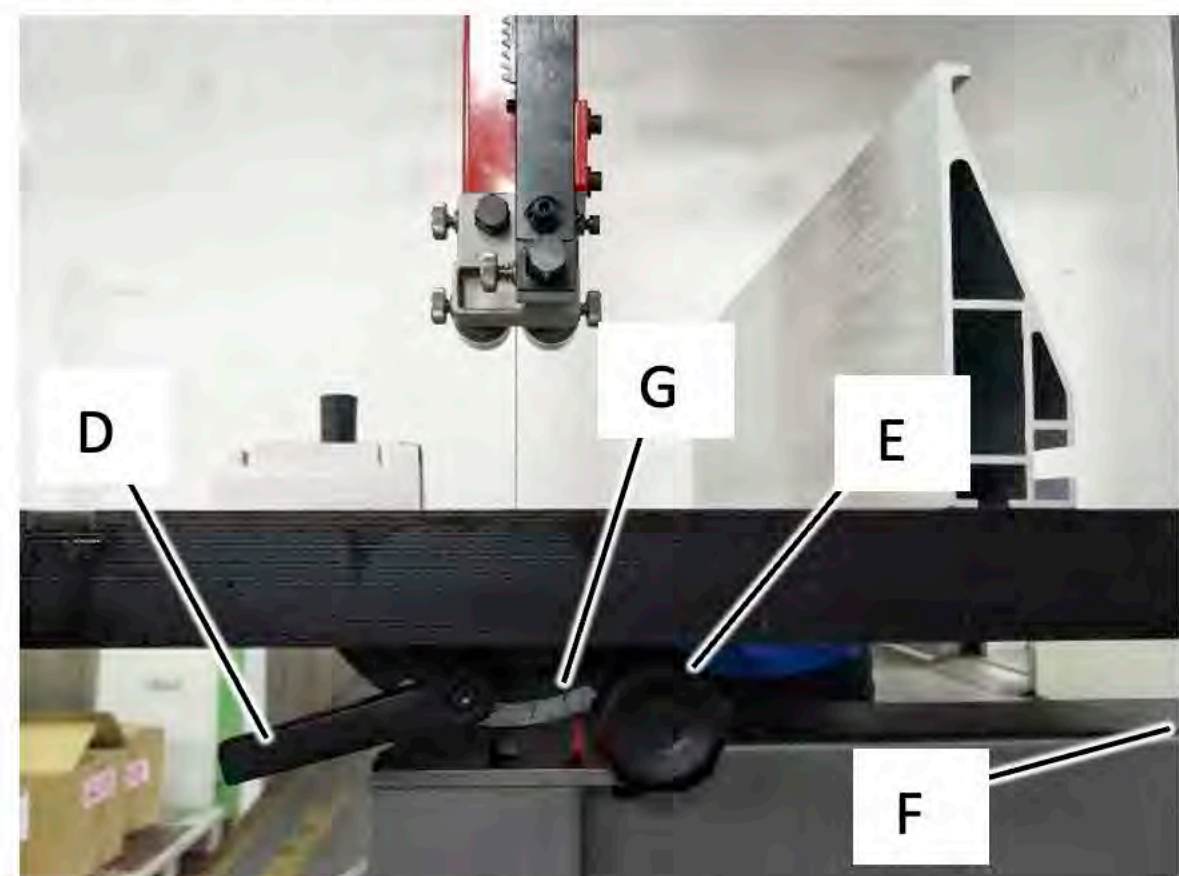


Figure 7-4

7.4 Adjusting 90-Degree Table Stop

Before adjusting the 90° table stop, the blade tension must be properly adjusted (see sect. 7.7)

To adjust 90° table stop:

1. Loosen lock handle (D, Figure 7-4) and use knob (E) to tilt table until it rests against table stop bolt (F, not visible). Retighten lock handle.
2. Use a square (Figure 7-5) placed on table and against blade to verify that table is 90 degrees to blade.
3. If an adjustment is necessary, loosen lock handle (D). Tilt table until it is square to blade; then retighten lock handle.
4. Loosen lock nut (F₁ not visible) and turn table stop bolt (F, not visible) until it contacts table. Tighten lock nut to hold table stop in place. When tightening the nut hold the table stop bolt in place with a wrench to prevent movement.
5. If necessary, adjust pointer (G, Figure 7-4) to zero.

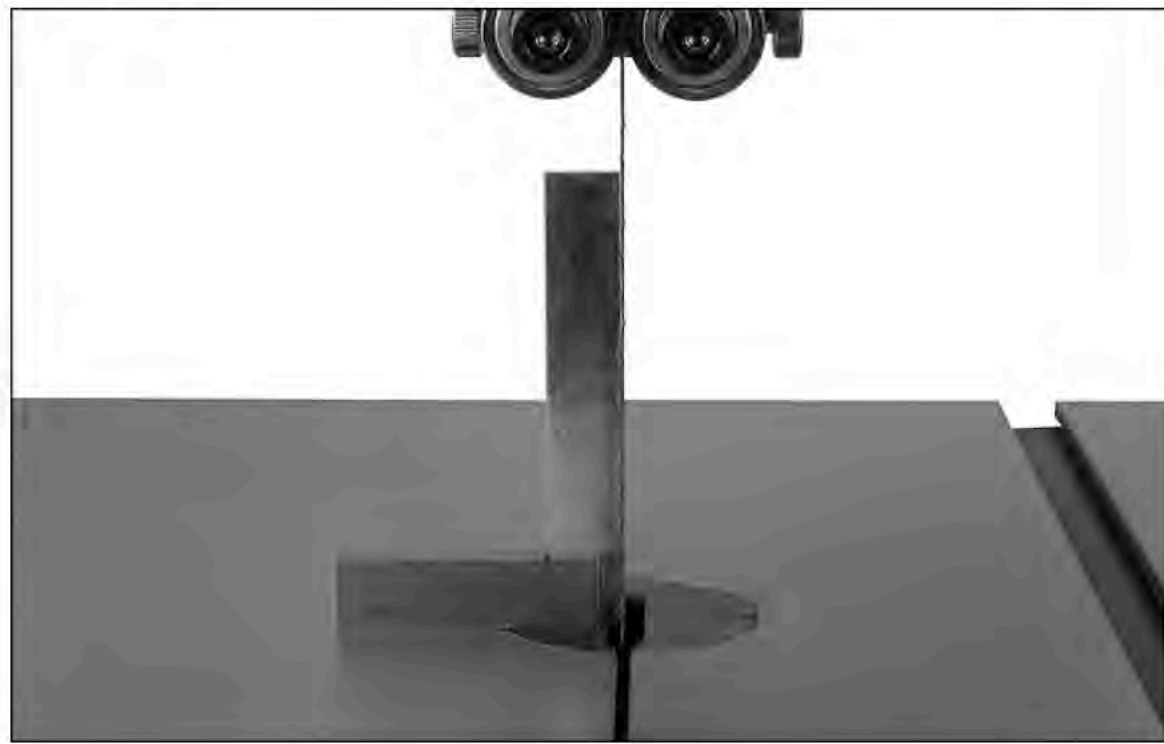


Figure 7-5

7.5 Leveling Table Insert

Remove table insert to expose set screws in the table ledge. Rotate screws as needed (2mm hex key) until insert sits flush with table surface.

7.6 Installing/Changing Blades

⚠ CAUTION Wear gloves when handling blades. New blades are usually packaged in coiled position; to prevent injury uncoil them slowly and carefully while wearing work gloves and safety glasses.

See sect. 4.0 for specific blade sizes for your model Band Saw.

Refer to Figures 7-6, 7-7 and 7-8.

1. Disconnect machine from power source.
2. Loosen handle and remove it from table (see HP6, Figure 5-3).
3. Adjust upper and lower blade guides away from blade (see sections 7.11 through 7.13).

4. Move quick tension lever to “Full Release (Blade Change)” position.
5. Open upper and lower doors by rotating door knobs.
6. Pivot guidepost cover out of the way (Figure 7-6).
7. Swing lower guard (H, Figure 7-7) to the left. Tilt table slightly if more clearance is needed to swing guard.
8. Remove dust block (J, Figure 7-8).
9. Carefully remove blade from top wheel, then from between upper and lower blade guides and lower wheel. Slide blade out through slot in table.
10. Guide new blade through table slot. Place blade loosely in upper and lower blade guides. Make sure blade teeth point down toward table, and toward front of saw.

(If the teeth will not point down, no matter how you orient blade, then blade is inside-out. Twist it into correct position and re-install it.)

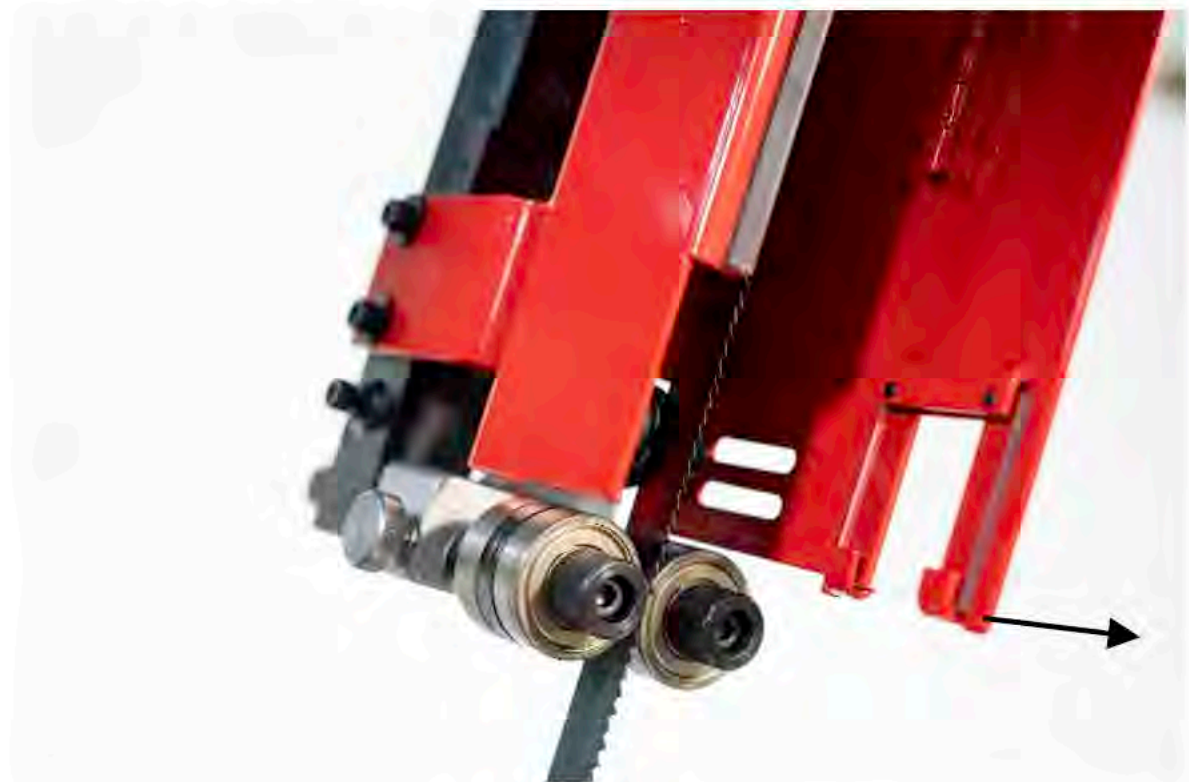


Figure 7-6



Figure 7-7



Figure 7-8

11. Position blade at center of upper and lower wheels.
12. Reinstall dust block (J, Figure 7-8) and table slot handle (HP6, Figure 5-3).
13. Before operating band saw, the new blade must be tensioned and tracked, in that order. Find instructions for tensioning and tracking the blade in sections 7.7 and 7.9.
14. The blade guides must also be set properly according to instructions in sections 7.11 through 7.13.

7.7 Blade Tension

Blade tension is set with the blade tension handwheel (L, Figure 7-10) and is performed following blade replacement and periodically as the blade stretches from use.

⚠WARNING Disconnect machine from power source before making any adjustments.

Refer to Figures 7-9 and 7-10.

1. Place tension lever (K, Figure 7-9) in *Full Tension* position.
2. Set blade tension by rotating handwheel (L) according to the arrow directions shown in Figure 7-10, clockwise to tighten, counterclockwise to loosen.
3. The gauge (M) indicates approximate tension according to the width of the blade in inches. Initially, set the blade tension to correspond to the width of your blade.

As you become familiar with the saw, you may find it necessary to change the blade tension from the initial setting.

Keep in mind that too little or too much blade tension can cause blade breakage and/or poor cutting performance.

Tip: When the band saw is not being used, place tension lever to *Partial Tension* position – this will prolong the blade's life.

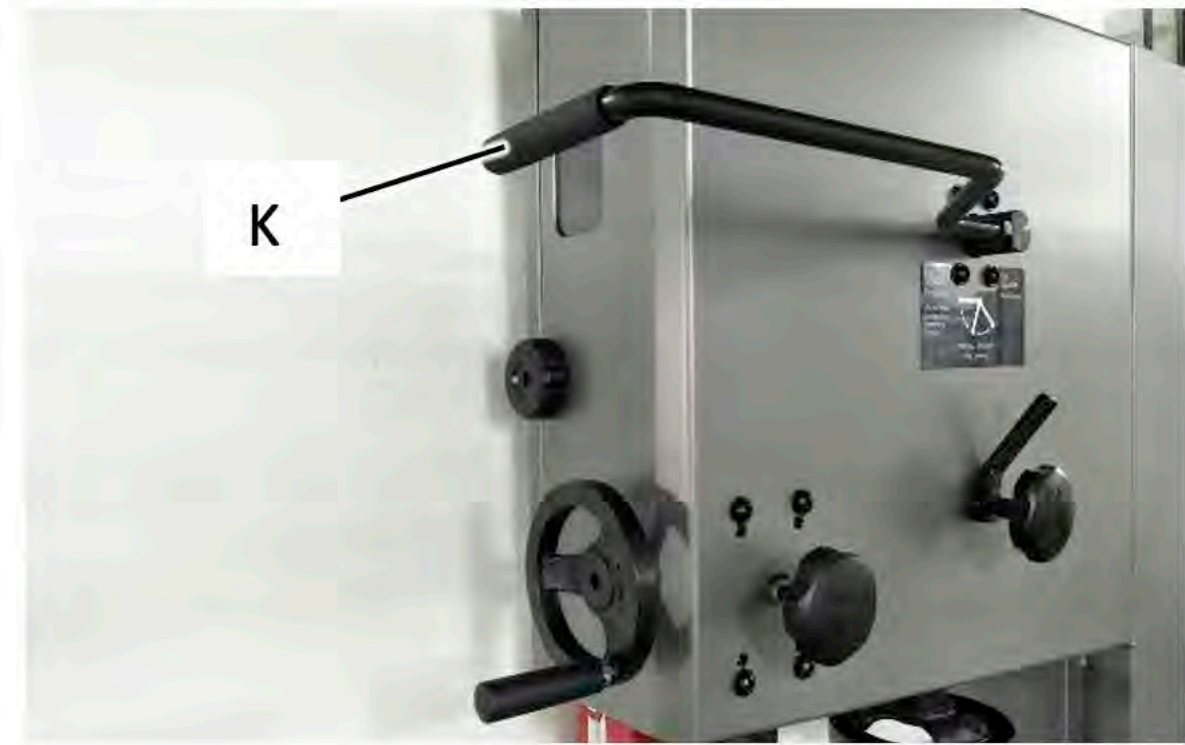
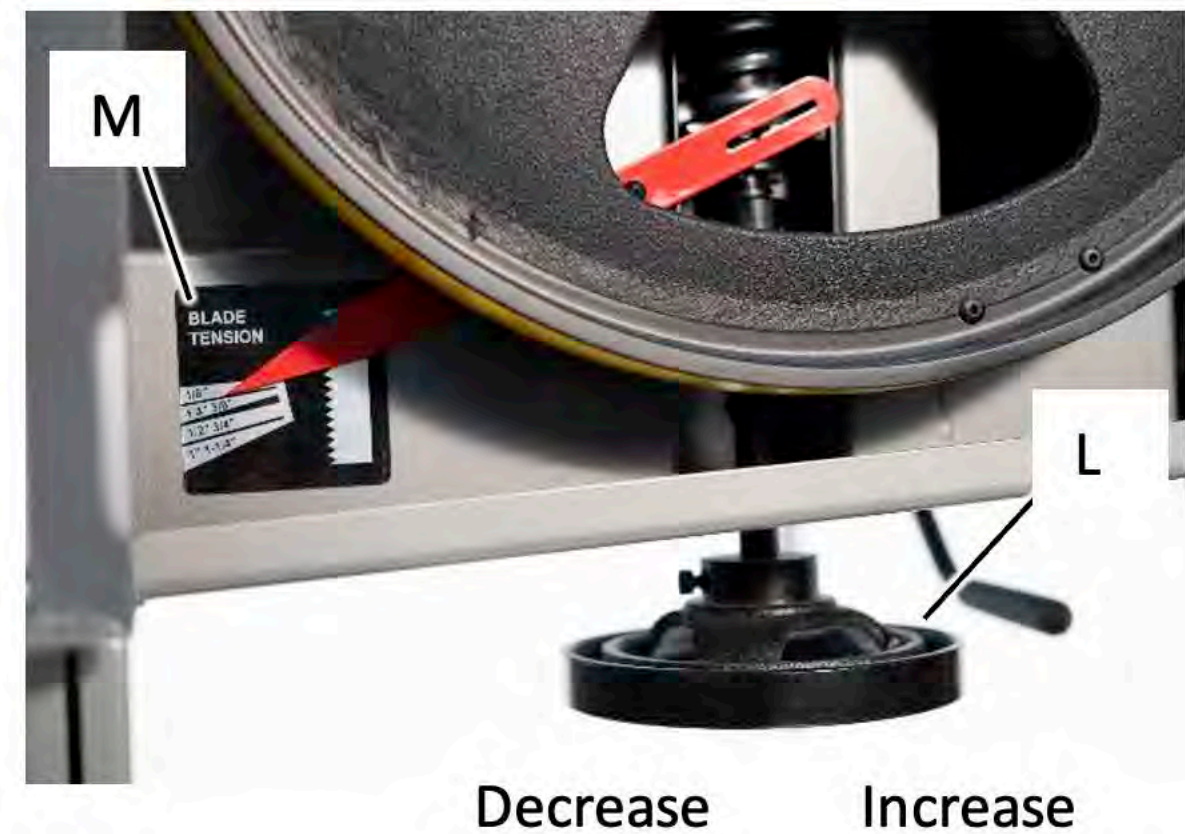


Figure 7-9



Decrease Increase

Figure 7-10

7.8 Adjusting Blade Tension Lever

The blade tension lever has an adjustment screw or stop bushing that allows you to adjust how much tension is released when lever is used.

To adjust tension lever:

1. Disconnect machine from power source.
2. Move lever to *Blade Release* position and remove blade.
3. Move tension lever to *Full Tension* position.
4. Move stop bushing (Figure 7-11) until gap between stop bushing and wheel shaft hinge is 1/8 to 3/16 in.



Figure 7-11

7.9 Blade Tracking

Refer to Figures 7-12 and 7-13.

After proper tensioning, the blade must be tracked. "Tracking" refers to position of blade on the wheels while machine is in operation. Tracking should be checked periodically and is mandatory after every blade change. Blade tracking is done by hand with machine disconnected from power.

1. Disconnect machine from power source.
2. Blade must be correctly tensioned (sect. 7.7).
3. Make sure blade guides and other parts of machine will not interfere with blade movement. Use handwheel (N) to lower guide post until you can see blade through tracking window (O, Figure 7-12).
4. Set blade tension lever initially to *Partial Tension-Idle/Tracking* position.

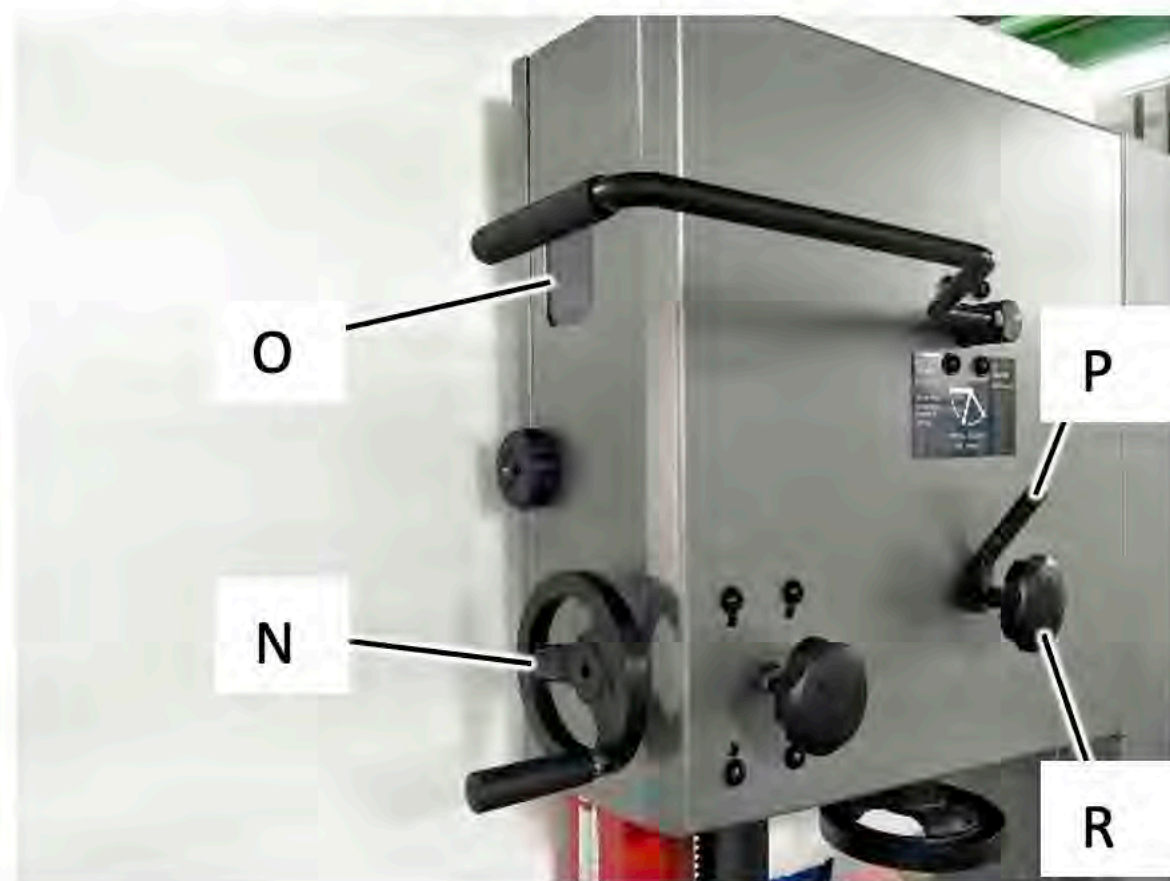


Figure 7-12

5. Open upper door to expose wheel.
6. Rotate wheel by hand, observing position of blade through tracking window. As you rotate wheel, move tension lever to *Full Tension* position. The blade should continue to ride upon center of tire (Figure 7-13).

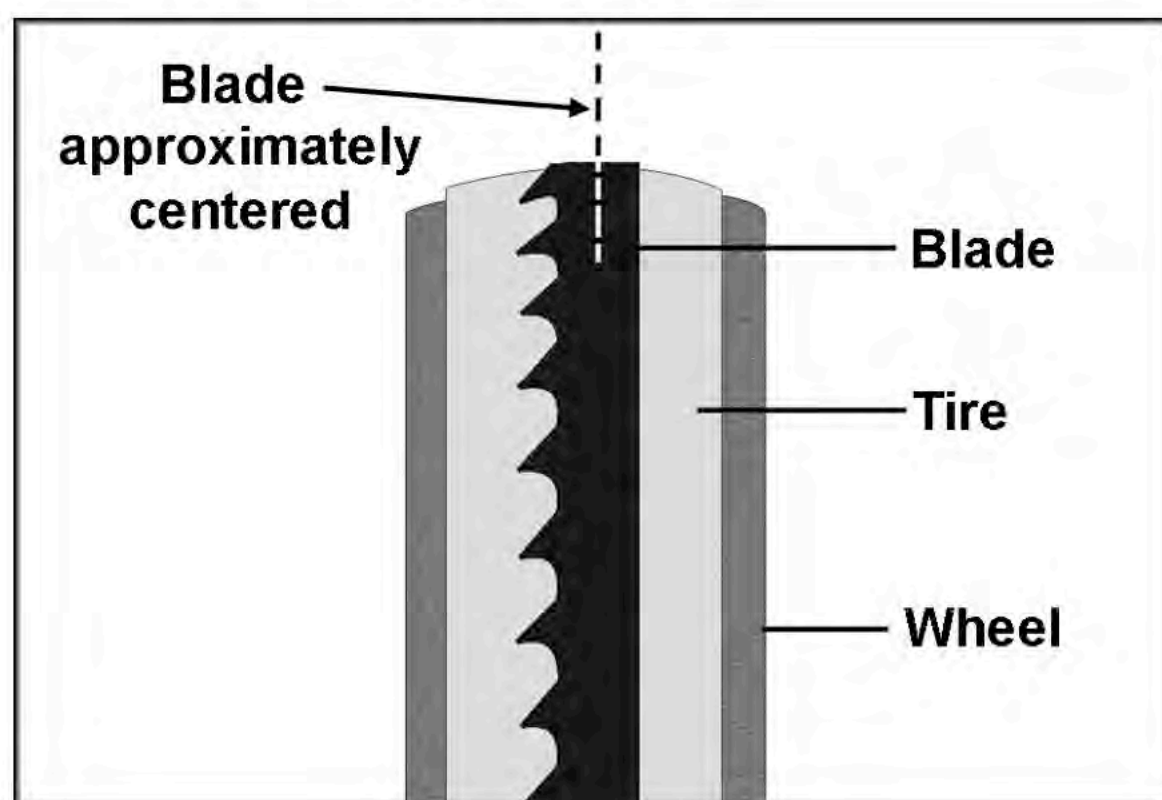


Figure 7-13

7. If blade tends to move toward edge of wheel, set lever to *Partial Tension-Idle/Tracking*.

8. Loosen locking handle (P, Figure 7-12) and slightly rotate tracking knob (R) with your right hand while continuing to rotate wheel with your left. Observe blade through tracking window. Rotating knob clockwise will cause blade to move toward rear edge of wheel. Rotating knob counterclockwise will cause blade to move toward front edge of wheel.

IMPORTANT: This adjustment is sensitive; perform in small increments and give blade time to react to changes.

9. When blade is tracking in center of wheel, re-tighten locking handle (P), and close upper door.
10. Move tension lever to *Full Tension* position, and connect band saw to power. Turn it on for a brief time to observe blade in action through tracking window.
11. If further adjustments are needed, disconnect from power and repeat above procedure.

7.10 Overview – Bearing Adjustments

Thrust (back support) *bearings* are located behind saw blade and provide support to back of blade when saw is in operation.

Guide bearings are located on either side of saw blade and provide stability for the blade when saw is in operation. These bearings rotate on an eccentric shaft so distance from blade can be adjusted for optimal performance.

7.11 Upper Blade Guides

⚠WARNING Unplug machine from power source before making any adjustments! Blade teeth are sharp – use care when working near blade. Failure to comply may cause serious injury.

The bearing guides should be set so that contact between blade and guides will occur only when blade is under pressure from a workpiece. To adjust upper bearing guides for proper blade control, proceed as follows.

Refer to Figures 7-14 and 7-15.

1. Disconnect machine from power source.
2. Blade must already be tensioned and tracking correctly. Place tension handle in *Full Tension* position.
3. Lower guide post until upper guide bearings are a few inches off table. (The reason for this will be evident later in sect. 7.15)
4. Loosen lock knob (A, Figure 7-14).

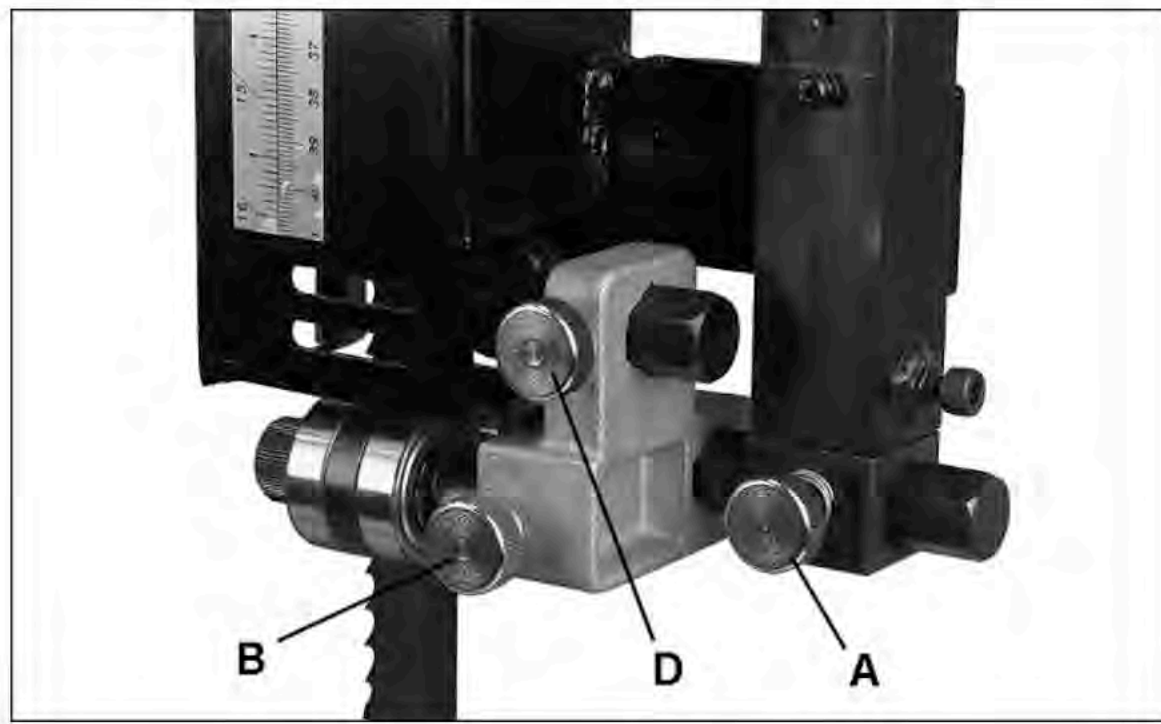


Figure 7-14

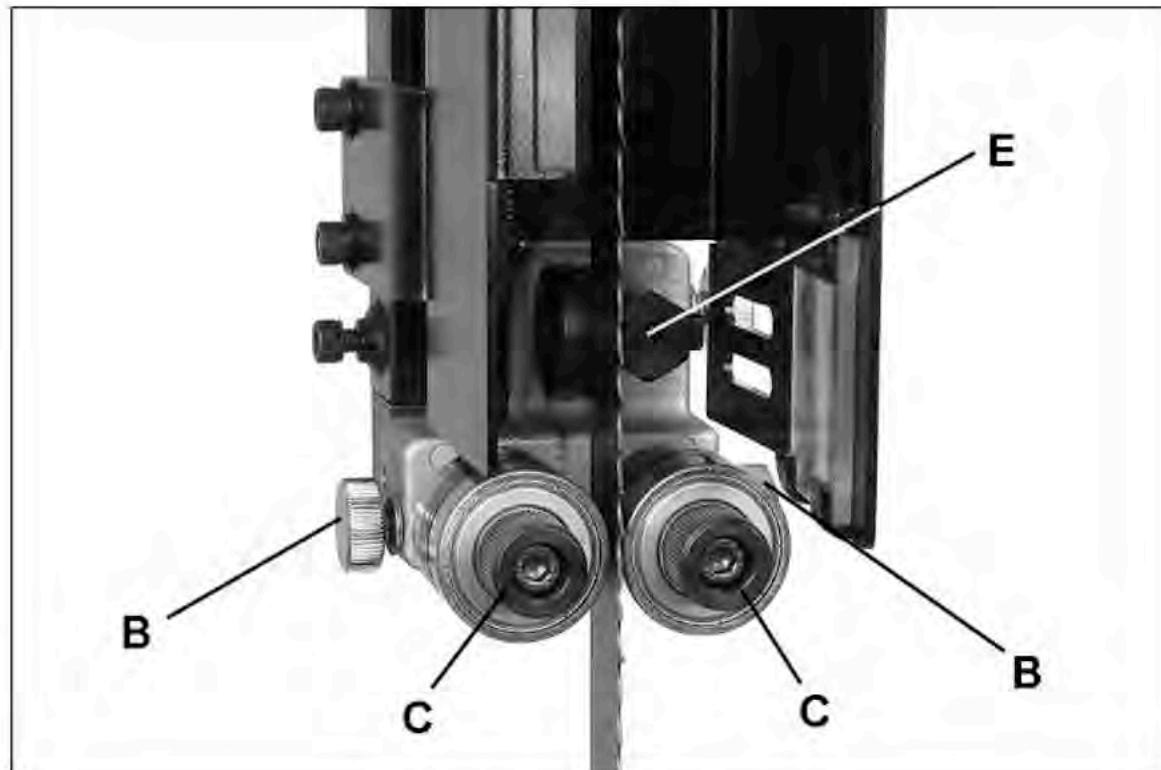


Figure 7-15

5. Slide entire guide bracket until front of guide bearings are about 0.015" (1/64") behind the blade's gullet (curved area at base of tooth). See Figure 7-16.

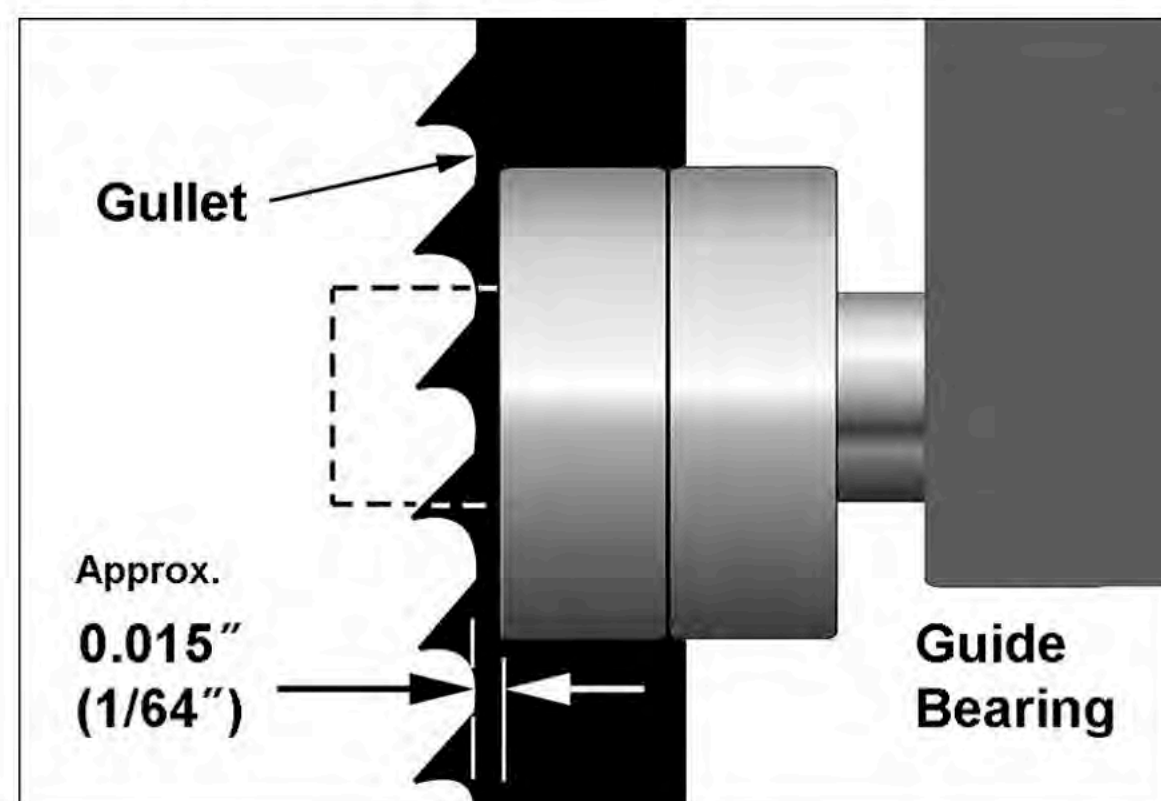


Figure 7-16

6. Tighten lock knob (A) to secure this position.
7. Loosen lock knob (B) for either of the front guide bearings.
8. The guide bearing rotates on an eccentric shaft. Adjust guide bearing by rotating the knurled knob (C) until guide bearing is approximately 0.004" from blade. A quick way to achieve this spacing is by placing a single thickness of a crisp dollar bill (a dollar bill is approximately 0.004" thick) between blade and guide bearing. Adjust guide bearing until it just lightly grips the dollar bill.

NOTE: Do not force guide bearing against side of blade. It should generally only make contact with blade when there is pressure from the cutting operation.

9. Tighten lock knob (B).
10. Repeat process for opposite guide bearing.

7.12 Upper Thrust Bearing

Refer to Figures 7-14 and 7-15.

The thrust bearing prevents backward deflection of blade during cutting. A groove in the bearing surface helps stabilize the moving blade.

1. Loosen lock knob (D) and slide thrust bearing up to back of blade.
2. Adjust thrust bearing until space between groove bottom and back edge of blade is approximately 0.015" (1/64"). Tighten lock knob (D).
3. If lateral adjustment of bearing is needed to align groove with blade, loosen set screw (E) at front of bearing assembly, and shift bearing as needed. Retighten set screw.
4. Make sure all lock knobs on upper guide bearing assembly are tightened when adjustments are finished.

7.13 Lower Blade Guides

⚠WARNING Unplug machine from power source before making any adjustments! Blade teeth are sharp - use care when working near saw blade. Failure to comply may cause serious injury.

Refer to Figures 7-17 and 7-18.

1. Disconnect band saw from power source.
2. Open lower door and swing lower guard out of the way.
3. Adjust lower guide bearings and lower thrust bearing below table in similar manner to that of upper guide and thrust bearings.
4. Movement summary: Loosen lock knob (F) to move entire guide bearing assembly. Loosen lock knob (G) and rotate knob (H) to adjust guide bearing in relation to blade. Thrust bearing is controlled by locking knob (J) and lateral adjustment by set screw (K).
5. Make sure all knobs and handles are tightened after adjustments are complete.

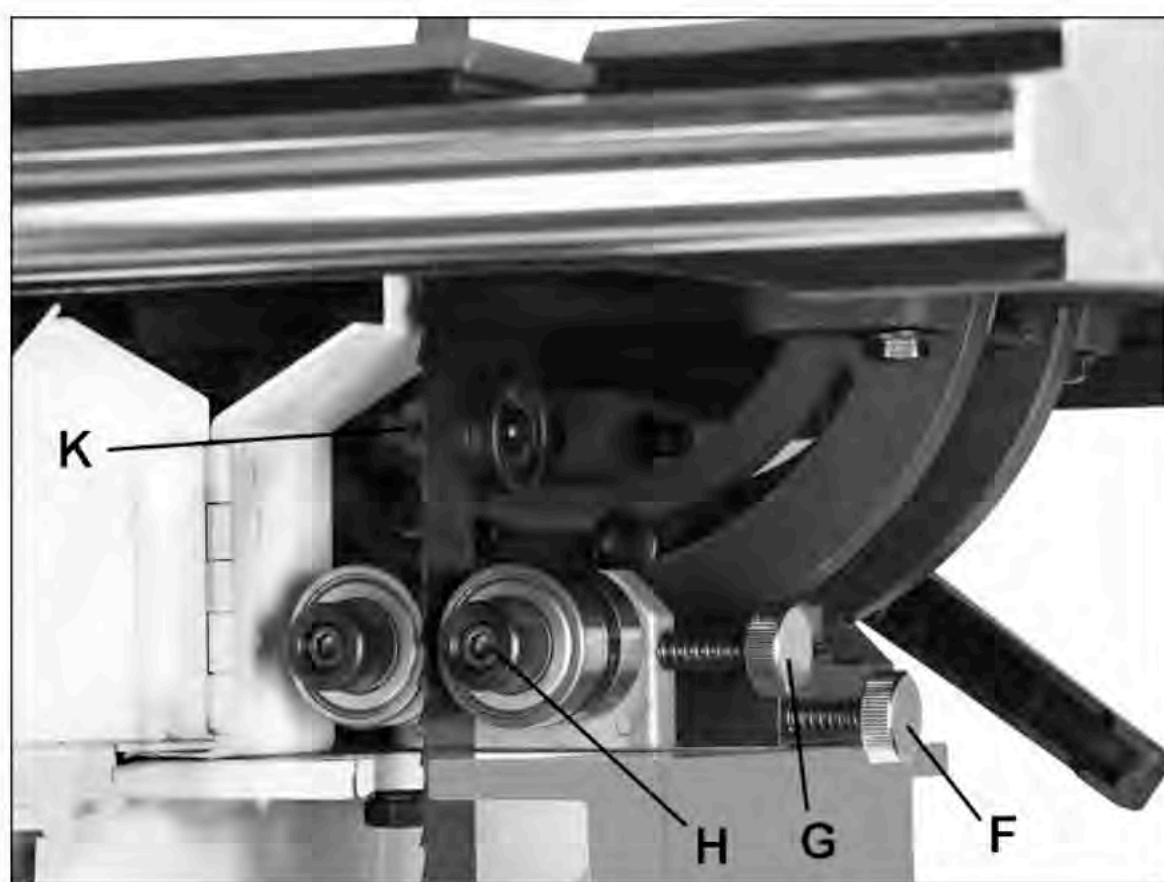


Figure 7-17



Figure 7-18

7.14 Guide Post

Refer to Figure 7-19.

1. Disconnect band saw from power source.
2. Loosen lock knob (L) and raise or lower guide post using handwheel (M).

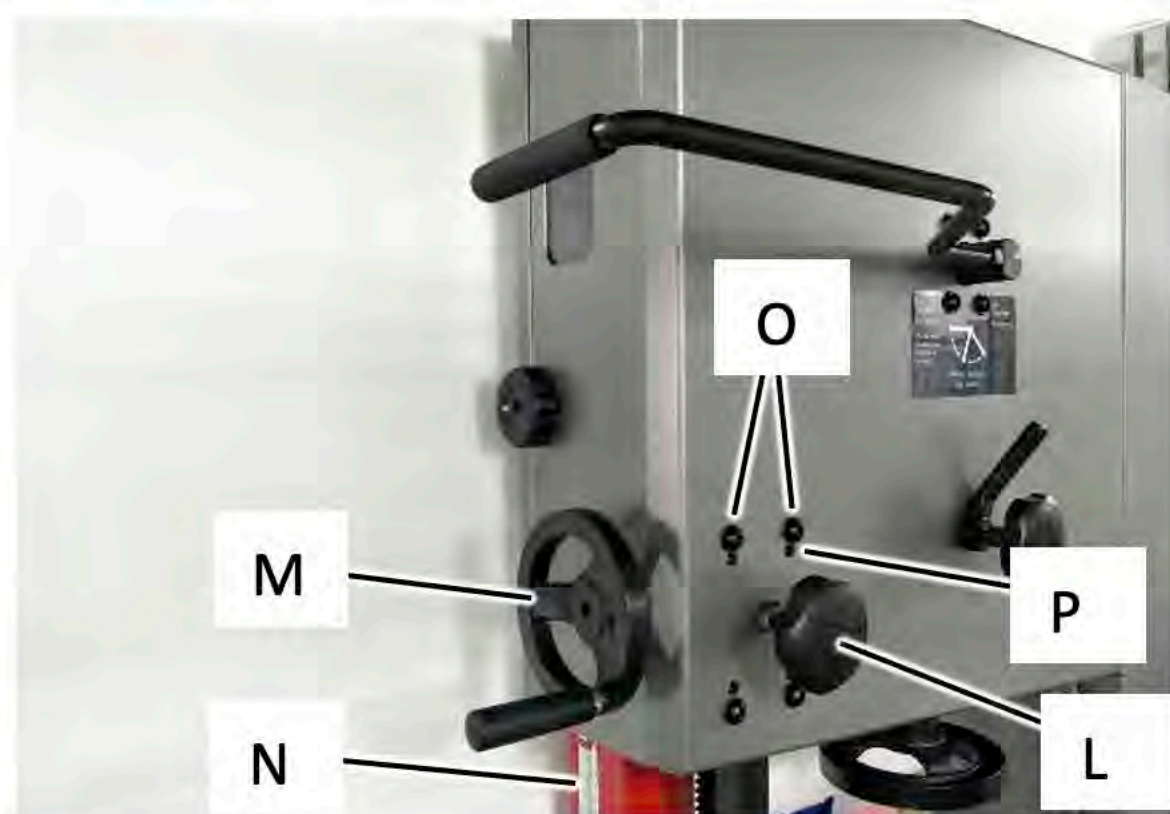


Figure 7-19

3. Position blade guide assembly so that bottom of guide bearings are about 1/8" above material to be cut. Or, simply lower guide post until scale pointer (N) indicates height of your workpiece. This provides minimal clearance between workpiece and bottom of guide bearings, which will minimize blade deflection as well as enhance operator safety.
4. Tighten lock knob (L).

7.15 Guide Post Parallelism

The guide post should be parallel to blade throughout vertical travel of the guide post; thus the guide bearings will maintain their relationship to blade at any height from the table and won't require re-setting each time guide post is moved. This setting has been accurately made by the manufacturer and should not require immediate attention, but may be checked in future as follows:

1. Disconnect band saw from power source.
2. Move blade tension lever to *Full Tension* position.
3. The guide bearings in low position should already be set in relation to blade (see sect. 7.11). Also, the table must be square with blade (see sect. 7.4).
4. Loosen lock knob (L, Figure 7-19) and raise guide post to a high position.
5. Confirm that guide post travels straight up and down, and guide bearings maintain their relationship to blade.
6. If guide post does not go straight up and down (blade begins deflecting when guide post is raised), slightly loosen the four screws (O) and turn any combination of the four set screws (P) as needed to bring guide post into line.
7. When finished adjusting, securely tighten the four screws (O).
8. Verify the setting by raising and lowering guide post.

7.16 Brushes

An adjustable brush is located in the lower wheel housing. It should remain in constant contact with blade and wheel to prevent buildup of gum and debris. Loosen screw and adjust as needed, then retighten screw.

7.17 Drive Belt Changing, Replacement, and Tensioning

This band saw is designed to provide blade speeds which will function for cutting metals and woods. This functionality thus requires the operational setting to change with the change of materials.

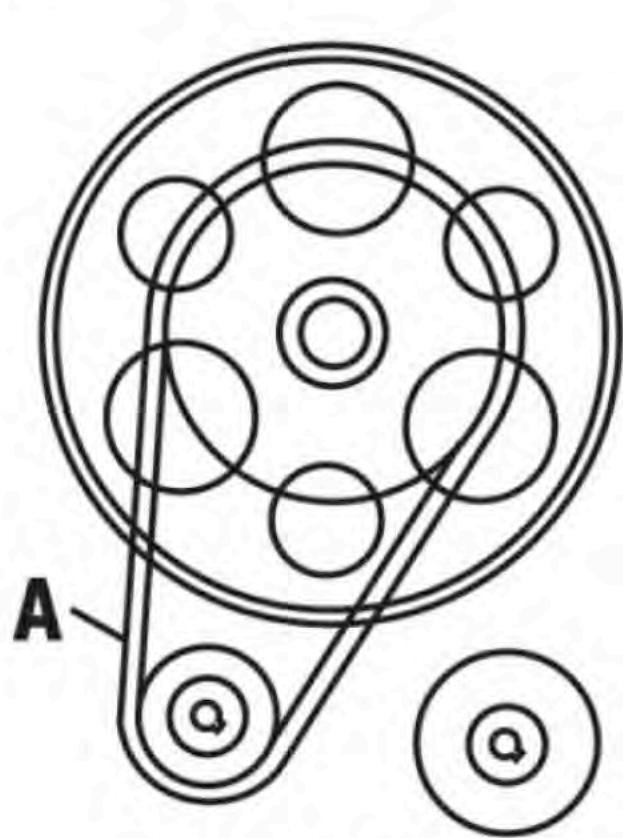
It is expected that the operator will change the saw setup to match the material being cut. This will include the drive belt position, the saw blade, the display mode setting, and the blade speed.

⚠WARNING Disconnect machine from power source before making any adjustments.

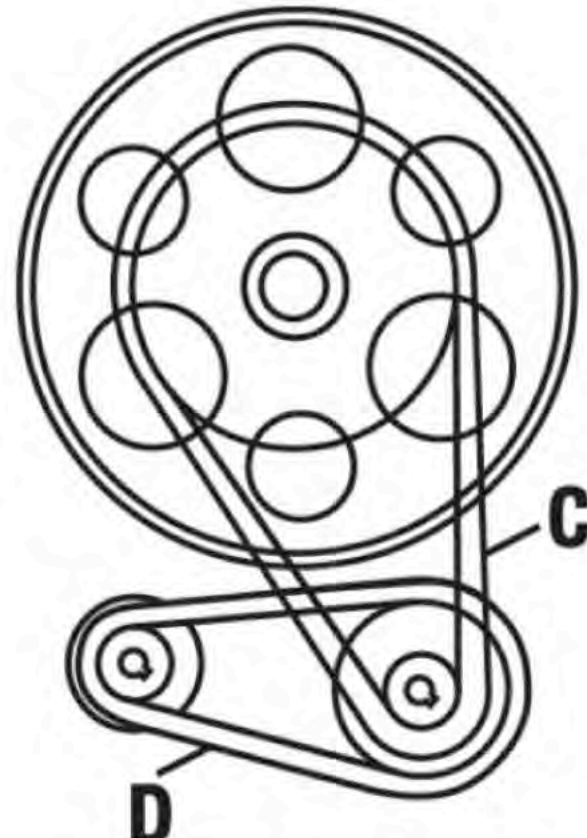
While this procedure is directed toward the normal changing of the belt position, when the belt(s) becomes worn, cracked, frayed or glazed, they should be replaced following these same step using new belts for the installation steps.

Depending on the desired cutting application, this band saw can be set for either “Wood Cutting” mode with a speed range of 540-3600 SFPM (with wood working blade installed) or “Metal Cutting” mode with a speed range of 100-650 SFPM (with metal working blade installed).

This is done by changing the positioning and configuration of the belt(s) to match the desired mode of operation.



Wood Mode 7.20



Metal Mode 7.21



Metal Mode indicator 7.22

7.17.1 Changing to “Wood Cutting” Mode

Reference figures 7.20, 7.21, 7.22, 7-23, and 7-24

CAUTION Wear gloves when handling blades.

This procedure will presume that the saw is setup of the opposite operating mode.

1. Disconnect machine from power source.
2. Turn the handwheel (A, Figure 7-23) to loosen the drive belts (D, Figure 7.21). This will push the intermediate pulley (B, Figure 7-23) inboard.

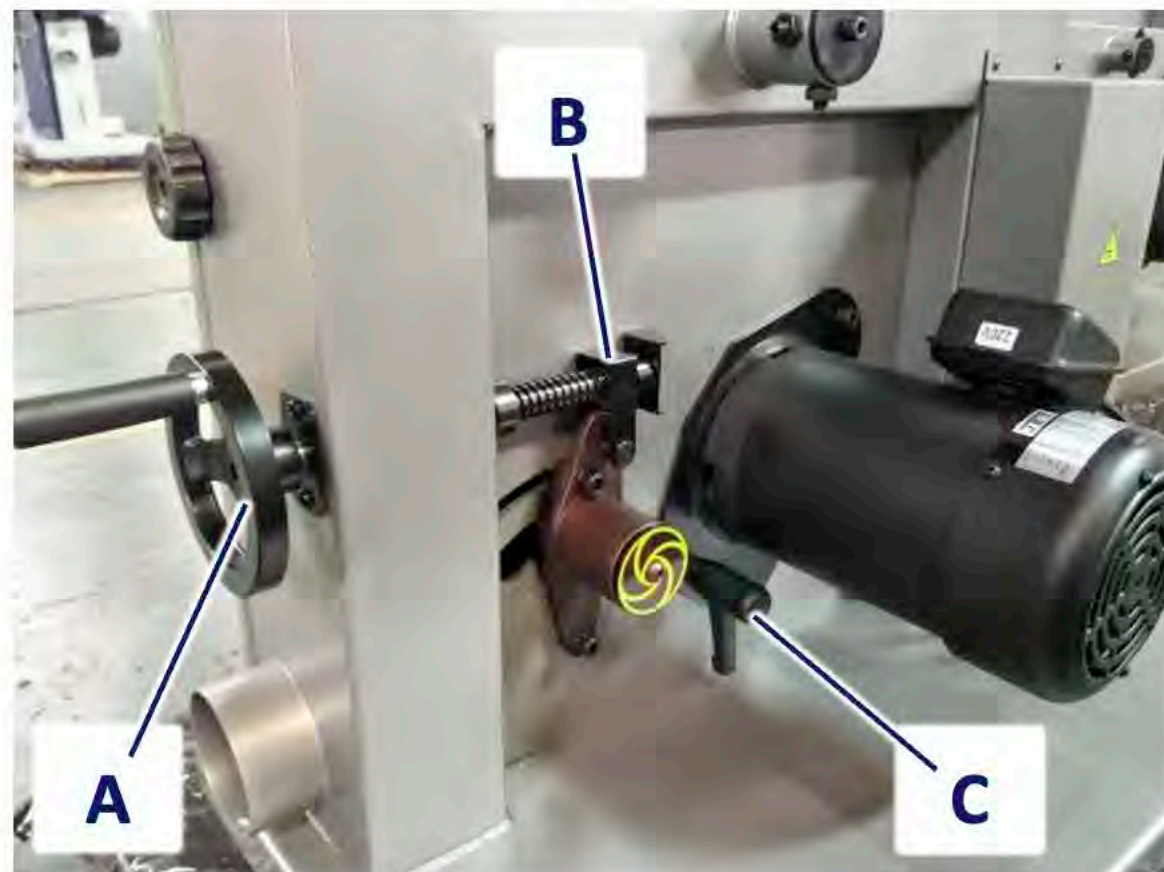


Figure 7-23

3. Loosen the lock handle (C, Figure 7-23) and lift the motor to loosen the vertical drive belt (C, Figure 7.21) and then tighten the lock handle to hold the motor in the up position.
4. Open the lower drive wheel door.

5. Remove the short Poly V-Belt A28 (D, Figure 7-24) and store for use when setting up for metal cutting.
6. Route the long Poly V-Belt 17-470 off of the inboard groove of the intermediate pulley (E, Figure 7.24) and onto the inboard groove of the motor pulley (F, Figure 7.24).

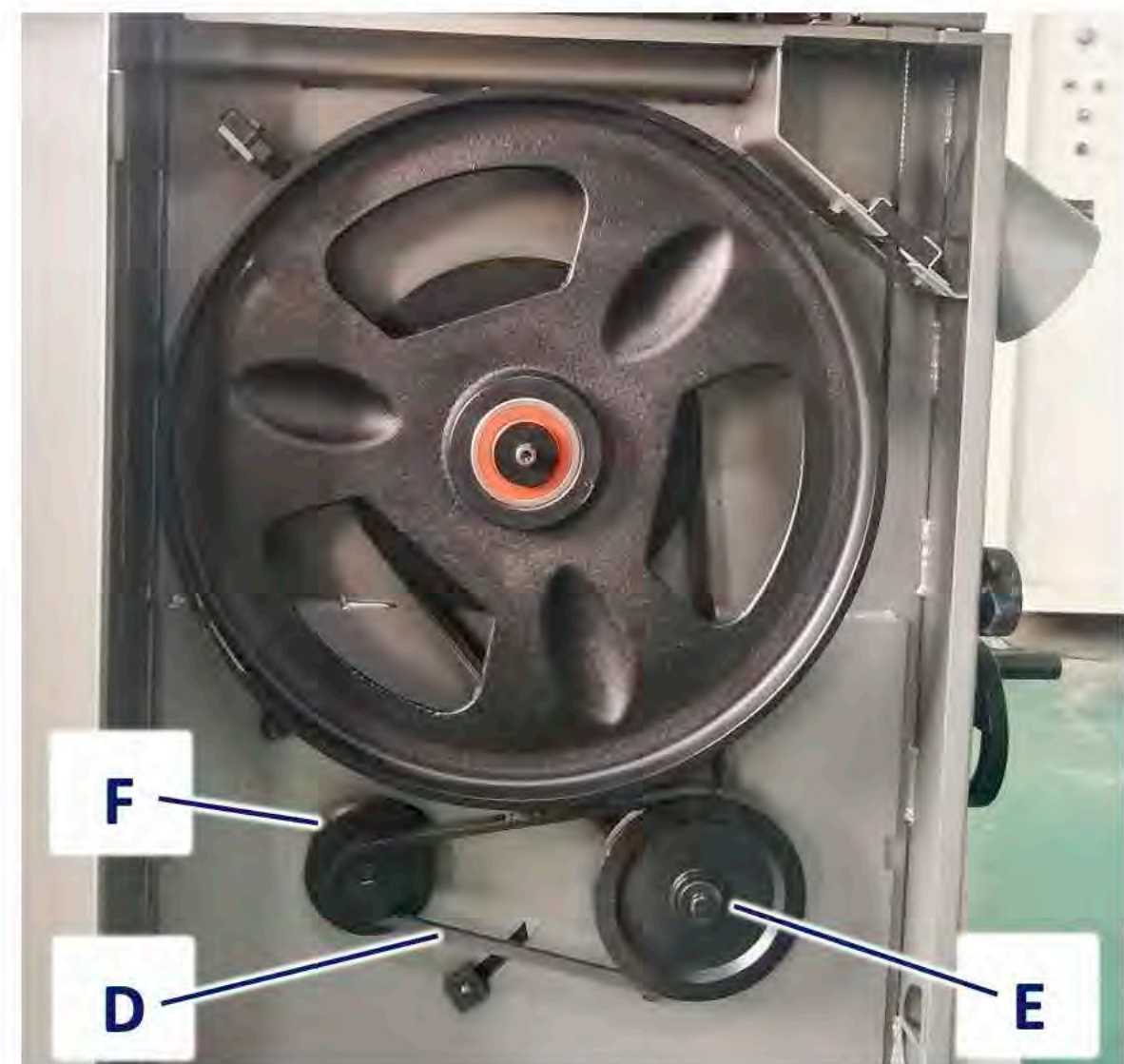


Figure 7-24

7. Loosen the lock handle (C, Figure 7-23) and lower the motor to tighten the vertical drive belt (C, Figure 7.21).
8. Check tension by pushing with moderate pressure on the belt halfway between the pulleys. An adequately tensioned belt will deflect about 1/2". If tension is not strong enough, push down on motor.

9. Tighten the lock handle to hold the motor in the down position when tension is correct.
10. When complete, the belt routing will match Figure 7.20.
11. Complete the change to “Wood Mode” by installing the correct blade and changing the display to Wood Mode.

7.17.2 Changing to “Metal Cutting” Mode

Reference figures 7.20, 7.21, 7.22, 7.23, and 7-24

⚠ CAUTION Wear gloves when handling blades.

This procedure will presume that the saw is setup of the opposite operating mode.

1. Disconnect machine from power source.
2. Loosen the lock handle (C, Figure 7-23) and lift the motor to loosen the vertical drive belt (C, Figure 7.21) and then tighten the lock handle to hold the motor in the up position.
3. Open the lower drive wheel door.
4. Route the long Poly V-Belt 17-470 off of the inboard groove of the motor pulley (F, Figure 7.24) and onto the inboard groove of the intermediate pulley (E, Figure 7.24).
5. Install the short Poly V-Belt A28 (D, Figure 7-24) into the outboard grooves of the intermediate and motor pulleys.
6. Turn the handwheel (A, Figure 7-23) to tighten the drive belts (D, Figure 7.21). This will pull the intermediate pulley (B, Figure 7-23) outboard.
7. Check tension by pushing with moderate pressure on the belt halfway between the pulleys. An adequately tensioned belt will deflect about 1/2". If tension is not strong enough, turn the handwheel ½ to 1 turn at a time to gain the correct tension.
8. When complete, the belt routing will match Figure 7.21 and the rotation indicator (E, Figure 7-22) will rotate when the saw is operating.
9. Complete the change to “Metal Mode” by installing the correct blade and changing the display to Metal Mode.

Note: If one belt is used more than the other belt, it will stretch lightly under normal conditions that means one belt may be looser than other when both belts are installed. This is normal.

Overtightening the belt will decrease the lifespan of bearing in the pulley.

8.0 Operating Controls

8.1 Start/Stop Switch

Refer to Figure 8-1.

1. Insert the key into the power switch (C) and turn to the On position to power the saw On.
2. Set the DRO to display the correct blade speed range for the material and belt setup. Press the selector button (G) to switch between Wood (F) or Metal (E). The LED (E) or (F) will illuminate to indicate the setting.
3. The start switch (B) has a safety feature that prevents unauthorized or accidental starting of the machine. With band saw turned off, slide safety key up and remove it from switch. This piece must be re-inserted before band saw can operate.
4. Press the green start button (B) to start the saw.

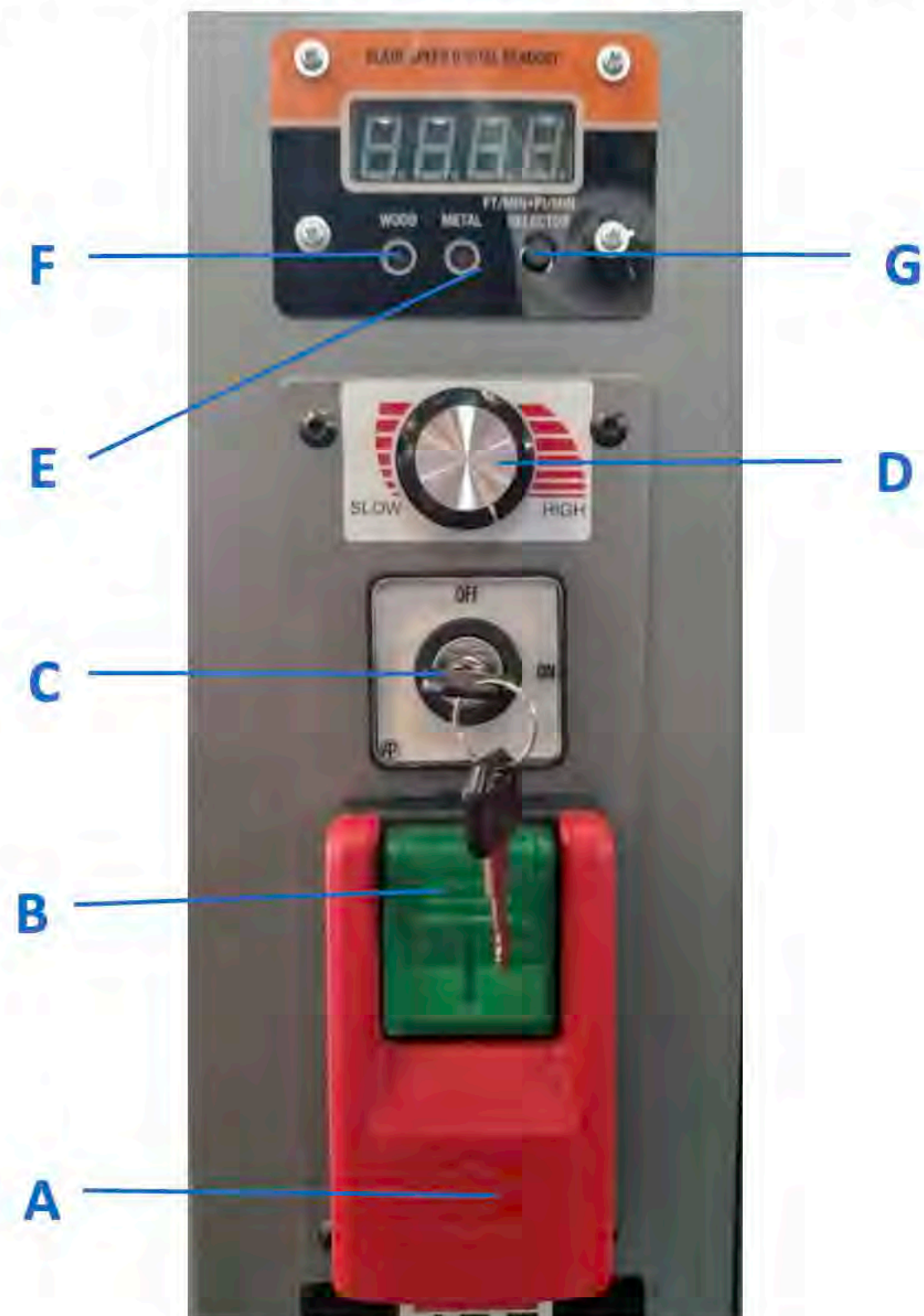


Figure 8-1 – Operating Controls

5. At the end of the cut or if an undesired or unsafe condition occurs, press the red stop paddle (A) to turn off and stop the saw blade.
6. Use the speed control knob (D) to adjust the blade speed to the speed desired for the material being cut.

IMPORTANT: The speed adjustment is sensitive. Perform in small increments and give blade time to react to changes.

NOTE: When the key switch is turned Off, it is common and normal for the display to show an LV (Low Voltage) code. Additionally, when the key switch is turned Off, please wait 10 – 15 seconds before turning the key switch back On. The display will show an LV-C (Low Voltage Fluctuation) code.

8.2 Setting Speed Digital Readout

8.2.1 Wood Cutting Operation

CAUTION Before starting the machine, make sure belt A is installed as shown in Figure 8-2.

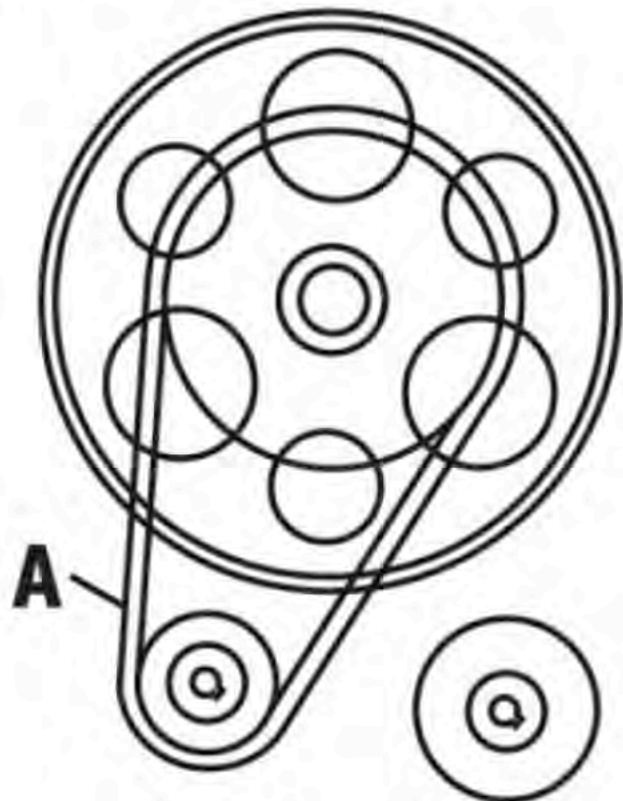


Figure 8-2 – Belt Position for Wood

1. Press the “Selection” button (G, Figure 8-1). The corresponding mode “Wood” LED (F, Figure 8-1) will light up when selected.

8.2.2 Metal Cutting Operation

CAUTION Before starting the machine, make sure the belt C & D are installed as shown as Figure 8-3

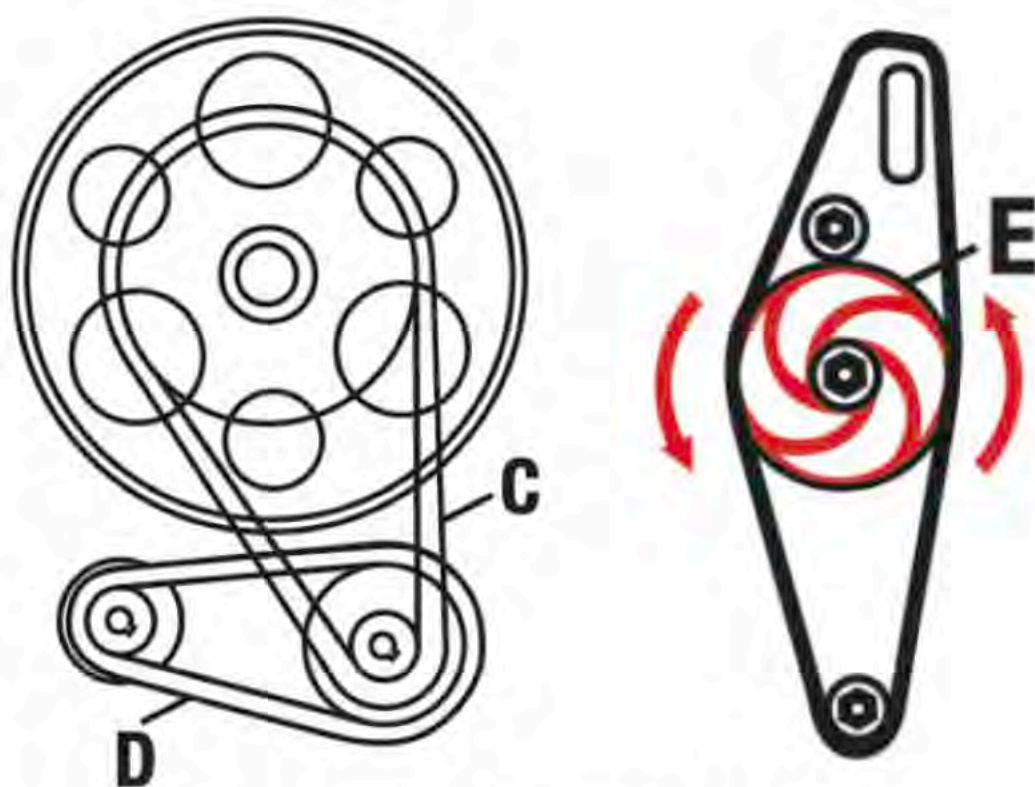


Figure 8-3 – Belt Position for Metal

1. Press the “Selection” button (G, Figure 8-1). The corresponding mode “Metal” LED (E, Figure 8-1) will light up when selected.
2. The disc (E) Figure 8-3 must spin during the operation.

8.3 Variable Speed Control Dial

The variable speed control dial (D, Figure 8-1) will adjust the blade speed during operation.

Turn the dial clockwise to increase blade speed and counterclockwise to decrease blade speed.

Wood cutting speed range: 540-3600 SFPM
(Sawing feet per minute)

Metal cutting speed range: 100-650 SFPM
(Sawing feet per minute)

9.0 Operation – Non-Metal

Consult section 8.0 for identification of the controls.

Never operate band saw without blade and wheel covers in place and secured.

The following section contains basic information and is not intended to cover all possible applications or techniques using the band saw. Consult published sources of information, acquire formal training, and/or talk to experienced band saw users to gain proficiency and knowledge of band saw operations.

(The following figures may or may not show your specific band saw, but procedures are the same.)

9.1 General Procedure

1. Setup the saw to match the specific material to be cut. “Wood Mode” for wood or “Metal Mode” for metal.
2. Install the proper blade for use with the material to be cut.
3. Make sure the blade and upper and lower bearings are properly adjusted for tension and tracking.
4. Adjust blade guide assembly so that the guide bearings are just above workpiece (about 3/16”) allowing minimum exposure to blade. See Figure 9-1.

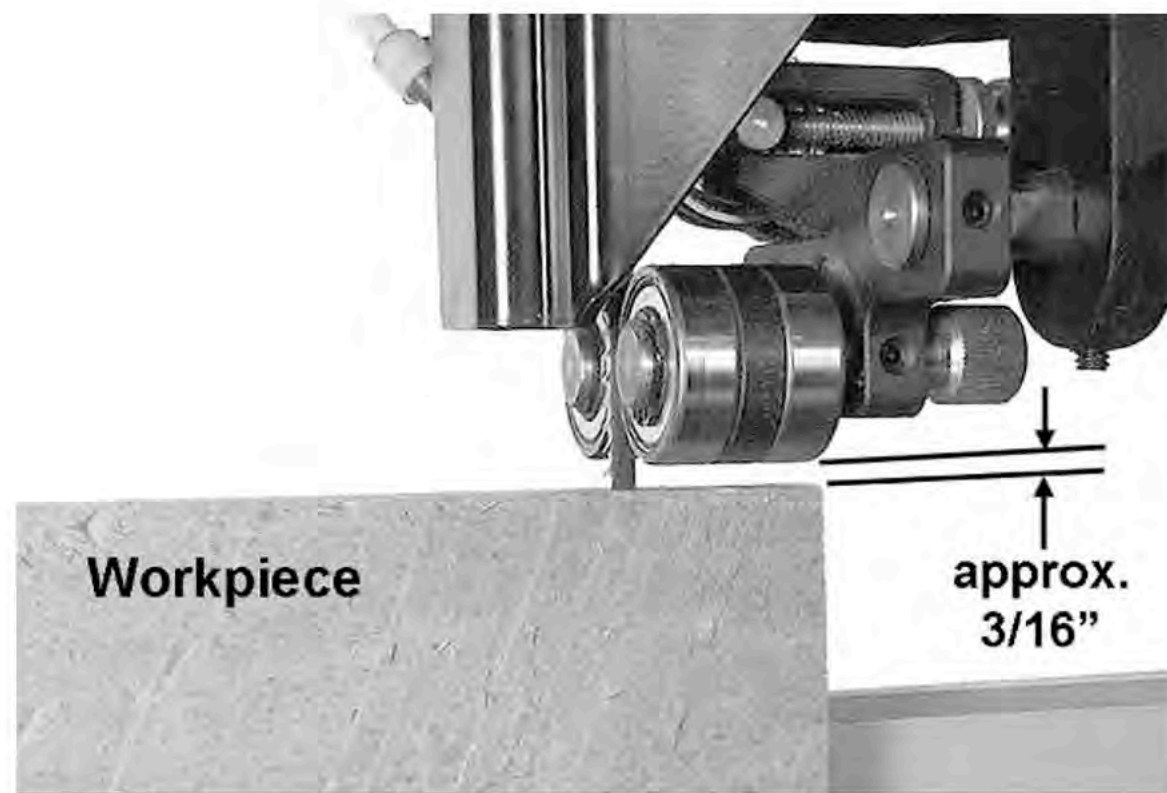


Figure 9-1

5. If using the fence, move it into position and lock it to the guide rail. If you are using the miter gauge for a crosscut, the fence should be moved safely out of the way.
6. Turn on band saw and allow a few seconds for the machine to reach full speed.

⚠WARNING Whenever possible, use a push stick, hold-down, power feeder, jig, or similar device while feeding stock, to prevent your hands getting too close to the blade.

7. Place the straightest edge of the workpiece against the fence and push the workpiece slowly into the blade. Do not force the workpiece into the blade.

⚠CAUTION When cutting, do not overfeed the blade; overfeeding will reduce blade life and may cause the blade to break.

8. When cutting long stock, the operator should use roller stands, support tables, or an assistant to help stabilize the workpiece.

9.2 Ripping

Ripping is cutting lengthwise through the workpiece, and with the grain (of wood stock). See Figure 9-2.

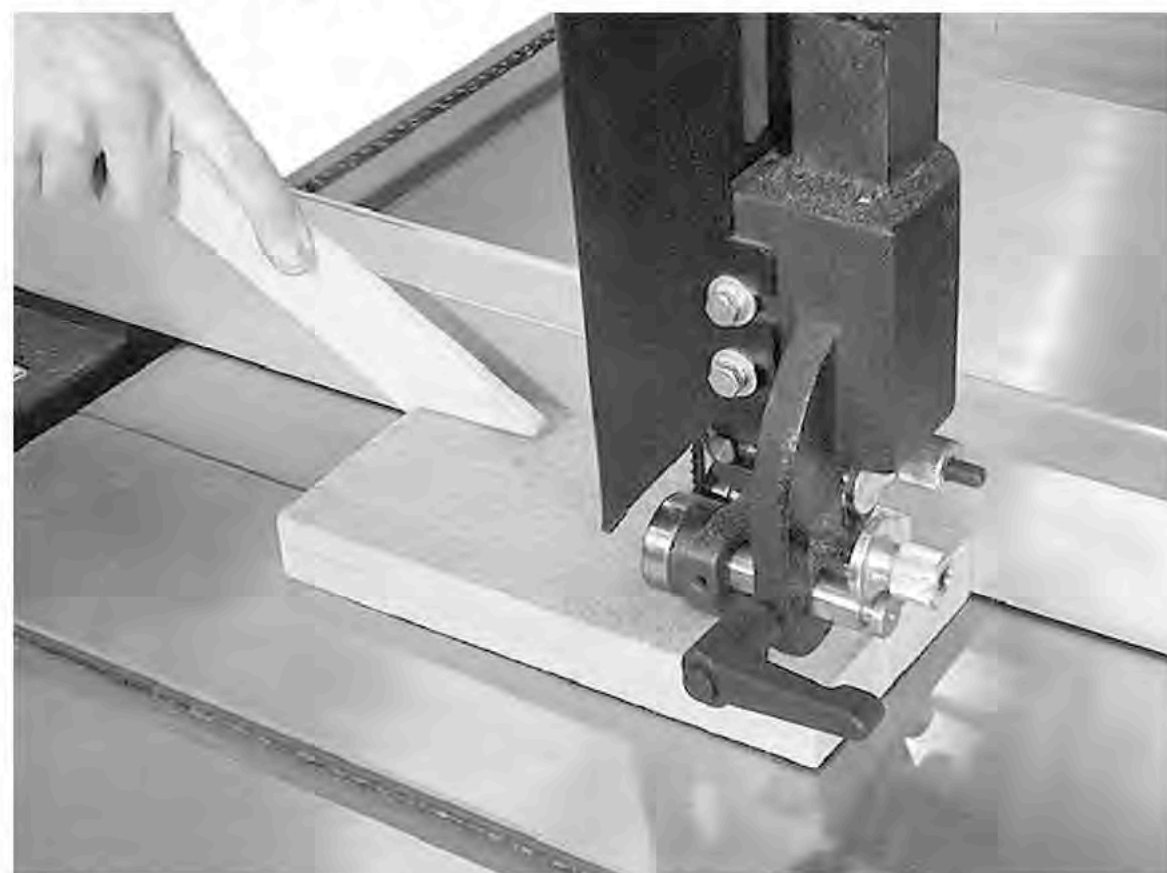


Figure 9-2

9.3 Crosscutting

Crosscutting is cutting across the grain of the workpiece, while using the miter gauge to feed the workpiece into the blade.

Slide the bar of the miter gauge into the end of the slot on the table.

The right hand should hold the workpiece steady against the miter gauge, while the left hand pushes the miter gauge past the blade, as shown in Figure 9-3.

Do not use the fence in conjunction with the miter gauge. The offcut of the workpiece must not be constrained during or after the cutting process.

⚠CAUTION Using the fence in conjunction with the miter gauge can cause binding and possible damage to the blade.

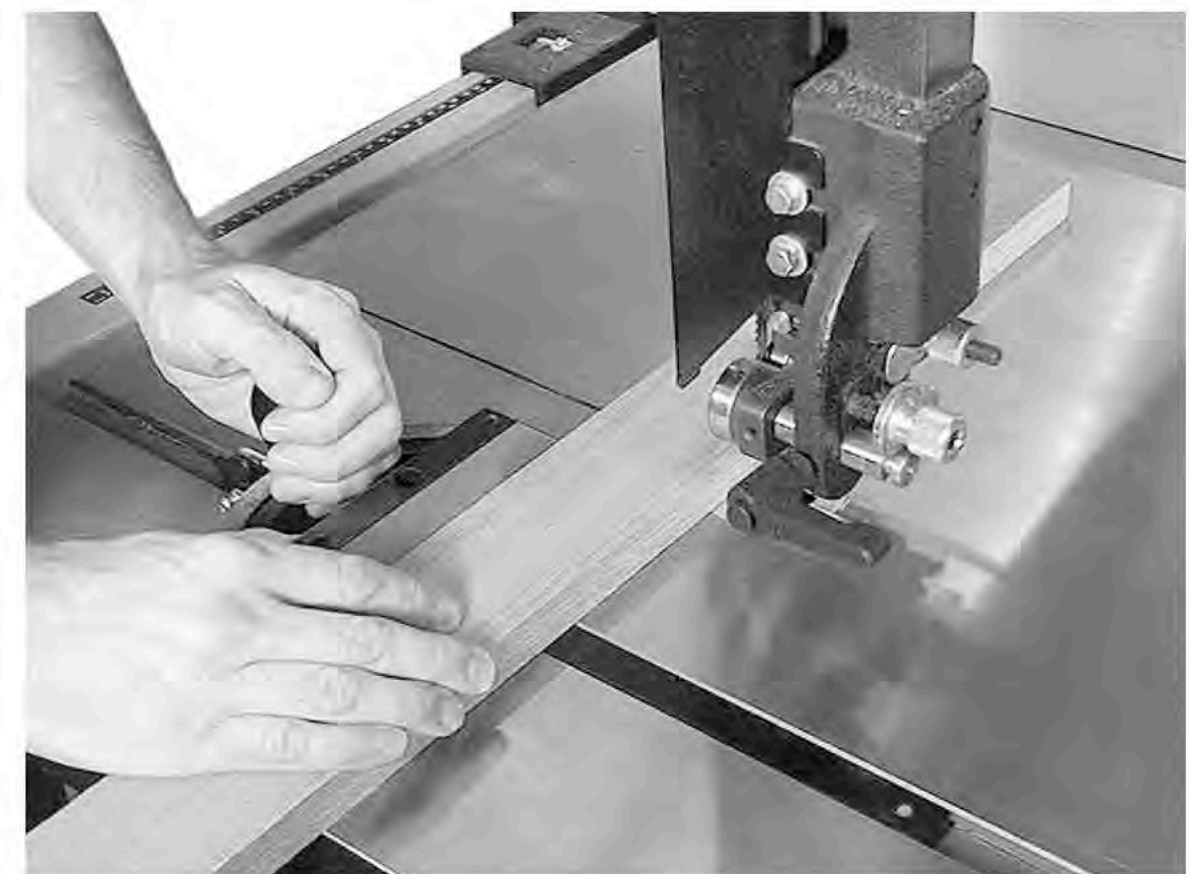


Figure 9-3

9.4 Resawing

Resawing is the process of slicing stock to reduce its thickness, or to produce boards that are thinner than the original workpiece. Figure 9-4 demonstrates resawing.

The ideal blade for resawing is the widest one the machine can handle, as the wider the blade the better it can hold a straight line.

When resawing thin stock, use a push block, push stick, or similar device to keep your hands away from the blade.



Figure 9-4

9.5 Blade Lead

Blade lead, or drift, is when the blade begins to wander off the cutting line even when the band saw fence is being used. Figure 9-5 shows an example of blade lead. It is more common with small, narrow blades, and is almost always attributable to poor blade quality, or lack of proper adjustments. Inspect the band saw for the following:

- Fence not parallel to miter slot and blade.
- Blade not tensioned correctly.
- Blade is dull.
- Teeth have excessive “set” on one side of blade.
- Workpiece being fed too quickly.

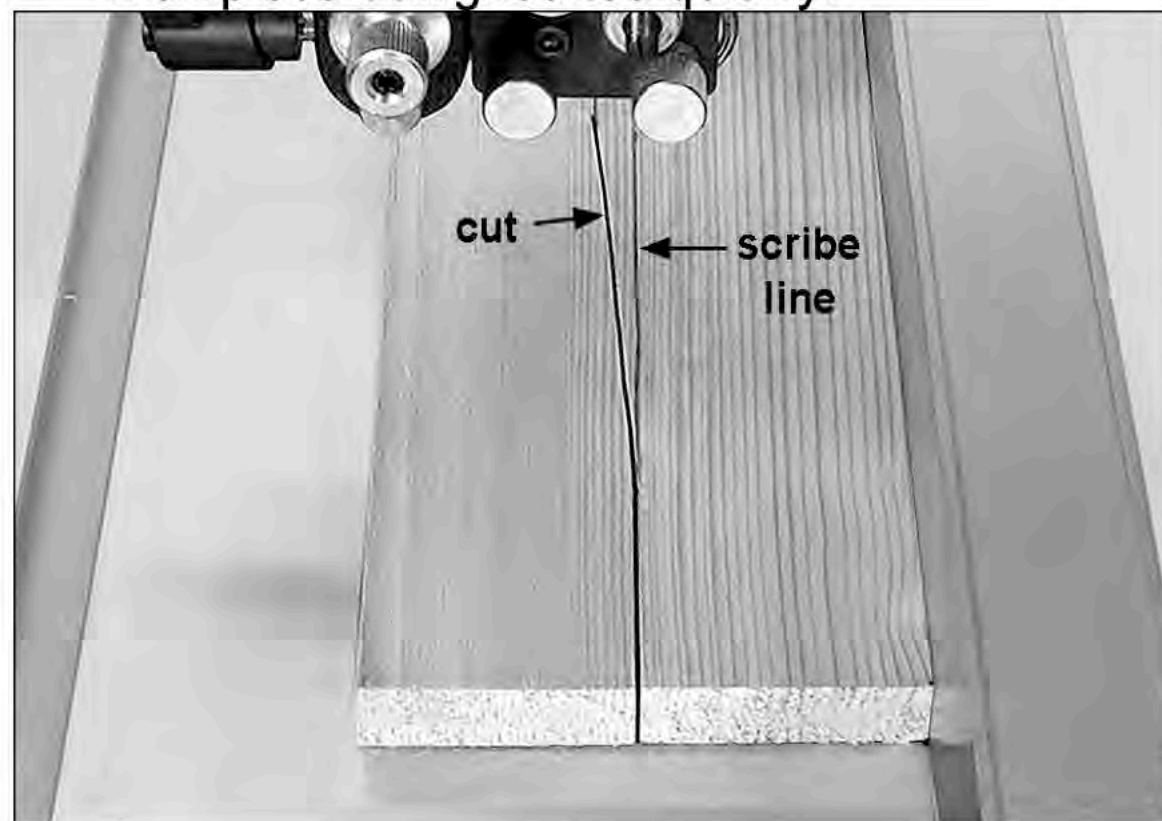


Figure 9-5

10.0 Operation – Metal

Consult section 8.0 for identification of the controls.

Never operate band saw without blade and wheel covers in place and secured.

The following section contains basic information and is not intended to cover all possible applications or techniques using the band saw. Consult published sources of information, acquire formal training, and/or talk to experienced band saw users to gain proficiency and knowledge of band saw operations.

(The following figures may or may not show your specific band saw, but procedures are the same.)

10.1 General Procedure

1. Setup the saw to match the specific material to be cut. “Wood Mode” for wood or “Metal Mode” for metal.
2. Install the proper blade for use with the material to be cut.
3. Make sure the blade and upper and lower bearings are properly adjusted for tension and tracking.
4. Adjust blade guide assembly so that the guide bearings are just above workpiece (about 3/16”) allowing minimum exposure to blade. See Figure 9-1.

10.2 Blade Break-In Procedure

New blades are very sharp and therefore have a tooth geometry that 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. The following procedure will be adequate, however, for break-in of JET-supplied blades on lower alloy ferrous materials.

1. Use a section of round stock.
2. Operate the saw at low speed. Start the cut with a very light feed rate.
3. When the saw has completed about 1/3 of the cut, increase the feed rate slightly and allow the saw to complete the cut.
4. Keep the feed rate at the same setting and begin a second cut on the same or similar workpiece.
5. When the saw has completed about 1/3 of the cut, increase the feed rate while watching the chip formation until cutting is at its most efficient rate (refer to “Evaluating Cutting Efficiency” below). Allow the saw to complete the cut.
6. The blade is now considered ready for use.

10.3 Evaluating Cutting Efficiency

The best way to determine whether a blade is cutting efficiently is to observe the chips formed by the cutting.

- If chip formation is powdery, then the feed rate is too light, or blade is dull.
- If the chips formed are curled, but colored – blue or straw colored from heat generated during the cut – then feed rate is excessive.
- If chips are slightly curled and not colored by heat, then the blade is sufficiently sharp and is cutting at its most efficient rate.

11.0 Blade Selection Guide

Proper blade selection is just as important to band saw operation as is blade speed and material feed. Proper blade selection will impact blade life, straightness of cut, cut finish, and efficiency of operation. Excessive blade breakage, stripping of teeth, and waviness of cut are some of the results of improper blade selection.

Using the proper blade for the job will increase the operating efficiency of your band saw, help reduce necessary saw maintenance, and improve your productivity. Thus, it is important to follow certain guidelines when selecting a saw blade.

Here are factors to consider when selecting a blade:

- The type of material you will be cutting.
- The thickness of the workpiece or part.
- The features of the workpiece or part, such as bends or curves with small radii.

These factors are important because they involve basic concepts of saw blade design. There are five (5) blade features that are normally changed to meet certain kinds of sawing requirements.

They are:

- width
- pitch (number of teeth per inch)
- tooth form (or shape)
- the "set" of the teeth
- the blade material itself.

11.1 Width

Band saw blades come in different standard widths, measured from the back of the blade to the tip of the tooth. Generally, wider blades are used for ripping or making straight cuts; narrower blades are often used when the part being cut has curves with small radii. When cutting straight lines with a narrow blade, the blade may have a tendency to wander, causing *blade lead*.

The thinner the blade, the tighter will be the minimum radius of cut. Always use widest blade possible for the job.

General rules for blade selection:

- Select coarser pitch blades for thicker or softer material.
- Select finer pitch blades for thinner or harder material.
- Use fine pitch blades to obtain a smooth finish.
- Use coarse pitch blades to obtain faster cutting speeds (thick material).
- To prevent premature blade wear, use fastest practical speed.

- Adjust feed rate to ensure continuous cutting action.
- Run the bandsaw with blade centered in upper and lower guides, and guide fingers adjusted as close as possible without touching the blade or weld joint. Never adjust guide fingers while blade is running. Failure to comply may cause serious injury.

11.2 Pitch

Pitch is measured in "teeth per inch" (TPI). Figure 11-1 shows blades with different pitches. A fine pitch (more teeth per inch) will cut more slowly but smoother. A coarse pitch (fewer teeth per inch) will cut rougher but faster. As a rule of thumb, the thicker the workpiece, the coarser will be the blade pitch. If you have to cut a hard or very brittle material, you will probably want to use a blade with a finer pitch in order to get good clean cuts.

General rule: Use a blade that will have no fewer than 6 and no more than 12 teeth in the workpiece at any given time.

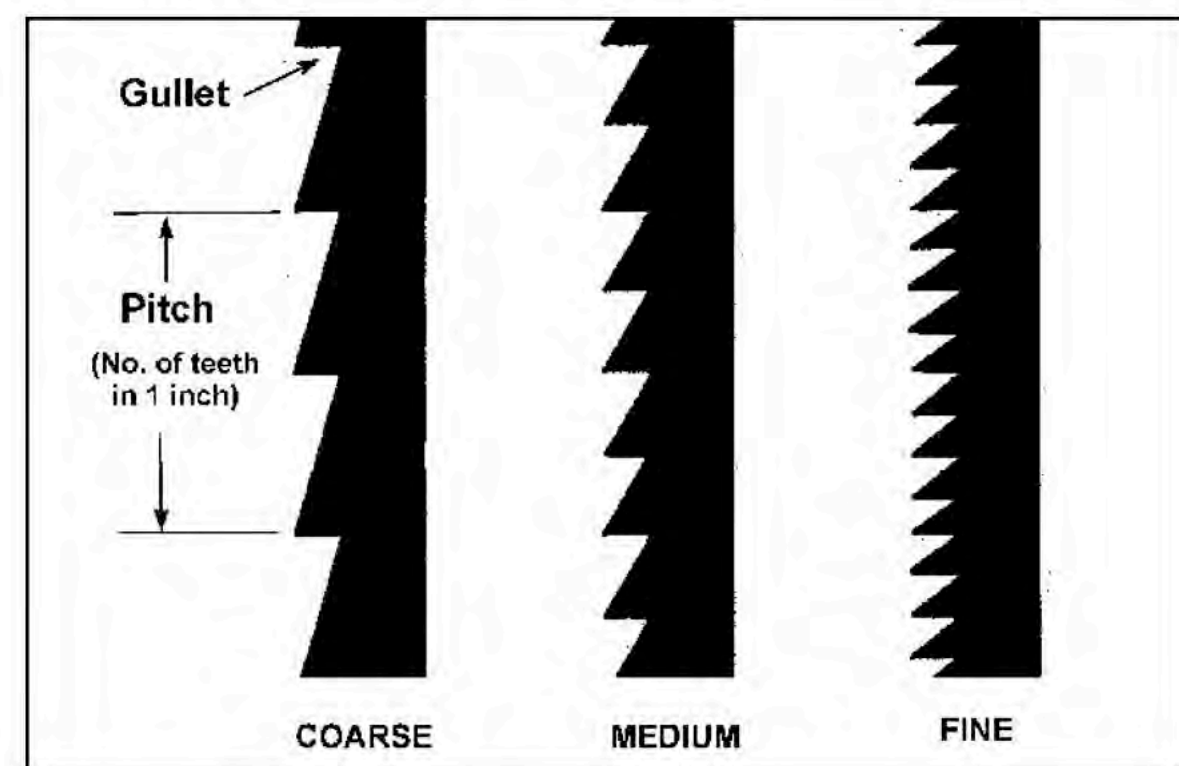


Figure 11-1

11.3 Shape

Figure 11-2 shows common types of tooth shape. Tooth shape has an effect on cutting rate, and with few exceptions, the Skip and Hook types are used to obtain higher feed rates when cutting thick workpieces. Variable-tooth blades are also available, which combine features of the other styles.

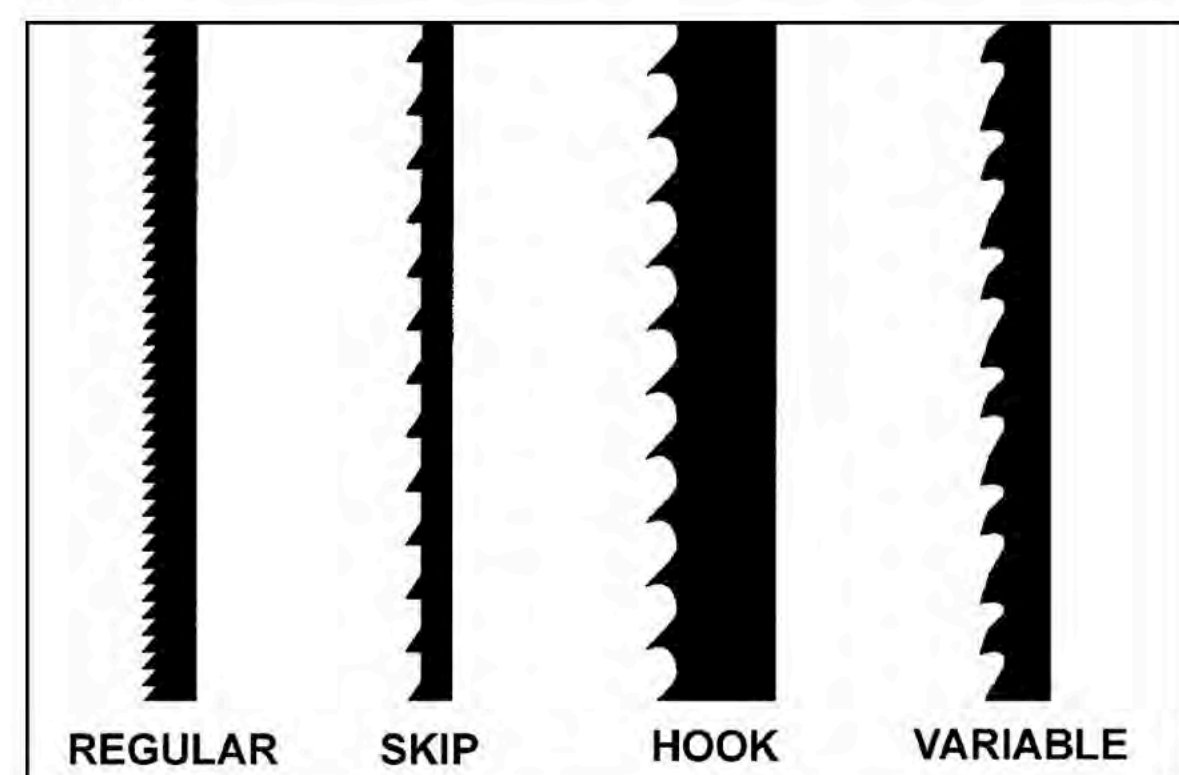


Figure 11-2

Note: When cutting thin materials, the rule for blade pitch is to have a minimum of two teeth engaging the material being cut at all times.

Standard Tooth – generally used to cut ferrous metals, hard bronze, hard brass, and thin metals.

Skip Tooth – have better chip clearance (larger gullet) and are used on softer, non-ferrous materials such as aluminum, copper, magnesium, and soft brass.

Hook Tooth – provides a chip breaker and has less tendency to gum up in softer materials. Used in the same materials as skip tooth but can be fed faster than standard or skip tooth blades.

11.4 Set

The term "set" refers to the way in which the saw teeth are bent or positioned. Set patterns are usually selected depending on the type of material that needs to be cut. Three common set patterns are shown in Figure 11-3.

Generally:

Straight Set – used for free cutting non-ferrous materials; i.e., aluminum, magnesium, plastics, and wood.

Wavy Set – used on materials of varying thickness (pipe, tubing, and structural shapes).

Raker Set – used in large cuts on thick plate and bar stock where finish of cut is not as important as speed.

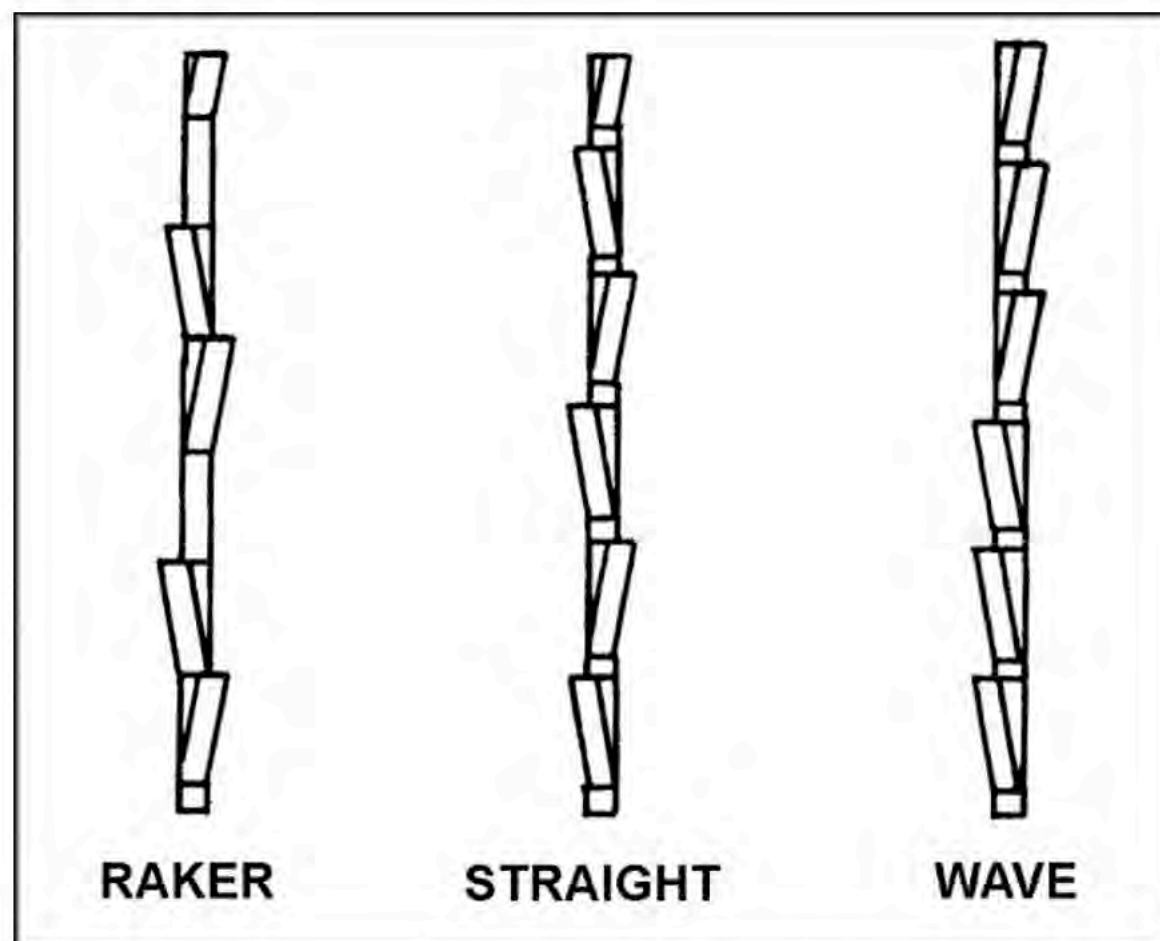


Figure 11-3

11.4.1 Kerf

Kerf is the width of a cut. Kerf will vary according to the set of the blade teeth.

11.5 Material

Band saw blades can be made from different types of materials. Some of the most common include spring steel, carbon steel, carbon steel equipped with a high speed or welded edge (bi-metal), or carbide tips. A special type of saw blade is made from "high speed steel"; these should not be used on band saws with low rates of speed.

Carbon Steel – low cost, for use with non-ferrous materials, wood, and plastics.

High Speed Steel – resists heat generated by dry cutting. Used for ferrous metals.

Alloy Steel – tough and wear resistant, cuts faster with longer blade life. Used on hard materials. More expensive than carbon or high speed steel.

Carbide Tipped – for cutting unusual materials such as uranium, titanium, or beryllium.

11.5.1 Gage

Gage is the thickness of material from which the blade is produced. The thicker the material, the stronger the blade.

11.6 Blade Breakage

Band saw blades are subject to high stresses and breakage may sometimes be unavoidable. However, many factors can be controlled to help prevent most blade breakage.

Here are some common causes for breakage:

1. Misalignment of blade guides.
2. Feeding work too fast.
3. Using a wide blade to cut a short radius curve.
4. Excessive tension.
5. Teeth are dull or improperly set.
6. Upper guides are set too high off workpiece.
7. Faulty weld on blade.

12.0 Non-Metal Blade Chart

Identify the material and thickness of your workpiece. Table 3 will show the recommended PITCH, blade TYPE, and FEED RATE.

Key: H – Hook L – Low
 S – Skip M – Medium
 R – Regular H – High

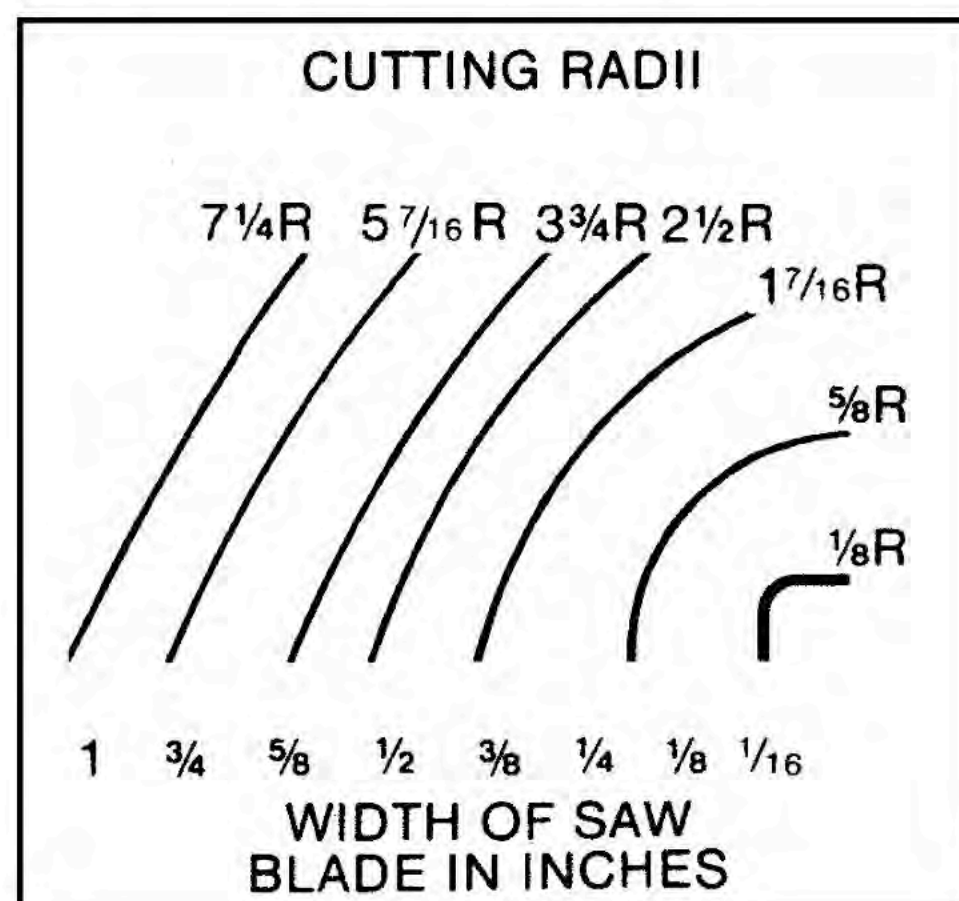
Example: 10/H/M means 10 teeth per inch / Hook Type Blade / Medium Feed

Table 3

Material/s		Workpiece Thickness			
		1/2"	1"	3"	6+"
Woods	Hardwood	10/R/L	8/R/L	3/H/M	3/H/M
	Softwood	10/R/L	8/R/L	3/H/M	3/H/M
Non-Metals	Carbon	10/R/L	6/R/L	3/S/M	3/S/M
	Mica	32/R/L	--	--	--
	Asbestos	8/R/L	6/R/L	3/S/M	3/S/M
	Hard Rubber	10/R/L	8/R/L	6/R/M	2/S/H
Plastics	Formica	14/R/M	10/R/M	4/H/H	4/H/H
	Masonite	10/R/L	4/S/L	3/S/M	3/H/M
	Micarta	14/R/M	10/R/M	4/H/H	3/H/H
	Plexiglas	10/R/L	6/R/L	3/S/M	3/S/M
	Paper	14/R/L	10/R/L	4/S/L	3/S/M

Study the part drawing or prototype, or actually measure the smallest cutting radius required, and locate this radius (in inches) on the chart at the right. Follow the curve to where the approximate blade width is specified. If a radius falls between two of the curves, select the widest blade that will saw this radius.

This procedure should be used for making initial blade selections. These recommendations can, of course, be adjusted to meet specific requirements of a cutting job. Compromises may be necessary if you cannot find all needed specifications in a single blade.

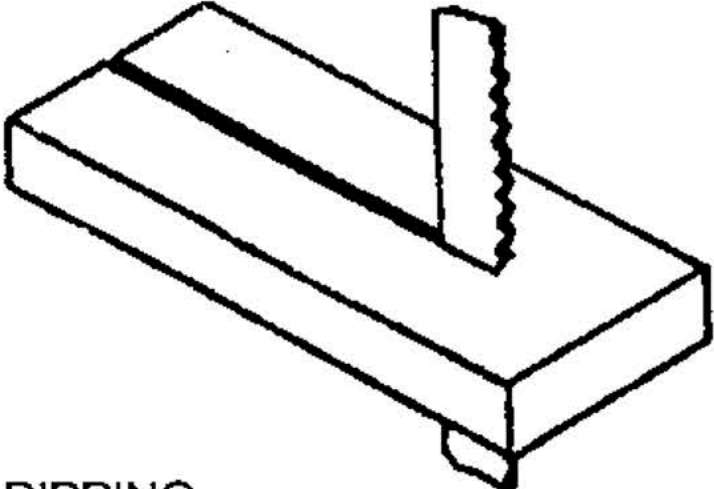
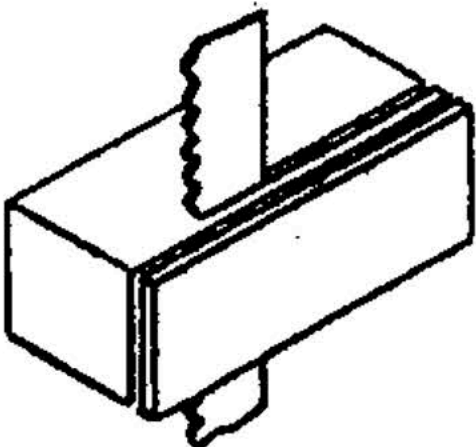
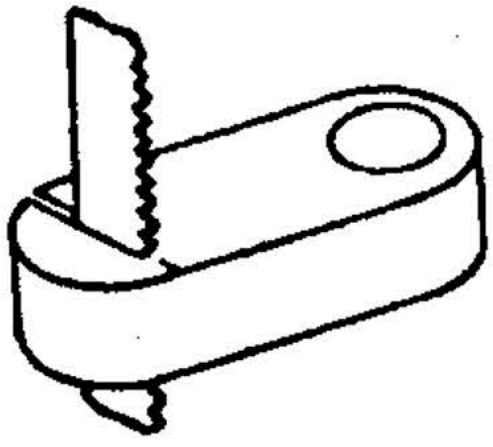
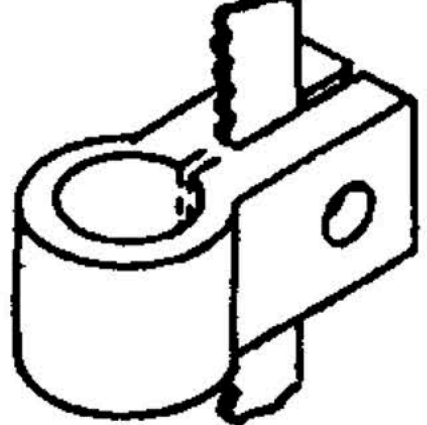
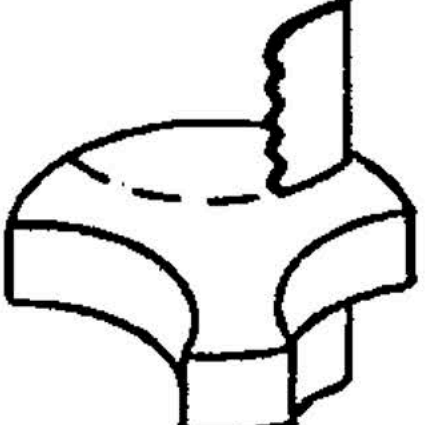
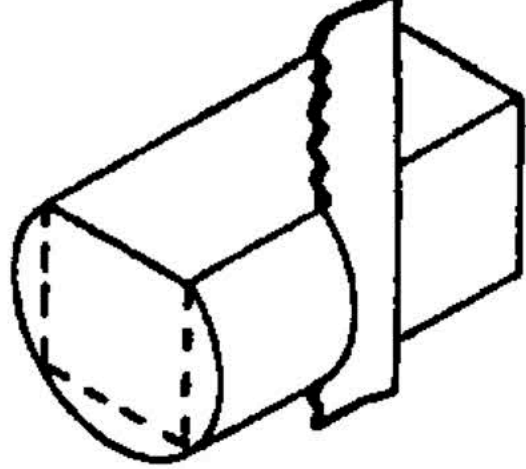
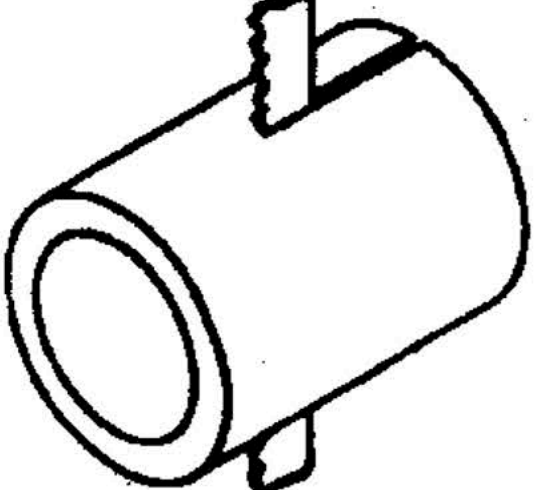
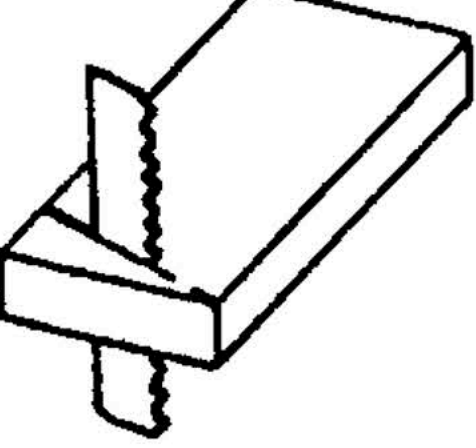
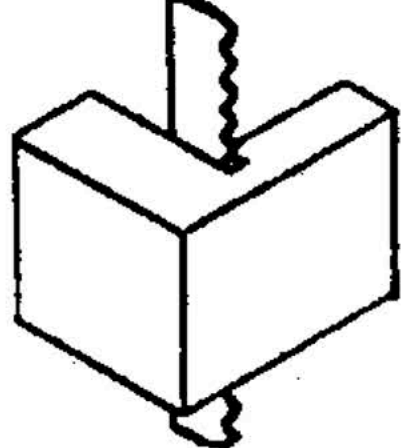
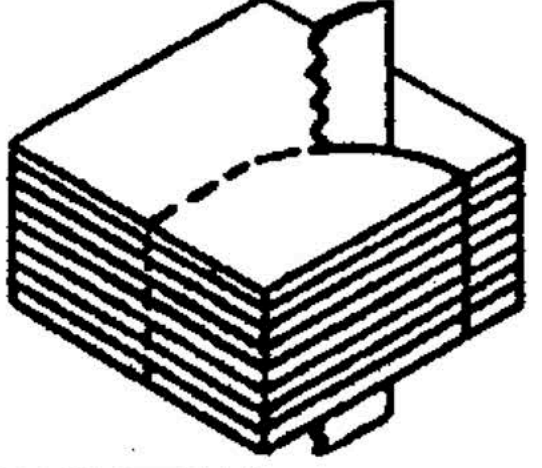
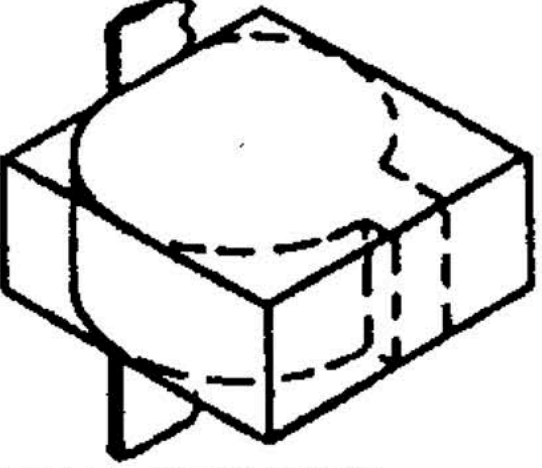
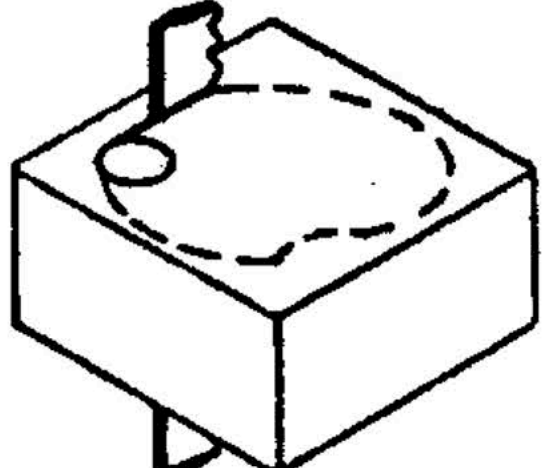
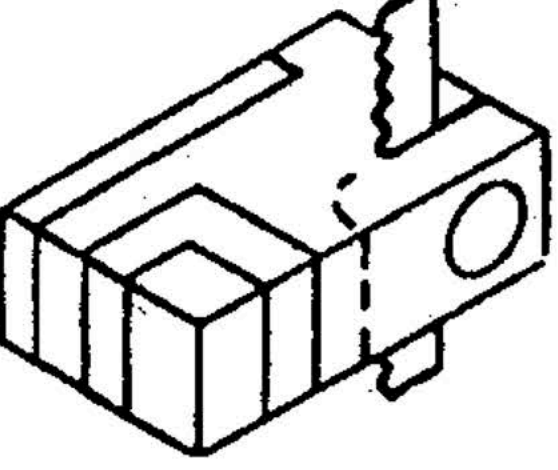
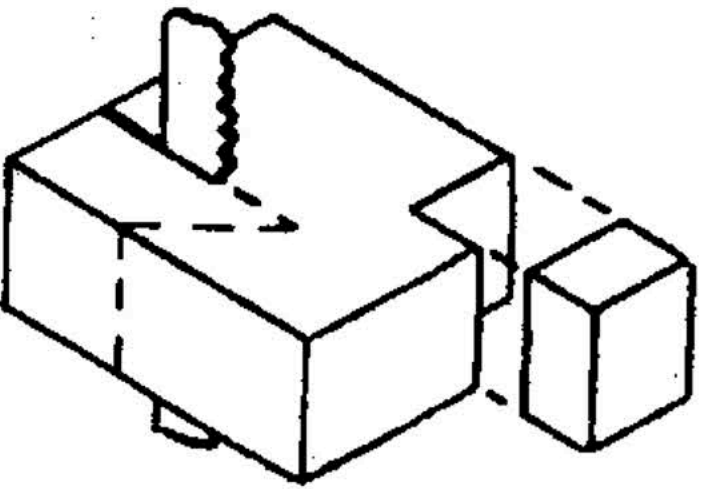
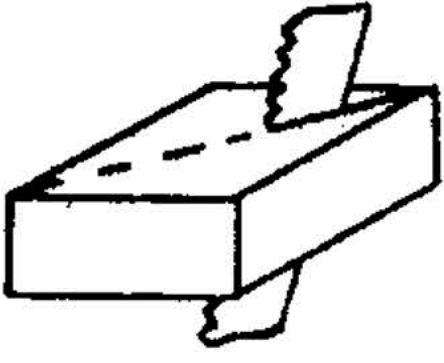


13.0 Speed and Pitch Chart – Metal

Table 4

Thickness	Sawing speed (M/min) for specified Material & thickness					Pitch (No. of teeth / inch)				
Material	~1/4	1/4~1	1~3	3~6	6~	~1/4	1/4~1	1~3	3~6	6~
High carbon steel	70	60	60	45	45	18	14	10	6	4
Free cutting steel	60	45	40	30	30	18	14	12	6	4
Ordinary tool steel	40	30	30	25	20	24	18	14	8	4
High speed steel	30	25	20	20	20	24	14	12	8	4
Stainless steel	25	20	20	20	20	18	14	10	8	4
Thick iron plate	45	30	20	20	20	18	14	10	8	4
Cast iron	45	40	30	25	20	18	14	12	8	4
Aluminum 108,A108	365	275	180	120	60	18	10	6	3	3
A132,C133	365	275	180	120	60	18	10	6	3	3
13,43,85,4032,6151	550	425	245	150	90	18	10	6	3	3
113,138,152,B-195	550	380	275	180	90	18	10	6	3	3
B-214,312,333	550	380	275	180	90	18	10	6	3	3
212,355,356,360,380	550	380	275	180	90	18	10	6	3	3
142,195,750	915	825	735	670	610	18	10	6	3	3
2014,2018,2025	915	825	735	670	610	18	10	6	3	3
6053,7075	915	825	735	670	610	18	10	6	3	3
6061,6063	1500	1220	1065	915	770	18	10	6	3	3
122,214,218,220	1500	1385	1220	1065	915	18	10	6	3	3
1100,2011,2017,3003,3004	1500	1500	1500	1385	1220	18	10	6	3	3
2024,5052	1500	1500	1500	1500	610	18	10	6	3	3
Magnesium bronze	125	75	40	25	20	14	8	6	3	3
Leaded commercial branze	915	610	450	305	150	14	8	6	3	3
Commercial branze	150	105	60	30	20	14	8	6	3	3
Free cutting brass	1220	915	610	450	300	14	8	6	3	3
Forging brass	610	460	335	245	150	14	8	6	3	3
High leaded brass	1065	825	565	410	260	14	8	6	3	3
Leaded brass	610	460	275	215	150	14	8	6	3	3
Low loaded brass	455	305	150	60	20	14	8	3	3	3
Leaded copper	765	550	360	240	120	14	8	3	3	3
Cadmium copper	90	60	30	25	20	14	8	3	3	3
Magnesium	1500	1385	1220	915	610	14	8	3	3	3
Cadmium	1220	1065	915	915	760	14	8	6	3	3
Manganese	60	45	30	25	20	24	14	6	3	3
Nickel	55	40	30	25	20	18	14	6	3	3
Bdenum	55	45	40	35	25	18	14	6	3	3
Chrome	50	40	25	20	20	18	14	6	3	3
Silicon	55	30	30	20	20	18	14	6	3	3
Carbon (8~35)	1220	1065	915	765	610	10	6	3	3	3
Carbon (35~65)	615	245	90	45	20	14	10	6	3	3
Carbon (1008~ 1095)	60	45	30	25	20	24	14	6	3	3
Rubber	460	155	90	60	45	18	14	10	8	6
Plastics	1500	1065	765	550	455	10	8	3	3	3

14.0 Typical Band Saw Operations

 RIPPING	 SLICING	 BEVELING
 SLOTTING	 SEGMENTING	 SHAPING CUT
 SPLITTING	 ANGULAR CUT	 GRINDING RELIEF
 STACK CUTTING	 EXTERNAL CONTOUR	 INTERNAL CONTOUR
 THREE-DIM. CUTTING	 SHAPING	 COMPOUND ANGLE CUT

15.0 User-Maintenance

⚠WARNING Before any intervention on the machine, disconnect it from the electrical supply by pulling out the plug. Failure to comply may cause serious injury.

Clean band saw regularly to remove any resinous deposits and sawdust.

Keep miter slot, and guide bearings, clean and free of resin.

Keep blade clean and sharp. Check it periodically for cracks or other signs of wear.

The drive belt should be checked periodically. If it looks worn, frayed, glazed or otherwise damaged, replace it.

Check that the cleaning brush over the band wheel is working properly and remove any deposits from the band wheels to avoid vibration and blade breakage.

Do not let saw dust build up in the upper and lower-wheel housings. Vacuum or blow out dust from inside cabinet. (Use proper dust mask equipment).

The table surface must be kept clean and free of rust for best results. If rust appears, it can often be removed with a mixture of household ammonia, good commercial detergent and #000 steel wool. Alternatively, commercial rust removers can be found at many hardware stores.

Apply a light coat of paste wax to the table surface. Aerosol protectants are also available in major hardware stores and supply catalogs. Whatever method is chosen, the coating should protect the metal and provide a smooth surface, without staining workpieces.

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

Connect the band saw to a JET dust collection system of appropriate capacity.

Vacuum out the motor fan cover.

15.1 Lubrication Points

1. Periodically apply a light, non-hardening grease to rack and pinion system of guidepost.
2. Grease sliding surfaces of the table trunnions.
3. Oil any pins, shafts, and joints. (Do not get oil on pulleys or belts.)
4. Clean and oil the tensioning mechanism if it becomes difficult to adjust.

Note: Bearings on the band saw are pre-lubricated and sealed, and do not require attention.

15.2 Additional Servicing

Any other servicing should be performed by an authorized service representative.

16.0 Troubleshooting VBS-18MWEVS Band Saw

16.1 Operational Problems

Table 5

Symptom	Probable Cause	Correction *
Table tilt does not hold position under load.	Lock handle not tight.	Tighten lock handle.
	Trunnion locking mechanism is broken or worn.	Replace trunnion locking mechanism.
Table will not tilt.	Trunnion not lubricated.	Lubricate trunnion.
	Trunnion jammed.	Disassemble and replace jammed parts.
Table vibration while sawing.	Drive belt too slack.	Increase tension on drive belt. Replace belt if worn.
	Incorrect choice of saw blade pitch.	Check blade selection chart and use correct blade.
	Saw dust or debris on band wheel. Or tire is worn/damaged.	Keep band wheels clean. Replace tires if necessary.
Surface finish on workpiece is rough.	Blade pitch too coarse.	Change to finer pitch blade.
	Workpiece being fed too strongly.	Reduce feed force.
Blade cutting inaccurately. Cuts not straight.	Gum or pitch on blade.	Clean blade.
	Worn blade teeth or damaged blade.	Replace blade.
	Fence not parallel to blade.	Align fence properly.
	Incorrect adjustment of blade guides.	Adjust blade guides properly.
	Workpiece being fed too strongly.	Reduce feed force.
	Upper blade guides not located close enough to workpiece.	Position guides about 1/8" above workpiece.
	Incorrect choice of saw blade for that particular operation.	Install correct blade.
	Blade tension too light.	Increase tension.
Blade cannot be tensioned properly.	Tension spring is fatigued.	Replace tension spring (contact JET service representative).
Blade binds in workpiece.	Incorrect blade tension or damaged blade.	Correct accordingly.
	Blade too wide for desired radius.	Select narrower blade.
Blade forms cracks at base of teeth.	Teeth not suitable for operation, or incorrectly set.	Replace with proper blade.
	Blade thickness not suitable for band wheel diameter.	Replace with proper thickness blade.
	Blade sharpened incorrectly, becomes overheated.	Sharpen blade properly or replace.
	Band wheels have become misaligned.	Contact service representative.
Cracks on back edge of blade.	Workpiece being fed too quickly.	Reduce feed speed to lessen strain on blade.
	Welding on blade not perfectly aligned.	Eliminate welded part, and re-weld properly; or acquire a new blade. Round the back edge of a new blade.
	Thrust bearing is worn; caused by constant contact with back of blade.	Replace thrust bearing. Adjust new bearing according to instructions.
	Feed force too great.	Reduce feed force.

Symptom	Probable Cause	Correction *
Blade breaks prematurely.	Blade pitch too coarse.	Refer to blade selection chart; use finer pitch blade.
	Guide bearings not properly supporting blade.	Check guide bearings for correct position and signs of wear. Adjust or replace as needed.
	Blade tensioned too tightly.	Reduce tension.
Blade breaks close to weld.	Blade overheated during welding.	Have blade annealed or eliminate brittle part and weld correctly.
	Blade cooled too rapidly after welding.	Have blade annealed or eliminate brittle part and weld correctly.
Premature dulling of saw teeth.	Blade pitch too fine.	Refer to blade selection chart. Use blade with coarser pitch.
	Feed pressure too light.	Increase feed pressure.
	Cutting rate too low.	Increase feed pressure and cutting rate.
	Incorrect choice of blade.	Re-examine material. Select proper blade from chart.
	Chipped tooth or foreign object lodged in cut.	Stop saw and <u>remove</u> lodged particle. Replace blade if damaged.

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

16.2 Mechanical and Electrical Problems

Table 6

Symptom	Probable Cause	Correction *
Machine will not start/restart or repeatedly trips circuit breaker or blows fuses.	No incoming power.	Verify machine connections.
	Cord damaged.	Replace cord.
	Band Saw frequently trips.	One cause of overloading trips which are not electrical in nature is too heavy a cut. The solution is to reduce feed pressure into the blade. If this does not resolve the issue, check for loose electrical lead.
	Building circuit breaker trips or fuse blows.	Verify that band saw is on a circuit of correct size. If circuit size is correct, there is probably a loose electrical lead. Check amp setting on motor starter.
	Overload automatic reset has not reset.	When the Band Saw overloads on the circuit break built into the motor starter, it takes time for the machine to cool down before restart. Allow machine to adequately cool before attempting restart. If problem persists, check amp setting on the motor starter inside the electrical box.
	Switch or motor failure (how to distinguish).	If you have access to a voltmeter, you can separate a starter failure from a motor failure by first, verifying incoming voltage at 230+/-10% and second, checking the voltage between starter and motor at 230+/-10%. If incoming voltage is incorrect, you have a power supply problem. If voltage between starter and motor is incorrect, you have a starter problem. If voltage between starter and motor is correct, you have a motor problem.
	Motor overheated.	Clean motor of dust or debris to allow proper air circulation. Allow motor to cool down before restarting.
	Motor failure.	If electric motor is suspect, you have two options: Have a qualified electrician test the motor for function or remove the motor and take it to a qualified electric motor repair shop for testing.
	Miswiring of unit.	Double check to confirm all electrical connections are correct. Refer to wiring diagram to make needed corrections.
Band Saw does not attain full speed.	Switch failure.	If the start/stop switch is suspect, you have two options: Have a qualified electrician test the switch for function or purchase a new start/stop switch and establish if that was the problem on change-out.
	Extension cord too light or too long.	Replace with adequate size and length cord.
	Low current.	Contact a qualified electrician.

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

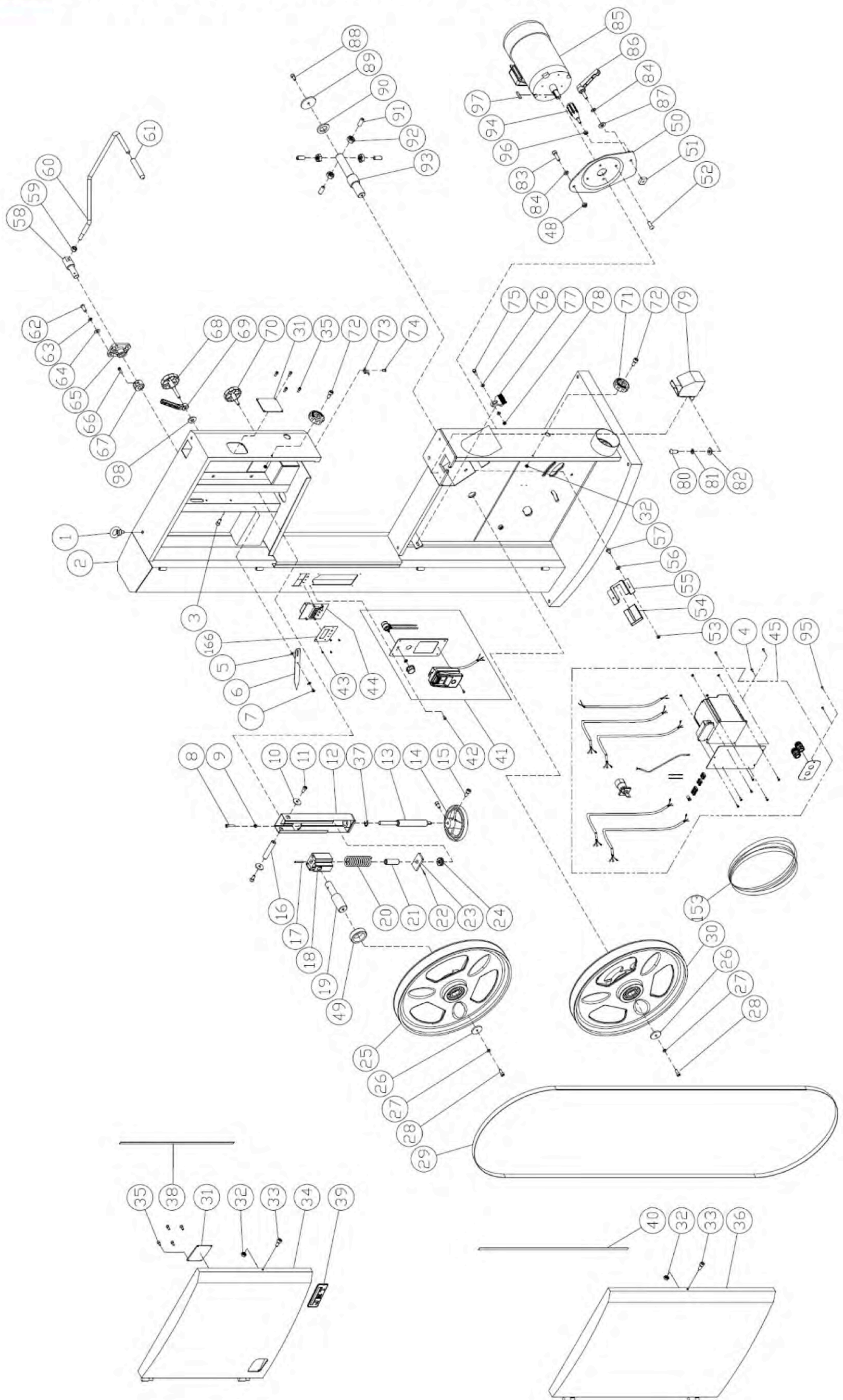
17.0 Replacement Parts

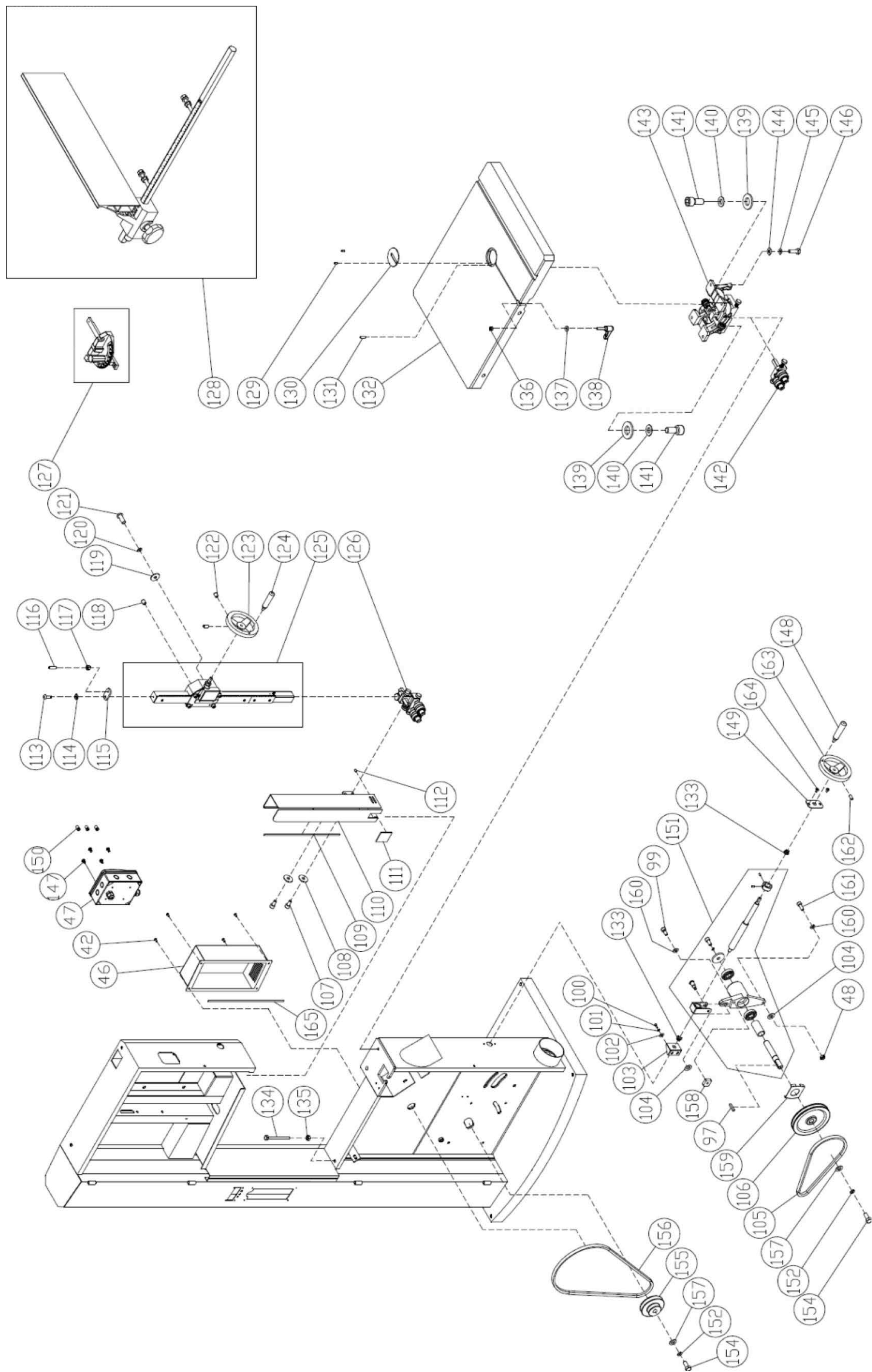
Replacement parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 Monday through Friday, 8:00 a.m. to 5:00 p.m. CST. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

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.

18.1.1 VBS-18MWEVS MW/WW Band Saw Assembly – Exploded View





18.1.2 VBS-18MWEVS WW/MW Band Saw Assembly – Parts List

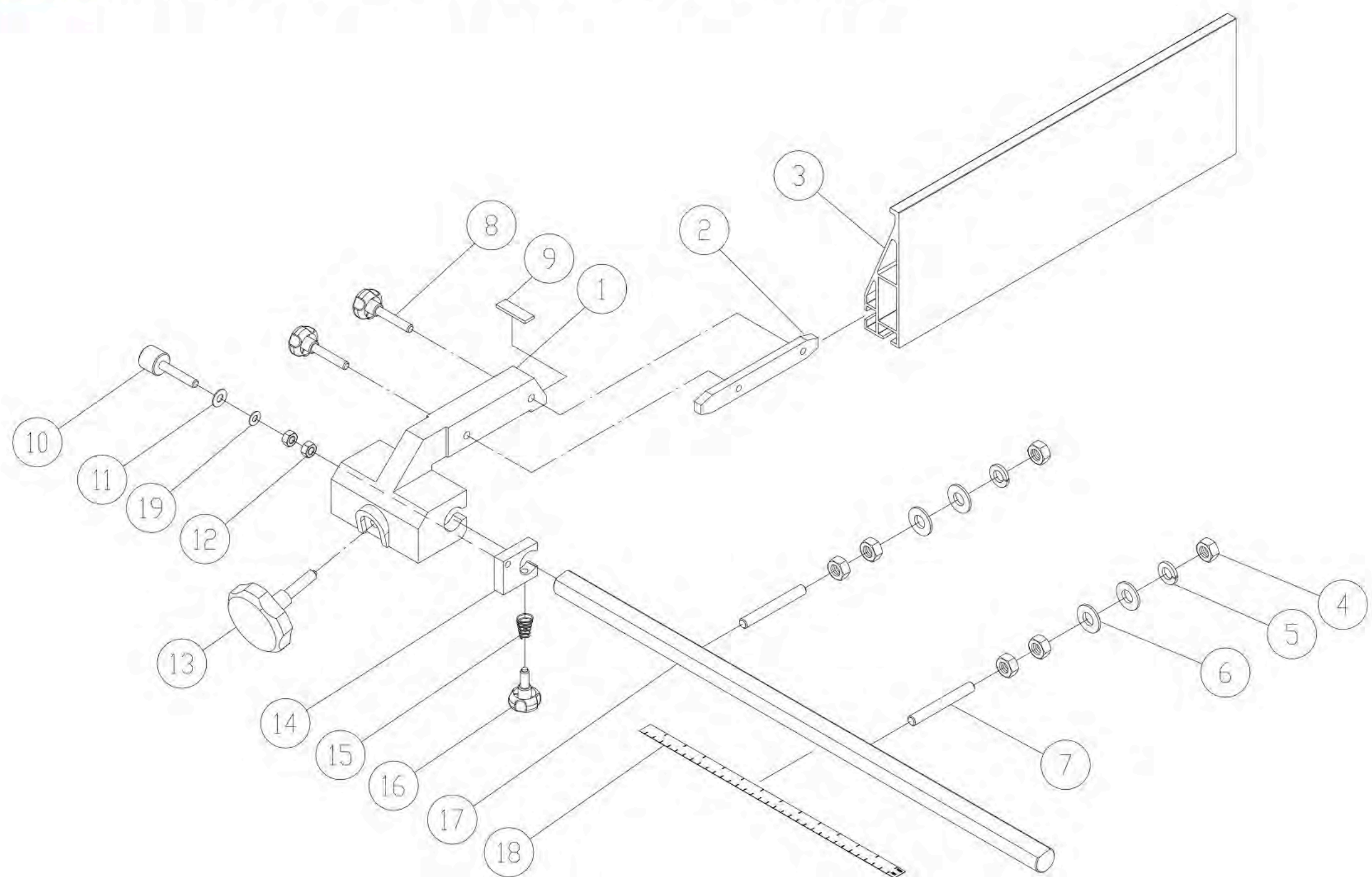
Index	Part No.	Description	Size	Qty
1	PM1500-004	Lifting Ring	M10	1
2	VBS-18MWEVS-002	Machine Main Body Frame		1
3	TS-1482021	Hex Cap Bolt	M6x12	1
4	TS-1533032	Pan Head Screw	M5x10	3
5	TS-1550041	Flat Washer	M6	2
6	JWBS18B-106	Tension Pointer		1
7	PM1500-012	Step Screw		1
8	TS-1503111	Socket Head Cap Screw	M6x50	1
9	TS-2311061	Hex Nut	M6	1
10	TS-1550061	Flat Washer	M8	2
11	TS-1504031	Socket Head Cap Screw	M8x16	2
12	JWBS15-112	Upper Wheel Sliding Bracket		1
13	JWBS18B-113	Adjusting Bolt		1
14	JWBS15-114	Hand wheel	6"	1
15	TS-1503051	Socket Head Cap Screw	M6x20	2
16	JWBS15-116	Upper Shaft		1
17	JWBS15-117	Spring Pin	Ø5x36mm	1
18	JWBS15-118	Upper Wheel Sliding Bracket		1
19	JWBS18B-119	Upper Wheel Shaft		1
20	JWBS15-120	Spring		1
21	PM1500-010-02	Bushing		1
22	JWBS15-122	Pin	Ø 3x20mm	1
23	JWBS15-123	Locate Block		1
24	BB-51201	Bearing	51201	1
25	PM1800B-018	Upper Wheel Assembly	Ø18"	1
26	PM1800B-017	Washer		2
27	TS-2361081	Spring Washer	M8	2
28	TS-1504041	Socket Head Cap Bolt	M8x20	2
29	JWBS18B-129	Wood Working Saw Blade	150"L x 3/4" x 0.026" T x 6 TPI	1
30	VBS-18MWEVS-030	Lower Wheel Assembly	Ø18"	1
31	PM1500-050	Viewing Window		2
32	TS-1541021	Hex Nut Nylon Lock	M6	4
33	TS-1503021	Socket Head Cap Screw	M6x10	2
34	VBS-18MWEVS -134	Upper Door		1
35	JWBS15-135	Socket Head Cap Screw	M4x8	8
36	VBS-18MWEVS -136	Lower Door		1
37	PM1800B-027-026	Retaining Ring (E)	E15	1
38	JWBS15-138	Sponge		1
39	JET-203-R2000	JET Logo	203mm	1
40	JWBS15-140	Sponge	760x10x1T mm	1
41	VBS-18MWEVS-041	Speed control & Switch assembly		1

42	TS-2244102	Socket Head Button Screw	M5x10	8
43	TS-2283102	Pan Head Screw	M3x10	4
44	VBS-18MWEVS-044	Digital Display PC board		1
45	VBS-18MWEVS-045	AC Inverter Assembly		1
46	VBS-18MWEVS-046	Out Cover		1
47	VBS-18MWEVS-047	Wiring Box		1
48	TS-1541041	Hex Nut Nylon Lock	M10	2
49	JWBS18B-1147	Bushing		1
50	JWBS15-1104	Motor Bracket		1
51	PM1500-038	Motor Bracket		1
52	TS-2248202	Socket Head Button Screw	M8x20	4
53	TS-2311061	Hex Nut	M6	2
54	JWBS18DX-249	Dust Collect Insert		1
55	VBS-18MWEVS -55	Fixed Plate		1
56	TS-2361061	Spring Washer	M6	2
57	TS-2246122	Socket Head Button Screw	M6x12	2
58	PM1500-074	Tension Quick Release Lever Shaft		1
59	TS-1540083	Hex Nut	M12	1
60	JWBS18B-160	Tension Quick Release Lever		1
61	JWBS15-161	Grip		1
62	TS-2248202	Socket Head Button Screw	M8x20	4
63	TS-2361081	Spring Washer	M8	4
64	TS-1550061	Flat Washer	M8xØ18	4
65	PM1500-070	Shaft Fixed Block		1
66	TS-1503061	Socket Head Cap Screw	M6x25	1
67	PM1500-069	Cam		1
68	JWBS15-168	Lock Knob	M10x53	1
69	PM1500-068	Lock Handle	M10	1
70	JWBS15-170	Lock Knob	M10x25	1
71	135041	Knob		2
72	TS-1503051	Socket Head Cap Screw	M6x20	2
73	JWBS15-173	Pointer		1
74	6286494	Pan Head Screw	M5x6	1
75	TS-1482051	Hex Cap Screw	M6x25	1
76	TS-1550041	Flat Washer	M6	2
77	PM1500-058	Brush		1
78	TS-1541021	Hex Nut Nylon Lock	M6	1
79	VBS-18MWEVS -179	Lower Blade Guard		1
80	TS-2246102	Socket Head Button Screw	M6x10	2
81	TS-2361061	Lock Washer	M6	2
82	TS-1550041	Flat Washer	M6	2
83	TS-149105	Hex Cap Screw	M10x35	1
84	TS-2361101	Lock Washer	M10	2

85	VBS-18MWEVS-085.....	Motor	2HP/3PH/60Hz/220V	1
	VBS-18MWEVS-085CF	Motor Coolant Fan (not shown).....		1
	VBS-18MWEVS-085CFC	Motor Fan Cover (not shown)		1
	VBS-18MWEVS-085JB.....	Junction Box with Cover (not shown).....		1
86	PM1500-015	Motor Bracket Lock Handle	M10x33	1
87	TS-1550071	Flat Washer	M10xφ20	1
88	TS-1504041	Socket Head Cap Screw	M8x20	1
89	PM1800B-088.....	Washer		1
90	PM1800B-087.....	Plate		1
91	TS-2279301.....	Set Screw	M10x30	4
92	TS-1541041.....	Hex Nut.....	M10.....	4
93	VBS-18MWEVS-093	Lower Wheel Shaft		1
94	JWBS15-197	Motor Bracket Handle		1
95	PM1500-039	Tapping Screw	M4x8	2
96	TS-1540061.....	Hex Nut.....	M8.....	1
97	VBS-18MWEVS-097	Key	5x5x35	2
98	TS-1550071.....	Flat Washer	M10.....	1
99	TS-1505061.....	Socket Head Cap Screw	M10x40	1
100	TS-1503041.....	Socket Head Cap Screw	M6x16	2
101	TS-2361061.....	Lock Washer.....	M6.....	2
102	TS-1550041.....	Flat Washer	M6.....	2
103	VBS-18MWEVS-103	Fixed Stand		1
104	TS-1550071.....	Flat Washer	M10.....	2
105	VBS-18MWEVS-105	V-Belt	A28	1
106	VBS-18MWEVS-106	Pulley		1
107	TS-1503041.....	Socket Head Cap Screw	M6x16	2
108	TS-1550041.....	Flat Washer	M6.....	2
109	JWBS15-1109.....	Magnet.....	7x340mm	1
110	JWBS18B-1110.....	Blade Guard Cover		1
111	PM1800B-093.....	Viewing Window		1
112	TS-1521011	Set Screw	M4x4	2
113	TS-2246122.....	Socket Head Button Screw.....	M6x12	1
114	TS-2361061.....	Spring Washer	M6.....	1
115	PM1800B-163.....	Locate Plate.....		1
116	F010432	Set Screw	M6x35	1
117	TS-1540041.....	Hex Nut.....	M6.....	1
118	5302731.....	Set Screw	M8x6	4
119	TS-1550061.....	Flat Washer	M8.....	4
120	TS-2361081.....	Spring Washer	M8.....	4
121	TS-2248202.....	Socket Head Button Screw.....	M8x20	4
122	TS-1523041.....	Set Screw	M6x12	2
123	JWBS15-1118.....	Hand wheel.....	5".....	1
124	JWBS15-1119	Handle	M8.....	1

125	JWBS18B-1125	Guide Bar Bracket Assembly	1
126	JWBS18B-1126	Upper Blade Guide Assembly	1
127	JWBS15-1122	Miter Gauge Assembly	1
128	JWBS18B-1128	Rip Fence Assembly	1
129	F012085	Roll Pin Ø4x8 mm	2
130	JWBS15-1125	Table Insert	1
131	TS-1522011	Set Screw M5x5	3
132	JWBS18B-1132	Table	1
133	VBS-18MWEVS-133	Self Lubricating Bearing	2
134	7015-48	Set Screw M10x110	1
135	TS-2311101	Hex Nut..... M10.....	1
136	TS-1540061	Hex Nut..... M8.....	1
137	TS-1550061	Flat Washer M8xφ20.....	1
138	JWBS18B-1138	Handle M8x35.....	1
139	TS-1550071	Flat Washer M10.....	2
140	TS-2361101	Spring Washer M10.....	2
141	TS-1505051	Socket Head Cap Screw M10x35.....	2
142	JWBS18B-1142	Lower Blade Guide Assembly	1
143	JWBS15-1138	Trunnion Support Bracket Assembly	1
144	TS-1550061	Flat Washer M8.....	4
145	TS-2361081	Spring Washer M8.....	4
146	TS-1490041	Hex Cap Screw M8x25.....	4
147	TS-1533032	Phillips Pan Head Screw M5x10.....	4
148	VBS-18MWEVS-148	Handle M8.....	1
149	VBS-18MWEVS-149	Fix Plate.....	1
150	VBS-18MWEVS-150	Wiring Nut..... P2	3
151	VBS-18MWEVS-151	Bearing Stand Assembly	1
152	TS-2361101	Lock Washer..... M8.....	2
153	VBS-18MWEVS-153	Metal Working Saw Blade..... 150"x3/4"x0.03"x8TPI ...	1
154	TS-1490031	Hex Cap Screw..... M8x20.....	2
155	VBS-18MWEVS-155	Motor Pulley.....	1
156	VBS-18MWEVS-156	V-Belt A46	1
157	TS-1550061	Flat Washer M8xφ30.....	2
158	VBS-18MWEVS-158	Locate Block	1
159	VBS-18MWEVS-159	Bearing Stand Plate.....	1
160	TS-2361101	Lock Washer..... M10.....	3
161	TS-1491031	Hex Cap Screw..... M10x25.....	1
162	TS-1503041	Socket Head Cap Screw M6x16.....	1
163	VBS-18MWEVS-163	Hand Wheel..... 5", Steel	2
164	TS-1534032	Pan Head Screw..... M6x10.....	2
165	VBS-18MWEVS-165	Sponge	1
166	VBS-18MWEVS-166	Speed Display Panel	1

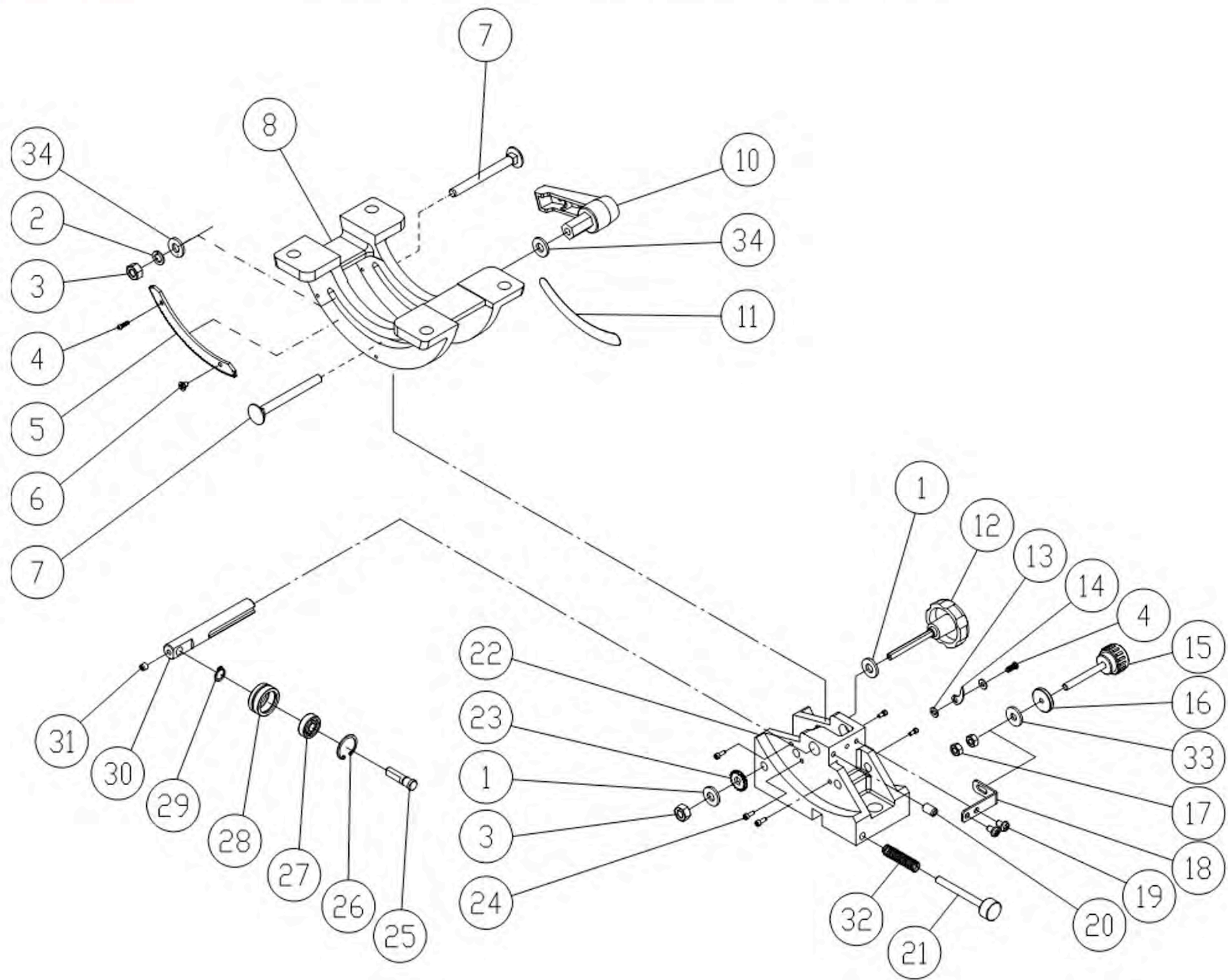
18.2.1 VBS-18MWEVS Rip Fence Assembly – Exploded View



18.2.2 VBS-18MWEVS Fence Assembly – Parts List

Index	Part No.	Description	Size	Qty
	JWBS18B-1128	Rip Fence Assembly (#1 thru 18)		
1	JWBS15-1123-201	Fence Body		1
2	JWBS15-1123-202	Lock Block		1
3	JWBS18B-1128-203	Aluminum Fence	572mm	1
4	TS-2311101	Nut	M10	6
5	TS-2361101	Spring Washer	M10	2
6	TS-1550071	Flat Washer	M10	4
7	JWBS15-1123-207	Set Screw	M10x80	2
8	JWBS15-1123-208	Knob	M8x40	2
9	PM1500-107-10	Nylon Pad		1
10	JWBS15-1123-210	Adjustment Knob	M8x50	1
11	JWBS15-1123-211	Fiber Washer		1
12	TS-1540061	Nut	M8	2
13	JWBS15-1123-213	Knob	M8x40	1
14	JWBS15-1123-214	Locate Block		1
15	PM1800B-059-017	Cone Spring		1
16	JWBS15-1123-216	Knob	M6x14	1
17	JWBS18B-1128-217	Fence Guide Rail		1
18	JWBS18B-1128-218	Scale		1
19	JWBS15-1123-219	Wave Washer	Ø8x13 mm	1

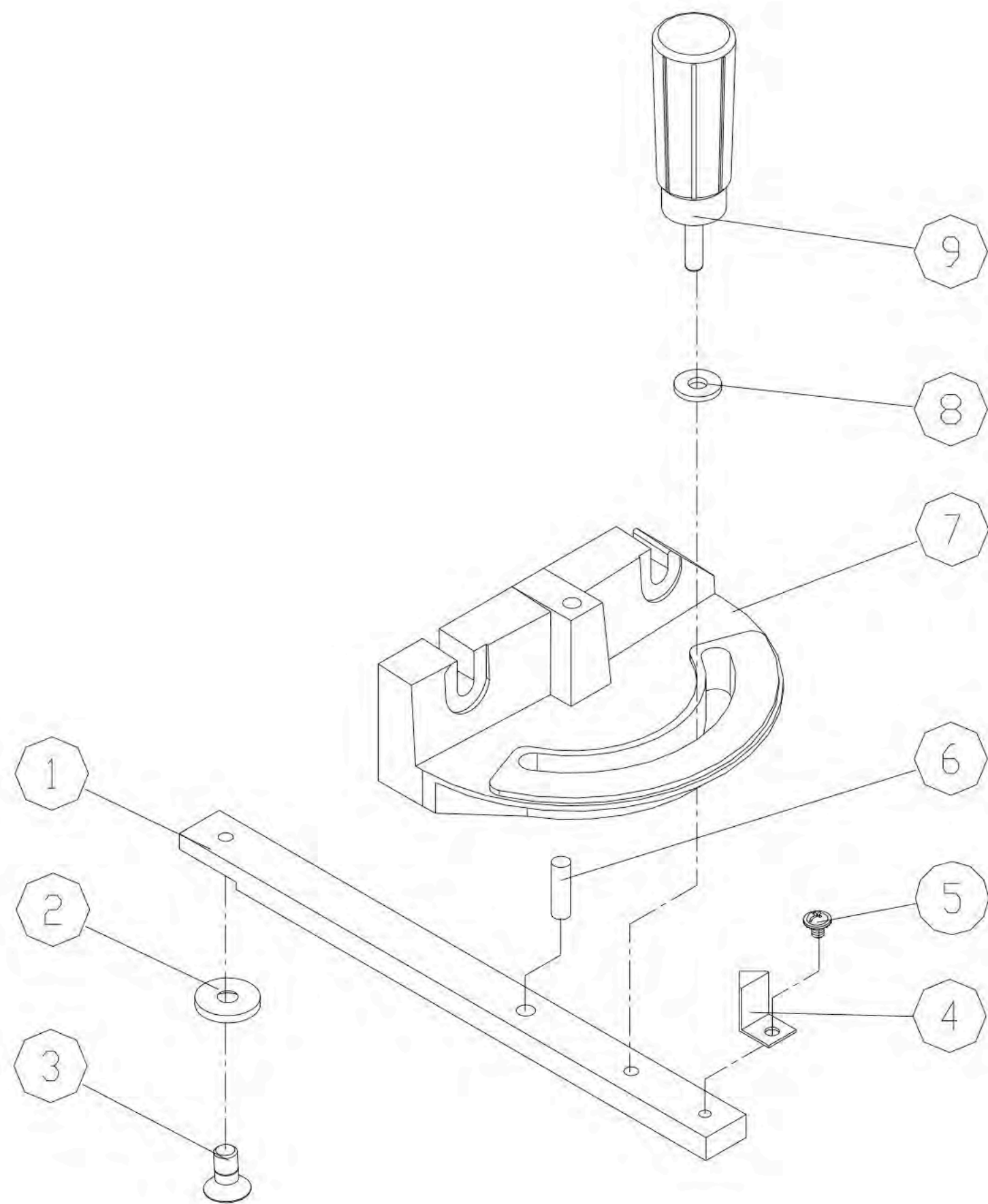
18.3.1 VBS-18MWEVS Trunnion Support Bracket Assembly – Exploded View



18.3.2 VBS-18MWEVS Trunnion Support Bracket Assembly – Parts List

Index	Part No	Description	Size	Qty
	JWBS15-1138A	Trunnion Support Bracket Assembly (#1 thru 34).....		
1	TS-1550061	Flat Washer	M8 x Ø23	2
2	TS-2361081	Lock Washer	M8	1
3	TS-1541031	Nylon Lock Hex Nut	M8	2
4	TS-2171012	Phillips Pan Head Machine Screw	M4x6	2
5	PM1500-085-05	Gear Rack		1
6	TS-2284061	Phillips Flat Head Machine Screw	M4x6	1
7	JWBS15-1138-307	Carriage Bolt	M8x90	2
8	PM1500-085-08	Trunnion Block		1
10	JWBS15-1138-310	Lock Handle		1
11	PM1500-085-11	Tilt Scale		1
12	PM1500-085-12	Adjustment Knob Bolt		1
13	TS-1550021	Flat Washer	M4 x Ø8	2
14	PM1500-085-14	Angle Pointer		1
15	JWBS15-1138-315	Adjustment Knob Bolt	M6	1
16	PM1500-085-16	Locking Ring		1
17	TS-2311061	Hex Nut	M6	2
18	PM1500-085-18	Adjustment Plate		1
19	5712561	Phillips Pan Head Machine Screw	M5x8	2
20	PM1500-085-20	Set Screw		1
21	PM1500-085-21	Lock Knob		1
22	JWBS15-1138-322	Trunnion Support Bracket		1
23	PM1500-085-23	Gear		1
24	TS-2235061	Socket Head Cap Screw	M5x6	6
25	PM1500-085-25	Adjustment Shaft		1
26	PM1500-085-26	Retaining Ring	R22	1
27	BB-608ZZ	Ball Bearing	608ZZ	1
28	PM1500-085-28	Thrust Bearing Holder		1
29	PM1500-085-29	Retaining Ring	S8	1
30	JWBS15-1138-330	Adjustment Bar		1
31	TS-1523011	Socket Set Screw	M6x6	1
32	JWBS15-1138-332	Spring		1
33	TS-1550041	Flat Washer	M6 x Ø19	1
34	JWBS15-1138-334	Flat Washer	M8 x Ø23x5t	2

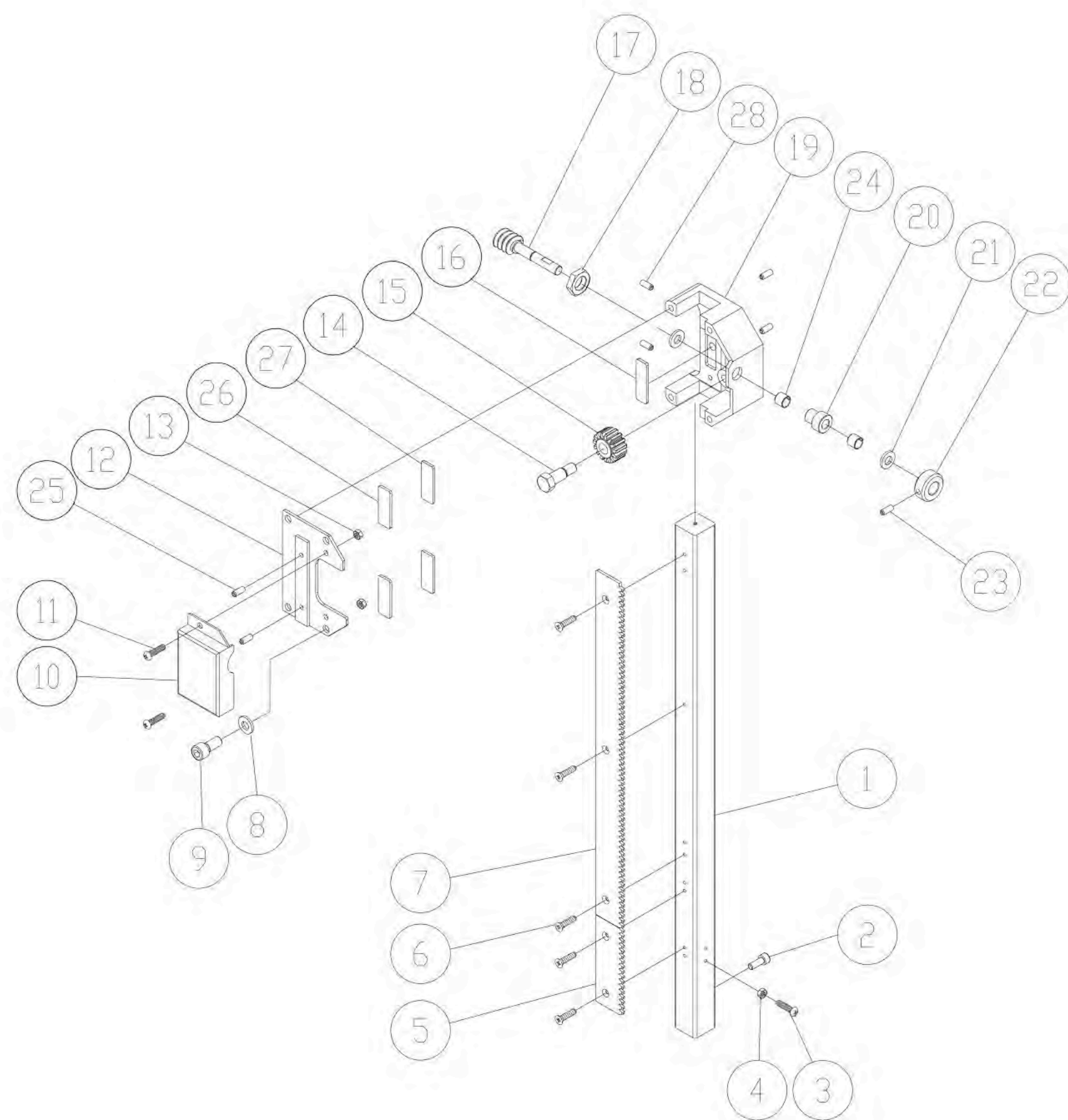
18.4.1 VBS-18MWEVS Miter Gauge Assembly – Exploded View



18.4.2 VBS-18MWEVS Miter Gauge Assembly – Parts List

Index	Part No	Description	Size	Qty
	JWBS15-1122	Miter Gauge Assembly (#1 thru 9)		
1	JWBS15-1122-701	Guide Bar		1
2	JWBS15-1122-702	Guide Piece		1
3	JWBS15-1122-703	Countersunk Bolt	M6x6	1
4	JWBS15-1122-704	Pointer		1
5	PWBS14-251-5	Pan Head Flanged Screw	M5x8	1
6	JWBS15-1122-706	Steel Pin	Ø6x10mm	1
7	JWBS15-1122-707	Miter Gauge Body		1
8	JWBS15-1122-708	Nylon Washer		1
9	JWBS15-1122-709	Handle		1

18.5.1 VBS-18MWEVS Guide Bar Bracket Assembly – Exploded View

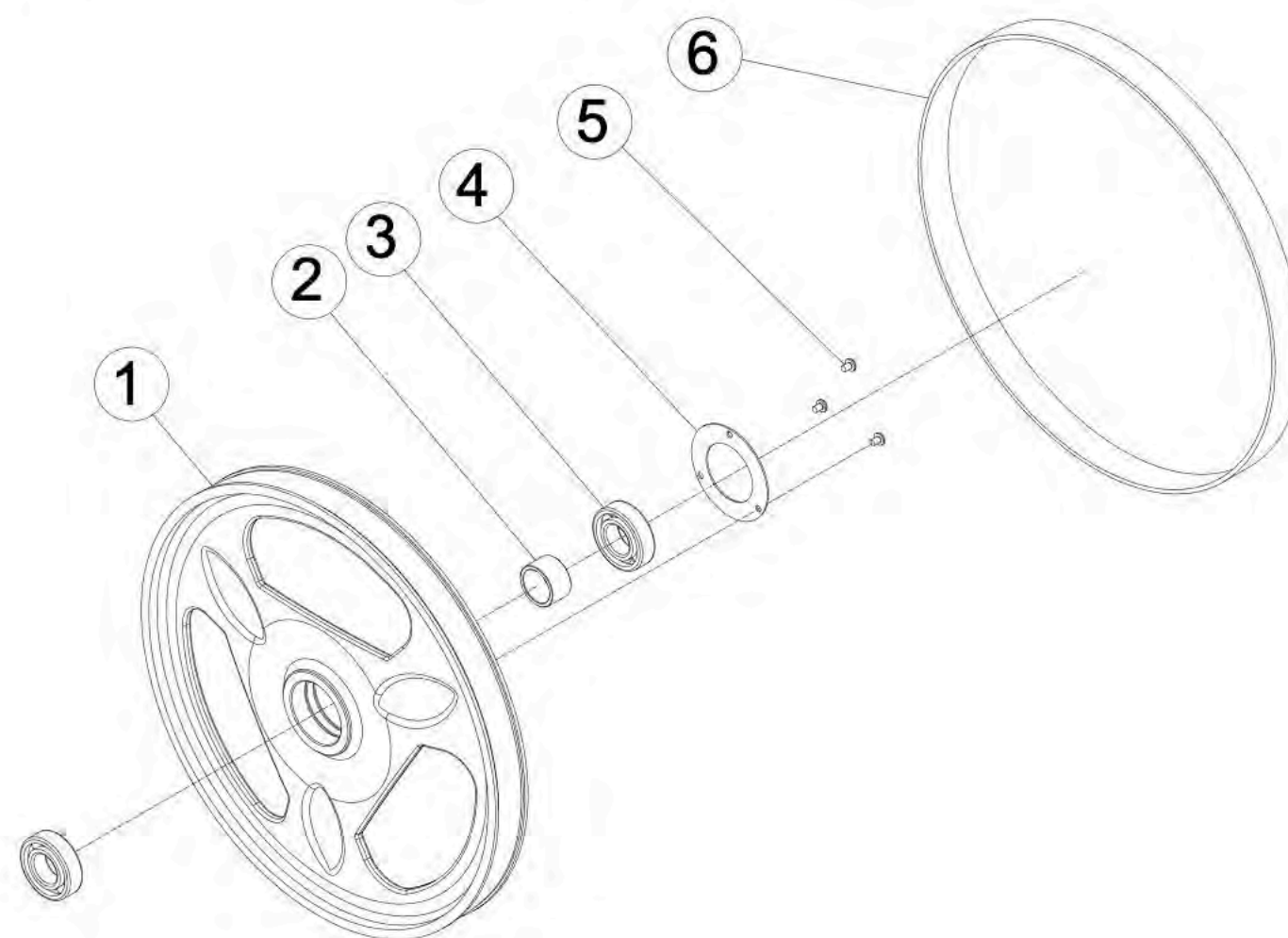


18.5.2 VBS-18MWEVS Guide Bar Bracket Assembly – Parts List

Index	Part No	Description	Size	Qty
	JWBS18B-1125	Guide Bar Bracket Assembly (#1 thru 28)		
1	JWBS18B-1125-401	Guide Bar		1
2	TS-1503021	Socket Head Cap Screw	M6x10	2
3	TS-1532032	Pan Head Screw	M4x10	1
4	TS-1540021	Nut	M4	1
5	PM1500-091-08	Guide Bar Rack (Short)		1
6	TS-2284081	Phillips Flat Head Machine Screw	M4x8	5
7	PM1500-091-20	Guide Bar Rack (Long)		1
8	TS-2361081	Spring Washer	M8	4
9	TS-1504031	Socket Head Cap Screw	M8x16	4
10	PM1500-091-04	Cover		1
11	TS-1534041	Pan Head Screw	M5x10	2
12	JWBS18B-1125-412	Cover		1
13	TS-1540031	Hex Nut	M5	2

14	PM1500-091-10.....	Fixed Screw.....	1
15	PM1500-091-11.....	Gear.....	1
16	PM1500-091-12.....	Fixed Plate.....	1
17	PM1500-091-13.....	Worm Shaft.....	1
18	JWBS15-1120-418.....	Nut.....	1
19	PM1500-091-15.....	Guide Bracket.....	1
20	PM1500-091-18.....	Bushing.....	1
21	PM1500-091-25.....	Fiber Washer.....	2
22	PM1500-091-19.....	Collar.....	1
23	TS-1522011.....	Set Screw.....	M5x5.....2
24	JWBS15-1120-424.....	Bushing Bearing.....	DU 10x12.....2
25	TS-1523011.....	Set Screw.....	M6x6.....2
26	JWBS18B-1125-426.....	Plate.....	2
27	JWBS18B-1125-427.....	Nylon Piece.....	2
28	JWBS15-1120-425.....	Plastic Nylon Set Screw.....	M7x10.....4

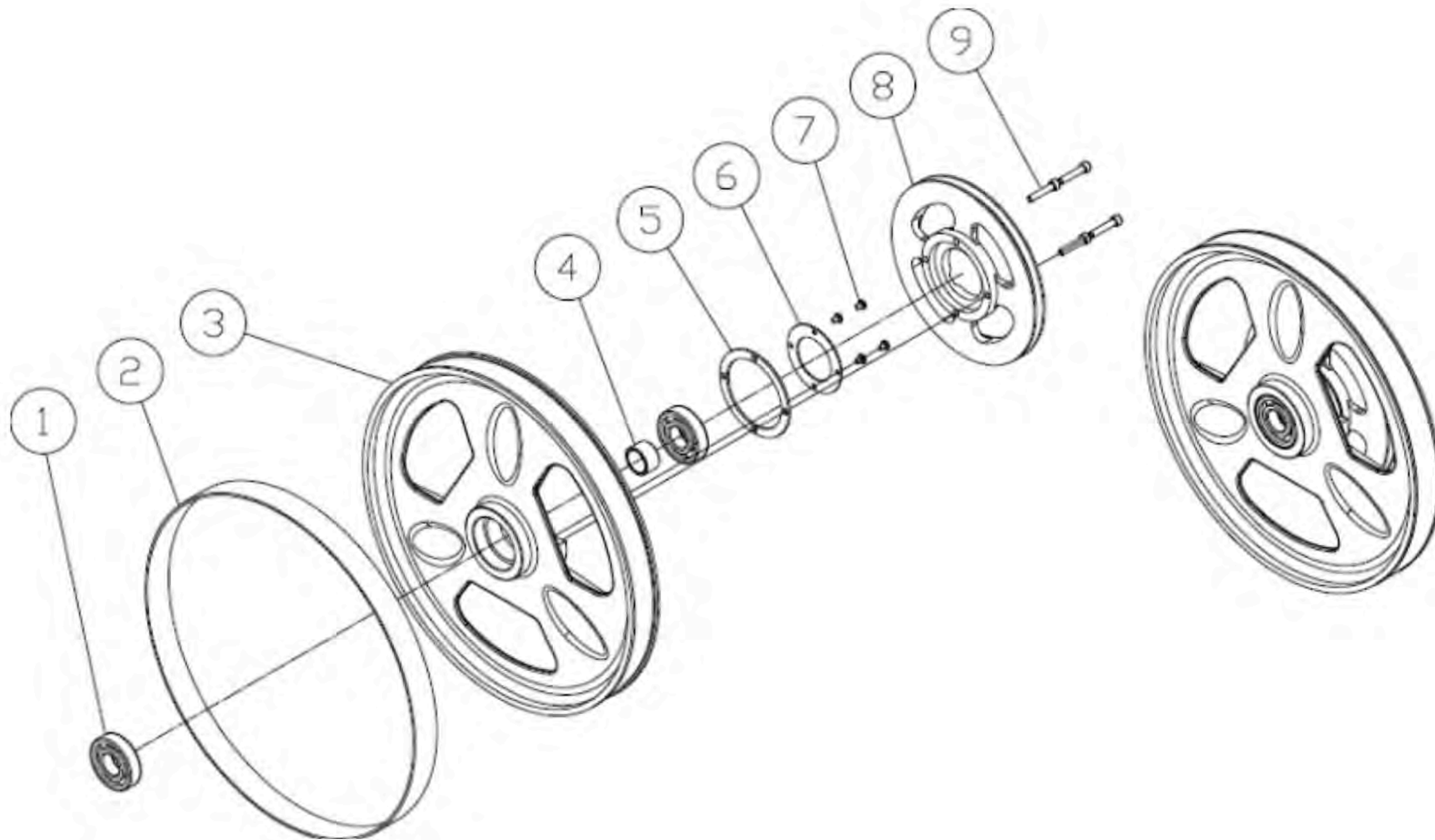
18.6.1 VBS-18MWEVS Upper Wheel Assembly – Exploded View



18.6.2 VBS-18MWEVS Upper Wheel Assembly – Parts List

Index	Part No	Description	Size	Qty
	PM1800B-018.....	Upper Wheel Assembly (#1 thru 6).....		
1	PM1800B-018-01.....	Upper Wheel.....		1
2	PM1800B-018-02.....	Spacer.....		1
3	BB-6306LLU.....	Ball Bearing.....	6306LLU.....	2
4	PM1800B-018-04.....	Bearing Press Plate.....		1
5	PM1800B-018-05.....	Phillips Pan Head Machine Screw.....	M6 x 8.....	3
6	PM1800B-018-06.....	Tire.....		1

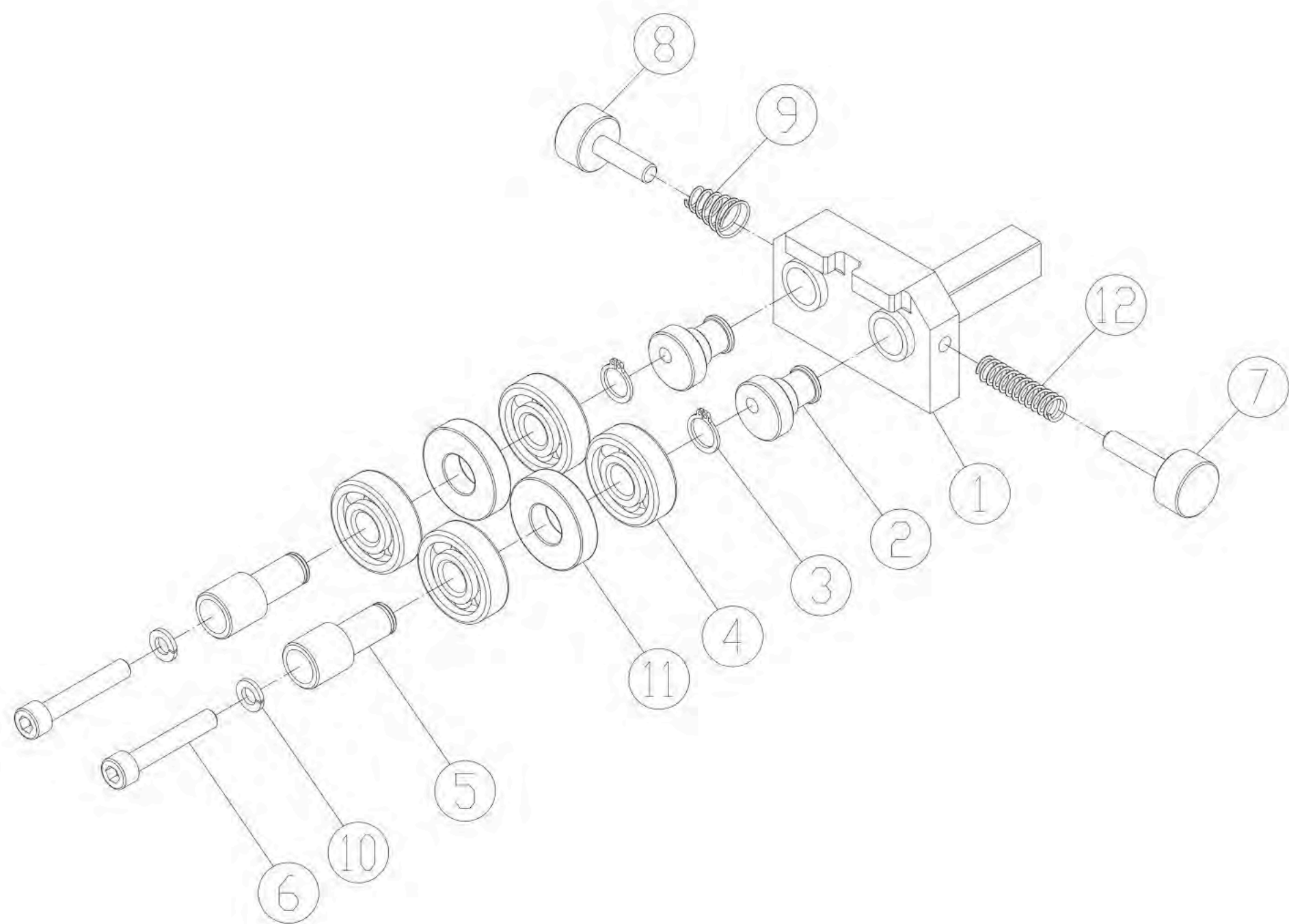
18.7.1 VBS-18MWEVS Lower Wheel Assembly – Exploded View



18.7.2 VBS-18MWEVS Lower Wheel Assembly – Parts List

Index	Part No	Description	Size	Qty
	VBS-18MWEVS-030	Lower Wheel Assembly (#1 thru 9)		
1	BB-6306LLU	Ball Bearing	6306LLU	2
2	PM1800B-018-06	Wheel Tire	PU	1
3	VBS-18MWEVS-030-03	Lower Wheel	18"	1
4	VBS-18MWEVS-030-04	Bushing		1
5	VBS-18MWEVS-030-05	Gasket		1
6	VBS-18MWEVS-030-06	Bearing Press Plate		1
7	VBS-18MWEVS-030-07	Phillips Pan Head Machine Screw	M6x6	4
8	VBS-18MWEVS-030-08	Pulley		1
9	TS-2248402	Socket Head Button Screw	M8x40	4

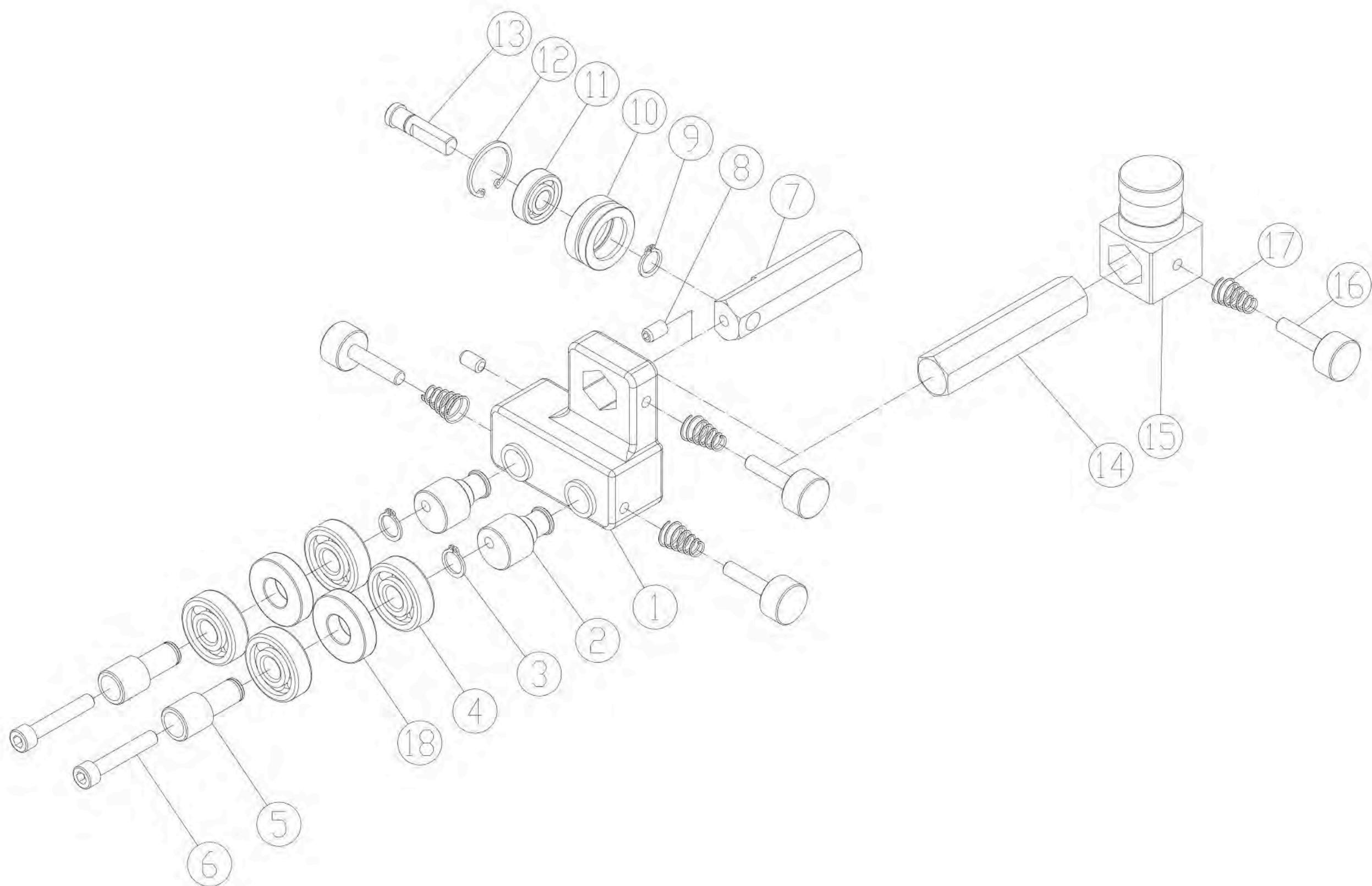
18.8.1 VBS-18MWEVS Lower Blade Guide Assembly – Exploded View



18.8.2 VBS-18MWEVS Lower Blade Guide Assembly – Parts List

Index	Part No	Description	Size	Qty
	JWBS18B-1142	Lower Blade Guide Assembly (#1 thru 12)		
1	PM1500-096-01	Lower Blade Guide Support		1
2	PM1500-096-02	Eccentric Shaft		2
3	PM1800B-059-05	Retaining Ring	S15	2
4	BB-6202ZZ	Ball Bearing	6202ZZ	4
5	PM1800B-059-02	Knurled Adjusting Knob		2
6	TS-1503101	Socket Head Cap Screw	M6x45	2
7	PM1500-095-16	Lock Knob		1
8	JWBS15-1137-508	Lock Knob		1
9	PM1800B-059-017	Cone Spring		1
10	TS-2361061	Spring Washer	M6	2
11	PM1800B-059-04	Spacer		2
12	JWBS15-1138-332	Spring		1

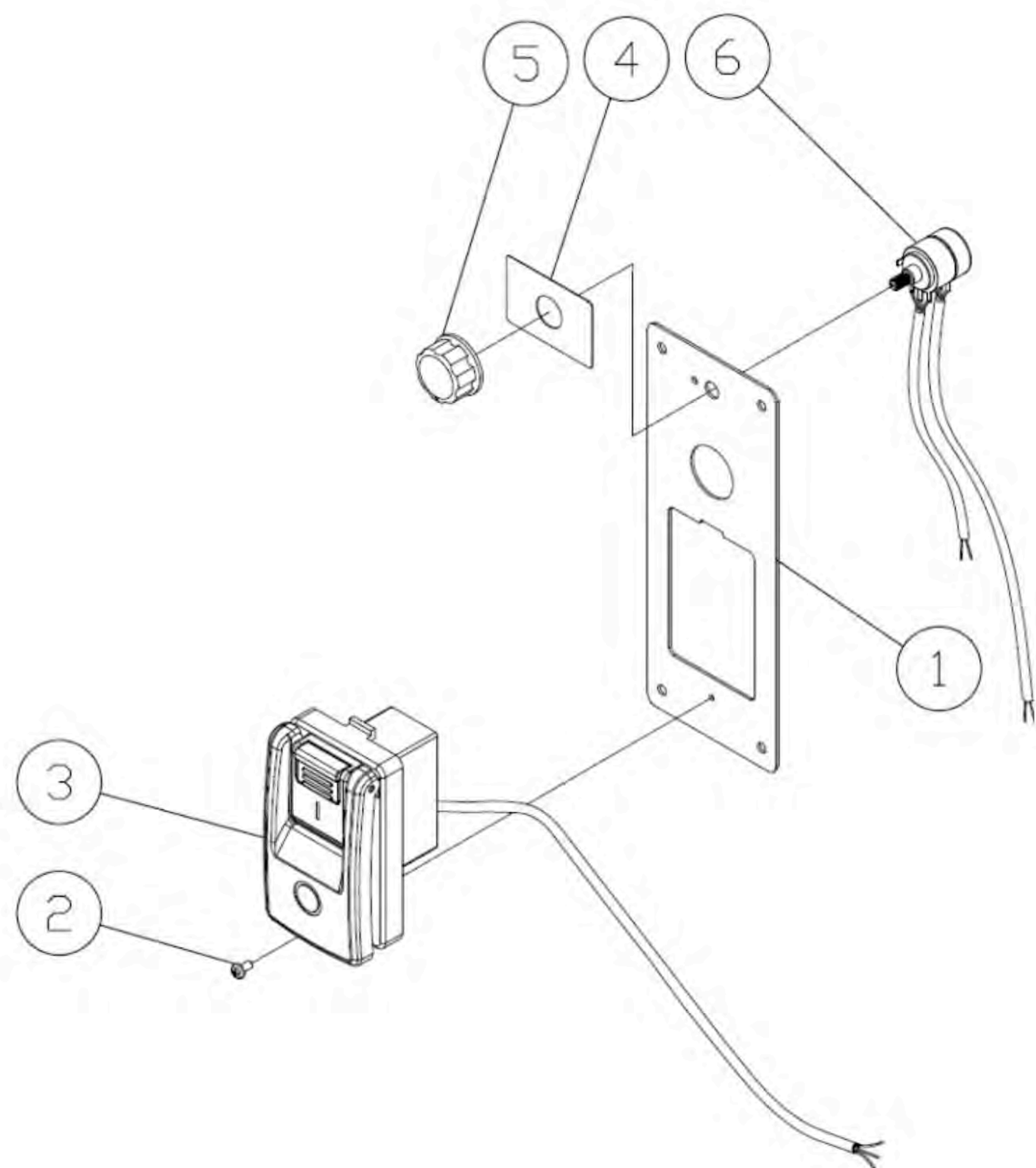
18.9.1 VBS-18MWEVS Upper Blade Guide Assembly – Exploded View



18.9.2 VBS-18MWEVS Upper Blade Guide Assembly – Parts List

Index	Part No	Description	Size	Qty
	JWBS18B-1126	Upper Blade Guide Assembly (#1 thru 18)		
1	PM1500-095-01	Upper Blade Guide Support		1
2	PM1500-095-02	Eccentric Shaft		2
3	PM1800B-059-05	Retaining Ring	S15	2
4	BB-6202ZZ	Ball Bearing	6202ZZ	4
5	PM1800B-059-02	Knurled Knob		2
6	TS-1503101	Socket Head Cap Screw	M6x45	2
7	PM1500-095-07	Spacing Sleeve		1
8	TS-1523011	Set Screw	M6x6	2
9	PM1500-085-29	Retaining Ring	S8	1
10	PM1500-085-28	Thrust Bearing Holder		1
11	JWBS15-1121-611	Ball Bearing	608ZZ	1
12	PM1500-085-26	Retaining Ring	R22	1
13	PM1500-085-25	Adjust Shaft		1
14	PM1500-095-14	Hex Post		1
15	PM1500-095-15	Upper Guide Support Block		1
16	PM1500-095-16	Lock Knob		1
17	PM1800B-059-017	Cone Spring		4
18	PM1800B-059-04	Spacer		2

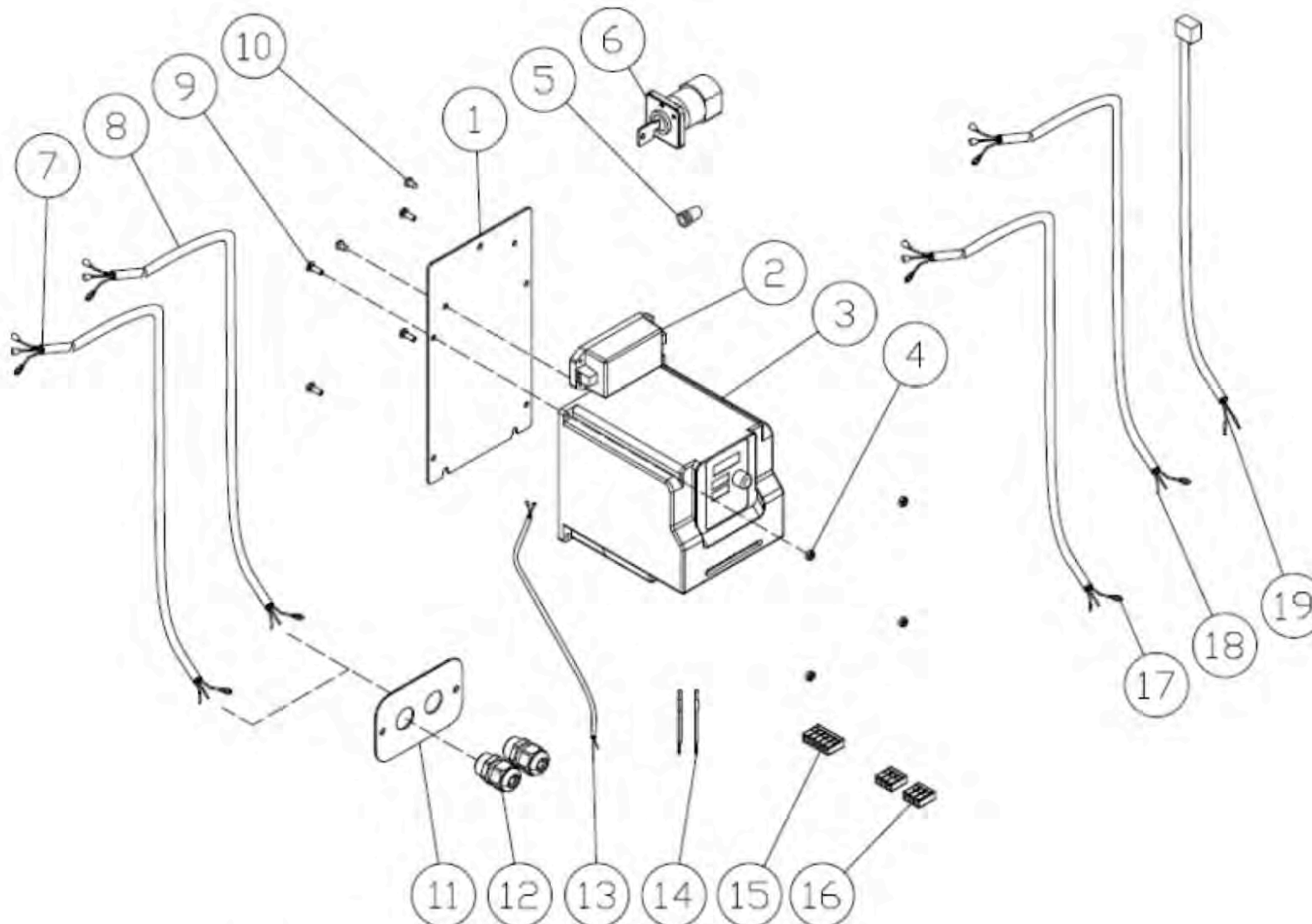
18.10.1 VBS-18MWEVS Speed Control & Switch Assembly – Exploded View



18.10.2 VBS-18MWEVS Speed Control & Switch Assembly – Parts List

Index	Part No	Description	Size	Qty
	VBS-18MWEVS-041	Speed control & Switch assembly (#1 thru 6)		1
1	VBS-18MWEVS-041-01	Switch Plate		1
2	TS-2284081	Phillips Pan Head Machine Screw	M4x8	1
3	VBS-18MWEVS-041-03	Control Switch Assembly		1
4	VBS-18MWEVS-041-04	Speed Knob Label		1
5	VBS-18MWEVS-041-05	Speed Adjustment Knob		1
6	VBS-18MWEVS-041-06	Variable Resistance		1

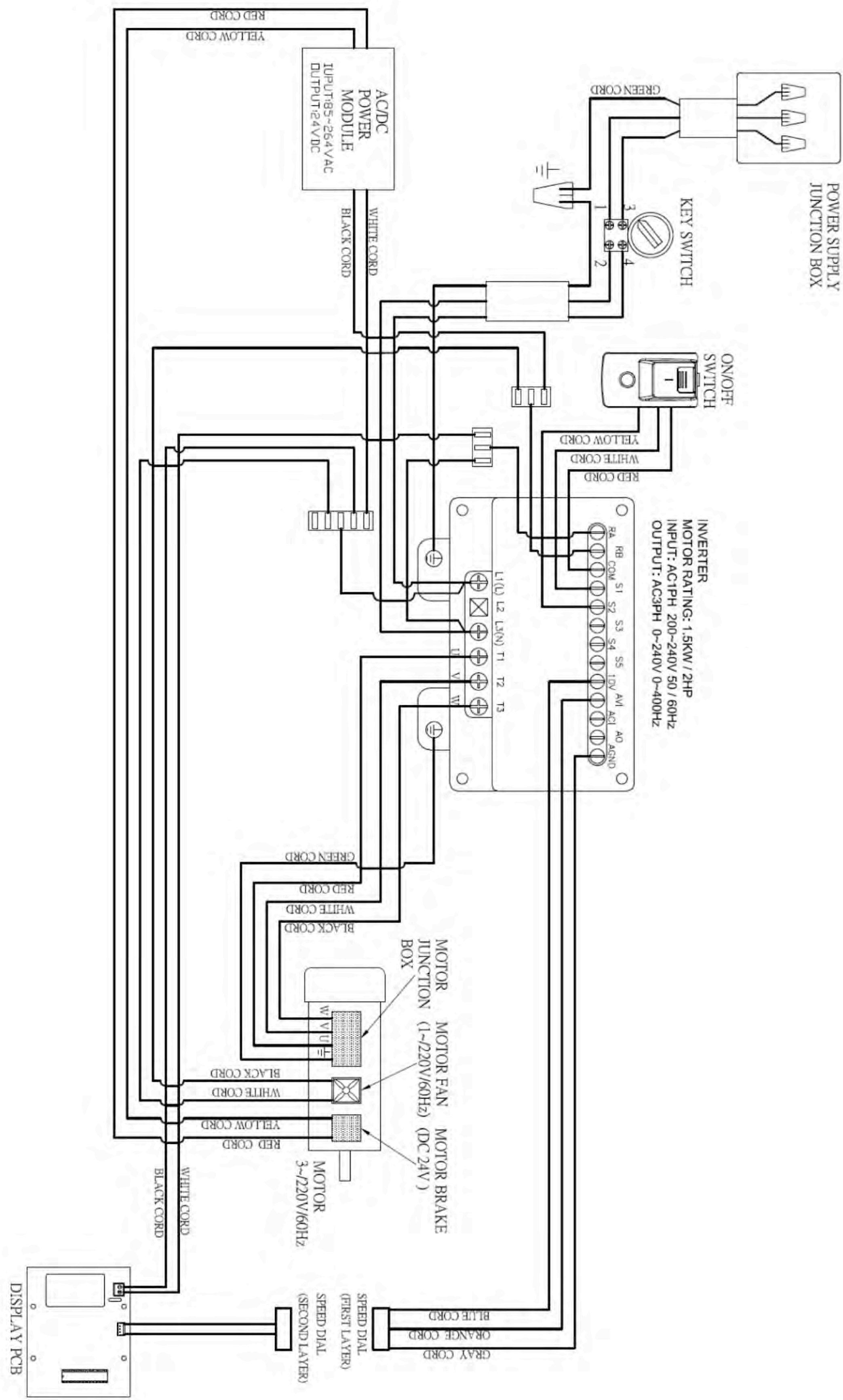
18.11.1 VBS-18MWEVS AC Inverter Assembly – Exploded View



18.11.2 VBS-18MWEVS AC Inverter Assembly – Parts List

Index	Part No	Description	Size	Qty
	VBS-18MWEVS-045	AC Inverter Assembly (#1 thru 16)		1
1	VBS-18MWEVS-045-01	Inverter Mounted Plate		1
2	VBS-18MWEVS-045-02	Power Supply	O/P+24V/1.3A	1
3	VBS-18MWEVS-045-03	Inverter	220V 2HP	1
4	TS-1540021	Hex Nut	M4	4
5	VBS-18MWEVS-150	Wiring Nut	P2	1
6	VBS-18MWEVS-045-06	Switch Key		1
7	VBS-18MWEVS-045-07	Motor Cord		1
8	VBS-18MWEVS-045-08	Motor Cooling Fan cord		1
9	TS-1532042	Phillips Pan Head Screw	M4x12	4
10	VBS-18MWEVS-045-10	Iron Screw	M4x8	2
11	VBS-18MWEVS-045-11	Strain Relief Plate		1
12	PM1500-062	Strain Relief	PG-13.5	2
13	VBS-18MWEVS-045-13	Power Cord		1
14	VBS-18MWEVS-045-14	Inverter Connect Line	8mm	2
15	VBS-18MWEVS-045-15	Cord Connector	221-415(5P)	1
16	VBS-18MWEVS-045-16	Cord Connector	221-413(3P)	2
17	VBS-18MWEVS-045-17	Power Cord		1
18	VBS-18MWEVS-045-18	Power Cord		1
19	VBS-18MWEVS-045-19	PCB Power Cord		1

19.0 Electrical Connections for VBS-18MWEVS



20.0 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. JET SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

JET sells through distributors only. The specifications listed in JET printed materials and on official JET website are given as general information and are not binding. JET reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever. JET® branded products are not sold in Canada by JPW Industries, Inc.

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

NOTE: JET is a division of JPW Industries, Inc. References in this document to JET also apply to JPW Industries, Inc., or any of its successors in interest to the JET brand.



427 New Sanford Road
LaVergne, Tennessee 37086

Phone: [800-274-6848](tel:800-274-6848)

www.jettools.com