

Operator's Manual



5 x 6"

BAND SAW WITH STAND

Model No.

351.214140



CAUTION: Read and follow all Safety Rules and Operating Instructions before First Use of this Product.

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.

www.sears.com/craftsman

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SAFETY

ASSEMBLY

OPERATION

MAINTENANCE

PARTS LIST

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WARRANTY

ONE-YEAR FULL WARRANTY ON CRAFTSMAN TOOL

If this Craftsman tool fails due to a defect in material or workmanship within one year from the date of purchase, call 1-800-4-MY-HOME® TO ARRANGE FOR FREE REPAIR (or replacement if repair proves impossible).

If this tool is used for commercial or rental purposes, this warranty will apply for only 90 days from the date of purchase.

This warranty applies only while this tool is in the United States.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Hoffman Estates, IL 60179

SAFETY RULES

WARNING: For your own safety, read all of the instructions and precautions before operating tool.

CAUTION: Always follow proper operating procedures as defined in this manual — even if you are familiar with use of this or similar tools. Remember that being careless for even a fraction of a second can result in severe personal injury.

BE PREPARED FOR JOB

- Wear proper apparel. Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry which may get caught in moving parts of machine.
- Wear protective hair covering to contain long hair.
- Wear safety shoes with non-slip soles.
- Wear safety glasses complying with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are **NOT** safety glasses.
- Wear face mask or dust mask if operation is dusty.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.

PREPARE WORK AREA FOR JOB

- Keep work area clean. Cluttered work areas invite accidents.

- Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
- Work area should be properly lighted.
- Proper electrical receptacle should be available for tool. Three-prong plug should be plugged directly into properly grounded, three-prong receptacle.
- Extension cords should have a grounding prong and the three wires of the extension cord should be of the correct gauge.
- Keep visitors at a safe distance from work area.
- Keep children out of workplace. Make workshop childproof. Use padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

TOOL SHOULD BE MAINTAINED

- Always unplug tool prior to inspection.
- Consult manual for specific maintaining and adjusting procedures.
- Keep tool lubricated and clean for safest operation.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before switching machine on.
- Keep all parts in working order. Check to determine that the guard or other parts will operate properly and perform their intended function.
- Check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting and any other condition that may affect a tool's operation.
- A guard or other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs. (Use parts list provided to order replacement parts.)

KNOW HOW TO USE TOOL

- Use right tool for job. Do not force tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing blade.
- Avoid accidental start-up. Make sure that the tool is in the "off" position before plugging in.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Keep hands away from moving parts and cutting surfaces.
- Never leave tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
- Do not overreach. Keep proper footing and balance.
- Never stand on tool. Serious injury could occur if tool is tipped or if blade is unintentionally contacted.
- Know your tool. Learn the tool's operation, application and specific limitations.
- Use recommended accessories (refer to page 17). Use of improper accessories may cause risk of injury to persons.

- Handle workpiece correctly. Protect hands from possible injury.
- Turn machine off if it jams. Blade jams when it digs too deeply into workpiece. (Motor force keeps it stuck in the work.) Do not remove jammed or cut off pieces until the saw is turned off, unplugged and the blade has stopped.

WARNING: The operation of any power tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage.

Always wear safety goggles complying with United States ANSI Z87.1 (shown on package) before commencing power tool operation. Safety goggles are available through your Sears catalog.

UNPACKING

Check for shipping damage. If damage has occurred, a claim must be filed with carrier. Check for completeness. Immediately report missing parts to dealer.

The band saw comes assembled as one unit. Additional parts which need to be fastened to the saw should be located and accounted for before assembling (see Figure 1).

- A Pulleys Cover Assembly (1)
- B Vertical Table (1)
- C Vertical Table Reinforcing Bracket (1)
- D Workstop Assembly (1)
- E Crank Handle Assembly (1)

Parts bag includes: #10-24 x 1/2" pan head screw, #10-24 hex nut, two 1/4-20 x 1/2" hex head bolts, two 1/4" flat washers, 1/4"-20 x 1/2" flat head screw and 1/4"-20 hex nut.

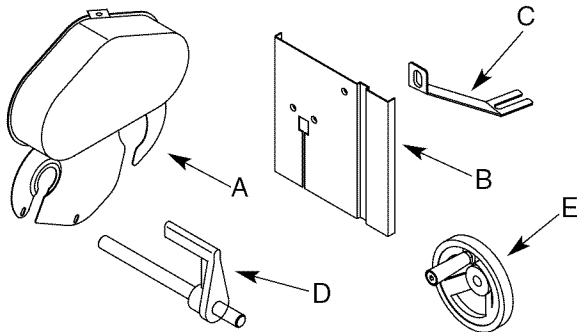


Figure 1 - Unpacking Band Saw

The stand comes unassembled and packed along with the Band saw in the same box. Locate and identify all parts before attempting assembly (see Figure 2).

- A Leg (4)
- B Long Brace (2)
- C Short Brace (2)
- D Flange (2)

Hardware bag includes:

- E 5/16"-18 x 1/2" Carriage Bolt (16)
- F Foot (4)
- G 5/16"-18 x 1" Hex Head Bolt (6)
- H 5/16" Flat Washer (28)
- I 5/16"-18 Hex Nut (22)

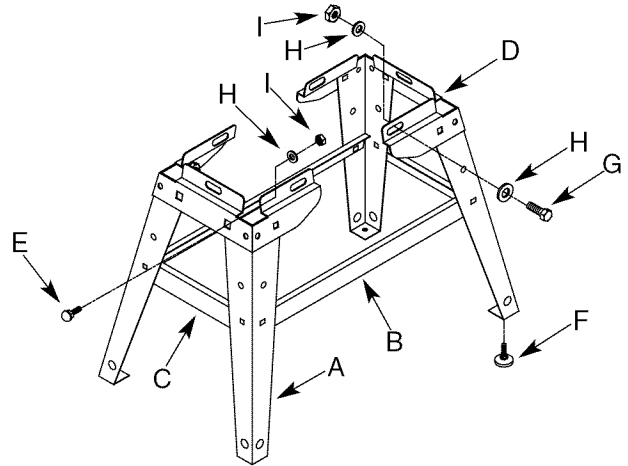


Figure 2 - Unpacking and Assembling Stand

IMPORTANT: Bed is coated with a protectant. To ensure proper fit and operation, remove coating. Coating is easily removed with mild solvents, such as mineral spirits, and a soft cloth. Avoid getting cleaning solution on paint or any of the rubber or plastic parts. Solvents may deteriorate these finishes. Use soap and water on paint, plastic or rubber components. After cleaning, cover all exposed surfaces with a light coating of oil. Paste wax is recommended for bed top and vise jaws.

ASSEMBLY

CAUTION: Do not attempt assembly if parts are missing. Use this manual to order replacement parts.

ASSEMBLE STAND

Refer to Figure 2.

NOTE: Finger tighten bolts and nuts until assembly is complete. Then tighten all fasteners securely.

- Attach two legs (A) to flanges (D) using carriage bolts, washers and nuts (E, H and I).
- Attach two short braces (C) and two long braces (B) to preassembled legs and flange brackets using carriage bolts, washers and nuts (E, H and I).
- Do not fully tighten bolts and nuts until bands saw is mounted on the stand.
- Install leveling feet on all four corners of the stand.

MOUNT BAND SAW

- Lay band saw on its side on cardboard or other suitable material to prevent scratches
- Attach preassembled stand to band saw's base using hex head bolts, washers and nuts (G, H and I).
- Finger tighten bolts and nuts.

- Carefully set the band saw and stand assembly upright on the floor.
- Fully tighten all bolts and nuts.
- Adjust the leveling feet as necessary.

INSTALL CRANK HANDLE

- Line up set screw on crank handle with flat on the lead screw shaft.
- Slide crank handle on the shaft and tighten set screw.

INSTALL PULLEY COVER

Refer to Figure 16, page 16.

- Remove v-belt.
- Slide left side slot in the cover plate over transmission shaft.
- Lift up the motor and align its shaft with second slot in the cover plate.
- Slide second slot in the pulley cover plate over motor shaft.
- Install V-belt in proper pulleys combination for desired blade speed. See Blade Speed Chart on page 8.
- Tension V-belt by adjusting motor position and blocking it with thumb screw Key No. 42. Properly tensioned V-belt should deflect about 1/2" when applying pressure with your thumb.
- Align mounting holes in the pulleys cover plate with corresponding holes on the frame and secure it with hex head bolts (Key No. 32) and washers (Key No. 31).

ATTACH WORK STOP ASSEMBLY

Refer to Figure 15, page 14.

- Insert end of work stop rod (Key No. 40) into bed (Key No. 36). Secure position of rod with set screw (Key No. 34).
- Slide work stop (Key No. 41) onto work stop rod and secure with set screw (Key No. 15).
- Adjust the work stop as described in Operation, page 10.

INSTALLATION

MOTOR

The band saw is supplied with a 1/8 HP motor.

The 115 Volt AC motor has the following specifications:

Horsepower	1/8
Voltage	115/230
Amperes	7.5/3.7
Hertz	60
Phase	Single
RPM	1725

WARNING: All electrical connections must be performed by a qualified electrician.

ELECTRICAL CONNECTIONS

WARNING: Make sure unit is off and disconnected from power source any time wiring is inspected.

POWER SOURCE

Band Saw is prewired for 115 volt, 60 HZ power source. See figure 3 for wiring schematic.

The motor is designed for operation on the voltage and frequency specified. Normal loads will be handled safely on voltages not more than 10% above or below the specified voltage.

Running the unit on voltages which are not within the range may cause overheating and motor burn-out. Heavy loads require that the voltage at motor terminals be no less than the voltage specified. Power supply to the motor is controlled by a single pole toggle switch.

GROUNDING INSTRUCTIONS

WARNING: Improper connection of equipment grounding conductor can result in the risk of electrical shock. Equipment should be grounded while in use to protect operator from electrical shock.

- Check with a qualified electrician if grounding instructions are not understood or if in doubt as to whether the tool is properly grounded.

This tool is equipped with an approved 3-conductor cord rated at 150V and a three prong grounding type plug (see Figure 3) for your protection against shock hazards.

- Grounding plug should be plugged directly into a properly installed and grounded 3-prong grounding-type receptacle, as shown (Figure 3).
- Do not remove or alter grounding prong in any manner. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electrical shock.

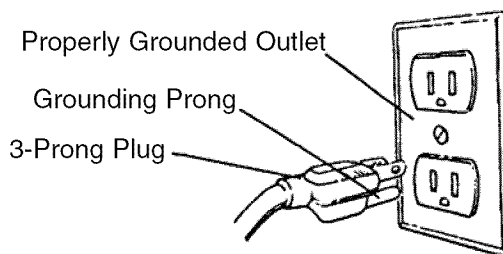


Figure 3 - 3-Prong Receptacle

WARNING: Do not permit fingers to touch the terminals of plug when installing or removing from outlet.

- Plug must be plugged into matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify plug provided. If it will not fit in outlet, have proper outlet installed by a qualified electrician.
- Inspect tool cords periodically, and if damaged, have repaired by an authorized service facility.

- Green (or green and yellow) conductor in cord is the grounding wire. If repair or replacement of the electric cord or plug is necessary, do not connect the green (or green and yellow) wire to a live terminal.

Where a 2-prong wall receptacle is encountered, it must be replaced with a properly grounded 3-prong receptacle installed in accordance with National Electric Code and local codes and ordinances.

WARNING: This work should be performed by a qualified electrician.

A temporary 3-prong to 2-prong grounding adapter (see Figure 4) is available for connecting plugs to a two pole outlet if it is properly grounded.

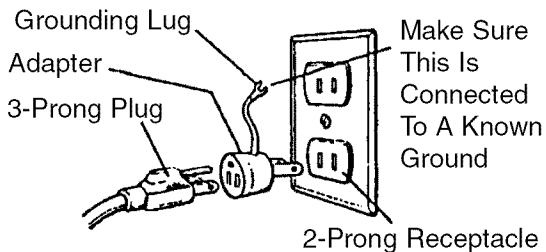


Figure 4 - 2-Prong Receptacle with Adapter

- Do not use a 3-prong to 2-prong grounding adapter unless permitted by local and national codes and ordinances. (A 3-prong to 2-prong grounding adapter is not permitted in Canada.) Where permitted, the rigid green tab or terminal on the side of the adapter must be securely connected to a permanent electrical ground such as a properly grounded water pipe, a properly grounded outlet box or a properly grounded wire system.

Many cover plate screws, water pipes and outlet boxes are not properly grounded. To ensure proper ground, grounding means must be tested by a qualified electrician.

230 VOLT OPERATION

- To use the band saw with a 230V, single-phase power supply, have a qualified electrician attach a 230 volt, 20/30A 3-prong plug onto band saw line cord and install the proper connectors and receptacles to power supply.
- See wiring diagram (Figure 5) for motor wiring instructions.

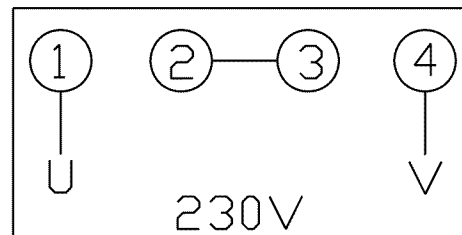
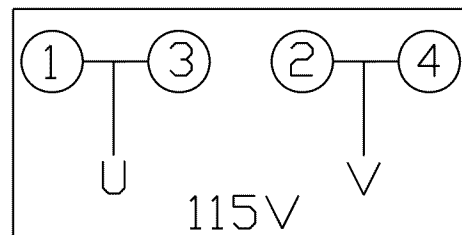
EXTENSION CORDS

- The use of any extension cord will cause some drop in voltage and loss of power.
- Wires of the extension cord must be of sufficient size to carry the current and maintain adequate voltage.
- Use the table to determine the minimum wire size (A.W.G.) extension cord.
- Use only 3-wire extension cords having 3-prong grounding type plugs and 3-pole receptacles which accept the tool plug.
- If the extension cord is worn, cut, or damaged in any way, replace it immediately.

EXTENSION CORD LENGTH

Wire Size	A.W.G.
Up to 25 ft.	18

NOTE: Using extension cords over 25 ft. long is not recommended.



1, 2, 3, 4 - Motor Leads
U, V - Power Supply

Figure 5 - Motor Wiring Diagram

OPERATION

The 5 x 6" Horizontal and Vertical Metal Cutting Band Saw provides speed with quality of cut for fabrication shops, machine shops, maintenance departments and contractors. Blade speed ranges from 80 to 200 FPM to cut a variety of material ranging from cast iron, tool steel, bronze, aluminum and plastic.

The gravity controlled down feed can be controlled by adjusting coil spring tension. Features include 0°-45° vise for angle and miter cutting an adjustable work stop. Saw is controlled by toggle switch.

SPECIFICATIONS

Capacity	5" Rounds
	5 x 6½" Rectangle at 90°
	6½ x ½" Rectangle at 90°
	5½" Square at 90°
	3 x 9" Rectangle at 45°
	3" Square at 45°
Blade speeds	80, 120 and 200 FPM
Blade size	½ x .025 x 64½"
Blade wheels	7⅜"
Overall dimensions:	
Head in Horizontal Position	36 x 14 x 17"
Head in Vertical Position	42 x 15½ x 56"
Weight	106 lbs

OPERATION

SAFETY PRECAUTIONS

WARNING: Always observe the following safety precautions.

- Whenever adjusting or replacing any parts on the band saw turn, switch off and remove plug from power source.
- Make sure the stops are positioned and that the automatic shut-off is operating.
- Check that the gear box has the proper amount of lubricant.
- Make sure the blade guides are positioned correctly.
- Use the appropriate blade for the workpiece that is being cut.
- Use a sharp blade. Replace dull blades or blades which are missing teeth.
- Make sure the blade is tensioned properly and going in the right direction.
- Use the proper blade speed for the work.
- For optimum performance, do not stall the motor or reduce the speed. Use the proper feed pressure.
- Secure the workpiece in a stable position.
- Check that all guards are attached.
- After turning the switch on, let the blade come to full speed. Then lower the blade onto the workpiece slowly.
- Keep hands away from the blade and all moving parts.
- Always wear eye protection or face shield.

HORIZONTAL STOP

Refer to Figure 15, page 14.

Horizontal stop bolt (Key No. 33) controls the position of the head at the end of the cut. Head should contact the horizontal stop when teeth are $\frac{1}{8}$ " below the surface of the workbed.

HORIZONTAL STOP ADJUSTMENT

Refer to Figure 15, page 14.

- Place head in the horizontal position.
- Loosen the nuts (Key No. 35) on the horizontal stop bolt. Adjust the horizontal stop bolt so that the teeth are $\frac{1}{8}$ " below the surface of the workbed.
- Tighten the nuts to lock the position.

AUTOMATIC SHUTOFF

The switch is shut off when the blade passes through the plane of the workbed. The switch should be shut off as soon as the cut is finished.

IMPORTANT: Make sure the action of the switch is not restricted by the horizontal stop.

LUBRICATION

Refer to Figure 16, page 16.

- All ball bearings are permanently lubricated and should not require further lubrication.
- If the tracking wheel or head pivot is disassembled for any reason, wipe off the old and reapply new grease before assembly.

- The drive gears run in an oil bath and will not require a lubricant change more often than once a year, unless the lubricant is accidentally contaminated or a leak occurs because of improper replacement of the gear box cover. During the first few days of operation, the worm gear drive will run hot. Unless the temperature exceeds 200° F, there is no cause for alarm.
- Under normal operation, gearbox oil should be replaced once a year.
- The gearbox is designed to take 6 ounces of Mobil 630 gear oil.
- To replace gearbox oil:
 1. Remove gearbox cover and drain old oil (there is no oil plug)
 2. Pour 6 ounces of fresh Mobil 630 gear oil in the gearbox.
 3. Install new gasket.
 4. Install gearbox cover and fully tighten all bolts.
- The seal between the gearbox and the cover plate is a gasket (Key No. 29). If cover plate is removed, the surface should be cleaned and a new gasket should be applied.

BLADE GUIDES

Band saw blade has to be twisted relative to the plane in which it rotates. Blade must be properly positioned relative to the workbed.

Blade guides hold the cutting portion of the blade in a plane which is perpendicular to both the workbed and the stationary vise and keep the blade in line with its natural path around the blade wheels.

Inner guide bearings on the upper and lower guide assemblies keep the blade in line with the blade wheels. Outer guide bearings keep the blade against the inner bearings.

Entire guide assembly is positioned at the factory to produce the proper twist and should not need adjustment, however, the position of blade guides should be checked often.

NOTE: Since the blade position is related to both table and the vise jaws, the relative position of the jaw to the table is important. When assembled, the stationary jaw must be perpendicular to the surface of the workbed.

CHECKING BLADE GUIDES

Refer to Figure 16, pages 16.

- Check that the blade teeth are perpendicular to the machined surface of the base.
- Spread the blade guides as far apart as possible.
- Check that vise jaws are parallel and set for 90° cutoff.
- Position the vise jaws to have the maximum separation that will not interfere with the blade guides.
- With the head in horizontal position, use a square against face of rear vise jaw and check that jaw is 90° to the side of blade.
- Check that the blade is in line with tracking and drive wheels (Key Nos. 11 and 50).
- Raise the head.

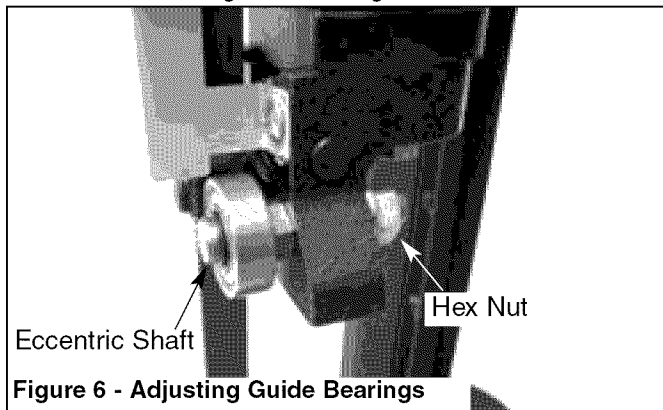
- Look straight on at the cutting edge of the blade.
- Make sure that the blade sides are parallel to the sides of the bearings.
- Make sure that blade guide bearings touch the blades and can still be rotated by hand.

ADJUSTING GUIDE BEARINGS

Refer to Figure 6.

If the blade is not perpendicular to the base or not in line with the blade wheels, adjustment is necessary.

NOTE: There should be .000-.001" clearance between the blade and the guide bearings.



The guide bearings are adjusted using an eccentric location system. The inner guide bearings are fixed and cannot be adjusted. The outer guide bearings are mounted to eccentric shafts and can be adjusted.

- Loosen hex nuts with a wrench. Rotate the eccentric shaft to locate bearings in desired positions.
- Maintain eccentric shaft position and tighten hex nuts.

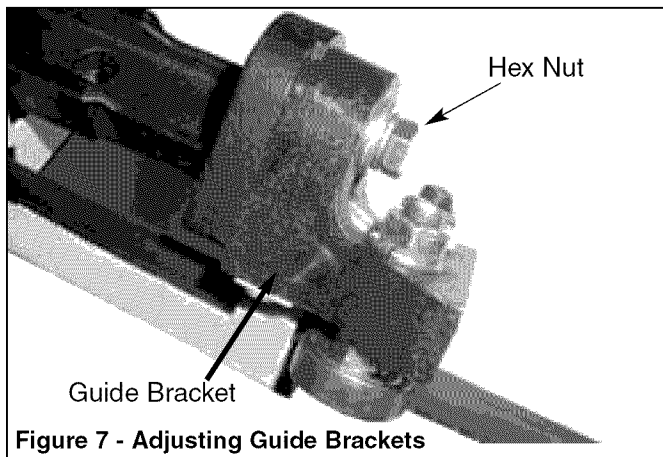
CHECKING THRUST BEARINGS

The thrust bearings should be .003-.005" (average thickness of a piece of paper) away from back of blade. The thrust bearings are adjusted by moving the guide bracket.

ADJUSTING GUIDE BRACKETS

Refer to Figure 7.

- If the bearings are positioned properly and the blade is not square, one or both blade guide brackets must be adjusted.



- Loosen the socket head bolt.
- Adjust the bracket to the correct position.
- Tighten the socket head bolt.
- Check the guide bearings. Repositioning the blade guide bracket can alter the previous adjustments. Readjust if necessary.

BLADE SELECTION

Using the proper blade is important for setting up the correct cutting conditions. Blades are made differently depending on the specific application intended for the blade. Some simple rules can still be applied to almost all blades.

Always remember to have at least three teeth in contact with the work during a cut. When three teeth are in contact, the blade cannot straddle the work. This prevents a tooth that enters the cut from encountering more material than it can remove.

- "Shocking" occurs when blade teeth contact too much material. This can strip the teeth from the blade.

When cutting harder materials, the suggested minimum number of teeth in contact is six because "shocking" on harder materials has a more detrimental effect on the blade. The optimum number of teeth in contact with the workpiece distributes the blade forces among more teeth to increase cutting efficiency and reduces blade wear. The optimum range is from 6-12 teeth in contact for soft materials, up to 12-24 teeth in contact for harder materials.

- Always have the maximum number of teeth in contact with the work to prevent the gullets of the teeth from being clogged.

When choosing a blade, the overall size of the work is not as important as the thickness average. The thickness average is the average width of the material which the blade will contact during each cut. Figure 11 describes how the thickness average should be calculated. The thickness average should be used when choosing a blade for the optimum number of teeth in contact, however, the three teeth rule should be applied to the minimum thickness, not the thickness average.

Keeping a selection of sharp blades on hand will yield better cuts. The blades may last longer because they are less likely to be misused when the proper blade is available.

Every band saw should have at least one replacement blade of each type used. Blade breakage is unpredictable. Consult a blade manufacturer for detailed information about available blades for specific uses.

REMOVING BLADE

Refer to Figure 16, page 16.

- Raise head to vertical position and open the blade cover.
- Loosen the outer guide bearings on the upper and lower guide assemblies. No other guide bearings should be moved.
- With one hand, pinch the blade and the tracking wheel together to protect against the possibility of the blade popping off when tension is released.

- Release the tension by slowly revolving the knob (Key No. 12 counterclockwise).
- Remove the blade.

REPLACING THE BLADE

- Make sure the outer guide bearings are loose.
- Make sure the teeth are pointing in the right direction (see Figure 8).

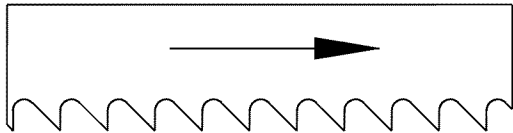


Figure 8 - Blade Direction

- Place the blade around the wheels and between the guide bearings.
- Hold the blade in position and apply tension.
- Push the blade against the wheel flange.
- Tighten the blade until it is properly tensioned. A properly tensioned blade will ring slightly when the back of the blade is plucked (like a string of an instrument).
- Adjust the outer guide bearings.
- Check for proper tracking (See Tracking Adjustment).

TRACKING

Proper tracking is achieved when the drive wheel and idler wheel are aligned. A blade that is not tracking correctly can come off the blade wheels. Although adjustment is rarely required, tracking should be checked frequently.

CAUTION: Turn motor off and disconnect power to check tracking.

CHECK TRACKING

Refer to Figure 9.

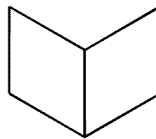
- Raise the head. Open the wheel cover.
- Insert a piece of paper between the blade and the left side of the idler wheel.
- Lift the belt cover and rotate the blade by turning the motor pulley.
- Let the blade grab the paper. Rotate the pulley so the paper goes around the wheel.
- Refer to Figure 9 to determine if an adjustment is needed.

TRACKING ADJUSTMENT

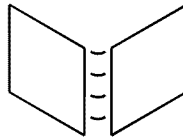
Refer to Figures 9 and 16, pages 8 and 16.

The tracking is adjusted by tilting the tracking wheel. The tilting is done with the set screw (Key No. 21) only if the upper socket head bolts (Key Nos. 9 and 19) are loose.

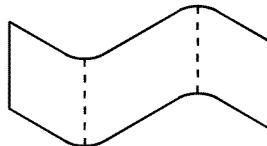
- Loosen the two socket head bolts.
- Adjust the tilt with set screw. For correct tracking, refer to Figure 9. Turn $\frac{1}{4}$ revolution at a time.
- Check the blade tension and adjust if necessary.
- Recheck the tracking.
- Once the proper position has been found, tighten the bolts securely.



A sharp fold indicates proper tracking.



Cut or ripped paper indicates that the blade is riding against the flange of the wheel. Adjusting screw needs to be turned counterclockwise.



No fold indicates the blade will ride off the wheel. Adjusting screw should be turned clockwise.

Figure 9 - Tracking Adjustments

BLADE SPEED

Refer to Figure 11, page 9.

- Choosing the proper blade speed is important for extending the life of the blade. The speed determines the available cutting force.

Harder materials require more force and are cut at a slower speed. Softer materials are cut with less force at higher speeds to ensure the proper removal of the chips. The speed and corresponding force are related to the power supplied to the blade. Three speeds are available.

CHANGING SPEEDS

When using your band saw always change the blade speed to best suit the material being cut. The chart below gives suggested settings for several materials.

MATERIAL	SPEED	BELT GROOVE USED	
		MOTOR	DRIVEN
Tool, Stainless or Alloy Steel Bearing Bronzes	80 FPM	Small	Large
Mild Steel, Hard Brass or Bronze	120 FPM	Medium	Medium
Soft Brass, Aluminum, other light materials	200 FPM	Large	Small

HELPFUL CUTTING HINTS

- Never use a new blade to complete a previous started cut.
- When possible, do not start a cut on sharp corners.
- After installing new blade, check tension after a few cuts.
- For correct blade tension, snap your finger against the blade. A slight "ring" will sound if blade tension is correct.
- The harder the material the slower the cutting speed.

- Most blade manufacturers have developed charts and specifications to determine the best blade for cutting various kinds and shapes of materials. Use these as a general rule. The thinner the stock, the finer the tooth pitch. Use the coarsest pitch possible consistent with the above. Also, **REMEMBER— A MINIMUM OF THREE TEETH MUST CONTACT MATERIAL AT ALL TIMES.**
- Use of cutting oil is recommended at higher blade speeds.

FEED PRESSURE

Correct feed pressure holds the blade in the cut. Feed pressure is supplied by the weight of the head. Maximum material removal rate corresponds with the proper pressure.

Optimum feed pressure ensures that maximum power is used for cutting. If the feed pressure is too low, the blade will not dig into the material properly. Too much feed pressure will cause the blade to dig too deeply, bogging down the motor, and possibly burning it out. In addition, blade “shocking” could result.

Extra energy will be used to produce powdered chips rather than smooth shavings; this will produce more heat and dull the blade.

CAUTION: Do not attempt to increase feed pressure by leaning on head.

REGULATING FEED PRESSURE

The rate of feed is pre-set at the factory to its lowest level.

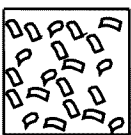
- To increase the feed, turn the feed adjustment handle (at left of base) counterclockwise.
- To decrease, turn clockwise.
- Do not adjust more than one turn at a time.

Proper feed is important; excessive pressure can break the blade or stall the saw. Insufficient pressure dulls the blade rapidly.

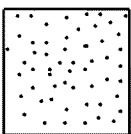
To determine if the feed is incorrect, examine the chips produced. When the blade is operating at the ideal feed for the speed, the chips will be curled and continuous. If the chips are thick and not continuous, the feed pressure should be reduced. If the chips are powdery, the feed pressure needs to be increased (Refer to Figure 10).



Curled shavings indicate correct feed pressure.



Thick discontinuous chips indicate too much pressure. Turn knob clockwise.



Powdery chips indicate too little pressure. Turn knob counterclockwise.

Figure 10 - Determine Feed Pressure

CUTTING FLUIDS

Using a cutting fluid can improve the cutting conditions and keep them more consistent throughout the cut by lubricating the blade, which reduces the friction between it and the workpiece.

POSITIONING

Refer to Figure 11.

The vise is designed to keep the workpiece steady while it is being cut. The vise should only have to counteract the cutting forces. Using the proper position will help produce a safe and accurate cut. These general rules about positioning apply to most situations.

- The workpiece should rest flat on the workbed without the need for side support. Some suggested configurations are shown in Figure 11.
- The entire length of the work should be supported. Do not balance the workpiece on the workbed. Use support stands to prevent the work from falling off after the cut.
- Avoid positions which will cause the blade to encounter sharp edges. If sharp corners cannot be avoided, file down the point that the blade will contact.

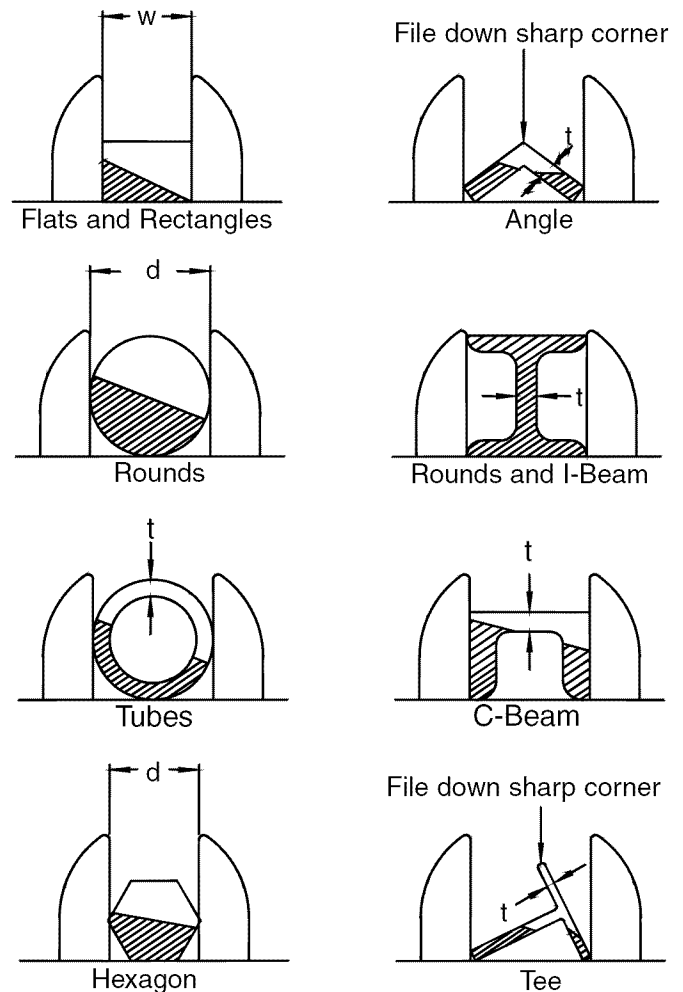


Figure 11 - Clamping Configurations and Thickness Average Calculation

WORK STOP ADJUSTMENT

Refer to Figure 15, page 14.

- Loosen the set screw (Key No. 15) holding the work stop (Key No. 41) to the work stop rod (Key No. 40).
- Adjust the work stop casting to the desired length position.
- Rotate the work stop to contact the workpiece as close to the bottom as possible.
- Tighten the set screw.
- Do not allow the blade to rest on the workpiece while the motor is shut off.
- Flats and rectangles have thickness averages of “W” (see Figure 11, page 9).
- Rounds and many sided regular cross-sections have thickness average of 0.75d.
- Tubes and structurals have thickness average of 2.5t.

NOTE: See Blade Selection for more information on thickness average calculation.

CHECK THE BLADE PATH

Before the saw is plugged in, check to see that blade path is clear and that:

- All blade guards are in place.
- There is no debris inside the blade guard or covers.
- There is no debris on the blade or blade wheels.
- All hoses and line cords are out of the blade path.

WARNING: Do not operate saw unless all guards are in place and the workpiece is the only object that will encounter the blade teeth.

CONVERTING FOR VERTICAL USE

Refer to Figure 12, 13 and 14.

Notching, slitting, contour work may be done with the saw in the vertical position in the following manner.

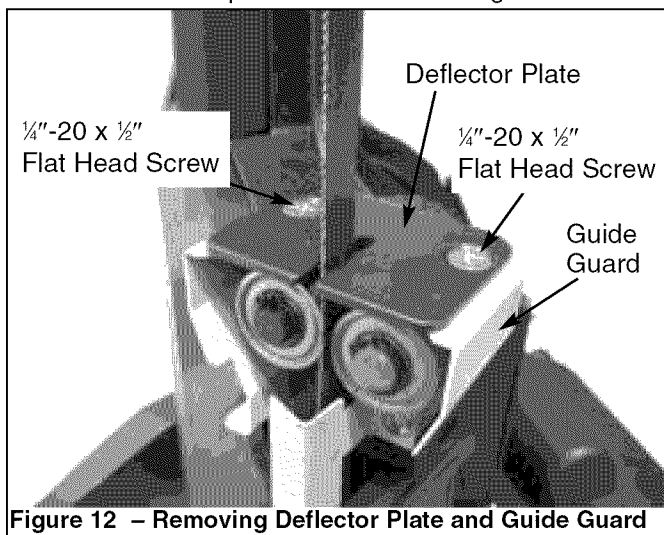


Figure 12 – Removing Deflector Plate and Guide Guard

- Rotate the head to the vertical position.
- Remove two 1/4"-20 x 1/2" flat head screws.
- Remove deflector plate and guide guard.

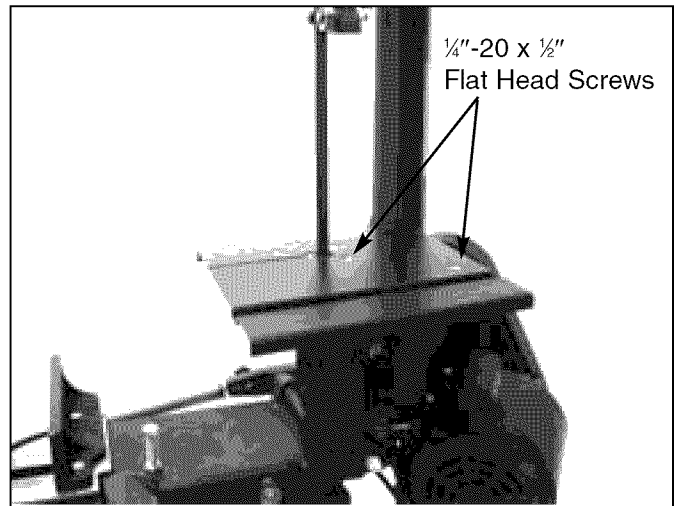


Figure 13 – Installing Vertical Table

- Place vertical table over guide bracket and secure with two 1/4"-20 x 1/2" flat head screws.

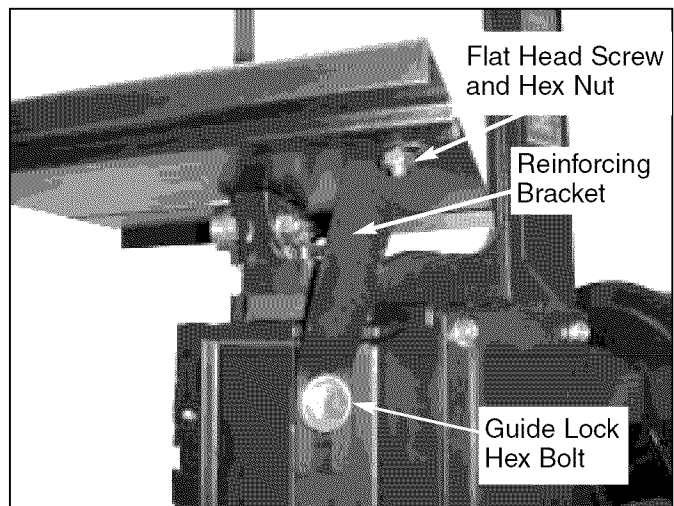


Figure 14 – Installing Vertical Table Reinforcing Bracket

- Attach one end of reinforcing bracket to vertical table with flat head screw and hex nut.
- Attach the other end of reinforcing bracket to head casting using guide lock hex head bolt and washer (see Figure 14).
- To adjust vertical table height loosen guide lock hex bolt, set table to required height and retighten guide lock hex bolt.

MAINTENANCE

Refer to Figure 15, page 14.

Steps required to keep the saw in optimum operating condition have been described under “Operating Instructions.” The Safety Precautions should be performed before operation.

For proper maintenance:

- Keep saw clean and dry. Sweep off spots where chips have collected.
- Lubricate the unpainted surfaces with a light application of medium consistency machine oil to prevent corrosion after cleaning.

- Grease the vise lead screw (Key No. 17) if vise action becomes difficult.
- Replace dull blades and blades from which teeth have been stripped. A clean saw with a sharp blade will yield the best cut.
- Internal parts of the band saw have been completely lubricated at the factory and do not need to be relubricated.
- Replace gearbox oil once a year with 6 oz. of fresh Mobil 630 gear oil.

WARNING: Make certain that the saw is disconnected from the power source before attempting to service or remove any component.

WARNING: Any attempt to repair the motor may create a hazard unless repair is done by qualified service technician.

Repair service is available at your nearest Sears Store.

TROUBLESHOOTING

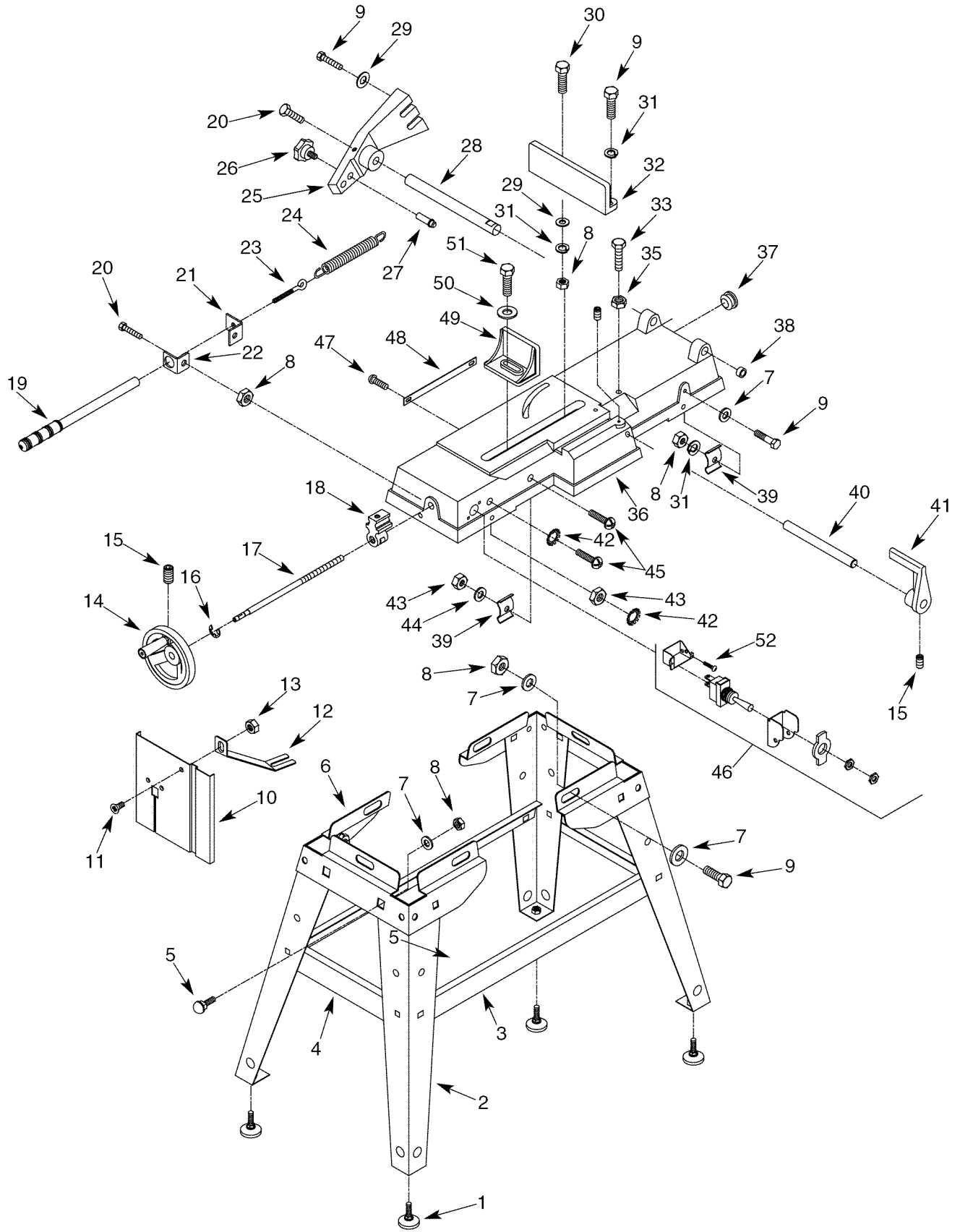
SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Blade cuts (crooked)	<ol style="list-style-type: none"> 1. Work not square 2. Feed pressure too great 3. Guide bearings not adjusted properly 4. Inadequate blade tension 5. Blade guides spaced out too much 6. Dull blade 7. Speed incorrect 8. Blade guide assembly loose 9. Blade guide bearing assembly loose 10. Blade tracks too far away from wheel flanges 11. Guide bearing worn 	<ol style="list-style-type: none"> 1. Adjust vise to be square with blade 2. Reduce pressure by increasing spring tension 3. Adjust guide bearings 4. Increase blade tension a little at a time 5. Move guides as close to work as possible 6. Replace blade 7. Check page 8 for recommended speeds 8. Tighten 9. Tighten 10. Track blade properly according to instructions under "Operation," page 8 11. Replace
Bad cuts (rough)	<ol style="list-style-type: none"> 1. Too much speed or feed 2. Blade has too few teeth per inch 	<ol style="list-style-type: none"> 1. Reduce speed or feed 2. Replace with finer toothed blade
Blade is twisting Unusual wear on side or back of blade	<ol style="list-style-type: none"> 1. Cut is binding blade 2. Blade guides worn 3. Blade guide bearings not adjusted properly 4. Blade guide bearings not adjusted properly 5. Feed pressure too great 	<ol style="list-style-type: none"> 1. Decrease feed pressure 2. Replace 3. Adjust guide bearings (see page 7) 4. Tighten bearings 5. Reduce feed pressure
Motor will not start	<ol style="list-style-type: none"> 1. No electrical power to motor 2. Low voltage 3. Defective On/Off switch; defective line cord 4. Open circuit in motor or loose connections 5. Motor protector open (only if your motor is equipped with an overload protector) 6. Burned out motor 	<ol style="list-style-type: none"> 1. Check electrical wiring to motor for continuity 2. Check power line for proper voltage 3. Replace defective parts before using band saw again 4. Inspect lead terminals on motor for loose or open connections 5. Reset protector after motor has cooled 6. Any attempt to repair this motor may create a hazard unless repair is done by an authorized Sears Service Center. Replacement motors are available
Motor will not start; fuses or circuit breakers blow	<ol style="list-style-type: none"> 1. Short circuit in line cord or plug 2. Short circuit in motor or loose connection 3. Incorrect fuses or circuit breakers in power line 4. Motor overloaded 	<ol style="list-style-type: none"> 1. Inspect line cord or plug for damaged insulation and shorted wires 2. Inspect all lead terminals on motor for loose or worn insulation on wires 3. Install correct fuses or circuit breakers 4. Reduce load on motor
Motor fails to develop full power (power output of motor decreases rapidly) with decreased voltage at motor terminals	<ol style="list-style-type: none"> 1. Power line overloaded 2. Undersized wires or cords too long 3. General overloading of power company's facilities 	<ol style="list-style-type: none"> 1. Reduce the load on the power line 2. Increase wire sizes or reduce length of cords 3. Request a voltage check from the power company

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Motor overheats	<ol style="list-style-type: none"> 1. Motor overloaded 2. Air circulation around motor restricted 	<ol style="list-style-type: none"> 1. Reduce load on motor 2. Clean motor to provide normal air circulation around motor
Motor stalls (resulting in blown fuses or tripped circuit breakers)	<ol style="list-style-type: none"> 1. Short circuit in motor; connections loose; or shorted terminals or worn insulation on lead wires 2. Low voltage 3. Incorrect fuses or circuit breakers 4. Motor overloaded 	<ol style="list-style-type: none"> 1. Inspect terminals in motor for damaged insulation and shorted wires 2. Correct the low line voltage conditions 3. Install correct fuses or circuit breakers 4. Reduce load on motor
Frequent opening of fuses or circuit breakers	<ol style="list-style-type: none"> 1. Motor overloaded 2. Incorrect fuses or circuit breakers 	<ol style="list-style-type: none"> 1. Reduce load on motor 2. Install correct fuses or circuit breakers
Motor problems in general	Various causes	To troubleshoot and service motor consult qualified technician
Teeth ripping from blade	<ol style="list-style-type: none"> 1. Teeth too coarse for work 2. Too heavy feed 3. Too slow speed 4. Vibrating workpiece 5. Gullets loaded 	<ol style="list-style-type: none"> 1. Use finer tooth blade 2. Decrease feed pressure 3. Increase speed 4. Clamp work securely 5. Use coarse tooth blade or use brush to remove chips
Motor running too hot	<ol style="list-style-type: none"> 1. Blade tension too high 2. Blade too coarse for work (pipes especially) 3. Blade too fine for work (heavier, soft material) 4. Gears need lubrication 	<ol style="list-style-type: none"> 1. Reduce tension on blade 2. Use finer tooth blade 3. Use coarser tooth blade 4. Check gearbox oil
Excessive blade breakage	<ol style="list-style-type: none"> 1. Material loose in vise 2. Incorrect speed or feed 3. Teeth too coarse for material 4. Incorrect blade tension 5. Teeth in contact with work before saw is started 6. Blade rubs on wheel flange 7. Misaligned guides 8. Blade too thick for wheel diameter 	<ol style="list-style-type: none"> 1. Clamp work securely 2. Check Machinist Handbook 3. Check Machinist Handbook for recommended blade type 4. Adjust to where blade just does not slip on wheel 5. Place blade in contact with work after motor is started 6. Adjust tracking 7. Adjust guide bearings 8. Use thinner blade
Premature blade dulling	<ol style="list-style-type: none"> 1. Teeth too coarse 2. Too much speed 3. Inadequate feed pressure 4. Hard spots or scale in/on material 5. Work hardening of material (especially stainless steel) 6. Blade installed backwards 7. Insufficient blade tension 	<ol style="list-style-type: none"> 1. Use finer tooth blade 2. Try next lower speed 3. Decrease spring pressure 4. Reduce speed, increase feed of saw 5. Increase feed pressure by reducing spring tension 6. Remove blade, twist inside out and reinstall blade 7. Increase tension to proper level

Model 351.214140

Figure 15 - Replacement Parts Illustration for Base and Stand



REPLACEMENT PARTS LIST FOR BASE AND STAND

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	25960.00	Foot	4
2	25961.00	Leg	4
3	25962.00	Long Brace	2
4	25963.00	Short Brace	2
5	STD533120	5/16"-18 x 1/2" Carriage Bolt	16
6	25964.00	Flange	2
7	STD551031	5/16" Flat Washer	30
8	STD541031	5/16"-18 Hex Nut	25
9	STD523110	5/16"-18 x 1" Hex Head Bolt	10
10	25965.00	Vertical Table	1
11	06634.00	1/4"-20 x 1/2" Flat Head Screw	1
12	25966.00	Support Bracket	1
13	STD541025	1/4"-20 Hex Nut	1
14	25967.00	Handle Wheel	1
15	00667.00	5/16"-18 x 5/16" Set Screw	2
16	01434.00	3CMI-10 Retaining Ring	1
17	25968.00	Lead Screw	1
18	25969.00	Lead Nut	1
19	25970.00	Feed Control Handle	1
20	STD523107	5/16"-18 x 3/4" Hex Head Bolt	3
21	25971.00	Bracket	1
22	25972.00	Bracket	1
23	25973.00	Eyebolt	1
24	25974.00	Spring	1
25	25975.00	Pivot Bracket	1
26	01057.00	Knob	1
27	25976.00	Head Lock Pin	1

KEY NO.	PART NO.	DESCRIPTION	QTY.
28	25977.00	Pivot Shaft	1
29	25936.00	Spacer	3
30	STD523115	5/16"-18 x 1 1/2" Hex Head Bolt	1
31	STD551131	5/16" Lock Washer	3
32	25979.00	Stationary Vise Jaw	1
33	STD524120	7/16"-14 x 2" Hex Head Bolt	1
34	STD503105	5/16"-18 x 1/2" Set Screw	1
35	STD541043	7/16"-14 Hex Nut	1
36	25980.00	Bed	1
37	25981.00	Grommet	1
38	25982.00	Spacer	1
39	25983.00	Cord Clamp	2
40	25984.00	Work Stop Rod	1
41	25985.00	Work Stop	1
42	STD551210	#10 Serrated Washer	2
43	STD541010	#10-24 Hex Nut	2
44	STD551010	#10 Flat Washer	1
45	STD511007	#10-24 x 3/4" Pan Head Screw	1
46	25989.00	Toggle Switch	1
47	STD511002	#10-24 x 1/4" Pan Head Screw	2
48	25990.00	Scale	1
49	25991.00	Movable Vise Jaw	1
50	STD551037	3/8" Flat Washer	1
51	STD523712	3/8"-16 x 1 1/4" Hex Head Bolt	1
52	25986.00	#8-16 x 1/2" Thread Forming Screw	2
Δ	25923.00	Operator's Manual	1

* Standard hardware item available locally

Δ Not Shown

REPLACEMENT PARTS LIST FOR HEAD

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	25925.00	Blade Cover	1
2	25926.00	¼-20 x ¾" Round Head Screw	3
3	25927.00	Blade 64½ x ½" x 14TPI	1
4	00533.00	3AMI-15 Retaining Ring	1
5	STD503103	⅜-18 x ¾" Set Screw	2
6	25928.00	Blade Guard, Left	1
7	02607.00	#10-24 x ¼" Round Head Screw	2
8	25929.00	Blade Guide Assembly (Left)	1
9	STD523707	⅜-18 x ¾" Hex Head Bolt	8
10	STD551031	⅜" Flat Washer	10
11	25930.00	Idler Wheel Assembly	1
12	25931.00	Tension Adjustment Knob	1
13	STD551037	¾" Flat Washer	3
14	25932.00	Spring	1
15	25933.00	Nut	1
16	25934.00	Guide Plate	2
17	25935.00	¼-20 x ⅝" Hex Head Bolt with Washer	9
18	25936.00	Spacer	2
19	STD523112	⅜-18 x 1¼" Hex Head Bolt	1
20	25937.00	Tension Block	1
21	00741.00	⅜-18 x ¾" Set Screw	2
22	03989.00	Knob	1
23	25938.00	Worm Gear Shaft Assembly	1
24	25939.00	15 x 35 x 7mm Oil Seal	1
25	25940.00	Bearing Cover	2
26	00739.00	#8-32 x ¾" Flat Head Screw	6

KEY NO.	PART NO.	DESCRIPTION	QTY.
27	25941.00	Gear Box Pulley	1
28	00730.00	½-12 x 1-½" Hex Head Bolt	2
29	25942.00	Gasket	1
30	25943.00	Gear Box Cover	1
31	STD551025	¼" Flat Washer	3
32	STD522503	¼-20 x ⅜" Hex Head Bolt	2
33	STD511005	#10-24 x ½" Pan Head Screw	1
34	STD541010	#10-24 Hex Nut	1
35	25944.00	Motor Pulley Cover Assembly	1
36	25945.00	Motor Cord	1
37	25946.00	Motor Pulley	1
38	00067.00	Line Cord	1
39	25947.00	6 x 5 x 25mm Key	1
40	25948.00	Motor	1
41	STD324220	V-Belt	1
42	25949.00	Knob	1
43	25950.00	Motor Mount Plate	1
44	STD541031	⅜-18 Hex Nut	4
45	STD523712	⅜-16 x 1¼" Hex Head Bolt	1
46	25951.00	Transmission Gear Assembly	1
47	25952.00	Head	1
48	25953.00	Blade Guide Assembly (Right)	1
49	25954.00	Blade Guard, Right	1
50	25955.00	Drive Wheel	1
51	00975.00	5 x 5 x 25mm Key	1
52	25956.00	Spacer	1
53	25957.00	Shut Off Bracket	1

* Standard hardware item available locally

△ Not Shown

Recommended Accessories		
△	64½ x ½" x 10/14 TPI Bimetal Blade	9-26625
△	64½ x ½" x 10/18 TPI Bimetal Blade	9-26626

NOTES

NOTES

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