

Dayton®



18" Wood Cutting Band Saw

Model 21UN03

®
Dayton

**PLEASE READ AND SAVE
THESE INSTRUCTIONS.
READ CAREFULLY
BEFORE ATTEMPTING
TO ASSEMBLE, INSTALL,
OPERATE OR MAINTAIN THE
PRODUCT DESCRIBED.**

**PROTECT YOURSELF AND
OTHERS BY OBSERVING ALL
SAFETY INFORMATION. FAILURE
TO COMPLY WITH INSTRUCTIONS
COULD RESULT IN PERSONAL
INJURY AND/OR PROPERTY
DAMAGE! RETAIN INSTRUCTIONS
FOR FUTURE REFERENCE.**

**PLEASE REFER TO BACK COVER
FOR INFORMATION REGARDING
DAYTON'S WARRANTY
AND OTHER IMPORTANT
INFORMATION.**

Model #: _____

Serial #: _____

Purch. Date: _____

Form 5S0000 / Printed in Taiwan

04634 Version 0.0 06/2014

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GETTING STARTED

Structural requirements



Make sure all supporting structures and load attaching devices are strong enough to hold your intended loads. If in doubt, consult a qualified structural engineer.

Electrical requirements



The power supply to the Band Saw needs to be 120 volt/ 18 amp or 240 volt/ 9 amp, single phase, 60 Hz. The standard allowable voltage variation is plus or minus 10%.

Tools needed:

Standard mechanic's hand tool set.

UNPACKING

▲ WARNING *Be careful not to touch overhead power lines, piping, lighting, etc. if lifting equipment is used. Band Saw weighs approximately 280 lbs, proper tools, equipment and qualified personnel should be employed in all phases of unpacking and installation.*

Crates should be handled with care to avoid damage from dropping, bumping, etc. Store and unpack crates with correct side up. After uncrating Band Saw, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. If any damage or loss has occurred, claim must be filed with carrier immediately. Check for completeness. Immediately report missing parts to dealer.

Band Saw is shipped partially assembled. End user will need to assemble loose parts to machine.

IMPORTANT: The tool has been coated with a protective coating. In order to ensure proper fit and operation, the coating must be removed. Remove coating with mild solvents such as mineral spirits and a soft cloth. Nonflammable solvents are recommended. After cleaning, cover all exposed metal surfaces with a light coating of oil.

▲ CAUTION *Never use highly volatile solvents. Avoid getting cleaning solution on paint as it may tend to deteriorate these finishes. Use soap and water on painted components.*

Contents:

- Band Saw (1)
- Table assembly (1)
- Miter gauge assembly (1)
- Rip fence with knob (1)
- Band saw blade (1)
- V-Belt (1)
- Hardware bag (1), includes: 10/12mm open end wrench, 12/14mm open end wrench, 3mm hex wrench and 4mm hex wrench
- Operating Instructions and Parts Manual (1)

Unpack:



• Unbolt saw from pallet and carefully lift saw from pallet using appropriate hoisting equipment. Do not discard packing materials until after machine has been inspected for damage and completeness. Locate loose parts and set aside.

Inspect:



- After unpacking the unit, carefully inspect for any damage that may have occurred during transit. Check for loose, missing or damaged parts. Shipping damage claims must be filed with the carrier.
- All tools should be visually inspected before use, in addition to regular periodic maintenance inspections.
- Be sure that the voltage labeled on the unit matches your power supply.



• See General Safety Instructions, Cautions and Warnings as shown.

SAFETY RULES

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



PROPOSITION 65 WARNING: Some dust created by using power tools contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks and cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment. Always wear OSHA/NIOSH approved, properly fitting face mask or respirator when using such tools.

▲ WARNING *Always follow proper operating procedures as defined in this manual even if you are familiar with the 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.

SAFETY RULES (CONTINUED)

- 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 repair 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 the 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 13). 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.

▲ CAUTION *Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.*

SPECIFICATIONS

Depth of throat	17¾"
Maximum depth of cut	11"
Table size	18 x 19"
Table tilt	0 to 45°
Wheel diameter	18"
Blade length	133"
Blade width	3/16 to 1"
Blade speeds	2,000 and 2,800 FPM
Overall dimensions	75 x 32½ x 22"
Motor	1½ HP, 1725 RPM 120/240V, 18/9A, 60 Hz
Weight	280 lbs
Shipping Weight	340 lbs

ASSEMBLY

Refer to Figures 4, 5, 6 and 8.

▲ CAUTION *Do not attempt assembly if parts are missing. Use this manual to order repair parts.*

Attach table

Refer to Figure 8.

1. Remove the upper trunnion from the lower trunnion by removing knob (Ref. No. 11).
2. Secure knob back onto carriage bolt (Ref. No. 7).
3. Remove 4 hex head bolts and flat washers (Ref. Nos. 3 and 4) from bottom of table.
4. Position upper trunnion above four tapped holes in bottom of table and secure with 4 hex head bolts and flat washers.
5. Remove table stud (Ref. No. 15) from the table.

ASSEMBLY (CONTINUED)

- Position table assembly so that blade slides into table slot. Remove knob and position upper trunnion on top of lower trunnion. Make sure table assembly tilts smoothly on lower trunnion and secure by tightening knob. Replace table stud.

Set horizontal stop

Refer to Figure 8.

When table is attached to frame, a bolt (Ref. No. 13) is used for a horizontal stop.

- Loosen trunnion knobs and set table at 90° to blade using a square.
- Secure position of table with knobs.
- Adjust bolt to contact bottom edge of table.
- Lock bolt in position with hex nut (Ref. No. 14).

Attach rip fence

Refer to Figure 8.

Rip fence (Ref. No. 5) rides in the slot of table (Ref. No. 1).

- Slide rip fence into slot.
- Hold rip fence to table and fasten by threading knob (Ref. No. 6) into rip fence.
- Rip fence can be repositioned by loosening knob.

Align table

Refer to Figure 8.

The table must be aligned properly so that the blade is at a right angle to the table and that the rip fence is aligned with the blade.

- Lock the table in the horizontal position. Mount the rip fence on the table. Slide the rip fence next to, but not touching, the blade. Lock the rip fence.
- Check that the blade is aligned parallel with the rip fence. If the blade and fence are not parallel, loosen the four hex head bolts (Ref. No. 3) that secure the upper trunnion to the table. Adjust the table position so that the blade and rip fence are parallel. Secure the table position by tightening the four hex head bolts.

After assembly, the table has to be aligned in order to have the blade running through the center of the slot in the table insert.

- To move table sideways, loosen four hex nuts (Ref. No. 14) on the lower trunnion. Move lower trunnion to left or right until blade runs through the center of slot. Tighten hex nuts and make sure that table stays in position while nuts are being tightened.

Install V-belt

Refer to Figures 4, 5 and 6.

Band saw uses a step-pulley drive system to provide a selection of blade speeds.

- Loosen hex head bolt and hex nut (Figure 5, Ref. Nos. 11 and 14). Place V-belt (Figure 6, Ref. No. 21) on idler pulley and motor pulley (Figure 6, Ref. Nos. 20 and 22) with V-belt in desired location on pulleys. (See Figure 4, Blade Speeds.)
- Tension V-belt by pushing down on motor mount plate and tightening hex head bolt and hex nut.

Do not over tighten V-belt. Excessive tension on V-belt will reduce life of belt. A belt is properly tensioned when light pressure applied to midpoint of the belt produces about 1/2" deflection.

Mount saw to floor

If saw is not properly positioned on a flat surface, it may develop excessive vibration.

Mount to a flat, level surface through holes on top of base.

INSTALLATION

Refer to Figures 1, 2 and 3.

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

Power source

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 over heating 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 double pole locking rocker switch. Remove the key to prevent unauthorized use.

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 300V and a three prong grounding type plug (See Figure 1) 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 in Figure 1.

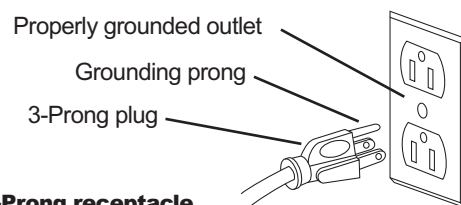


Figure 1 – 3-Prong receptacle

INSTALLATION (CONTINUED)

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.

⚠ 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 them 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 2) is available for connecting plugs to a two pole outlet if it is properly grounded.

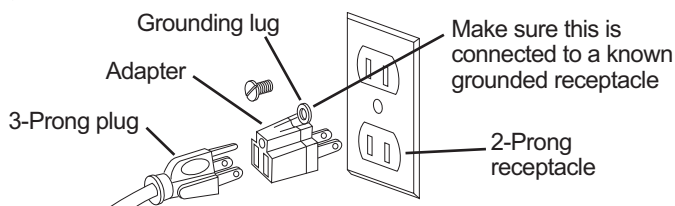


Figure 2 - 2-Prong receptacle with adapter

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.

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 (120V)

Using extension cords is not recommended for 120 volt power supply.

Extension cord length (240V)

Wire Size	A.W.G.
Up to 50 ft	18
50–100 ft.	16
100–200 ft.	14
200–300 ft.	12

NOTE: Using extension cords over 300 ft. long is not recommended.

Power source

Band saw requires a 120/240 volt, 60 Hz power source.

To use the band saw with a 240V power supply, have a qualified electrician attach a 240V volt, 20/30A three-prong plug onto band saw line cord.

Recommended Dayton plugs, connectors and receptacles for 240 volts:

20 Amps Plug	250 Volts Connector	NEMA L6-20 Receptacle
5A081	5A082	5A080

30 Amps Plug	250 Volts Connector	NEMA L6-30 Receptacle
5A087	5A088	5A086

Electrical connections

Refer to Figure 3.

⚠ WARNING *All electrical connections must be performed by a qualified electrician. Make sure unit is off and disconnected from power source while motor is mounted, connected, reconnected or anytime wiring is inspected.*

- Band saw motor can be wired for 120 or 240 volts, single-phase operation.
- See wiring diagram (Figure 3) for wiring instructions, single-phase operation.

INSTALLATION (CONTINUED)

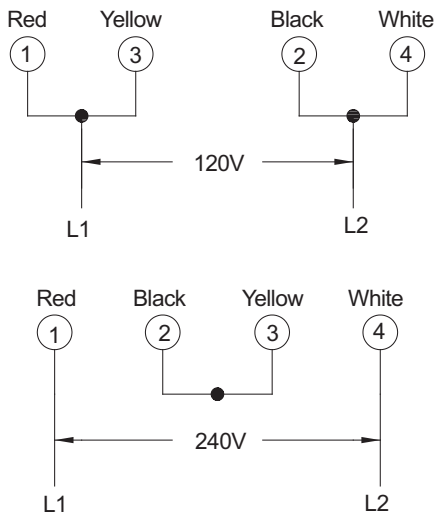


Figure 3 – Wiring diagram

OPERATION

Refer to Figures 4, 5, 6, 7 and 8.

The 18" Band Saw is a versatile cutting tool. The 18" Band Saw provides two different cutting speeds so the saw can be used to cut a variety of woods.

Saw offers convenient tensioning and tracking so changing blades is not cumbersome. Saw can also accommodate blade widths up to 1" for many types of cuts.

CAUTION Always observe the following safety precautions:

- Make sure that blade guides and thrust bearings are positioned and adjusted correctly to prevent sideways and rearward movement of the blade. Adjust upper guide to just clear workpiece.
- Check to make sure blade is tensioned and tracking properly. Do not over tension the blade in order to prevent premature blade wear and breakage. Avoid under tensioning to eliminate back and forth, side to side blade movement as it cuts.
- Use proper blade and speed for the cutting operation.
- After turning saw on, allow blade to come to full speed before attempting any cutting operation.
- Support workpiece properly and use a smooth steady feed to guide work through the cut. Use push sticks or push blocks when required.
- Keep hands away and out of line with moving parts.
- Always wear eye protection.

Removing blade

Refer to Figures 6 and 8.

WARNING Disconnect Band Saw from power source when changing or adjusting blades. Wear leather gloves when handling Band Saw blades. Never wear gloves when operating saw.

1. Loosen hex nut (Figure 6, Ref. No. 53) and rotate handwheel (Figure 6, Ref. No. 42) to release blade tension. Be careful; blade may spring from saw when tension is released. Remove table stud (Figure 8, Ref. No. 15), take out the released blade and replace with another blade.

Installing blade

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

IMPORTANT: Follow safety precautions every time before saw is operated.

1. Make sure blade teeth are pointing down towards table. Turn blade inside out if necessary.
2. Slip new blade into table slot and over upper and lower blade wheels and center blade on blade wheels. Slide blade in between blade guides, replace table stud.
3. Tension and track blade as described in the following sections.

Tensioning blade

Refer to Figure 6.

1. Tension blade by rotating handwheel (Ref. No. 42). Be sure blade guides do not interfere with blade path.
2. 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: Recheck tension of new blade. Additional tension may be required after a few minutes of operation.

Tracking blade

Refer to Figure 6.

Track blade after it has been tensioned. A change in blade tension will affect wheel alignment.

Proper tracking is achieved when drive and idler wheels are aligned. Knob (Ref. No. 44) is used to tilt tracking bar (Ref. No. 24) and align blade wheels.

1. Loosen hex nut (Ref. No. 53) which locks tracking knob (Ref. No. 44). Turn idler wheel (Ref. No. 19) by hand and observe how blade rides on wheels.
 - a. If blade rides away from cabinet, turn knob clockwise to tilt idler wheel up.
 - b. If blade rides into the cabinet, turn tracking knob counterclockwise.
2. When blade is tracking properly, lock position by holding knob and tightening hex nut (Ref. No. 53) against the cabinet.

Alignment of drive wheel

Refer to Figure 6.

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

OPERATION (CONTINUED)

- Adjust alignment of drive wheel with set screws and hex head bolts (Ref. Nos. 51 and 52).

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

Blade guides

NOTE: Adjust blade guides only after blade has been properly tensioned and tracked.

- Blade guides support blade at sides and rear of blade and prevent twisting or deflection.
- Blade guides should not touch blade when no workpiece is in contact with blade. Adjust guides as described in following sections.

Upper blade guides

Refer to Figure 7.

Upper blade guides employ guide pins for side support and a ball bearing on an adjusting pin at rear.

Upper guide bracket (Ref. No. 13) should be positioned so guide on either side of blade will support as much of blade width as possible without interfering with the tooth set.

1. Adjust bracket depth by loosening bolts (Ref. Nos. 9 and 12) and sliding brackets into position. Secure position of upper guide casting by tightening bolts.
2. Loosen set screws (Ref. No. 15) and adjust guide pins (Ref. No. 14) to sides of blade. Use a feeler gauge to check that guide pins are .002" away from blade.
3. Lock adjustment by tightening set screws.
4. Adjust thrust bearing (Ref. No. 17) at rear of blade by loosening set screw (Ref. No. 15). Position thrust bearing .002" away from back of blade.
5. Secure position of thrust bearing by tightening set screw.
6. Adjust the height of upper guide casting to clear the workpiece by 1/4". Loosen knob (Ref. No. 30) and rotate height adjustment knob (Ref. No. 22) until upper blade guide bracket clears workpiece by 1/4". Tighten knob (Ref. No. 30).

Lower blade guides

Refer to Figure 7.

Lower blade guides employ two guide blocks for side support. Lower guide bracket is spaced close to table surface to minimize unsupported length of blade.

1. Loosen bolt (Ref. No. 19) to position lower guide bracket on alignment block (Ref. No. 31). Adjust lower guide bracket so guide blocks do not interfere with blade set. Loosen set screws (Ref. No. 23) for guide blocks (Ref. Nos. 21 and 34) and adjust guide blocks to .002" from each side of blade.
2. Adjust thrust bearing (Ref. No. 36) at rear of blade by loosening set screw (Ref. No. 23). Position thrust bearing .002" away from back of blade. Secure position of thrust bearing by tightening set screw.

Blade selection

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

Blade width

- 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 1/2" radius.

Blade thickness

- Blade thickness describes the distance between sides of the blade. A thicker blade has more rigidity and stronger teeth.
- A narrow thick blade would be used to cut curves, while a wide thin blade would be used to make long, straight cuts.

Blade pitch

- Pitch describes number of teeth per inch or tooth size. A blade with more teeth per inch will produce a smoother cut.
- The type of material being cut determines number of teeth which should be in contact with work.
- For soft materials, the proper blade has between 4 to 8 teeth per inch.
- When cutting hard materials, where shocking is more detrimental, use a blade with 8 to 12 teeth per inch.
- There should always be at least three teeth in contact with cut to avoid shocking blade.
- Blade shocking occurs when pitch is too large and blade tooth encounters too much material. This can strip teeth from blade.
- Blade manufacturers are prepared to supply information about blades for specific applications.

Blade speed

- The amount of force with which the blade cuts is determined by 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 when more force is required.
- To change blade speed, position V-belt in proper configuration (See Figure 4). Reposition and tension V-belt as described in the next section.

OPERATION (CONTINUED)

Repositioning V-belt

Refer to Figures 4, 5, and 6.

Blade speed is determined by the position of the V-belt on the idler and motor pulleys (Figure 6, Ref. Nos. 20 and 22). Blade speed is changed by changing pulley position of V-belt.

IMPORTANT: Be sure to disconnect saw from power and turn saw OFF before attempting to change blade speed.

- To change blade speed, loosen motor mount plate (Figure 5, Ref. No. 9) by loosening hex nut on hex head bolt (Figure 5, Ref. Nos. 14 and 11).
- Position V-belt on motor and idler pulleys as required.
 - See figure 4, Blade Speeds, for recommended pulley and belt settings.
- Tension V-belt by pushing down on motor mount plate and tightening nut on the hex head bolt. Be sure nut and bolt are tight.
 - Belt is properly tensioned when light pressure applied to midpoint of the belt produces about 1/2" deflection.
 - Do not over tighten V-belts.

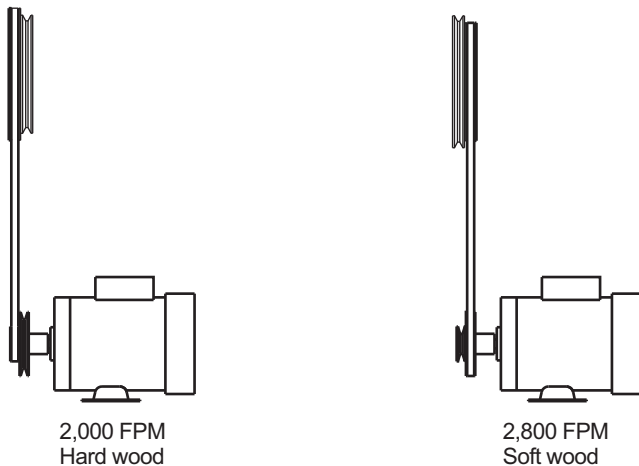


Figure 4 – Blade speeds

Type of cut

- Rip fence guides workpiece to produce straight cuts on longer pieces.
- Contour cutting is done by guiding workpiece free-hand to produce curved shapes.
- Beveled cutting can be done by tilting table and using proper work guide method.

Regardless of which work guiding method is used, a workpiece which overhangs table by more than 7" should be properly supported by support stands. (See Recommended Accessories, page 13.)

Rip fence operation

Refer to Figure 8.

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

- Set rip fence to desired width of cut on inside of throat. Remember to include the thickness of material that will be removed by blade.
- Use a square to measure from tip of a tooth to fence. Lock fence securely with knob (Ref. No. 6).

The portion of material between blade and fence is considered the workpiece. Material on outside and behind cut is the scrap material which is being cut off. Use the right hand to keep work against fence.

- Do not push on scrap portion of the work. This could pinch or bind blade.
- Avoid passing hands beyond the cut. Use push sticks or push blocks to finish cuts and pass workpiece away from blade.

Contour sawing

- When contour sawing, use both hands to keep workpiece flat against table and guided along desired path.
- Avoid positioning hands in line with blade. If hands slip, they could contact blade.
- Try to stand to front of the saw and use hands over the portion of table which is to right of blade and before cut.
- Cut small corners by sawing around them. Saw to remove scrap until desired shape is obtained.

Bevel cutting

Refer to Figure 8.

- Perform a bevel operation by tilting table. Loosen knob (Ref. No. 11) and tilt table to desired position.
- Use a square or protractor to set angle and lock table in position with knobs. Use caution when supporting work while bevel cutting. Do not allow work to hang on blade.

Miter gauge

- Use miter gauge for securing and holding workpiece at desired angle to produce angled cuts. Use scale to adjust gauge to desired angle.
- Never use miter gauge and rip fence at the same time. The blade might bind in the workpiece. Operator could be injured and/or workpiece could be damaged.

Blade cleaning brush

Refer to Figure 6.

Make sure that brush (Ref. No. 29) is in contact with blade to properly remove foreign particles from drive wheel.

MAINTENANCE



WARNING *Make certain that unit is disconnected from power source before attempting to service or remove any component.*

Cleaning

- Keep machine and workshop clean. Do not allow sawdust to accumulate on band saw.
- Keep wheels clean. Debris on wheels will cause poor tracking and blade slippage.
- Keep mechanisms and threaded or sliding surfaces clean and free of foreign particles.
- Operate band saw with a dust collector to minimize clean up.

Lubrication

- The shielded ball bearings are permanently lubricated and require no further lubrication.
- Small amounts of machine oil can be applied to belt tension mechanisms and threaded or sliding surfaces.
- Occasionally apply a coat of paste wax to table top to keep it slick and corrosion free.

Keep band saw in repair

- If power cord is worn or cut in any way, have it replaced.
- Replace V-belt and blade when they are worn. Replace any damaged or missing part.
- Use parts list to order parts.

TROUBLESHOOTING GUIDE

Symptom	Possible Cause(s)	Corrective Action
Saw will not start	Loose electrical connections	Have qualified electrician check electrical connections
Blade is twisting or unusual wear on side/back of blade	<ol style="list-style-type: none"> 1. Cut is binding blade 2. Blade guides or bearings worn 3. Blade guides or bearings not adjusted properly 4. Blade guide brackets loose 	<ol style="list-style-type: none"> 1. Decrease feed pressure 2. Replace 3. Adjust blade guides, See "Operation" 4. Tighten properly
Teeth ripping from blade	<ol style="list-style-type: none"> 1. Teeth too coarse for work 2. Rate of feed too great 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
Excessive blade breakage	<ol style="list-style-type: none"> 1. Material not secure on table 2. Incorrect speed 3. Blade too coarse for material 4. Incorrect blade tension 5. Teeth in contact with work before sawing 6. Blade rubs on wheel flange 7. Misaligned 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 Blade Speed; See Figure 4, page 7 for recommended speeds 3. Use finer pitch blade 4. Tension blade properly, See "Operation" 5. Place blade in contact with work after saw is started and 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. Excessive blade speed 3. Inadequate feed pressure 4. Hard spots or scale in or on material 5. Work hardening of workpiece 6. Blade installed backwards 7. Insufficient blade tension 	<ol style="list-style-type: none"> 1. Use blade with finer teeth 2. Try lower speed 3. Gently increase pressure 4. Reduce speed; increase rate of feed for scale and change blades for hard spots 5. Increase rate of feed 6. Remove blade, twist inside out and reinstall blade 7. Tension blade properly; See "Operation"
Crooked cuts	<ol style="list-style-type: none"> 1. Work not square 2. Rate of feed too great 3. Blade guides not adjusted properly 4. Insufficient blade tension 5. Upper blade guide too far from workpiece 6. Dull blade 7. Incorrect speed 8. Blade guide assembly loose or blade thrust bearing loose 	<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 .002" from blade (use gauge) 4. Tension blade properly, See "Operation" 5. Adjust upper guide to clear workpiece by 1/4" 6. Replace blade 7. Check Blade Speed; See Figure 4, page 7 for recommended speeds 8. Tighten blade thrust bearing within .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. Use blade with finer teeth
Motor running too hot	<ol style="list-style-type: none"> 1. Blade tension too great 2. Blade too coarse 3. Blade too fine for work (typical when cutting slick or soft material) 4. Excessive dirt and chips 	<ol style="list-style-type: none"> 1. Reduce tension on blade 2. Use blade with finer teeth 3. Use blade with coarser teeth 4. Clean thoroughly; vacuum motor and speed change mechanism

REPAIR PARTS ILLUSTRATION FOR MOTOR

GETTING STARTED

SAFETY / SPECIFICATIONS

ASSEMBLY / INSTALLATION

OPERATION

TROUBLESHOOTING

MAINTENANCE / REPAIR

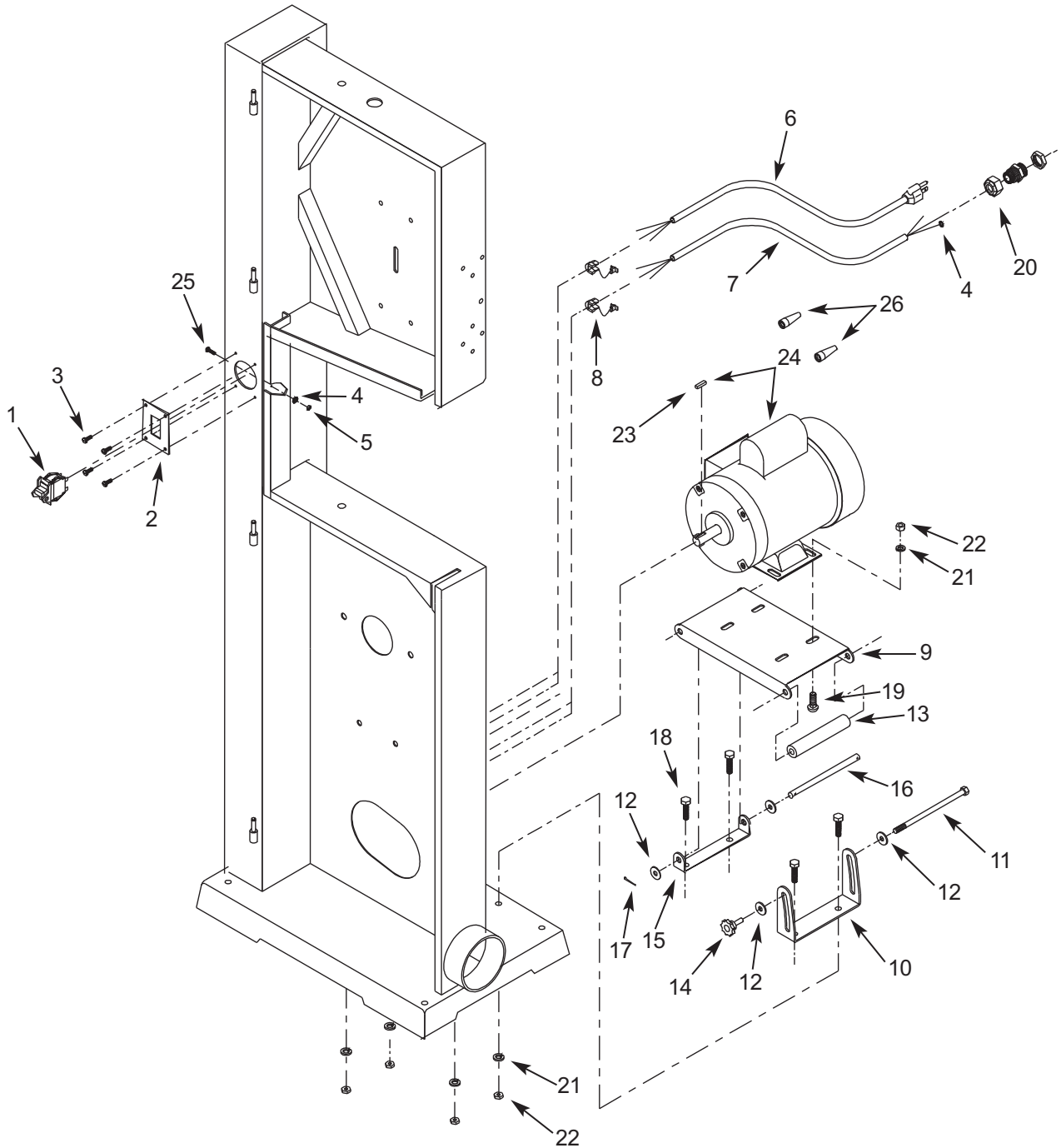


Figure 5 – Repair Parts Illustration for Motor

For Repair Parts, call 1-800-Grainger

24 hours a day – 365 days a year

Please provide following information:
-Model number
-Serial number (if any)
-Part description and number as shown in parts list

REPAIR PARTS LIST FOR MOTOR

Ref. No.	Description	Part No.	Qty.
1	Switch	0423.00	1
2	Switch plate	3668.00	1
3	5-0.8 x 8mm Pan head screw	*	4
4	4mm Serrated washer	*	2
5	4-0.7mm Hex nut	*	1
6	Line cord	8586.00	1
7	Motor cord	8587.00	1
8	Strain relief	2434.00	2
9	Motor mount plate	8589.00	1
10	Slide bracket	8590.00	1
11	3/8-16 x 8" Hex head bolt	8591.00	1
12	3/8" Flat washer	*	4
13	Spacer	8592.00	1
14	Knob	18953.00	1
15	Pivot bracket	8593.00	1
16	Pivot rod	8594.00	1
17	1/8 x 1" Cotter pin	0655.00	1
18	8-1.25 x 20mm Hex head bolt	*	4
19	8-1.25 x 16mm Carriage bolt	*	4
20	Strain relief	7256.00	1
21	8mm Lock washer	*	8
22	8-1.25mm Hex nut	*	8
23	3/16 x 3/16 x 3/4" Key	0440.00	1
24	Motor with key	38104.00	1
25	4-0.7 x 15mm Pan head screw	*	1
26	Wire nut	5199.00	2

(Δ) Not shown.

(*) Standard hardware item, available locally.

(N/A) Not available as replacement part.

REPAIR PARTS ILLUSTRATION FOR FRONT

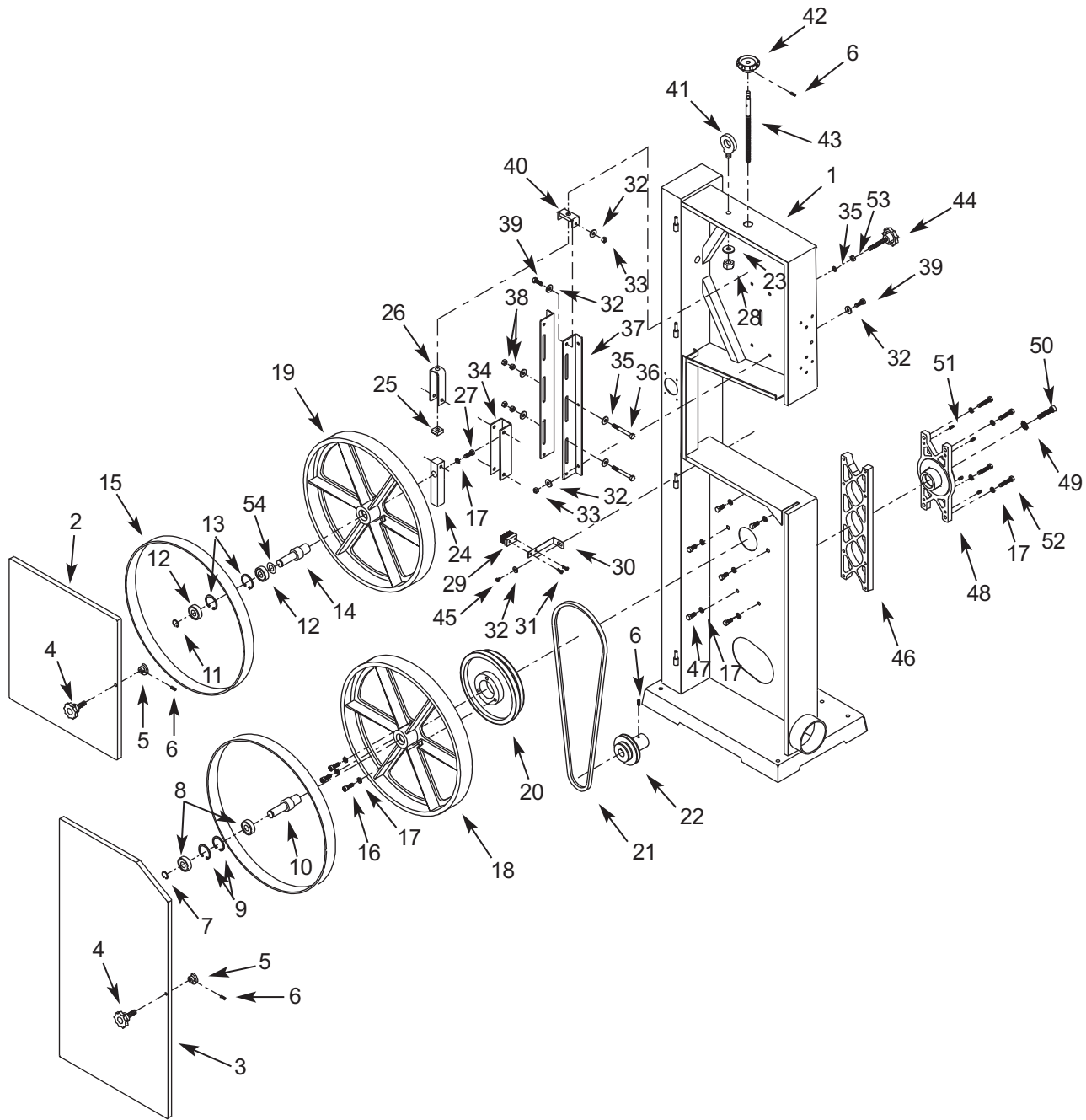


Figure 6 – Repair Parts Illustration for Front

For Repair Parts, call 1-800-Grainger

24 hours a day – 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

REPAIR PARTS LIST FOR FRONT

Ref. No.	Description	Part Number:	Qty.
1	Frame	N/A	1
2	Upper cabinet door	8596.00	1
3	Lower cabinet door	8597.00	1
4	Knob (external threads)	3663.00	2
5	Latch	8304.00	2
6	6-1.0 x 6mm Set screw	0964.00	4
7	3AMI-20 Retaining ring	0256.00	1
8	6004ZZ Bearing	5U498	2
9	3BMI-42 Retaining ring	7904.00	2
10	Drive shaft	9558.00	1
11	3AMI-17 Retaining ring	0341.00	1
12	6203Z Bearing	1L016	2
13	3BMI-40 Retaining ring	3838.00	2
14	Idler shaft	8600.00	1
15	Rubber tread	8599.00	2
16	8-1.25 x 25mm Socket head bolt	*	3
17	8mm Lock washer	*	12
18	Drive wheel	9559.00	1
19	Idler wheel	8598.00	1
20	Idler pulley	9560.00	1
21	V-belt	38118.00	1
22	Motor pulley	38119.00	1
23	10mm Flat washer	*	1
24	Tracking bar	3605.01	1
25	Tension nut	3607.00	1
26	Tension bracket	3606.00	1
27	8-1.25 x 25mm Hex head bolt	*	1
28	10-1.5mm Hex nut	*	1
29	Brush	3621.00	1
30	Bracket	8603.00	1

Ref. No.	Description	Part Number:	Qty.
31	#8-18 x 3/8" Thread forming screw	3619.00	2
32	6mm Flat washer	*	17
33	6-1.0mm Hex nut	*	8
34	Tracking adjustment bracket	3608.00	1
35	8mm Flat washer	*	5
36	8-1.25 x 70mm Hex head bolt	*	2
37	Upper cabinet support	3609.00	2
38	8-1.25mm Hex nut	*	4
39	6-1.0 x 16mm Hex head bolt	*	8
40	Tension support	3610.00	1
41	10-1.5mm Eye bolt	8308.00	1
42	Handwheel	5598.01	1
43	Threaded shaft	8601.00	1
44	Tracking knob	8307.00	1
45	5-0.8 x 8mm Pan head screw	*	1
46	Lower cabinet support	8629.00	1
47	8-1.25 x 20mm Hex head bolt	*	6
48	Shaft support	9561.00	1
49	8mm Serrated washer	*	1
50	8-1.25 x 50mm Socket head bolt	*	1
51	8-1.25 x 20mm Set screw	*	4
52	8-1.25 x 30mm Hex head bolt	*	4
53	5/16"-18 Hex nut	*	1
54	17mm Wavy washer	8439.00	1
Recommended Accessories			
Δ	Support stand	6A819	1
Δ	Blade welder	6A489	1
Δ	1/2" Carbon, 6 Hook blades	4WE64	1
Δ	3/4" Carbon, 8 Raker blades	4WE62	1

(Δ) Not shown.

(*) Standard hardware item, available locally.

(N/A) Not available as replacement part.

REPAIR PARTS ILLUSTRATION FOR BLADE GUIDES

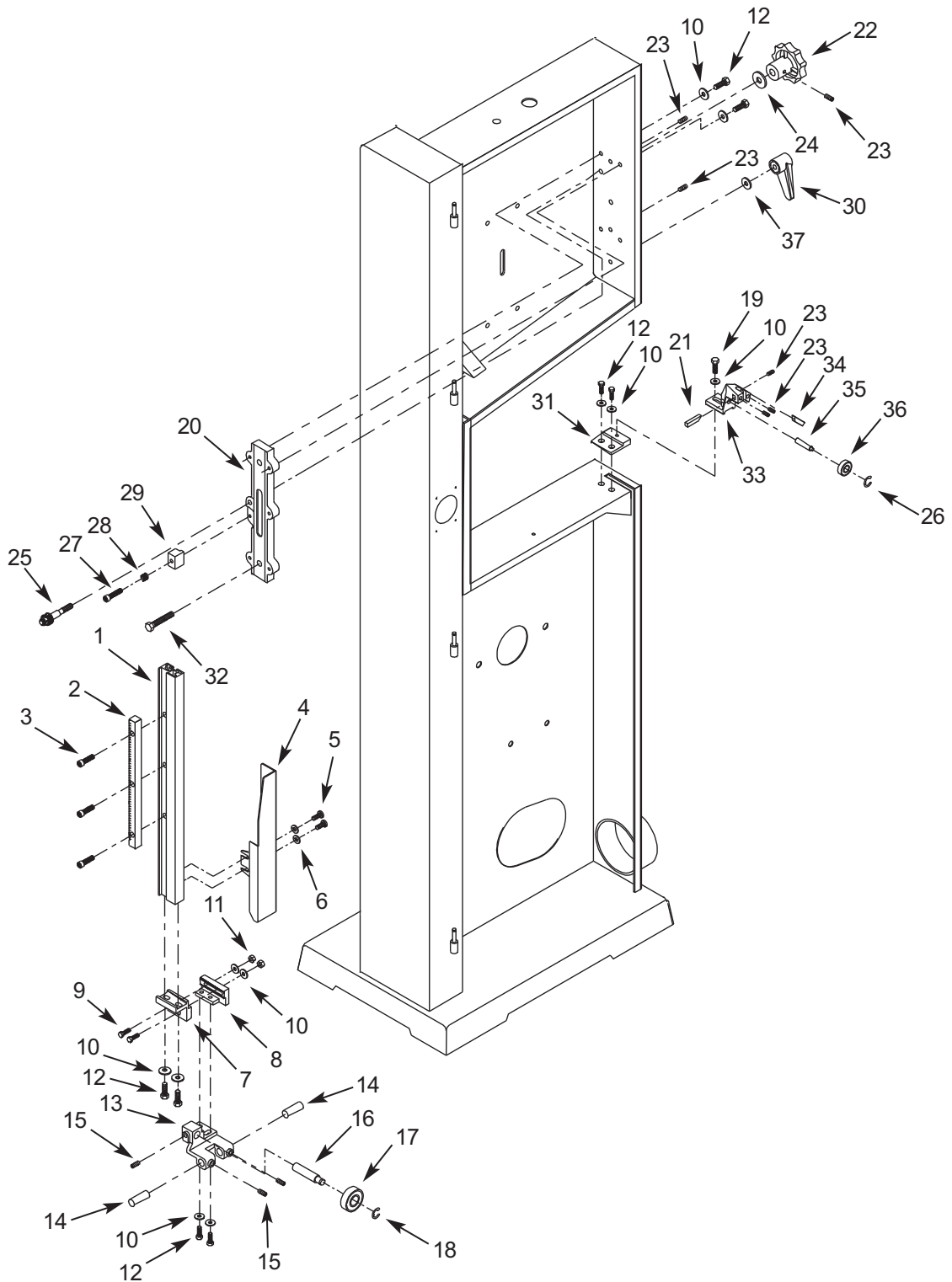


Figure 7 - Repair Parts Illustration for Blade Guides

For Repair Parts, call 1-800-Grainger

24 hours a day - 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

REPAIR PARTS LIST FOR BLADE GUIDES

Ref. No.	Description	Part No.	Qty.
1	Guide bar	9562.00	1
2	Rack	8605.00	1
3	5-0.8 x 20mm Socket head bolt	*	3
4	Blade guard	9563.00	1
5	Thread forming screw	3619.00	2
6	5mm Flat washer	*	2
7	Guide attaching bracket	8314.00	1
8	Guide depth bracket	8607.00	1
9	6-1.0 x 25mm Hex head bolt	*	2
10	6mm Flat washer	*	13
11	6-1.0mm Hex nut	*	2
12	6-1.0 x 16mm Hex head bolt	*	10
13	Upper guide bracket	8316.00	1
14	Guide pin	8317.00	2
15	8-1.25 x 8mm Set screw	*	3
16	Bearing pin	8318.00	1
17	6200ZZ Bearing	1L013	1
18	3CMI-10 E-Ring	1434.00	1
19	6-1.0 x 12mm Hex head bolt	*	1
20	Guide casting	8617.00	1
21	Guide block	8298.00	1
22	Knob	8320.00	1
23	6-1.0 x 6mm Set screw	*	6
24	3/8" Flat washer	*	1
25	Pinion shaft assembly	8322.00	1
26	3CMI-8 E-ring	8323.00	1
27	6-1.0 x 35mm Socket head bolt	*	1
28	Spring	9564.00	1
29	Positioning block	8324.00	1
30	Knob (internal threads)	8352.00	1
31	Alignment block	6376.00	1
32	5/16-18 x 1 1/4" Hex low head bolt	8325.15	1
33	Lower guide bracket	8353.00	1
34	Guide block	8354.00	1
35	Bearing pin	8355.00	1
36	608ZZ Bearing	1L001	1
37	6mm Flat washer	*	1

(Δ) Not shown.

(*) Standard hardware item, available locally.

(N/A) Not available as replacement part.

REPAIR PARTS ILLUSTRATION FOR TABLE

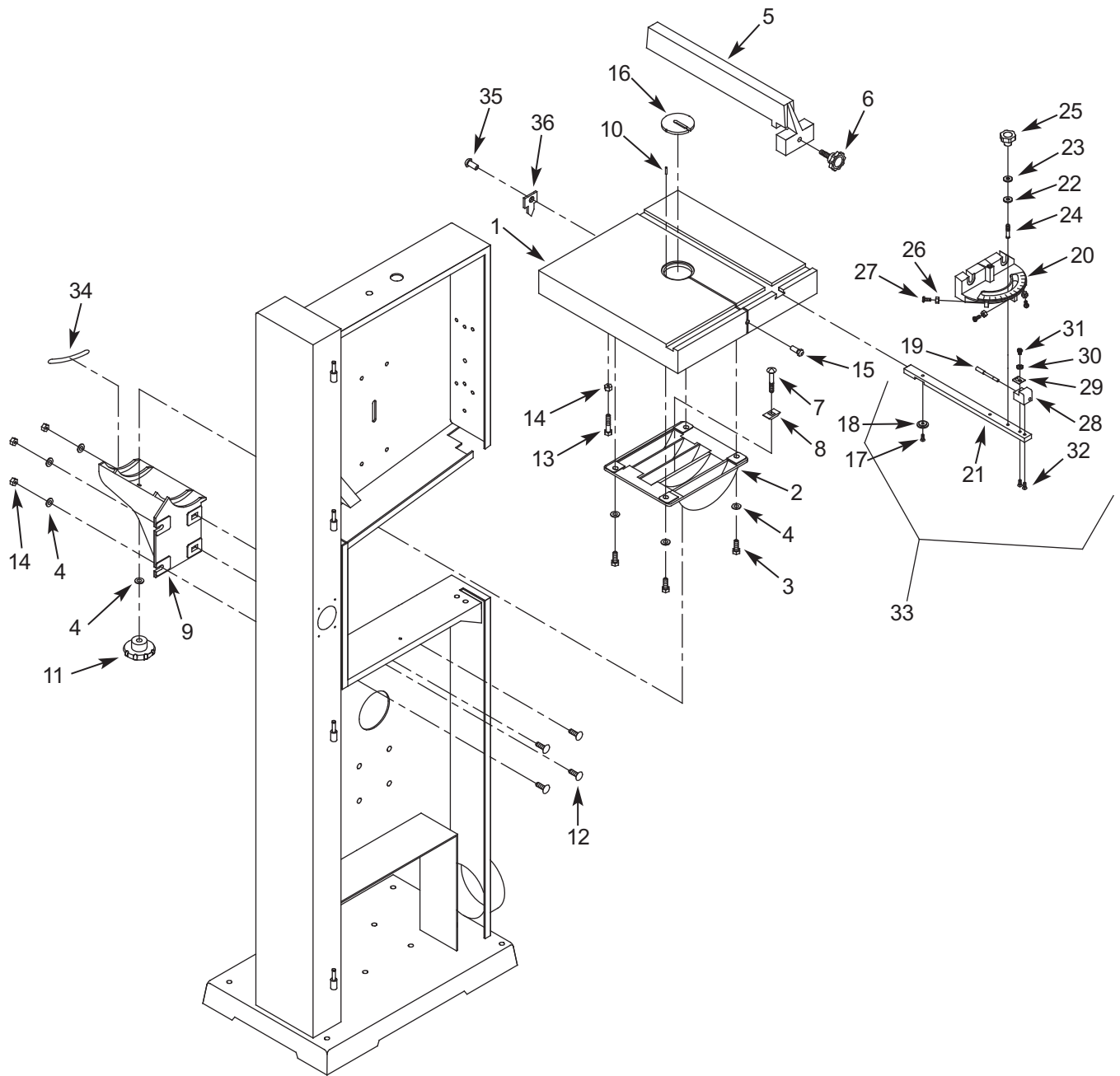


Figure 8 – Repair Parts Illustration for Table

For Repair Parts, call 1-800-Grainger
24 hours a day – 365 days a year

- Please provide following information:
- Model number
 - Serial number (if any)
 - Part description and number as shown in parts list

REPAIR PARTS LIST FOR TABLE

Ref. No.	Description	Part No.	Qty.
1	Table	8608.00	1
2	Upper trunnion	5185.02	1
3	5/16-18 x 3/4" Hex head bolt	*	4
4	5/16" Flat washer	*	9
5	Rip fence	5351.00	1
6	Knob	0010.00	1
7	5/16-18 x 2" Carriage bolt	*	1
8	Guide block	5186.00	1
9	Lower trunnion	5187.00	1
10	4 x 12mm Spring pin	8634.00	1
11	Knob	3659.00	1
12	5/16-18 x 1" Carriage bolt	*	4
13	5/16-18 x 1 3/4" Hex head bolt	*	1
14	5/16"-18 Hex nut	*	5
15	Table stud	8331.00	1
16	Table insert	8609.00	1
17	5-0.8 x 8mm Flat head screw	1833.00	1
18	Guide	1093.00	1
19	Indexing pin	8256.00	1
20	Miter gauge	8251.00	1
21	Miter gauge bar	8250.00	1
22	#10 Fiber washer	*	1
23	1/4" Flat washer	*	1
24	Threaded pin	8255.00	1
25	Knob	8252.00	1
26	#10-24 Hex nut	*	3
27	#10-24 x 3/4" Pan head screw	*	3
28	Indicator	8253.00	1
29	Scale	8254.00	1
30	#10 Flat washer	3888.00	1
31	#10-24 x 1/4" Pan head screw	*	1
32	#10-24 X 1/2" Flat head screw	5991.00	2
33	Miter gauge assembly (Ref. Nos. 17 - 32)	8257.00	1
34	Angle scale	38105.00	1
35	5-0.8 x 8mm Pan head screw	*	1
36	Indicator	38106.00	1

(Δ) Not shown.

(*) Standard hardware item, available locally.

(N/A) Not available as replacement part.

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