MBS45

4 ½ Inch Metal Cutting Bandsaw

Assembly & Operating Instructions

READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.

This manual provides important information on proper operation & maintenance. Every effort has been made to ensure the accuracy of this manual. These instructions are not meant to cover every possible condition and situation that may occur. **We reserve the right to change this product at any time without prior notice.**

IF THERE IS ANY QUESTION ABOUT A CONDITION BEING SAFE OR UNSAFE, DO NOT OPERATE THIS PRODUCT!

HAVE QUESTIONS OR PROBLEMS? DO NOT RETURN THIS PRODUCT TO THE RETAILER - CONTACT CUSTOMER SERVICE.

If you experience a problem or need parts for this product, visit our website http://www.buffalotools.com or call our customer help line at **1-888-287-6981**, Monday-Friday, 8 AM - 4 PM Central Time. A copy of the sales receipt is required.

FOR CONSUMER USE ONLY – NOT FOR PROFESSIONAL USE.

KEEP THIS MANUAL, SALES RECEIPT & APPLICABLE WARRANTY FOR FUTURE REFERENCE.

CALIFORNIA PROPOSITION 65

WARNING: You can create dust when you cut, sand, drill or grind materials such as wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm. Wear protective gear.

WARNING: This product or its power cord may contain chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

TABLE OF CONTENTS

RECOGNIZE SAFETY SYMBOLS, WORDS AND LABELS

What You Need to Know About Safety Instructions

Warning and Important Safety Instructions appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when assembling or using this product.

Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand.

⚠WARNING This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

CAUTION This is a safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

GENERAL PRODUCT SPECIFICATIONS

FEATURES:

- 3 Speeds 80 FPM, 120FPM, 200FPM
- Miter Gauge for Angle Cutting 90º - 45º
- Full Blade Guard for Safety
- Horizontal or Vertical operation

SPECIFICATIONS

- 3/4 HP / 120V / 60 Hz
- 500 Watts / Single Phase
- 5.4 Amps
- Blade Size 64 ½" x ½"
- Cutting Table 11 ½" x 7 ½" x 23 ½" Horizontal
- Cutting Table 9 5/8" x 9 ½" x 33 ½" Vertical

KEEP THIS MANUAL, SALES RECEIPT & APPLICABLE WARRANTY FOR FUTURE REFERENCE.

READ ALL INSTRUCTIONS AND WARNINGS BEFORE USING THIS PRODUCT.

When unpacking, check to make sure all parts listed are included. If any parts are missing or broken, please call Customer Service at 1-888-287-6981.

IMPORTANT SAFETY RULES

COMMON SENSE AND CAUTION ARE FACTORS WHICH CANNOT BE BUILT INTO ANY PRODUCT. THESE FACTORS MUST BE SUPPLIED BY THE OPERATOR.

⚠WARNING

Keep your work area clean and well lit. Cluttered work benches and dark work areas may cause accidents or injury.

Keep bystanders, children and visitors away while operating the metal bender. Distractions can cause you to lose control.

⚠CAUTION

Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

⚠WARNING

Use common sense while operating this metal bender.
Do not use this tool if you are:

- Feeling tired or are under the influence of alcohol or drugs.
- Wearing loose clothing or jewelry. Keep long hair pulled back and away from moving parts.
- Overreaching or have improper footing. Handling the tool in this way could cause serious injury.
- Wear the proper safety equipment, such as safety goggles, dust masks, non-skid shoes, etc.
- Check to be sure all adjusting keys or wrenches have been removed before use.

⚠WARNING

Safety glasses and ear protection must be worn during operation.

Read the manual carefully. Learn the tool's applications and limitations, as well as specific potential hazards peculiar to it.

Ground all tools. If the tool is equipped with three-pin plug, it should be plugged into a three-pin electrical socket. Never remove the ground pin.

Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.

Do not expose tool to moisture. Don't use this tool in damp or wet locations. Keep out of rain.

Do not abuse cord. Never use the cord to carry tools or pull the plug from an outlet. Keep cord away from heat, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

Remove adjusting keys or wrenches before turning the tool on. A wrench or key that is left attached to a moving part of the tool may result in personal injury.

Don't overreach. Keep proper footing and balance at all times when operating this tool.

Disconnect the tool from power source before making any adjustments, storing, servicing, or changing accessories. This will reduce the risk of starting the tool accidentally.

Do not use the tool if the switch does not turn it on and off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Check for damage. Check your tool regularly. If part of the tool is damaged it should be carefully inspected to make sure that it can perform its' intended function correctly. If in doubt, the part should be repaired. Refer all servicing to a qualified technician. Consult your dealer for advice.

Keep away from flammables. Do not attempt to operate this tool near flammable materials or combustibles. Failure to comply may cause serious injury or death.

Maintain tools with care. Keep tools sharp and clean. Properly maintained tools, with sharp cutting edges, are less likely to bind and are easier to control.

Avoid accidental starting. Make sure switch is off before plugging in power cord.

Be careful when using bandsaws in vertical position to keep fingers and hands out of the path of blade, both above and beneath the table.

Never hand-hold the material with saw in horizontal position. Always use the the vice clamp securely.

Keep all guards and wheel covers in place and in working order.

Support long heavy work from the floor.

Switch off the machine when the work is completed. Unplug power cord before adjusting, servicing and changing blade.

Moving parts should keep in alignment. All adjustments are to be made with power disconnected.
Use a sharp blade and keep tool clean for best and safest performances.

For Your Own Safety Read Instruction Manual Before Operating Saw
a) Wear eye protection.
b) Do not remove jammed cutoff pieces until blade has stopped.
c) Maintain proper adjustment of blade tension, blade guides, and thrust bearings.
d) Adjust upper guide to just clear workpiece.
e) Hold workpiece firmly against table.

SERVICE

Tool service must be performed only by qualified repair personnel. Service or maintenance by unqualified personnel could result in a risk of injury.

When servicing a tool, use only identical replacement parts and follow instructions in the manual. Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of shock or injury.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

This manual contains important information regarding safety, operation, maintenance and storage of this product. Before use, read carefully and understand all warnings, cautions, instructions and labels. Failure to do so could result in serious personal injury, property damage or even death.

IMPORTANT SAFETY INSTRUCTIONS

⚠WARNING

Before using this tool, you need to become familiar with its operation. If you are unsure about the operation of the tool, or have any questions about its proper use, call the Customer Service Department at 1-888-287-6981. Follow these instructions for safe handling of the tool:

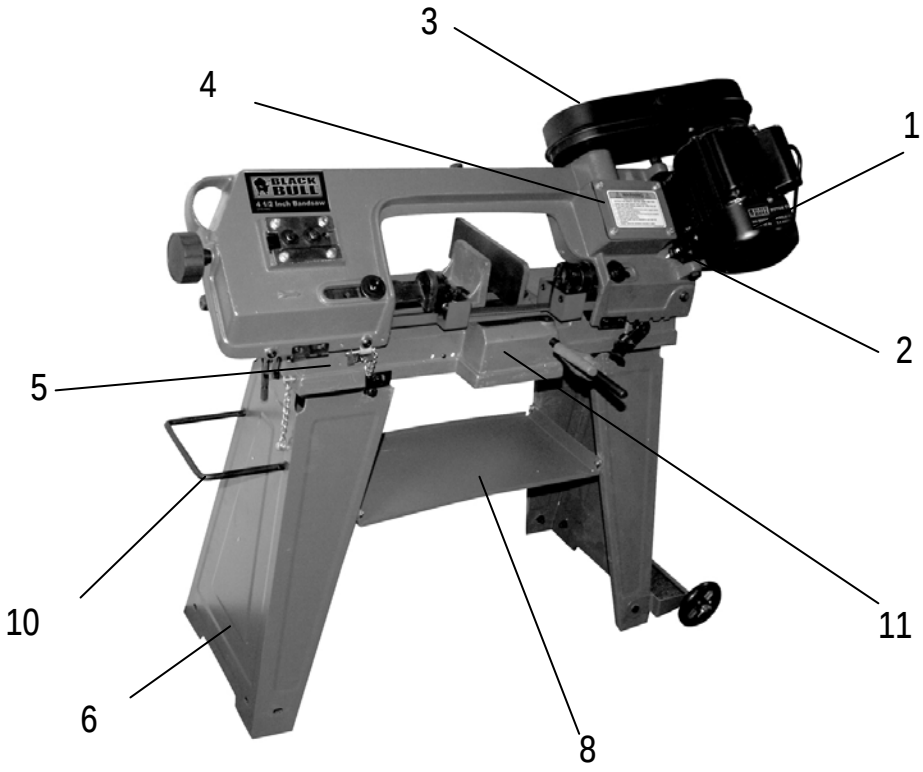
- **Be sure your work area is clean and secure.** Be sure the area is free from all foreign material, nails, staples, or any other material**.**
- **Always use the appropriate safety gear when operating.** Including but not limited to, goggles, dust mask or respirator.

PACKAGE CONTENTS

• Bandsaw

COMPONENTS

1. Motor Assembly
2. Belt Adjusting Bolt
3. Pulley Guard
4. Gearbox
5. On-Off Switch Assembly
6. Left Leg
7. Right Leg
8. Tool Tray
9. Wheel Assembly
10. Handle
11. Work Stop Assembly



ASSEMBLY

⚠WARNING

Before performing any assembly or maintenance, make sure bandsaw is turned off and unplugged from the power supply.

⚠WARNING

BANDSAW MUST BE GROUNDED. Use a Ground Fault Interrupter (GFI). Plug the power cord to a standard 120 volt receptacle protected by a 20 amp circuit breaker.

The bandsaw comes partly assembled. It is therefore necessary to complete the assembly as follows. Unpack and layout all the items and identify each one.

Attach lower tray, wheels and handle in this order.
Assemble vice handle to shaft on end of main base (bed) and tighten set screw.
Ensure all guards, pulley covers etc are securely attached and properly assembled.

Legs And Tray Assembly

The legs are a three-sided section, one side of which is hinged. Lay the legs on their sides, with the open ends facing each other and approx. 18" apart.

Locate the tray and attach between the legs, using the four nuts, bolts and washers supplied. Leave the nuts finger tight at this stage.

Important: Ensure the washer is inside the leg, next to the nut. Stand the assembly upright to form a rough "A" frame. With assistance, gently lower the main body on to the legs. Firmly secure the main body to the legs, using the three nuts and bolts at the top of each leg, ensuring there is no distortion and that the assembly is completely stable.

Note that the legs may fit either way around.

Tighten the tray nuts and bolts, checking for distortion and stability.

Work Stop Assembly

A work stop is provided, which is used to allow stock pieces of equal length to be cut without having to measure each piece individually. It comprises two parts, the work stop and the mounting rod. Push the rod into the hole in the edge of the vise, and secure with the grubscrew provided.

Mount the work stop on to the rod, with the flat face towards the saw blade, and temporarily secure with the grub screw supplied, ensuring it is not pushed on too far, as it may interfere with the saw blade when it is lowered.

Miscellaneous

A handle is provided at the left end of the machine, connected to the left leg. When the machine is lifted using this handle, it will automatically pivot on to the wheels, mounted on the bottom of the right leg, allowing the machine to be maneuvered easily and quickly around a workshop.

The handle and wheel assemblies are attached a follows. Thread the ends of the handle through the corresponding holes in the left leg, and locate on the inside of the leg using the split pins provided.

The wheel assembly comprises a bracket, axle and wheels. Attach the bracket to the base of the right leg using the nuts and bolts supplied. Thread the axle through the holes at the ends of the bracket, and insert the split pins in the holes provided in the axle, which will prevent any lateral movement. Mount the wheels at each end of the axle, and locate by inserting the split pins provided in the holes at the ends of the axle.

Before use, carry out a thorough check to ensure that all parts are completely secure and properly assembled.

OPERATION

⚠ CAUTION

BEFORE OPERATING YOUR BANDSAW please read manual carefully**.**

BLADE GUIDE BEARING ADJUSTMENT

This is the most important adjustment on your saw. It is impossible to get satisfactory work from your saw if the blade guides are not properly adjusted. The blade guide bearings for your Metal Cutting Bandsaw are adjusted and power tested with several test cuts before leaving the factory to ensure proper setting. The need for adjustment should rarely occur when the saw is used properly. If the guides do get out of adjustment, it is extremely important to readjust immediately. If proper adjustment is not maintained, the blade will not cut straight and if the situation is not corrected, it will cause blade damage.

Because guide adjustment is a critical factor in the performance of your saw, it is always best to try a new blade to see if this will correct poor cutting before beginning to adjust the bearings. If a blade becomes dull on one side sooner than the other, for example, it will begin cutting crooked. A simple blade change should correct this problem-the more difficult guide adjustment will not.

If a new blade does not correct the problem, check the blade guides for proper spacing. There should be 0.001" clearance between the 0.025" thickness blade and guide bearings.
To obtain this clearance adjust as follows:
1. The inner guide bearing is fixed and cannot be adjusted.
2. The outer guide bearing is mounted to an eccentric bolt and can be adjusted.
3. Loosen the nut while holding bolt with a wrench.
4. Position the eccentric by turning the bolt to the desired position of clearance.
5. Tighten the nut.
6. Adjust the second blade guide bearing in the same manner.
7. The back edge of the blade should just touch the lip of the Blade Guide Bearing.

BLADE GUIDE ASSEMBLY ADJUSTMENT

The Metal Cutting Bandsaw is equipped with two adjustable blade guide assemblies. This feature will permit you to adjust the position of the blade guides for various widths of workpieces. For the most accurate cut and prolong the life of the blade, the blade guide assemblies should be adjusted to just clear the piece to be cut.

1. Place the workpiece in the vice of bandsaw and clamp tightly.
2. Adjust catch blade guide assembly to the desired position by loosening the hand knobs and positioning the guides as required.
3. Tighten the hand knobs.

ADJUSTING BLADE TENSION

1. Make sure the motor is switched off and the machine is disconnected from electricity supply.
2. Press the blade lightly with the left hand so that the rear of the blade touches the flange of the blade wheel and adjust the blade tension adjusting knob with the right hand until no blade slipping occurs.

CHANGING SPEED

When using your Band Saw, always change the blade speed to best suit the material being cut.
1. Disconnect power. Open the pulley guard cover. Loosen the lead screw. You can now change the position of the belt to gain the desired speed. Re-set the belt tension to allow 1/2" depression of the belt when pressed in the middle of its longest run.
2. When the tension of belt is correctly adjusted, lock the motor firmly.
3. Close the pulley guard cover.

Material Cutting Guide

	Speed	**Motor Pulley**	**Saw Pulley**
Stainless or Alloy Steel, Bearing Bronzes	80 FPM	Small	Large
Mild Steel, Hard Brass or Bronze	120 FPM	Medium	Medium
Soft Brass, Aluminum and other Light material	200 FPM	Large	Small

BLADE SELECTION

Use a 1/2" x 0.025' x 64 1/2" min. 65 1/2" max. 4 tooth per inch general use blade, included.

The choice of blade pitch is governed by the thickness of the work to be cut: the thinner the workpiece, the more teeth advised. A minimum of 3 teeth should be in the workpiece at all times for proper cutting.

If the teeth of the blade are so far apart that they straddle the work, severe damage to the workpiece and to the blade can result.

CHANGING THE BLADE

⚠ CAUTION

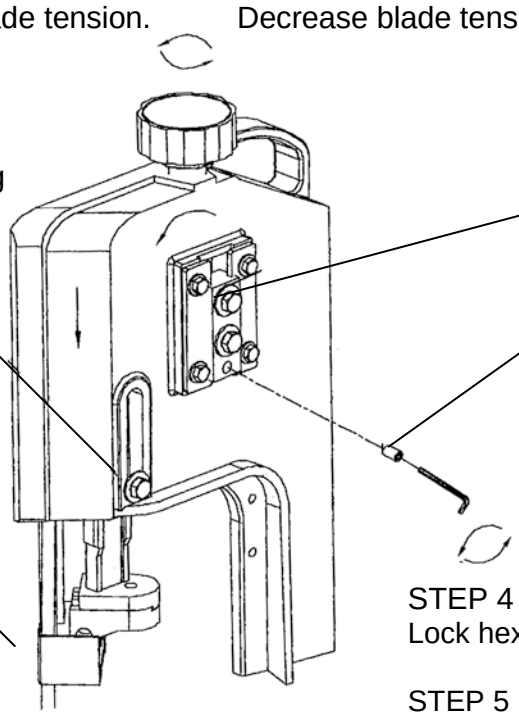
Always disconnect from electricity supply before changing blade

Raise saw head to vertical position. Loosen blade tension adjusting knob sufficiently to allow the saw blade to slip off the wheels. Install the new blade as follows:
1. Place the blade in between each of guide bearings.
2. Slip the blade around the motor pulley (bottom) with the left hand and hold in position.
3. Hold the blade taut against the motor pulley by pulling the blade upward with the right hand which is placed at the top of the blade.
4. Remove left hand from bottom pulley and place it at the top side of the blade to continue the application on the upward pull on the blade.
5. Remove right hand from blade and adjust the position of the top pulley to permit left' hand to slip the blade around the pulley using the thumb, index and little finger as guides.
6. Adjust the blade tension knob clockwise until it is just right, so no blade slippage occurs. Do not tighten excessively.
7. Place 2-3 drops of oil on the blade.
8. Replace the blade guard.

NOTE: If saw will not be used for an extended period of time, you may choose to loosen the blade after use to prolong the life of the blade.

ADJUSTING THE BLADE TRACKING

This adjustment has been completed and power-tested at the factory. The need for adjustment should rarely occur when the saw is used properly. If the tracking goes out of adjustment the blade will leave the wheel and damage will result.



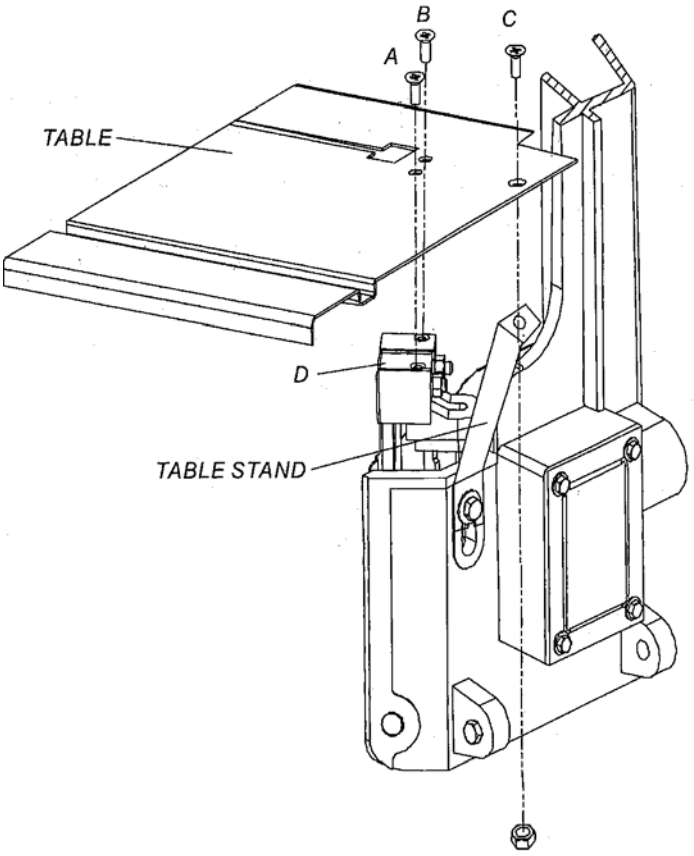
Automatic Switch Off
At the end of the cutting cycle (horizontal use), the machine automatically switches off. This can be adjusted by moving the bracket up or down as required.

Horizontal Cutting
1 . Raise the saw head to the vertical position.
2. Open the vice to accept the piece to be cut by rotating the wheel at the end of the base (counter clockwise).
3. Place the workpiece on the saw bed. If the piece is long, support the end.
4. Clamp the workpiece securely in the vice by rotating the hand wheel clockwise.
5. Turn the power on, letting the head down slowly onto the work. Do not drop or force. Let the weight of the saw head provide the cutting force. The saw automatically shuts off at the end of the cut.

Vertical Cutting

Fitting the table:
Loosen the A & B Screws from the blade guide. Take away plate D.

Locking the saw in vertical position:
Rotate the bracket to an upright position, locate in notch on saw arm and tighten. If you have difficulty positioning the bracket in the notch, adjust nearby screw at bottom of saw until bracket is positioned, then tighten bracket.

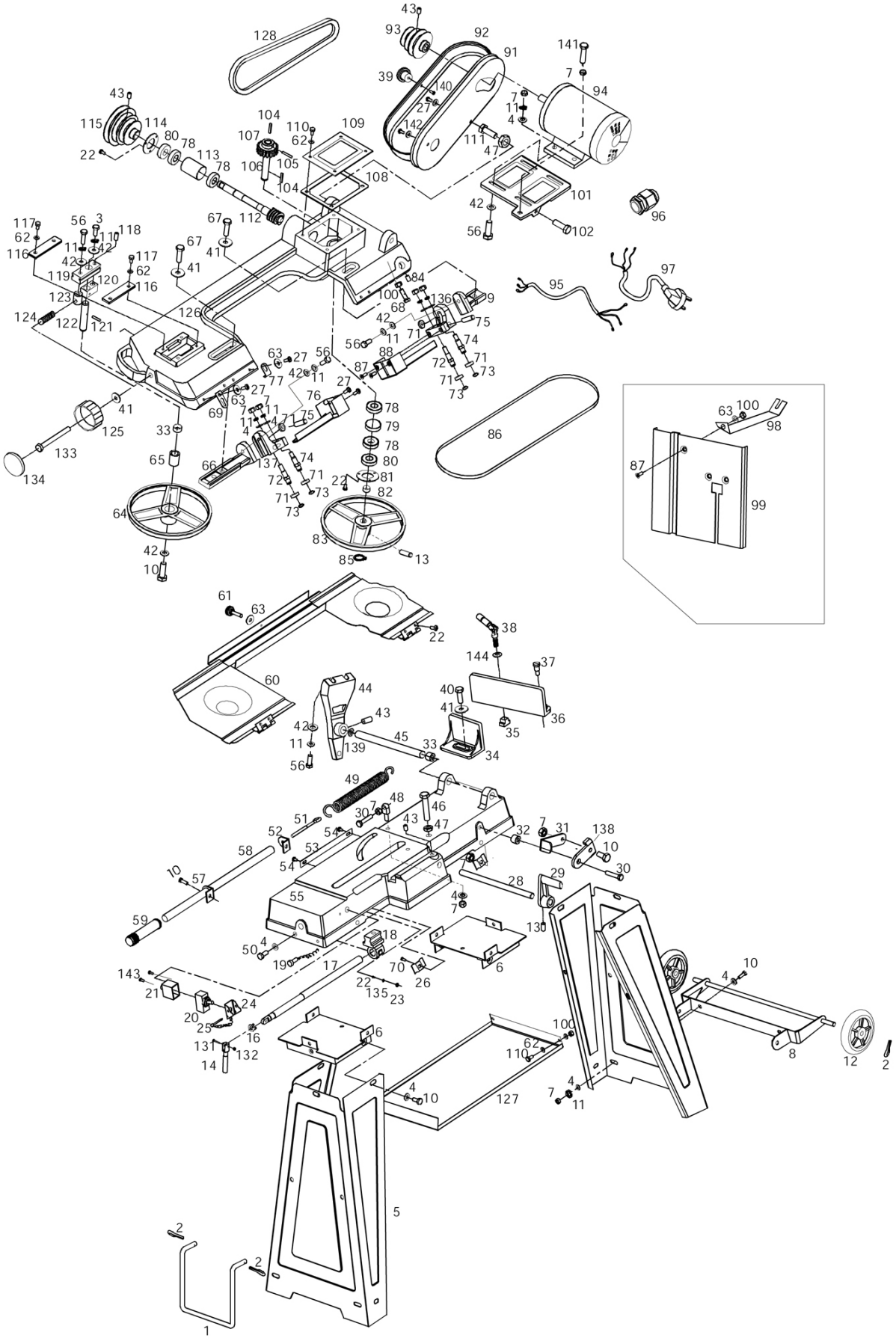


MAINTENANCE

Lubricate the parts listed below using SAE30.

1. Ball Bearing – none required
2. Blade guide bearing – none required
3. Driven wheel bearing – none required
4. Vice lead screw – as needed
5. Drive gears run in the oil bath and won't require lubricant change more than once a year. When changing, put down the head to a horizontal position and loosen screws on the gearbox. Open the cover and place pan under the right lower corner of the gear box. Slowly raise the head until the oil flows out. Lower the head and wipe up excess oil. Add lubricant until it is full. Close cover and tighten screws.
6. If saw will not be used for an extended period of time, you may choose to loosen the blade after use to prolong the life of the blade.

PARTS DIAGRAM



PARTS LIST

0001	Floor stand handle	1
0002	Cotter pin 3x18	4
0003	Hexagon Head screw M8x20	11
0004	Washer 8	39
0005	Floor stand	2
0006	Connecting plate	2
0007	Hexagon nut M8	21
0008	Wheel frame	2
0009	Big washer 8	2
0010	Hexagon head screw M8 x 16	14
0011	Spring washer 8	12
0012	Wheel	2
0013	Hexagon socket headless screw M8x8	1
0014	Handle	1
0015	Handle cover	1
0016	Thrust washer 13	1
0017	Lead screw	1
0018	Vise nut	1
0019	Lock chain	1
0020	Switch	1
0021	Switch box	1
0022	Screw M4x8	13
0023	Star washer 4	2
0024	Switch safety plate	1
0025	Switch safety screw	1
0026	Wire relief retainer	2
0027	Cross head screw M6x12	6
0028	Stock stop rod	1
0029	Stock stop	1
0030	Hexagon head screw M8x40	2
0031	Support plate	1
0032	Support plate cover	1
0033	Bushing	2
0034	Movable vise plate	1
0035	Arc sliding plate	1
0036	Mitering vise plate	1
0037	Screw	1
0038	Lock handle	1
0039	Knob	1
0040	Hexagon head screw M10x30	1
0041	Big washer 10	4
0042	Washer 8	2
0043	Screw M8x12	6
0044	Pivot	1
0045	Pivoting rod	1
0046	Hexagon head screw M12x65	1
0047	Hexagon nut M12	2
0048	Stop screw	1
0049	Spring	1
0050	Screw M8x25	10
0051	Spring adjusting screw	1
0052	Rear nut plate	1
0053	Scale	1
0054	Cross head screw M5x8	2
0055	Bed	1
0056	Hexagon head screw M8x30	3
0057	Front nut plate	1
0058	Adjusting rod	1
0059	Adjusting hold cover	1
0060	Blade back safety cover	1
0061	Plum screw	1
0062	Washer 6	16
0063	Washer 6	5
0064	Blade wheel (rear)	1
0065	Sliding bearing	1
0066	Upper blade guard	1
0067	Screw M10x35	2
0068	Screw M6x20	1
0069	Lock chip	1
0071	Bearing 6000 2Z	6
0072	Guide pivot (left)	2
0073	Thrust washer 10	4
0074	Guide pivot (right)	2
0075	Shaft	2
0076	Blade cover	1
0077	Switch cut off screw	1
0078	Ball bearing 6002 2Z	4
0079	Bearing bushing	1
0080	Oil seal	2
0081	Blade wheel bearing cover	1
0082	Bushing	1
0083	Blade wheel (front)	1
0084	Hex. Head screw M8x8	1
0085	Thrust washer 15	1
0086	Blade	1
0087	Cross head screw M6x12	5
0088	Blade guard	1
0091	Lower pulley cover	1
0092	Upper pulley cover	1
0093	Motor pulley	1
0094	Motor	1
0095	Motor cord	1
0096	Strain relief	1
0097	Supply cord	1
0098	Vertical cutting support plate	1
0099	Vertical cutting plate	1
0100	Hexagon nut M6	6
0101	Motor mount plate	1
0102	Screw M12x30	1
0104	Key 5X5X25	2
0105	Spring pin 4x26	1
0106	Transmission wheel shaft	1
0107	Transmission gear	1
0108	Gear box gasket	1
0109	Gear box cover	1
0110	Hexagon head screw M6x12	8
0111	Hexagon head screw (with hole)	1
0112	Worm gear shaft	1
0113	Bearing bushing	1
0114	Bearing cover	1
0115	Worm gear pulley	1
0116	Blade tension sliding guides	2
0117	Screw M6x12	4
0118	Hexagon head screw M8x20	1
0119	Blade tension sliding plate	1
0120	Sliding plate draw block	1
0121	Spring pin 4x20	1
0122	Blade wheel shaft	1
0123	Shaft block	2
0124	Spring	1
0125	Blade tension adjustable knob	1
0126	Body frame	1
0127	Tool plate	1
0128	V-belt	1
0131	Cross head screw M4x20	1
0132	Nut M4	1
0133	Hex head screw M10x100	1
0134	Adjust knob cover	1
0135	Washer 4	1
0136	Lower guide frame	1
0137	Upper guide frame	1
0138	Adjust support plate	1
0139	Pivoting rod bushing	1

Troubleshooting

Sympton	Possible Cause(s)	Corrective Action
Excessive Blade Breakage.	1.Material loose in vice. 2.Incorrect speed or feed. 3.Blade teeth spacing too large. 4.Material too hard. 5.Incorrect blade tension. 6.Teeth in contact with material before saw is started. 7.Blade rubs on wheel flange. 8.Misaligned guide bearings.	1.Clamp work securely. 2.Adjust speed or feed. 3.Replace with a finer tooth blade. 4.Use a slower speed and finer tooth blade. 5.Adjust to where blade just does not slip on wheel. 6.Place blade in contact with work after motor is started. 7.Adjust wheel alignment. 8.Adjust guide bearings.
Premature Blade Dulling.	1.Teeth too coarse. 2.Too much speed. 3.Inadequate feed pressure. 4.Hard spots or scale on material. 5.Work hardening of material. 6.Blade twist.	1.Use finer teeth. 2.Decrease speed. 3.Decrease spring tension on side of saw. 4.Reduce speed,increase feed pressure. 5.Increase feed pressure by reducing spring tension. 6.Replace with a new blade, and adjust blade tension.
Unusual Wear on Side/Back of Blade	1.Blade guides worn. 2.Blade guide bearings not adjusted properly. 3.Blade guide bearing bracket is loose.	1.Replace. 2.Adjust as per operators manual. 3.Tighten.
Teeth Ripping from Blade.	1.Teeth too coarse for work. 2.Too heavy too slow speed. 3.Vibrating workpiece. 4.Teeth clogging.	1.Use finer tooth blade. 2.Decrease pressure,increase speed. 3.Clamp work piece securely. 4.Use coarser tooth blade or brush to remove chips
Motor running too hot.	1.Blade tension too high. 2.Drive belt tension too high. 3.Gears need lubrication. 4.Cut is binding blade.	1.Reduce tension on blade. 2.Reduce tension on drive belf. 3.Check oil bath. 4.Decrease feed and speed.
Bad Cuts (cutting not square)	1.Feed pressure too great. 2.Guide bearings not adjusted properly. 3.Inadequate blade tension. 4.Dull blade. 5.Speed incorrect. 6.Blade guides spaced out too much. 7.Blade guide assembly loose. 8.Blade track too far away from wheel flanges.	1.Reduce pressure by increasing spring tension on side of saw. 2.Adjust guide bearing,the clearance can not be greater than.001 inch. 3.Increase blade tension by adjust blade tension. 4.Replace blade. 5.Adjust speed. 6.Adjust guides space. 7.Tighten. 8.Retrack blade according to operating instructions.
Bad Cuts (Rough).	1.Too much speed or feed. 2.Blade is too coarse. 3.Blade tension loose.	1.Decrease speed or feed. 2.Replace with finer blade. 3.Adjust blade tension.
Blade is twisting.	1.Cut is binding blade. 2.Too much blade tension.	1.Decrease feed pressure 2.Decrease blade tension.

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