

SAVE THIS MANUAL
FOR
FUTURE REFERENCE

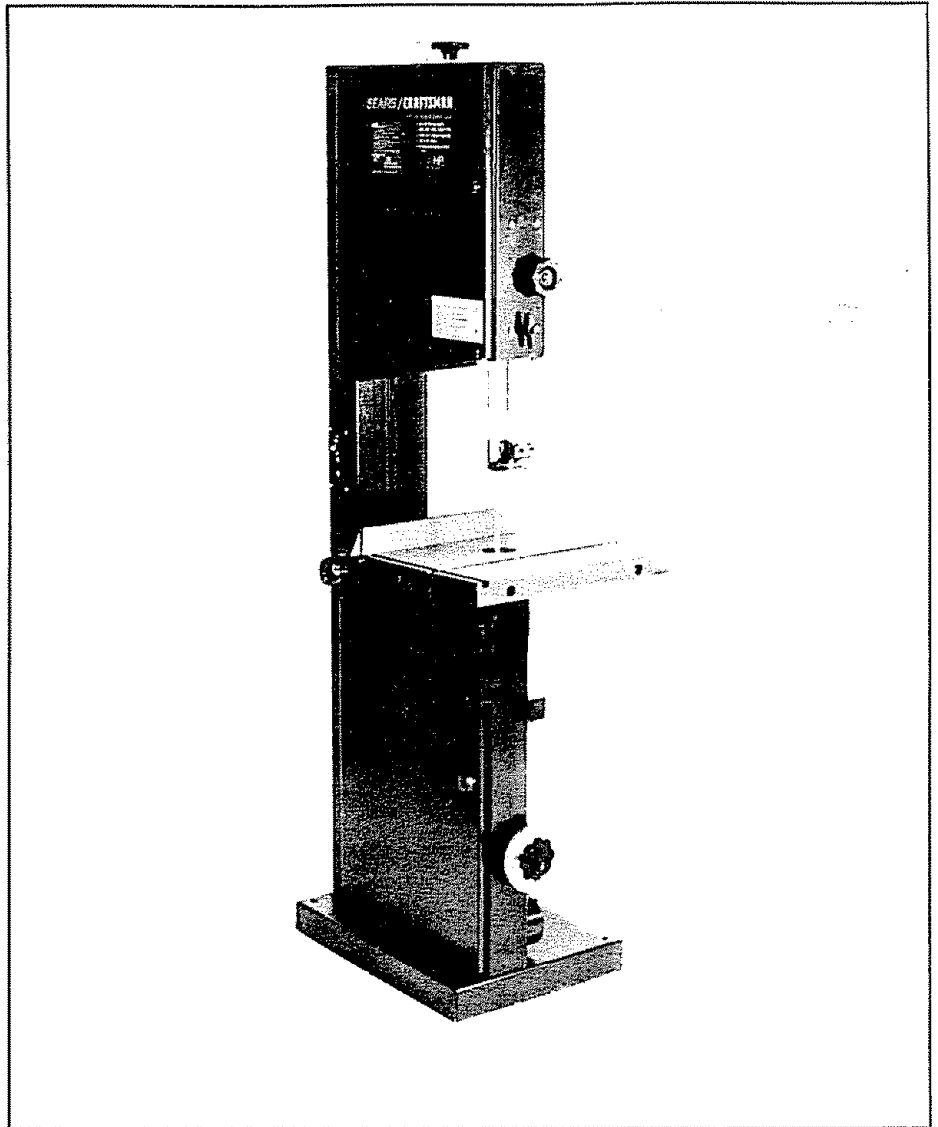
SEARS

OWNER'S
MANUAL

MODEL NO.
351.243951

CAUTION:

READ ALL
INSTRUCTIONS
CAREFULLY!



SEARS/CRAFTSMAN®

18" Band Saw Light Industrial Tool

- assembly
- operating
- repair parts

Sold by SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A. ©

Part No. 6666.03

April 1993

FULL ONE-YEAR WARRANTY ON SEARS/CRAFTSMAN 18" Band Saw

If, within one full year from the date of purchase this Sears Craftsman 18" Band Saw fails due to a defect in material or workmanship, Sears will repair it free of charge.

WARRANTY SERVICE IS AVAILABLE BY SIMPLY RETURNING THE BAND SAW TO THE NEAREST SEARS STORE OR SERVICE CENTER THROUGHOUT THE UNITED STATES.

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

SEARS, ROEBUCK AND CO., D/817 WA, 3333 Beverly Road, Hofman Estates, IL 60179

GENERAL SAFETY INSTRUCTIONS FOR POWER TOOLS

BEFORE ANY WORK IS DONE READ THE CAUTIONS LISTED BELOW CAREFULLY. WORKING SAFELY PREVENTS ACCIDENTS.

OPERATOR SHOULD BE PREPARED FOR JOB:

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

WORK AREA SHOULD BE READY FOR JOB:

- a. **Keep work area clean.** Cluttered work areas and workbenches invite accidents.
- b. **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.
- c. **Work area should be properly lighted.**
- d. **The proper electrical outlet** should be available for the tool. A three-prong plug should be plugged directly into a properly grounded, three-prong receptacle.
- e. **Extension cords** should have a grounding prong and the three wires of the extension cord should be the correct gauge.
- f. **Keep visitors a safe distance** from work area.
- g. **Keep children out of workplace.** Make workshop childproof. Use padlocks, master switches and remove starter keys to prevent any unintentional use of power tools.

SAW SHOULD BE MAINTAINED:

- a. **Always unplug band saw** prior to inspection.
- b. **Consult the owner's manual** for specific maintaining and adjusting procedures.
- c. **Keep band saw lubricated.**
- d. **Use sharp blades** and keep the saw clean for safest operation.

- e. **Remove adjusting keys and wrenches.** Form habit of checking to see that keys and adjusting wrenches are removed before turning on saw.
- f. **Keep all guards in place** and in working order.
- g. **Keep all parts in working order.** Check to determine that the guard or other parts will operate properly and perform their intended function.
- h. **Check for damaged parts.** Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other condition that may affect a tool's operation.
- i. **A guard or other part that is damaged should be properly repaired or replaced.** Do not perform makeshift repairs. (Use the parts list provided with owner's manual to order replacement parts.)

OPERATOR SHOULD KNOW HOW TO USE SAW:

- a. **Use the right tool for the job.** Do not force a tool or attachment to do a job for which it was not designed.
- b. **Disconnect saw from power** when changing blade.
- c. **Avoid accidental start-up.** Make sure that the saw is in the "off" position before plugging in.
- d. **Do not force a tool.** It will work most efficiently at the rate for which it was designed.
- e. **Use recommended accessories.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
- f. **Handle the workpiece correctly.** Use push sticks or push blocks when required. Protect hands from possible injury.
- g. **Turn the saw off if it jams.** A blade jams when it digs too deeply into the workpiece. (The motor force keeps it stuck in the workpiece.)
- h. **Never leave saw running unattended.** Turn the power off and do not leave saw until it comes to a complete stop.
- i. **Do not overreach.** Keep proper footing and balance.
- j. **Never stand on saw.** Serious injury could occur if saw is tipped or if blade is unintentionally contacted.
- k. **Keep hands away** from moving parts and blade.
- l. **Know your saw.** Learn its operation, application and specific limitations.

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WARNING LABEL

The 18" band saw has been marked with a warning label that needs to be observed for safe operation. The operator should be aware of the location and contents of this label.

This warning label is placed in a specific location so it is visible to the operator when starting and operating the saw.

WARNING	
FOR YOUR OWN SAFETY	
<ul style="list-style-type: none"> ■ Read and understand owner's manual before operating band saw. ■ Always wear eye protection. ■ Do not wear gloves, neckties, jewelry or loose clothing. ■ Mount saw securely to floor. ■ Maintain proper adjustment of blade tension, blade guides and thrust bearings. ■ Adjust upper guide to just clear workpiece. 	<ul style="list-style-type: none"> ■ Handle workpiece correctly. Hold workpiece against table. Use push sticks or push blocks when required. ■ Guards should be in place and used at all times. ■ Keep fingers out of path of blade. ■ Turn machine off if it jams. Do not remove jammed or cutoff pieces until the saw is turned off, unplugged and the blade has stopped.

SAFETY INSTRUCTIONS FOR 18" BAND SAW

Think safety! Safety is a combination of operator common sense and alertness at all times when the band saw is being used.

WARNING: DO NOT ATTEMPT TO OPERATE THE BAND SAW UNTIL IT IS COMPLETELY ASSEMBLED ACCORDING TO THE INSTRUCTIONS.

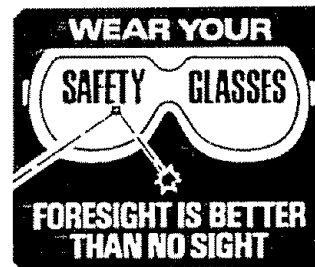
1. **KNOW GENERAL POWER TOOL SAFETY.** Make sure all precautions are understood and provided for (page 2).
2. **SECURE ALL FASTENERS.** Frequently check that nuts and bolts are tight and have not vibrated loose.
3. **FOLLOW OPERATING INSTRUCTIONS.** Operate the band saw as described in the manual.
4. **BE SURE MOTOR RUNS CLOCKWISE** facing shaft end. Blade must travel down toward the table.
5. **USE THE CORRECT SPEED.** The proper speed will produce the optimum cut.
6. **DO NOT FORCE THE CUT.** Slowing or stalling the motor will overheat it.
7. **DO NOT OVERHEAT THE WORKPIECE.** Excess heat at the cut can damage the blade and reduce the quality of the cut.
8. **AVOID DEFLECTING THE BLADE.** Adjust the blade guides to hold the blade properly. (See "Upper and Lower Blade Guides," pages 6 and 7.)

9. **AVOID SHOCKING THE BLADE.** Do not start a cut on a sharp corner. (See "Blade Pitch," page 7.)
10. **KEEP BAND SAW MAINTAINED.** Follow "Maintenance" instructions (page 9).
11. **DISCONNECT POWER.** Turn switch off and disconnect the power whenever band saw is not in use.

Caution: Be certain to follow proper operating procedures despite familiarity gained from frequent use of your band saw. Always remember that being careless for even a fraction of a second is sufficient time to inflict severe injury.

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 ANSI Z87.1 (shown on package) before commencing saw operation. Safety goggles are available at Sears retail or catalog stores.



MOTOR AND ELECTRICAL SPECIFICATIONS

MOTOR

The band saw is supplied with a motor. The 120 volt AC capacitor start motor has the following specifications:

Max. Developed Horsepower	2
Voltage	120
Amperes	7
Hertz	60
Phase	Single
RPM	1725
Rotation (viewed from shaft end)	Clockwise

POWER SOURCE

1. The motor is designed for operation on the voltage and frequency specified on motor nameplate.
2. Normal loads will be handled safely on voltages not more than 10% above or below nameplate voltage.
3. Running unit on voltages which are not within this range may cause overheating and motor burnout.

GROUNDING INSTRUCTIONS

WARNING: CHECK WITH A QUALIFIED ELECTRICIAN OR SERVICE PERSONNEL IF GROUNDING INSTRUCTIONS ARE NOT UNDERSTOOD OR IF IN DOUBT AS TO WHETHER BAND SAW IS PROPERLY GROUNDED. DO NOT PERMIT FINGERS TO TOUCH TERMINALS OF PLUGS WHEN INSTALLING OR REMOVING PLUG.

The band saw is provided with a 3-conductor cord and ground type plug which has a grounding prong approved by Underwriters Laboratories and the Canadian Standards Association.

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 current to reduce risk of electrical shock.

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 plug provided. If it will not fit in the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electrical shock.

The conductor with insulation having an outer surface which is green or yellow with green stripe is the equipment-grounding conductor.

If repair or replacement of the electrical cord or plug is necessary, make sure the equipment-grounding conductor is not connected to a line terminal.

EXTENSION CORDS

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

Extension Cord Length	Wire Size A.W.G.
Up to 50 ft.	16
50 - 100 ft.	14

NOTE: Using extension cords over 100 ft. long is not recommended.

UNPACKING

Check for shipping damage. If any damage or loss has occurred, immediately file a claim with the carrier.

IMPORTANT: TABLE AND RIP FENCE ARE COATED WITH A PROTECTIVE COATING WHICH MUST BE REMOVED FOR PROPER FIT AND OPERATION.

Remove coating with mild solvents such as mineral spirits and a soft cloth. Nonflammable solvents are recommended. After cleaning, cover all exposed surfaces with a light coating of oil. Paste wax is recommended for table tops.

Caution: Never use highly volatile solvents. Avoid getting cleaning solution on paint, rubber or plastic parts as it may tend to deteriorate these finishes. Use soap and water on paint, plastic or rubber components.

Band saw comes assembled except for following parts:

1. Table is shipped in a box next to saw
2. Motor is shipped in a box next to saw

3. Motor pulley V-belts are shipped behind upper cabinet door

Parts shipped in a separate box within crate:

4. Rip fence and rip fence knob
5. 120 Volt plug, 2 each wire nuts, and strain relief
6. 2 Each band saw mounting brackets
7. Motor mount bracket
8. Standard and wide table inserts
9. Miter gauge assembly
10. Handwheel, handle, 6-1.0 x 8mm set screw and extra long 3mm hex wrench
11. Hex pin for table
12. 4 Each 5/16-18 x 3/4", 8 each 5/16-18 x 1" and 1 each 5/16-18 x 1 1/8" hex head bolts
13. 20 Each 5/16" and 4 each 8mm flat washers
14. 12 Each 5/16" and 4 each 8mm lock washers
15. 4 Each 8mm-1.25 x 25mm hex head bolts
16. 9 Each 5/16"-18 hex nuts

ASSEMBLY

MOUNT MOTOR

Refer to Figure 2.

NOTE: Do not mount motor pulley to motor until motor is mounted to saw.

1. Mount motor (Key No. 1) to motor mount bracket (Key No. 2) using four each 5/16-18 x 1" hex head bolts (Key No. 6), eight each flat washers (Key No. 7) and four each lock washers (Key No. 8). Be sure to mount motor to bracket using holes in motor base as shown in Figure 2.
2. Mount motor mount bracket to band saw base using four each 8mm-1.25 x 25mm hex head bolts (Key No. 3), four each 8mm lock washers (Key No. 4) and four each 8mm flat washers (Key No. 5).

Refer to Figure 4.

3. Slide motor pulley (Key No. 38) onto motor shaft with motor key in motor shaft groove and motor pulley groove. Align motor pulley with step pulley (Key No. 32) using a straight edge so that V-grooves in motor pulley are aligned with V-grooves in step pulley. Secure motor pulley with two set screws (Key No. 40).
4. Slide belt tension handwheel (Key No. 51) onto belt tension shaft (Key No. 52) and secure handwheel with set screw (Key No. 55) using 3mm hex wrench. Thread handle (Key No. 53) into handwheel.

5. Mount motor V-belt (Key No. 38) on motor pulley and step pulley. Tension V-belts by rotating tension handwheel.

Refer to Figure 5.

6. Mount table using four each 5/16-18 x 3/4" hex head bolts (Key No. 12), four each lock washers (Key No. 13) and four each flat washers (Key No. 14). Do not tighten bolts. Press the standard insert (Key No. 2) into hole on top of table with beveled slot aligned parallel with slot in table. Position table so that blade is centered with insert slot and blade is parallel with miter gauge slot. Secure table by tightening four each 5/16-18 x 3/4" hex head bolts.
7. Thread 5/16"-18 hex nut (Key No. 16) onto 5/16-18 x 1 1/8" hex head bolt (Key No. 15). Thread bolt into threaded hole on bottom left side of table. Adjust table perpendicular to blade using a square and rotate 5/16-18 x 1 1/8" bolt so that it holds table in perpendicular position. Rotate hex nut against table to secure bolt.
8. Mount two each mounting brackets (Key No. 24) to holes on front side of band saw base using four each 5/16-18 x 1" hex head bolts (Key No. 25), eight each flat washers (Key No. 14), four each lock washers (Key No. 13) and four each 5/16"-18 hex nuts (Key No. 16). Secure mounting brackets to floor using two each anchor bolts (not supplied).

ELECTRICAL CONNECTIONS

WIRING MOTOR

WARNING: ALL ELECTRICAL CONNECTIONS MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN.

Refer to Figure 2.

The motor (Key No. 1) should be wired for 120 volts and clockwise rotation as viewed from shaft end of motor.

A schematic supplied with motor will describe proper wiring procedures.

Refer to Figure 3.

Wire motor line cord (Key No. 6) to motor using strain relief (Key No. 8) and two wire nuts (not shown).

Mount strain relief to motor connection box by removing a "knock-out" on connection box and locking the strain relief through "knock-out" hole with strain relief nut.

Pass motor cord through strain relief and secure cord with screw and nut on strain relief.

Wire motor with wire nuts provided. Be sure to ground motor with green grounding wire in motor cord.

INSTALL PLUG

Refer to Figure 3.

Wire line cord to plug (Key No. 9) provided. Be sure to ground plug using green grounding wire in line cord.

OPERATING INSTRUCTIONS

The 18" Band Saw is a versatile cutting tool and provides four different cutting speeds so the saw can be used to cut a variety of materials. The band saw offers convenient tensioning and tracking so changing blades is not cumbersome. The band saw can accommodate blade widths up to 1" for many types of cuts.

WARNING: ALWAYS OBSERVE THE FOLLOWING SAFETY PRECAUTIONS.

Use proper blade for workpiece. Make sure blade guides are positioned and adjusted correctly.

Check to make sure blade is tensioned correctly. Be sure blade is tracking correctly. Align table to blade.

Choose the proper speed for cutting operation.

After turning on saw, allow blade to come to full speed before attempting any cutting operation.

Support workpiece properly. Use a smooth steady feed to guide work through cut.

Keep hands away and out of line with moving parts.

Always wear eye protection.

OPERATING INSTRUCTIONS (Continued)

REMOVING BLADE

Refer to Figure 4.

The 18" Band Saw is designed for convenient blade changing. The table is provided with a slot which allows the blade to be removed without disturbing the table.

Remove the stud so it will not obstruct removal of blade.

Loosen lever (Key No. 17) which locks tracking knob (Key No. 16).

Loosen blade tension by rotating handwheel (Key No. 15).

When removing blade be careful because blade may spring from saw when tension is released. The released blade can be removed and replaced with another blade.

INSTALLING BLADE

To replace the blade, the table stud must be removed as described in "Removing Blade" above.

Although many of the adjustments may not be altered when the blade is removed, every adjustment should be checked prior to using a newly installed blade.

Follow safety precautions which should be observed every time the band saw is turned on.

Make sure the blade teeth are pointing in the correct direction. Blade teeth must point down. Turn blade inside out if necessary.

Center the blade on the blade wheel. Tension and track the blade as described in the following sections.

NOTE: Do not use a new blade to complete a previously started cut.

TENSIONING BLADE

Refer to Figure 4.

Tension blade by turning the handwheel (Key No. 15). Be sure blade guides are not interfering with the path of the blade.

Tighten blade until it is properly tensioned. A properly tensioned blade will ring slightly when back of blade is plucked. (Like a string on an instrument)

NOTE: CHECK THE TENSION OF A NEW BLADE. ADDITIONAL TENSION MAY BE REQUIRED AFTER A FEW MINUTES OF OPERATION.

TRACKING BLADE

Refer To Figure 6.

Track the blade after it has been tensioned.

Proper tracking is achieved when drive wheel and idler wheels are aligned.

The knob (Key No. 16) is used to tilt tracking bracket (Key No. 6) and align blade wheels.

A change in tension of blade will affect wheel alignment. Turn idler wheel (Key No. 4) by hand and observe how blade rides on the wheels.

If blade tends to ride out of the cabinet, turn knob clockwise to tilt idler wheel up.

If blade tends to ride into the cabinet, turn tracking knob counterclockwise to tilt idler wheel down.

When blade is tracking properly, lock the position by holding the knob and tightening the lever (Key No. 17) against the cabinet.

ALIGNMENT OF DRIVE WHEEL

Refer to Figure 4.

A blade under high tension may also pull drive wheel out of alignment.

Alignment of drive wheel can be adjusted with hex bolts (Key No. 27).

Lock position with nuts (Key No. 28).

NOTE: Only attempt adjusting drive wheel alignment if blade cannot be properly tracked with tracking adjustment alone.

BLADE GUIDES

Refer to Figure 6.

Blade guides support the band saw blade at sides and the rear of blade. The blade guides should be adjusted to prevent twisting and deflection of blade.

Blade guides should not touch blade when no material or workpiece is in contact with the blade. Guides need to be adjusted as described below.

UPPER BLADE GUIDES

Refer to Figure 6.

The upper blade guides employ two ball bearing sets on adjusting pins for side support and a thrust bearing on an adjusting pin at the rear.

The guide depth bracket (Key No. 26) should be positioned so bearing on either side of blade will support as much of blade width as possible without interfering with the tooth set.

Adjust guide depth bracket by loosening bolt (Key No. 11) and sliding bracket into position.

Secure position of upper guide casting by tightening bolt. Adjust guide bearings to the side of the blade with a hex wrench.

Use a feeler gauge to check that the bearing is about 0.002" away from the blade.

Lock the adjustment by tightening the bolt and nut (Key Nos. 34 and 13).

Loosen handle (Key No. 23) and push adjusting pin to set thrust bearings 0.002" away from back of the blade.

Secure the position of the rear bearing by tightening handle.

Adjust height of the upper guide bearings to clear the workpiece by 1/4".

Loosen knob (Key No. 1) and reposition rack within guides.

Tighten knob to secure position on height adjustment.

OPERATING INSTRUCTIONS (Continued)

LOWER BLADE GUIDES

Refer to Figure 6.

The lower blade guide employs two guide blocks for side to side support.

The lower guide bracket is spaced close to table surface to minimize unsupported length of blade.

Loosen nut (Key No. 27) to position the lower guide bracket on the alignment block (Key No. 33).

Adjust the lower guide bracket so the block does not interfere with the blade set.

Loosen set screws for guide blocks and adjust blocks to about 0.002" from each side of blade.

Adjust bearing (Key No. 19) at rear of blade by loosening the knob (Key No. 32).

ALIGN TABLE

To perform any straight cut accurately, table must be aligned to the blade.

Once blade is tensioned and tracked correctly, the table can be adjusted to it.

Lock table in horizontal position. Attach rip fence to the table and push it against the blade.

Make sure rip fence and blade are parallel.

If table is not aligned, loosen four hex nuts which attach table to upper trunnion and reposition the table.

Secure table position with four hex bolts when it is aligned. (Review "Assembly," Number 6.)

BLADE SELECTION

Blades vary depending on type of material to be cut, size of the workpiece and type of cut that is being performed. Characteristics which make blades different are width, thickness, type of tooth and blade pitch.

The width of blade describes the distance from tip of a tooth to back of blade.

Width of blade will affect rigidity of blade. A wider blade will wander less and produce a straighter cut.

Width of blade also limits the smallest radius which can be cut. A 1/4" wide blade can cut about a 1" diameter.

Blade thickness describes distance between sides of blade. A thicker blade has more rigidity and stronger teeth.

The narrow thick blade would be used to cut curves in metal, while a wide thin blade would be used to re-saw lumber.

Blade manufacturers should be able to supply information about blades for specific applications.

TYPE OF TOOTH

The shape of teeth are varied to achieve specific cutting results.

A blade cuts the work by removing material.

The blade must scrape a chip of the workpiece away from the cut.

The shape of gullet between teeth determines how much material can be taken out with each blade tooth.

Rake angle is the angle which the cutting face of the tooth makes with a line perpendicular to the back of blade.

A 0° rake angle is used to scrape harder materials away from the cut.

A positive rake angle causes the blade to dig aggressively into the workpiece.

Softer materials require more aggressive chip removal.

Larger gullets provide for faster removal but have to be limited in size because they make the blade teeth weaker.

Blade teeth will also vary in the way which the teeth have been set from one side to the other.

A wider set is used for contour work because the wider kerf allows the operator to cut tighter curves.

BLADE PITCH

Pitch describes number of teeth per inch or tooth size. Blades with more teeth per inch will produce smoother cuts.

The type of material being cut determines number of teeth which should be in contact with work. There should always be at least three teeth in contact with the cut to avoid shocking the blade.

Blade shocking occurs when the pitch is too large and the blade tooth encounters too much material. This can strip teeth from the blade.

When the pitch is too small the gullets of the teeth will fill up, leading to the creation of excess heat for the blade.

In soft materials the proper blade has between 6 and 12 teeth per inch.

In cutting hard materials, where shocking is more detrimental, there should be between 12 and 24 teeth per inch.

BLADE SPEED

The amount of force that the blade cuts with is determined by blade speed.

High cutting speeds are used on soft materials where less force is needed and a high rate of material removal is desired.

Low cutting speeds are used on hard materials where more force is required.

To change the blade speed, position the V-belts in the proper configuration as indicated (see Figure 1).

Reposition the V-belts and tension them as described in the next section.

OPERATING INSTRUCTIONS (Continued)

BLADE SPEED (FPM)

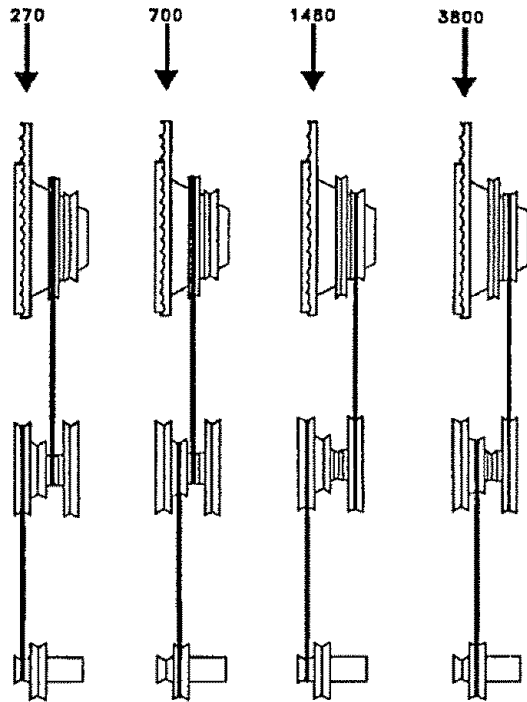


Figure 1

FPM

- 270 - Steel, bronze
- 700 - Brass, copper
- 1480 - Hard woods, plastic
- 3800 - Soft woods, other light materials

REPOSITIONING V-BELTS

Refer to Figures 1 and 4.

The band saw uses a two-belt drive system to provide a selection of blade speeds (see Figure 1).

Idler pulley (Key No. 32, Figure 4) is fastened to tension arm (Key No. 33) so both belts can be tensioned at the same time.

Position tension arm by revolving handwheel (Key No. 51). Loosen the V-belts by rotating the handwheel counterclockwise.

When the V-belts are loose, position them to desired configuration (see "Blade Speed," and Figure 1) and tighten by rotating the handwheel clockwise.

Belts are properly tensioned when light pressure applied between the pulleys produces about 1/2" deflection.

Do not overtighten V-belts. Excessive tension on V-belts will reduce available cutting force.

TYPE OF CUT

Band saw can be used to perform a variety of cuts. Cutting procedure used depends on size and desired shape of cut.

Rip fence is used to guide workpiece to produce straight cuts on longer pieces.

Miter gauge is used to produce angle cuts.

Contour cutting is done by guiding workpiece free-handed to produce curved shapes.

Beveled cutting can be done with any proper work guide method by tilting the table.

Regardless of which method of guiding the work is used, a workpiece which overhangs the table by more than 10" should be supported by freestanding material stands.

RIP FENCE OPERATION

Refer to Figure 5.

Rip fence can be used to guide workpiece with one square edge past blade when table is aligned properly.

Set the rip fence to the desired width of cut on the inside of the throat. Do not forget about the saw kerf. Use a square to measure from tip of a tooth to fence. Lock fence securely with knob (Key No. 14).

The portion of material between blade and fence is considered the workpiece. Material on outside and behind the cut is scrap material which is being cut off.

Use right hand to keep work against fence. Do not push on scrap portion of work. This could pinch or bind blade.

Avoid passing hands beyond the cut. Use push sticks to finish cuts and pass the workpiece away from the blade.

MITER GAUGE OPERATION

Use miter gauge for securing and holding workpiece at desired angle to produce angled cuts. Use scale to adjust gauge to desired angle.

Caution: Never use miter gauge and rip fence at the same time. Workpiece may bind blade damaging workpiece and injuring operator.

CONTOUR SAWING

When contour sawing, both hands must be used to keep workpiece flat against the table and guided along desired path.

Avoid positioning hands in line with blade. Hands could contact blade if they slip.

Try to stand to front of saw and use hands over portion of table which is to the right of blade and before the cut.

Do not attempt sharp corners which may twist or bind the blade. Cut small corners by sawing around them. Saw to remove smaller pieces of scrap until desired shape is obtained.

BEVEL CUTTING

Refer to Figure 5.

Perform any saw operation at a bevel by tilting table. Loosen knob (Key No. 8, Figure 5) to tilt table to desired position. Use a square or protractor to set angle and lock table in position with knob.

Use caution when supporting work while bevel cutting. Do not allow work to hang on blade.

OPERATING INSTRUCTIONS (Continued)

DUST COLLECTION

Refer to Figure 4.

Sawdust or metal shavings will fall into the lower cabinet of the saw.

The saw is fitted with a 4" male dust chute (Key No. 45) for attachment to a dust collector.

Use a dust collector with a 4" diameter hose to create the proper suction to remove debris from inside the lower cabinet.

The particles which collect on the drive wheel may affect the band saw's operation.

Make sure that the brush (Key No. 25) is in contact with the wheel to properly remove foreign particles from the drive wheel.

Caution: Check that the lower cabinet is free of sawdust before performing any metal cutting operations. This is a possible fire hazard.

MAINTENANCE

CLEANING

Keep machine and workshop clean.

Do not allow sawdust or metal shavings to accumulate on the band saw.

Keep wheels clean.

Debris on wheels will cause poor tracking and blade slippage.

Keep mechanism's threaded or sliding surfaces free of foreign particles.

Operate the band saw with a dust collector to minimize clean up.

LUBRICATION

The shielded ball bearings are permanently lubricated when manufactured and require no further lubrication.

Small amounts of machine oil can be applied to mechanism's threaded or sliding surfaces.

Occasionally apply a coat of automobile type wax to the table to keep it slick and corrosion free.

KEEP BAND SAW IN REPAIR

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

Replace V-belts and blade when they are worn.

Replace any damaged or missing part.

Use the parts list to order parts.

RECOMMENDED ACCESSORIES (Catalog Items)

REPLACEMENT BLADES

FOR	L x W INCH	TEETH PER INCH	CATALOG NUMBER
Wood	133 x 3/4	4	926656
Metal	133 x 3/4	10	926657
Metal	133 x 3/4	14	926658

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION(S)
Excessive blade breakage	<ol style="list-style-type: none"> 1. Material not secure on table 2. Incorrect speed or feed 3. Blade 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. Mis-aligned guides 8. Blade too thick for wheel diameter 9. Cracking at weld 	<ol style="list-style-type: none"> 1. Squarely place work on table 2. Check Machinist Handbook for recommended speed or feed 3. Check Machinist Handbook for recommended blade type 4. Adjust blade properly 5. Place blade in contact with work after saw has reached full speed 6. Adjust wheel alignment properly 7. Adjust blade guides properly 8. Use thinner blade 9. Replace blade
Premature blade dulling	<ol style="list-style-type: none"> 1. Blade too coarse 2. Too much speed 3. Inadequate feed pressure 4. Hard spots or scale in or on material 5. Work hardening of material 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. Gently increase pressure 4. Reduce speed, increase rate of feed (scale) Change blades (hard spots) 5. Increase rate of feed 6. Remove blade, twist inside out and reinstall blade 7. Increase tension to proper level
Crooked cuts	<ol style="list-style-type: none"> 1. Work not square 2. Rate of feed too great 3. Guide blocks not adjusted properly 4. Inadequate blade tension 5. Upper blade guide too far from workpiece 6. Dull blade 7. Speed incorrect 8. Blade guide assembly loose 9. Blade thrust bearing not adjusted properly 	<ol style="list-style-type: none"> 1. Use rip fence; adjust tilt of table at 90° to blade 2. Reduce rate of feed 3. Move both guide blocks within 0.002" to blade (use gauge) 4. Increase blade tension properly 5. Adjust upper guide to clear workpiece by 1/4" 6. Replace blade 7. Check Machinist Handbook for recommended speeds 8. Tighten blade guide assembly 9. Move blade thrust bearing within 0.002" behind blade back
Rough cuts	<ol style="list-style-type: none"> 1. Too much speed or feed 2. Blade too coarse 	<ol style="list-style-type: none"> 1. Reduce speed or feed 2. Replace with finer blade
Blade is twisting	<ol style="list-style-type: none"> 1. Cut is binding blade 	<ol style="list-style-type: none"> 1. Decrease feed pressure
Unusual wear on side/back of blade	<ol style="list-style-type: none"> 1. Blade guide blocks or bearings worn 2. Blade guide blocks or bearings not adjusted properly 3. Blade guide blocks or bearing bracket loose 	<ol style="list-style-type: none"> 1. Replace 2. Adjust as per "Lower Blade Guides," page 7 3. Tighten properly
Teeth ripping from blade	<ol style="list-style-type: none"> 1. Teeth too coarse for work 2. Feed too heavy 3. Vibrating workpiece 4. Teeth filling with material 	<ol style="list-style-type: none"> 1. Use blade with finer teeth 2. Decrease feed rate 3. Hold workpiece firmly 4. Use blade with coarser teeth
Motor running too hot	<ol style="list-style-type: none"> 1. Blade tension too great 2. Drive belt tension too great 3. Blade too coarse for work (typical when cutting pipe) 4. Blade too fine for work (typical when cutting either thick or soft material) 5. Excessive dirt and sawdust 	<ol style="list-style-type: none"> 1. Reduce tension on blade 2. Reduce tension on drive belt 3. Use blade with finer teeth 4. Use blade with coarser teeth 5. Clean thoroughly; vacuum motor and belt area

SERVICE RECORD

DATE	MAINTENANCE PERFORMED	COMPONENTS REQUIRED

REPLACEMENT PARTS ILLUSTRATION FOR MOTOR

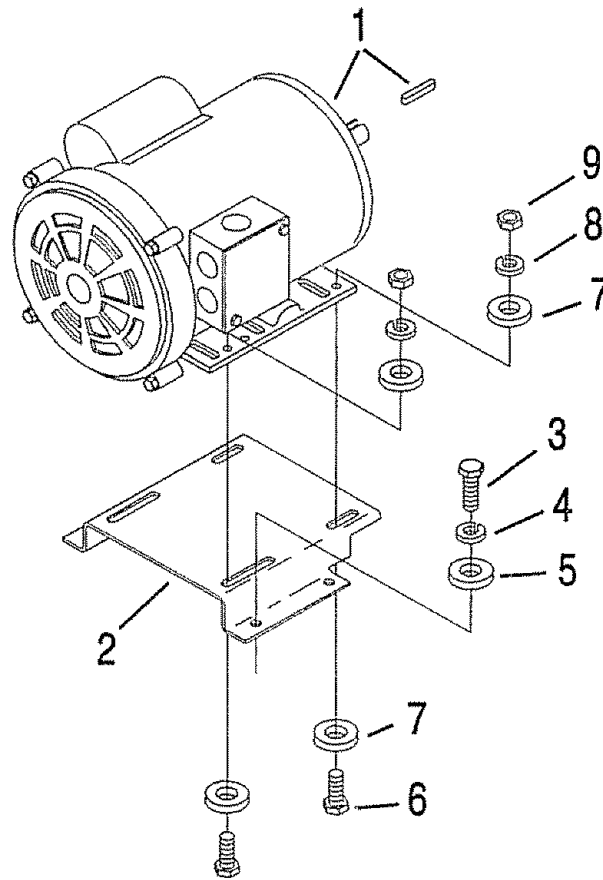


Figure 2 - Motor Illustration

REPLACEMENT PARTS LIST FOR MOTOR

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	6501.00	Motor with key	1
2	5596.01	Motor mount bracket	1
3	0302.00	8-1.25 x 25mm Bolt, hex head	4
4	1333.00	8mm Washer, lock	4
5	0695.00	8mm Washer, flat	4
6	STD523110	* 5/16"-18 x 1" Bolt, hex head	4
7	STD551031	* 5/16" Washer, flat	8
8	STD551131	* 5/16" Washer, lock	4
9	STD541031	* 5/16"-18 Nut, hex	4

* Standard hardware item available locally.
Always order by Part No. not by Key No.

REPLACEMENT PARTS ILLUSTRATION FOR SWITCH

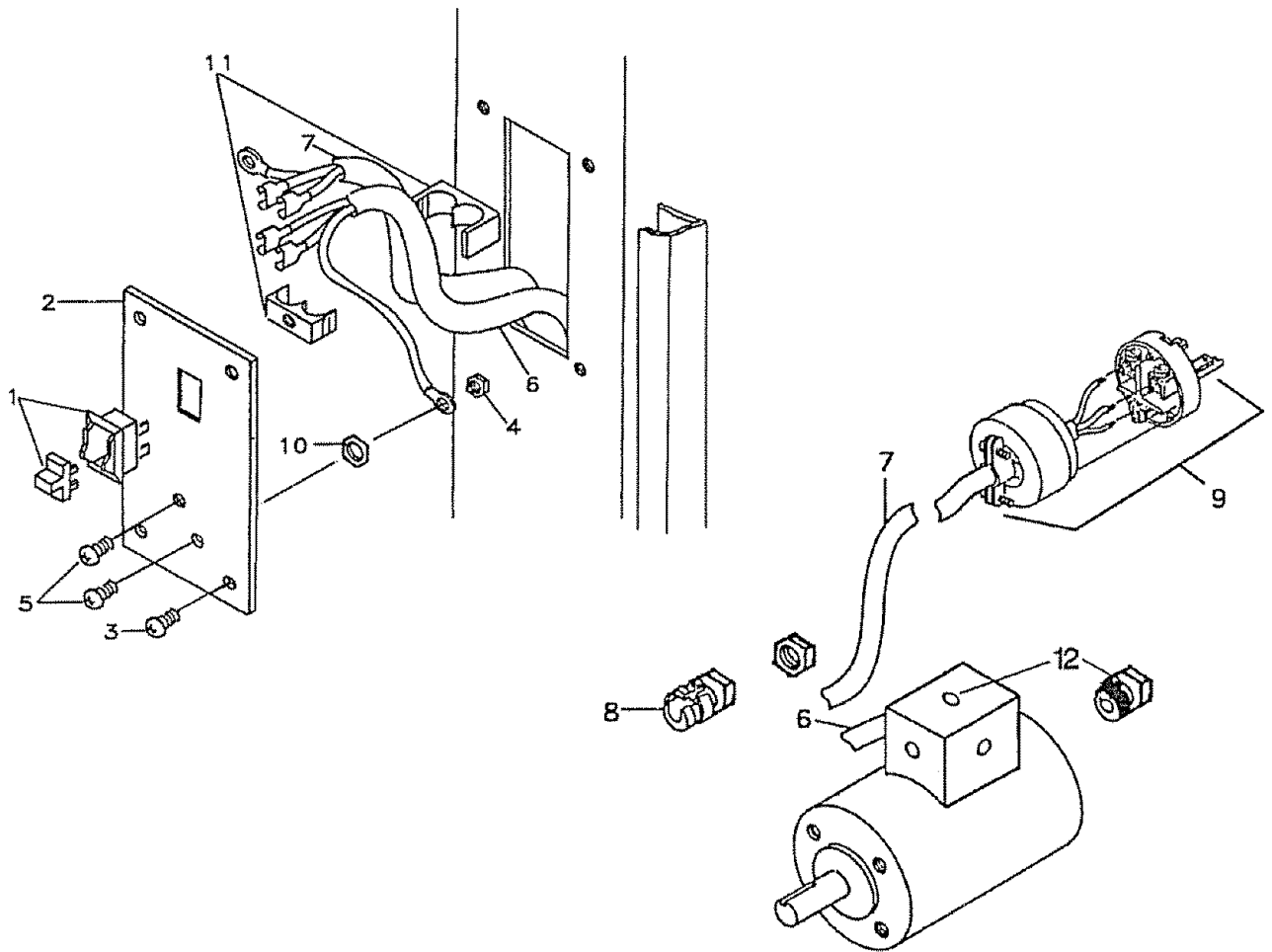


Figure 3 - Switch Illustration

REPLACEMENT PARTS LIST FOR SWITCH

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	0423.00	Switch with key	1
2	5426.00	Switch plate	1
3	5167.00	4-.70 x 10mm Screw, flat head	4
4	STD840610	* 6mm-1.0 Nut, hex	2
5	5441.00	6-1.0 x 16mm Screw, flat head	2
6	5427.00	Line cord (switch to motor)	1
7	5428.00	Line cord (power to switch)	1
8	7256.00	Strain relief	2
9	5597.00	Plug	1
10	2820.00	6mm Washer, serrated	3
11	5442.00	Strain relief	1
12	0582.00	Strain relief	1

* Standard hardware item available locally.
Always order by Part No. not by Key No.

REPLACEMENT PARTS ILLUSTRATION FOR BLADE DRIVE

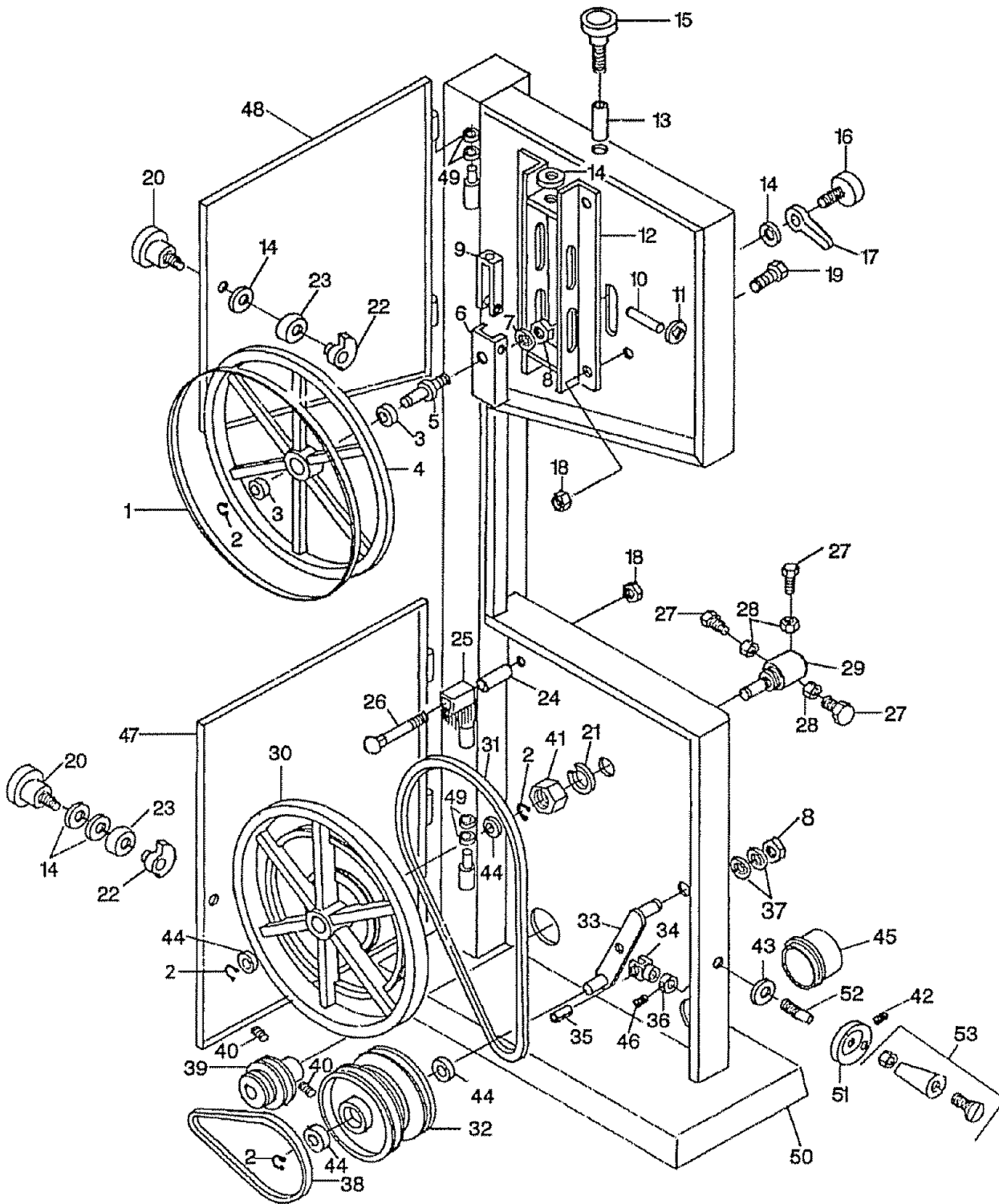


Figure 4

REPLACEMENT PARTS LIST FOR BLADE DRIVE

KEY NO.	PART NO.	DESCRIPTION	QTY.	KEY NO.	PART NO.	DESCRIPTION	QTY.
1	5101.00	Tread	2	27	STD833020	* 6-1.0 x 20mm Bolt, hex head	4
2	0341.00	17mm Retaining ring, external	4	28	STD840610	* 6mm-1.0 Nut, hex	4
3	STD315235	* Bearing 6203	2	29	5123.00	Shaft	1
4	5103.00	Idler wheel	1	30	5124.00	Drive Wheel	1
5	5104.00	Idler shaft	1	31	5125.00	V-Belt, 3L610	1
				32	5126.00	Idler pulley	1
6	5105.00	Tracking bracket	1	33	5127.00	Tension arm	1
7	STD852016	* 16 mm Washer, lock	1	34	5128.00	Clevis	1
8	5107.00	16mm x 1.5 Nut, hex	2	35	5129.00	8 x 16mm Pin, spring	1
9	5108.00	Tension bracket	1	36	2809.00	Collar	1
10	5109.00	Pivot shaft	1	37	STD851016	* 16mm Washer, flat	2
11	1305.00	Push nut, 10mm	2	38	STD303340	* V-Belt, 3L340	1
12	5111.00	Upper wheel support	1	39	2796.00	Motor pulley	1
13	5112.00	Spacer	1	40	2819.00	6-1.0 x 12mm Screw, set fl. pt.	2
14	STD851008	* 8mm Washer, flat	5	41	5196.00	20mm-1.5, Nut, hex	1
15	5113.00	Blade tension handwheel	1	42	1043.00	* 6-1.0 x 8mm Screw, set	1
16	5114.00	Blade tracking knob	1	43	STD851008	* 8mm Washer, flat	1
17	5115.00	Tracking lever	1	44	3837.00	Bearing 6203 RSR	4
18	2807.00	8mm-1.25 Nut, hex head washer	5	45	5138.00	Dust chute	1
19	STD835016	* 8-1.25 x 16mm Bolt, hex head	4	46	2800.00	4-0.7 x 6mm Screw, set	1
20	7257.00	Door knob	2	47	5140.01	Lower cabinet door	1
				48	5141.01	Upper cabinet door	1
				49	5142.00	Spacer	4
21	STD852020	* 20mm Washer, lock	1	50	†	Cabinet	1
22	5440.00	Latch	2	51	5598.00	Handwheel	1
23	STD840812	* 8mm-1.25 Nut, hex	2	52	7368.00	Shaft	1
24	5120.00	Brush bushing	1	53	2779.00	Handle	1
25	5121.00	Chip brush	1	●	9 26656	Blade, 133" - 4 hook (wood)	1
26	5122.00	8-1.25 x 100mm Bolt, carriage	1				

† Not economical for replacement.

● Not shown. The accessories are current and were available in the catalog at the time this manual was printed.

* Standard hardware item, available locally.
Always order by Part No. not by Key No.

REPLACEMENT PARTS ILLUSTRATION FOR TABLE

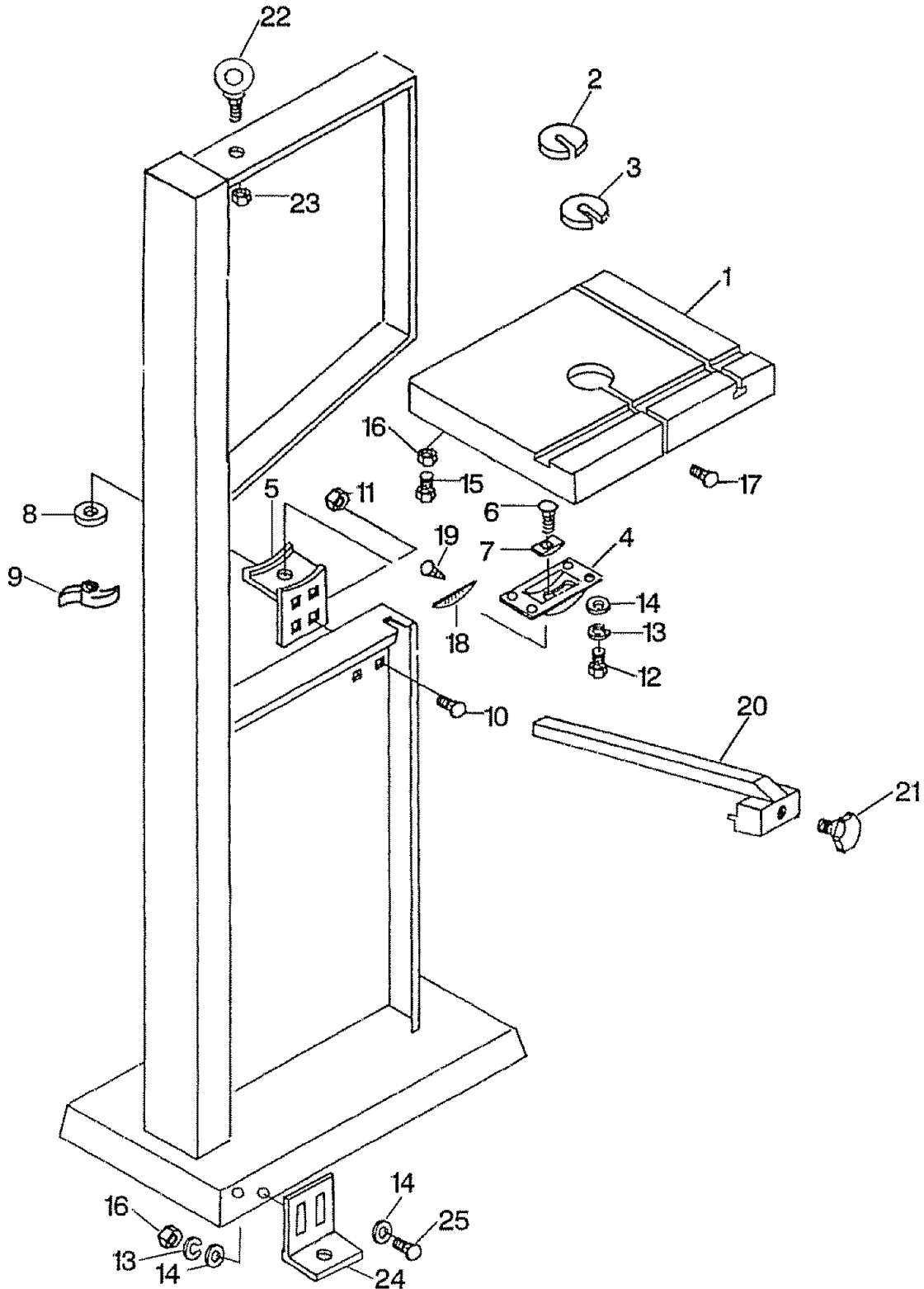


Figure 5

REPLACEMENT PARTS LIST FOR TABLE

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	5359.00	Table	1
2	5173.00	Table insert, thin slot	1
3	5195.00	Table insert, wide slot	1
4	5185.01	Upper trunnion	1
5	5187.01	Lower trunnion	1
6	5184.00	8-1.25 x 50mm Bolt, carriage	1
7	5186.00	Guide block	1
8	STD851008	* 8mm Washer, flat	1
9	5210.00	Lock knob	1
10	5188.00	8-1.25 x 20mm Bolt, carriage	4
11	2807.00	8mm-1.25 Nut, hex hd. washer	4
12	STD523107	* 5/16-18 x 3/4" Bolt, hex head	4
13	STD551131	* 5/16" Washer, lock	8
14	STD551031	* 5/16" Washer, flat	12
15	6542.00	5/16-18 x 1 1/8" Bolt, hex head	1
16	STD541031	* 5/16"-18 Nut, hex	5
17	0211.00	Table stud	1
18	7634.00	Scale	1
19	7635.00	Screw, thread forming	1
20	5351.00	Rip fence	1
21	0003.00	Knob, external threads	1
22	5356.00	Eye bolt	1
23	5358.00	12mm-1.75 Nut, hex nylon	1
24	5354.00	Mounting bracket	2
25	STD523110	* 5/16-18 x 1" Bolt, hex head	4
●	6666.03	Owner's Manual	1

* Standard hardware item available locally.

● Not shown

Always order by Part No. not by Key No

REPLACEMENT PARTS LIST FOR MITER GAUGE

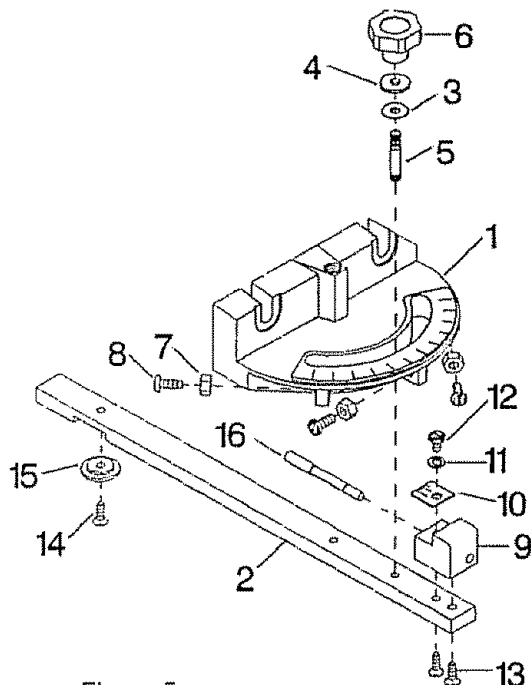


Figure 5a

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	8251.00	Miter gauge	1
2	8250.00	Miter gauge bar	1
3	1370.00	#10 Fiber washer	1
4	STD551025	* 1/4" Washer, flat	1
5	8255.00	Threaded pin	1
6	8252.00	Knob	1
7	STD541010	* #10-24 Hex nut	3
8	STD511007	* #10-24 x 3/4" Screw, pan head	3
9	8253.00	Indicator	1
10	8254.00	Scale	1
11	3888.00	#10 Washer, flat	1
12	STD511002	* #10-24 x 1/4" Screw, pan head	1
13	5991.00	#10-24 x 1/2" Screw, flat head	2
14	1833.00	5-.80 x 8mm Screw, flat head	1
15	1093.00	Guide	1
16	8256.00	Indexing pin	1
17	8257.00	Miter gauge assembly	1

* Standard hardware item available locally.

● Not shown

Always order by Part No. not by Key No

REPLACEMENT PARTS ILLUSTRATION FOR BLADE GUIDES

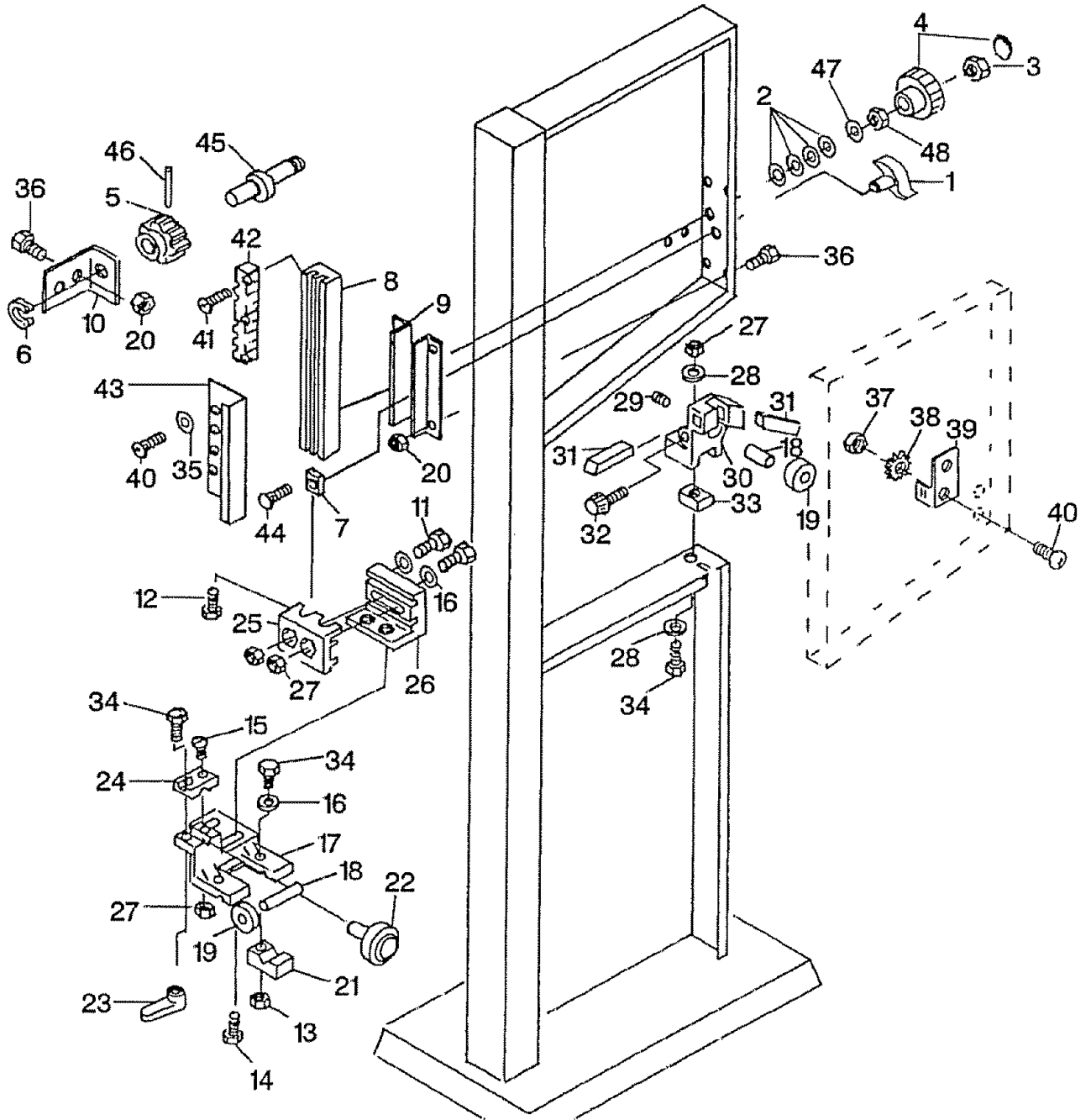


Figure 6

REPLACEMENT PARTS LIST FOR BLADE GUIDES

KEY NO.	PART NO.	DESCRIPTION	QTY
1	5210.00	Lock knob	1
2	7258.00	10mm Washer	4
3	0832.00	8mm-1.25 Nut, hex	1
4	7260.00	Blade guide handwheel	1
5	2810.00	Pinion gear	1
6	5148.00	8mm Retaining ring, external	1
7	5211.00	Bolt plate	1
8	5212.00	Guide extrusion	1
9	5151.00	Guide bracket	2
10	5152.00	Pinion bracket	1
11	STD833025	* 6-1.0 x 25mm Bolt, hex head	2
12	5213.00	5mm x 16 Screw, thread forming	2
13	STD840610	* 6-1.0mm Nut, hex	2
14	STD833012	* 6-1.0 x 12mm Bolt, hex head	2
15	5154.00	6-1.0 x 20mm Screw, flat head	1
16	STD851006	* 6mm Washer, flat	4
17	5155.00	Upper guide casting	1
18	3646.00	Guide bearing pin	3
19	STD315465	* Guide bearing (626Z)	3
20	2818.00	6mm-1.0 Nut, hex head washer	6
21	5159.00	Guide bearing clamp	2
22	5160.00	Thrust bearing assembly	1
23	5161.00	Clamp handle	1
24	5162.00	Thrust bearing clamp	1
25	7261.00	Guide attaching bracket	1
26	5164.00	Guide depth bracket	1
27	5153.00	6-1.0mm Nut, hex nylon	4
28	STD851006	* 6mm Washer, flat	2
29	2819.00	6-1.0 x 12mm Screw, flat point set	2
30	5166.00	Lower guide casting	1
31	3650.00	Guide block	2
32	5169.00	Thrust bearing lock knob	1
33	5168.00	Alignment block	1
34	STD833020	* 6-1.0 x 20mm Bolt, hex head	4
35	STD851004	* 4mm Washer, flat	4
36	STD833016	* 6-1.0 x 15mm Bolt, hex head	6
37	STD840407	* 4mm-.70 Nut, hex	2
38	5156.00	4mm Washer, serrated	2
39	7636.00	Blade guard clip	1
40	0781.00	4-.70 x 8mm Screw, pan head	6
41	5215.00	4mm-.70 x 20 Screw, pan head	6
42	5216.00	Rack	2
43	7637.00	Blade Guard	1
44	5188.00	8mm-1.25 x 20 Bolt, carriage	1
45	2811.00	Pinion shaft	1
46	2817.00	4 x 20mm Pin, spring	1
47	7262.00	8mm Washer, flat	1

Always order by Part No. not by Key No.

SEARS

**OWNER'S
MANUAL**

SERVICE

**MODEL NO.
351.243951**

**HOW TO ORDER
REPAIR PARTS**

18" Band Saw Light Industrial Tool

Thank you for purchasing your 18" Band Saw from Sears. This unit will provide you with many years of reliable service. Should the need exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores. Be sure to provide all pertinent facts when you call or visit. The model number of your 18" Band Saw will be found on the upper cabinet door.

All parts listed may be ordered from any Sears Service Center and most Sears stores. If the parts you need are not stocked locally, your order will be electronically transmitted to the Sears Repair Parts Distribution Center for handling.

When ordering repair parts, always give the following information:

NAME OF ITEM: 18" Band Saw

MODEL NUMBER: 351.243951

PART NUMBER:

PART DESCRIPTION:

Sold by SEARS, ROEBUCK AND CO., Chicago, IL 60684 U.S.A. ©

Part No. 6666.03

April 1993