

# BELT & DISC SANDER

## Model 31A

Instruction Manual & Parts List  
M-0460267



# ***POWERMATIC***<sup>®</sup>

(800) 274-6848  
[www.powermatic.com](http://www.powermatic.com)

This manual has been prepared for the owner and operators of a Powermatic Model 31A Belt & Disc Sander. Its purpose, aside from machine operation, is to promote safety through the use of accepted correct operating and maintenance procedures. Completely read the safety and maintenance instructions before operating or servicing the machine. To obtain maximum life and efficiency from your sander, and to aid in using the machine safely, read this manual thoroughly and follow all instructions carefully.

## **Warranty & Service**

The WMH Tool Group warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Repair Stations located throughout the United States can give you quick service.

In most cases, any one of these WMH Tool Group Repair Stations can authorize warranty repair, assist you in obtaining parts, or perform routine maintenance and major repair on your JET, Performax, Powermatic or Wilton tools.

For the name of an Authorized Repair Station in your area, please call 1-800-274-6848.

## **More Information**

Remember, the WMH Tool Group is consistently adding new products to the line. For complete, up-to-date product information, check with your local WMH Group distributor.

## **WMH Tool Group Warranty**

The WMH Group (including JET, Performax, Powermatic and Wilton brands) makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follow: 1 YEAR LIMITED WARRANTY ON ALL PRODUCTS UNLESS SPECIFIED OTHERWISE. This Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, repair or alterations outside our facilities, or to a lack of maintenance.

THE WMH TOOL GROUP LIMITS ALL IMPLIED WARRANTIES TO THE PERIOD SPECIFIED ABOVE, FROM THE DATE THE PRODUCT WAS PURCHASED AT RETAIL. EXCEPT AS STATED HEREIN, ANY IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS ARE EXCLUDED. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG THE IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THE WMH TOOL GROUP SHALL IN NO EVENT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY, OR FOR INCIDENTAL, CONTINGENT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF OUR PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an Authorized Repair Station designated by our office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will either repair or replace the product, or refund the purchase price if we cannot readily and quickly provide a repair or replacement, if you are willing to accept a refund. We will return repaired product or replacement at WMH's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of WMH's warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

The WMH Tool Group sells through distributors only. Members of the WMH Group reserve the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

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## SAFETY RULES

As with all machines, there is a certain amount of hazard involved with the use of this sander. Use the machine with the respect and caution demanded where safety precautions are concerned. When normal safety precautions are overlooked or ignored, personal injury to the operator can result.

**Read, understand and follow** the safety and operating instructions found in this manual. Know the limitations and hazards associated with this machine.

**Electrical grounding.** Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding plug connects to a suitable ground. Follow the grounding procedure indicated in the National Electrical Code.

**Eye safety.** Wear an approved safety shield, goggles, or glasses to protect eyes. (NOTE: Common eyeglasses are only impact-resistant, they are not safety glasses.)

**Personal protection.** Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose outer clothing and confine long hair. Protective type footwear should be used. Where the noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA Regulations, use hearing protective devices. Do not wear gloves.

**Guards.** Keep the machine guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace guards on completion of the maintenance task before operating the sander. DO NOT operate the machine with the guards off except for the belt end guard which swings away to allow for contour sanding. Keep that guard in place except when contour sanding and swing it back into position immediately after completing the contour sanding task.

**Work area.** Keep the floor around the machine clean and free of scrap material, saw dust, oil and other liquids to minimize the danger of tripping or slipping. Make certain the work area is well lighted and that a proper exhaust system is used to minimize dust. Powermatic recommends the use of anti-skid floor strips on the floor area where the operator normally stands and that each machine's work area be marked off. Provide adequate work space around the machine.

**Avoid accidental starting:** Make certain motor switch is in off position before connecting power to the machine.

**Operator position.** Maintain a balanced stance and keep your body under control at all times. Do not over-reach. Do not stand in line with the belt in the direction that it is moving when the work stop is not in use.

**Belt and Disc Direction.** Proper belt direction is from the idler pulley towards the drive pulley. Proper disc rotation is counterclockwise facing the disc. CAUTION: Sand on the section of the disc from the center to the left edge. DO NOT use the right hand portion for sanding.

**Housekeeping.** Before turning on machine, remove all extra equipment such as keys, wrenches, scrap, and cleaning rags away from the machine.

**Careless acts.** Give the work you are doing your undivided attention. Looking around, carrying on a conversation, and "horseplay" are careless acts that can result in serious injury.

**Disconnect machine** before performing any service or maintenance.

**Hand safety.** Keep fingers and hands away from the belt or disc. DO NOT clear sawdust from the table with the hands; use a brush. On small or thin parts, use a push stick or jig to keep the hands from contacting the abrasive. If using the optional fence, avoid getting fingers too close to the fence to prevent pinching. Never wear gloves while operating the sander.

**Machine capacity.** Do not try to force the sander to remove material faster than the power available from the drive motor. The use of light pressure on either disc or belt sanding and moving the part back and forth will maximize belt or disc life, help to minimize the chances of an accident and keep the force within the capacity of the drive motor.

**Machine adjustments.** Make all machine adjustments with power off except belt tracking. Belt tracking should be checked manually before starting the sander, but final adjustment may have to be made after starting up the sander.

**Table safety.** Be sure the table is locked in position before placing stock on it and that its front edge is within 1/16" or less, of the disc or belt.

**Job completion.** If the operator leaves the machine area for any reason, the sander should be turned "off" and the abrasive belts should come to a complete stop before his departure. In addition, if the operation is complete, he should clean the sander and the work area. Never clean the sander with power "on" and never use the hands to clear sawdust and debris; use a brush.

**Replacement parts.** Use only Powermatic or factory authorized replacement parts and accessories; otherwise the warranty and guarantee is null and void.

**Misuse.** Do not use this Powermatic sander for other than its intended use. If used for other purposes, Powermatic disclaims any real or implied warranty and holds itself harmless for any injury or damage which may result from that use.

**If you are not** thoroughly familiar with the operation of sanders, obtain advice from your supervisor, instructor or other qualified person.

**Drugs, alcohol, medication.** Do not operate this machine while under the influence of drugs, alcohol, or any medication.

**Health hazards.** Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- \* Lead from lead-based paint.
- \* 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, such as those dust masks that are specifically designed to filter out microscopic particles.

Familiarize yourself with the following safety notices used in this manual:



**CAUTION:** (This means that if precautions are not heeded, it may result in minor or moderate injury and/or possible machine damage)



**WARNING:** (This means that if precautions are not heeded, it could result in serious injury or possibly even death).

## **SAFETY:** Decal for Model 31A Sander

Familiarize yourself with the location and content of this decal on your machine.

 **WARNING**

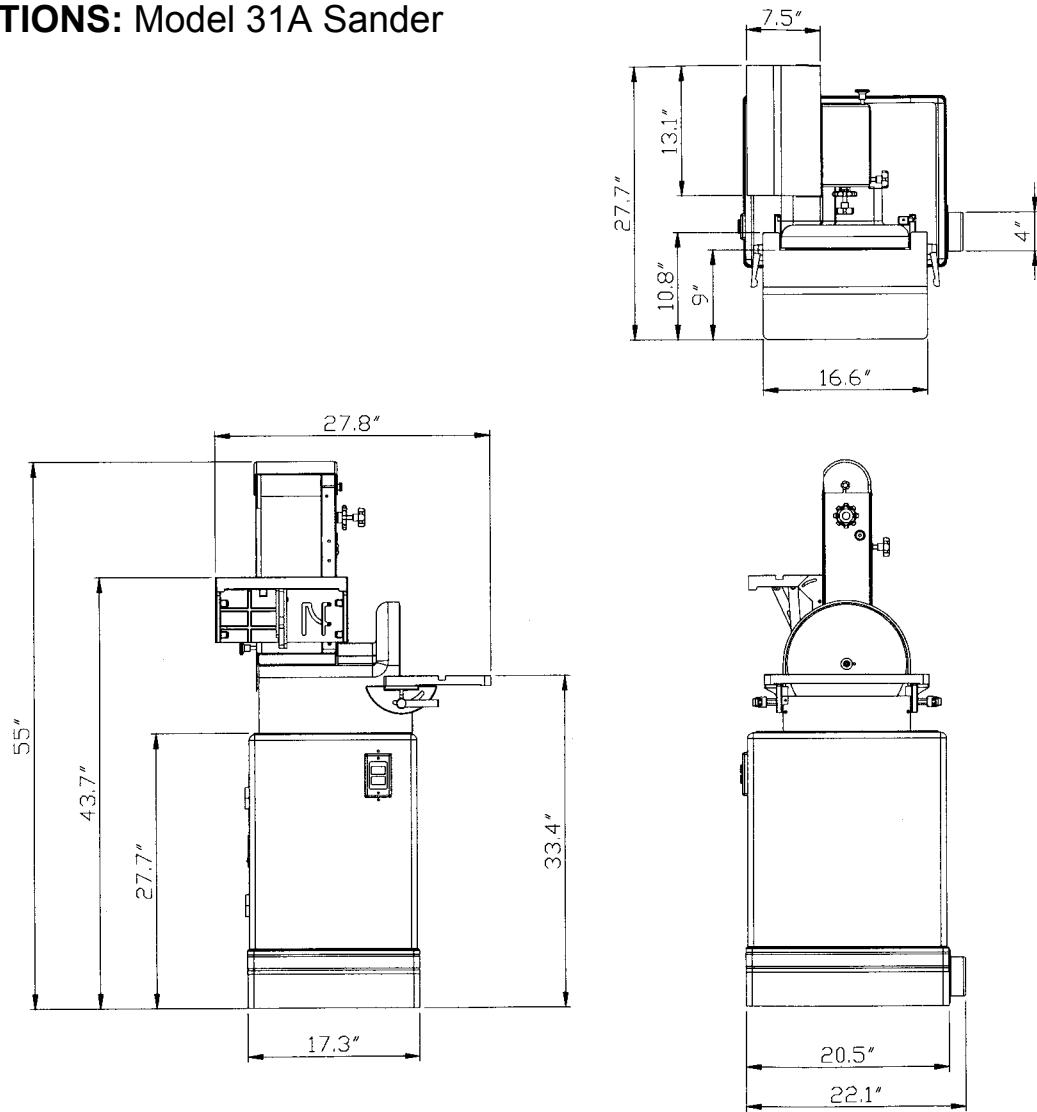
1. Read and understand the instruction manual before operating the sander.
2. Always wear eye protection.
3. Remove jewelry, fasten loose articles of clothing, roll up long sleeves and contain long hair.
4. Support workpiece with mitre gauge, backstop, or worktable (Or for a disc sander, support your workpiece on worktable).
5. Maintain 1/16 inch maximum clearance between table and sanding belt or disc.
6. Disconnect machine from power source before performing any maintenance, adjustments, or cleaning.
7. Keep work area clean. Clutter invites accidents.
8. Do not operate this machine while under the influence of alcohol or drugs.

**DO NOT REMOVE OR OBSCURE THIS LABEL**

31A-102

# SPECIFICATIONS: Model 31A Sander

FIGURE 1



Disc size .....	12"
Disc speed .....	2378 RPM
Sanding belt size .....	6" W x 48" L
Upper & lower wheel .....	4-3/8" Dia. x 6-1/4" L
Belt speed .....	2409 feet per minute
Motor .....	1-1/2 HP, 1 Ph, 115/230V, 12/6 Amp, 1750 RPM
Belt position .....	0 , 45, and 90 degrees
Table size – disc .....	14-1/2" x 6-1/2"
Disc table tilt .....	15 degrees up to 45 degrees down
Fence table tilt .....	0 degrees up to 45 degrees down
Fence size .....	13" W x 7-1/2" L
Net weight .....	246.4 lbs.

NOTE: The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, Powermatic reserves the right to change specifications without notice and without incurring obligations.

## RECEIVING

Remove the sander and base and any loose parts from their containers. Check for damage and ensure all parts are intact. Any damage should be reported to your distributor and shipping agent immediately upon discovery. Before proceeding with assembly, read the manual thoroughly; familiarize yourself with correct assembly and maintenance procedures and proper safety precautions.

### Contents of crate:

- 1 base assembly with motor
- 1 sander body
- 1 abrasive belt
- 1 abrasive disc
- 1 fence assembly
- 1 hardware bag
- 1 hardware bag

The contents of the hardware bag are drawn in Figure 2.

## INSTALLATION & ASSEMBLY

### Tools required

- adjustable wrench (or socket wrench set)
- hex wrenches

1. If the machine is to be secured to the floor, use high quality lag screws through the four holes inside the bottom of the base. If using a mobile base, be sure to lock the wheels before assembling, operating or making adjustments to the sander. (A mobile base for your sander is available from Powermatic – stock # 708221.)

2. Mount the sander body (A) to the stand (B) with four M8 x 25 hex head screws, four M8 lock washers and four M8 flat washers as shown in Figure 3.

3. The drive belt (C) is already mounted on the drive sheave (D) behind the disc, as shown in Figure 4. However, it should be checked to ensure that it is in the sheave groove.

4. Position the belt (C) around the motor sheave (E) and tension the belt by adjusting the nuts (F) on the tensioning screw.

NOTE: Proper tension is achieved when there is moderate deflection in the belt midway between the two sheaves.

## ELECTRICAL CONNECTIONS

Wire the sander in accordance with the requirements of the National Electrical Code (ANSI/NFPA70). See wiring diagram on pages 20-21. Make sure your power source matches the rating on the machine's motor nameplate.

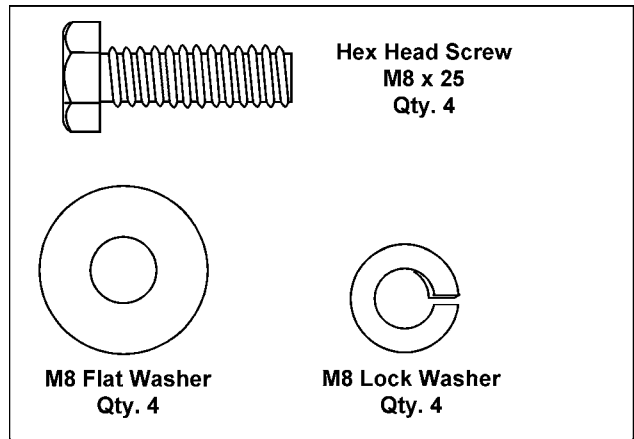


FIGURE 2

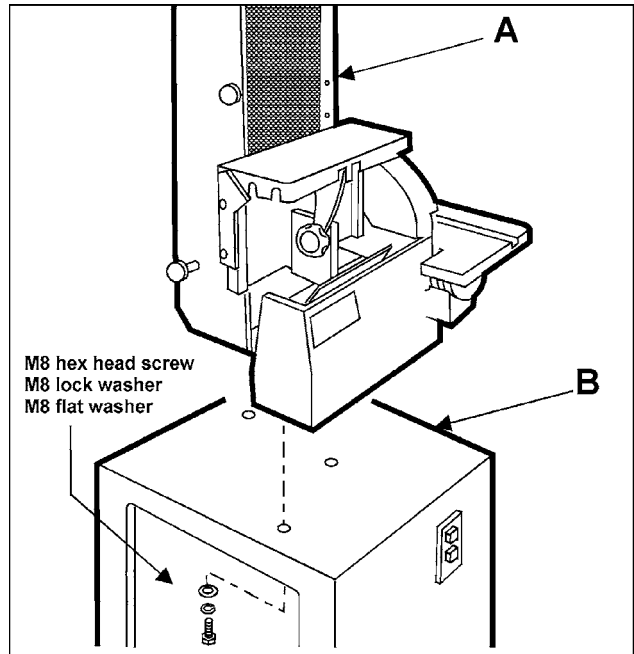


FIGURE 3

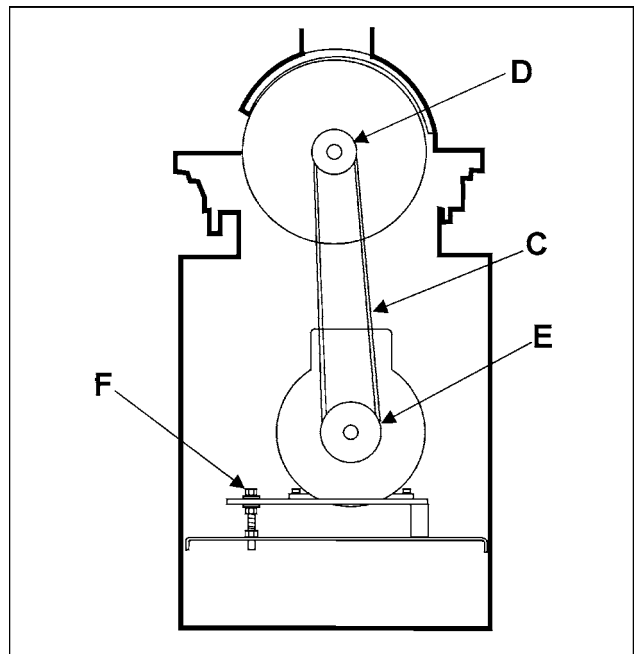


FIGURE 4



**⚠ WARNING: Electrical wiring should be done by a qualified electrician. The machine must be properly grounded to help avoid electrical shock and associated hazards including possible death.**

## ADJUSTMENTS

Before putting power to the sander, inspect the machine thoroughly. Check to ensure that all screws are tight, all mechanical functions work freely, belt runs freely and tracks properly, and the disc runs freely and does not come into contact with the guard or table.

Turn the motor on and check for proper rotation direction of the belts. The sanding belt should move from the idler pulley toward the drive pulley while the disc should rotate counter-clockwise with the operator facing the disc.

Run the sander without sanding for a short period to ensure the belt tracks properly and the disc adhesive sticks properly to the disc.

## ABRASIVE BELT INSTALLATION

To install or replace an abrasive belt, proceed as follows (Figures 5 and 6):

1. Loosen the knob (A) and swing the belt end guard (B) out of position.
2. Remove the side guard (C) by loosening and removing the two screws holding it. Release tension on the belt by loosening the tension knob (E) at the back of the belt arm. Loosen the tracking screw (F) on the side of the belt arm and move the drum forward.
3. Slide the worn sanding belt off the idler and driving drums and install a new belt.
4. Retighten the belt tension screw (E) and tracking screw (F). Check the tracking manually to ensure the belt tracks properly. Put the side guard (C) back on and secure with the screws. Swing the end guard (B) back into position and re-tighten the knob (A).

## ABRASIVE BELT ALIGNMENT

1. To properly align the abrasive belt, tighten the belt tension screw (E) until the belt is relatively tight. See Figure 5.
2. Manually rotate the belt with one hand while at the same time adjusting the tracking screws with the other hand until the belt is tracking in the center of the idler and driving pulley. Caution is necessary since excessive tension can stretch a belt to the point where it will not track.

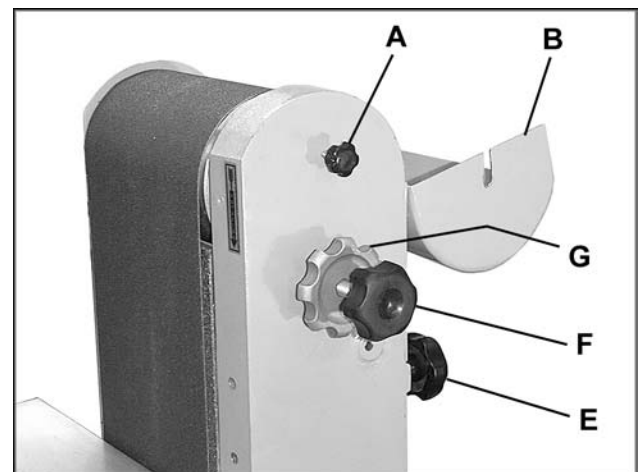


FIGURE 5

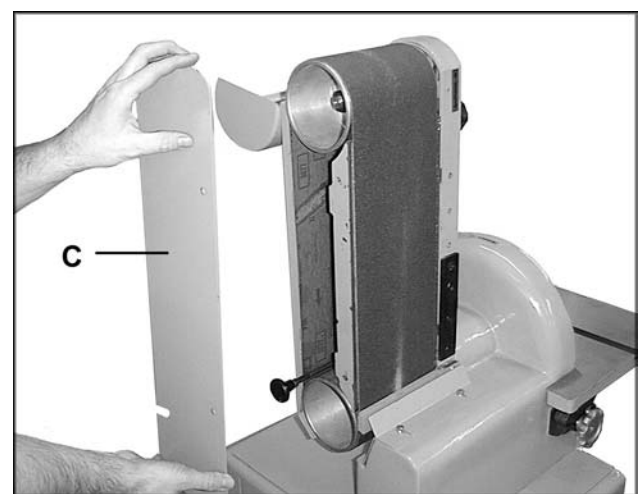


FIGURE 6

3. Make final adjustments to the tracking by momentarily starting and stopping the motor while at the same time adjusting the tracking screw (F), Figure 5, at the side of the belt arm. To lock the screw in place, rotate the tracking screw locking nut (G) against the belt arm.

## PLATEN ADJUSTMENT

Due to wear, occasionally the platen may have to be readjusted. To do this, proceed as follows:

Swing the end guard out of position and remove the side guard. Loosen the two hex screws (A) on the opposite side of the belt arm and adjust the platen. See Figure 7. The platen should be  $1/32''$  to  $1/16''$  above the tangent points of the pulleys and in contact with the belt at both ends. A straight edge can be used with the belt to align the platen.

## SANDING TABLE ADJUSTMENT

The sanding table may be adjusted from any angle from 15 degrees up to 45 degrees down. To adjust, loosen the lock wheels (A) on both sides and pivot table to the desired angle as shown on the trunnion scale (B). Re-tighten the lock wheel (A). See Figure 8.

A 45-degree stop (C) is located under the table. Check the angle of the table against the stop to make sure it is 45 degrees. If it is not, adjust by loosening the hex nut and screwing the stop in or out as needed. Re-tighten hex nut.

A zero-degree stop (D) is located behind the disc. See Figure 9. The block should be set for quick placement of the table to the 0 position (90 degree table). The block must be swung out of position for the table to be tilted downward. If major adjustment of the zero-degree stop is necessary, loosen the socket head cap screws (E) to raise or lower the bracket. For fine adjustment, loosen the hex nut (F) and turn the screw in or out as needed. Re-tighten hex nut (F).

Periodically check zero position on the table by using a combination square. The angle between the table and disk should be 90 degrees when the trunnion pointer is at zero

## WORK STOP

Your sander is equipped with a work stop for use with the belt arm in the horizontal position (see Figure 17). When installed, the work stop will prevent a work piece from being thrown from the belt. If removed for through-sanding, the work stop should be immediately reinstalled after the through-sanding operation (unless the fence attachment is used in its place for 45-degree or vertical

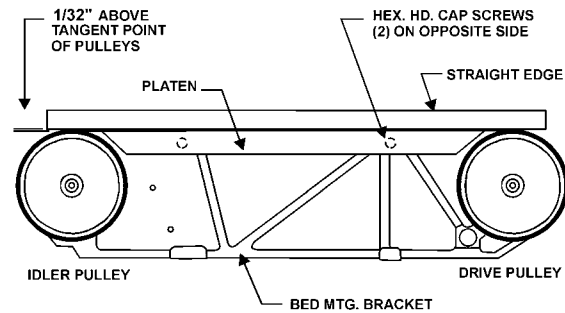


FIGURE 7

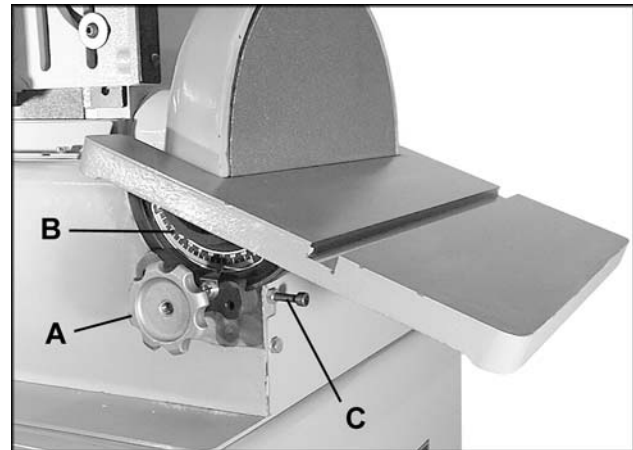


FIGURE 8

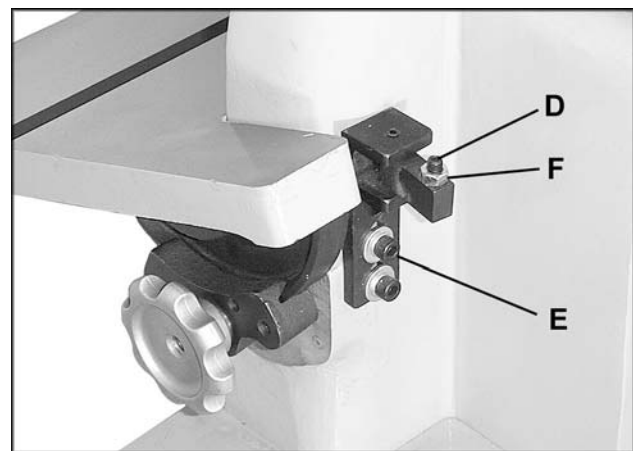


FIGURE 9

positions of the arm). Use a 10mm hex wrench to remove or install the work stop.

## BELT ARM POSITIONING

Your sander is equipped with a shot pin arrangement to lock the belt arm in 0-degree, 45-degree, and 90 degree positions. To position the belt, loosen the locking handle (A) shown in Figure 10. Pull out on the shot pin (B), shown in Figure 11, and swing the belt arm into the desired position. Then release the shot pin. Check that the pin has gone into position by attempting to move belt arm back and forth. Re-tighten locking handle (A-Figure 10). When positioning the arm at any non-standard angle, make sure the locking handle is tightened securely.

NOTE: If the locking handle conflicts with the motion of the belt arm, pull up on the handle and turn it out of the way, as shown in Figure 10.

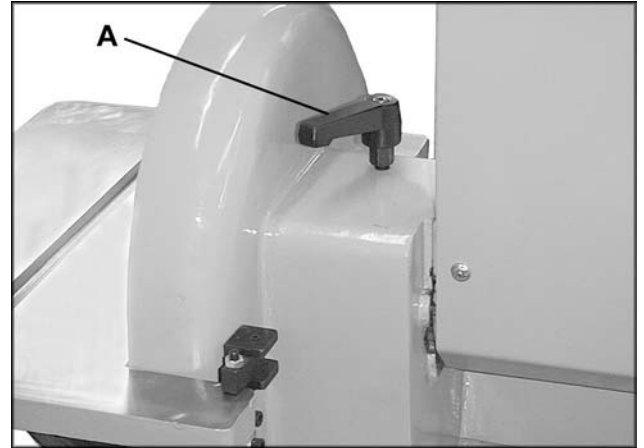


FIGURE 10

## CHANGING MOTOR VOLTAGE

**⚠ WARNING: ELECTRICAL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN. THE MACHINE MUST BE PROPERLY GROUNDED TO HELP AVOID ELECTRICAL SHOCK AND ASSOCIATED HAZARDS INCLUDING POSSIBLE DEATH.**

To change the motor voltage, remove the terminal box cover and rewire per the circuit shown on the cover. On magnetic starter models, starter wiring and transformer wiring (when used) will also have to be changed as shown on the decals attached.

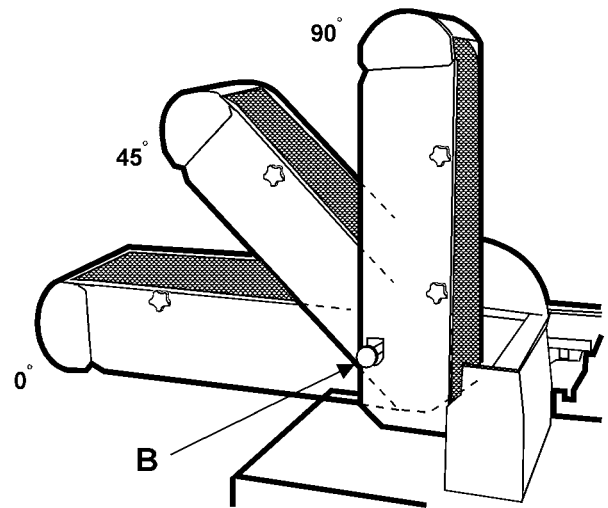


FIGURE 11

## OPERATING THE SANDER

The belt and disc sander can be equipped with a variety of abrasives and grit sizes to handle a wide variety of materials, from soft woods to hardened steel. It can be used to rapidly remove material and produce a mirror finish. Using various types of fixtures, they can be used to sand template forms, angles, freehand contours, and flats on edges, surfaces and ends.

## TEMPLATE FORMS

A template similar to that shown in Figure 12, can be made to facilitate sanding multiple pieces to the same size.

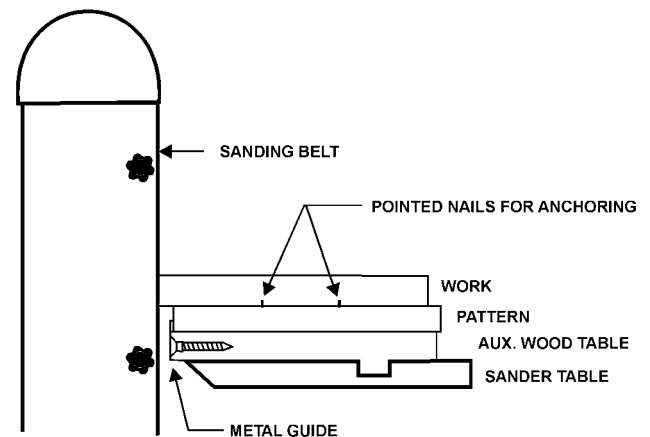


FIGURE 12

## FENCE/TABLE

The fence attachment is used with the belt sander and can be positioned alternately as a table (with the belt arm in upright position) or as a fence (with the belt arm in horizontal position). The fence attachment surface has a slot for a mitre gauge when the attachment is used as a table. The fence attachment can be tilted between 90-degree and 45-degree angles by loosening the knob (A) on the center portion of the attachment. Manually move the fence to the desired angle and tighten the knob (A). See Figure 13.

To position the fence at an angle across the belt (for skew sanding as shown in Figure 14), use a 3/16 hex wrench to loosen the two socket head screws (B, Fig. 13). Rotate the fence attachment by sliding it around the bolts using the curved slot (C). When the desired position is reached, re-tighten the screws (B).

To change the fence attachment from fence to table, or vice-versa, remove the two socket head screws (B) shown in Figure 13. Remove the fence attachment and rotate the pivot plate (D) 180 degrees lining the holes up with the holes in the sander. See Figure 15. Place the fence attachment on the pivot plate with the table perpendicular to the belt. Line up the slots with the holes on the pivot plate and the sander, then replace and tighten the screws (B).

**⚠ CAUTION: Always mount the base of the fence attachment *through the pivot plate*. Failure to do so could lead to damage to the fence attachment and also ruin the sanding belt.**

The chart on page 13 lists the various grits and materials used and lists the grit symbols. It is generally better to start with a slightly coarser abrasive than would seem practical because it will give faster material removal, generate less heat, and will sand more freely. As it dulls, it will tend to act like a finer abrasive.

Too often, the user will expect one belt or disc to take care of all situations; however, the materials to be sanded, the desired finish and the amount of material to be removed all have an effect on the selection grade of grit, abrasive material and construction. Contact suppliers of abrasive belts and discs for their recommendations on the work to be done.

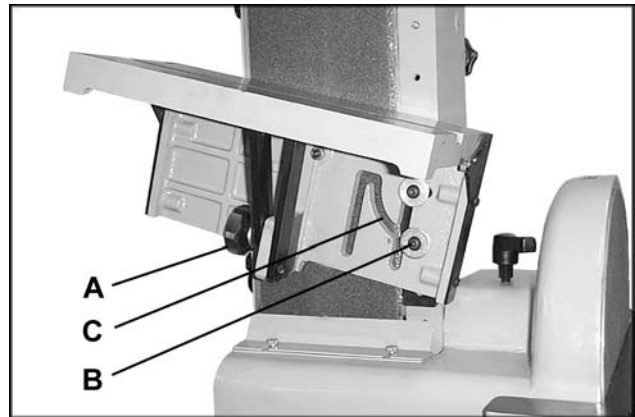


FIGURE 13



FIGURE 14

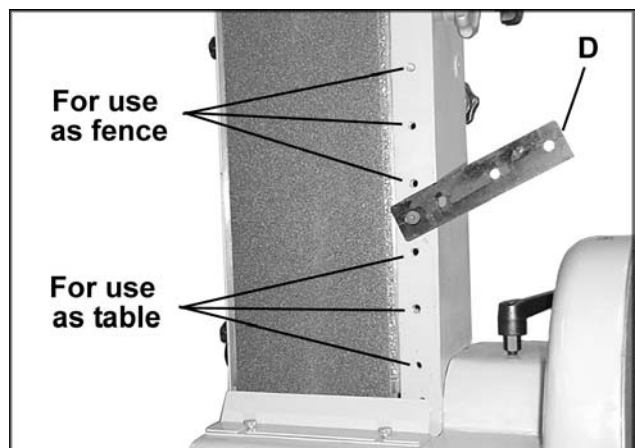


FIGURE 15

## TYPES OF OPERATIONS

**Flat surface sanding** is demonstrated in Figure 16, where the major surface is sanded in a flat plane.

**Edge sanding** is a common type of long surface sanding that can be done using the fence. See Figure 17.

Edge sanding and flat surface sanding can also be done with the belt in a vertical position, by using the fence assembly as a table.

**Miters** and compound miter cuts can be sanded using the table and the optional miter gauge (available from your Powermatic dealer). Special fixtures can also be designed to use on the table for circular and form sanding.

**Contour sanding** can be done using the idler pulley with the end guard swung down. See figure 18.

**CAUTION:** Always swing the end guard back in position and fasten it down immediately after the completion of any operation that required the guard to be moved out of position.

**CAUTION:** Keep in mind that abrasive sanding develops heat, so burns can occur on wood if you try to remove material too fast. With metal, it may be necessary to have a container of water nearby to keep the workpiece cool enough to hold it by hand.

**Flat surface and contour sanding** can be done in the horizontal, 45-degree, and vertical position of the belt arm. To change position, pull out the shot pin and swing arm to the desired position, then release shot pin (Figure 11).

## MAINTENANCE

Make periodic or regular inspections to ensure that your sander is properly adjusted, that all screws are tight, the belts in good condition, that dust has not collected in the motor or electrical enclosures and there are no loose or worn electrical fittings or wiring.

## LUBRICATION

All bearings used on the Model 31 Sander are sealed for life and require no lubrication.

### Monthly lubrication schedule:

The idler slide, Figure 19, and table trunnion (B-Fig. 8), with good quality, non-hardening grease.

The table clamp screw (A-Fig. 8 on page 9) and belt arm shot pin (B-Fig. 11 on page 10) with SAE No. 10 oil.



FIGURE 16

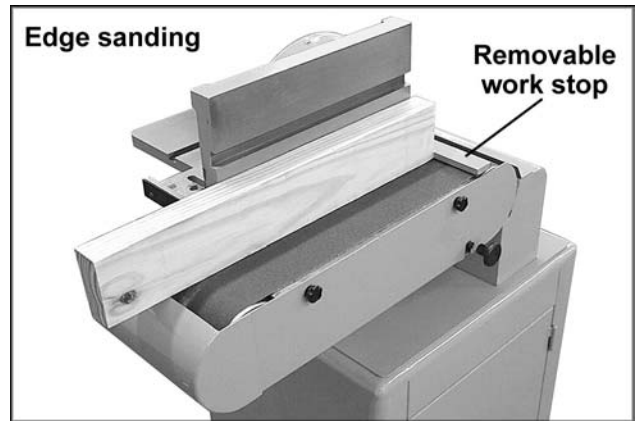


FIGURE 17

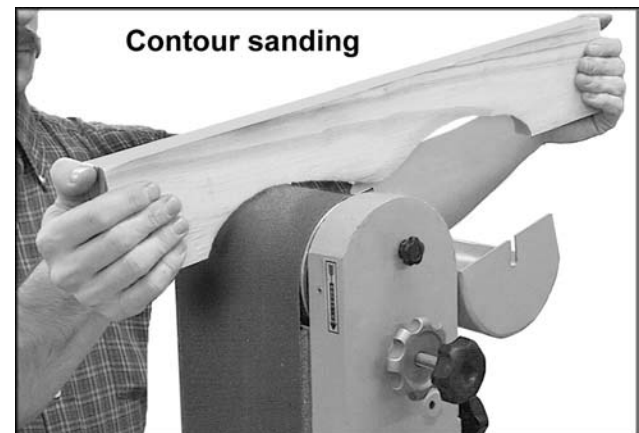


FIGURE 18

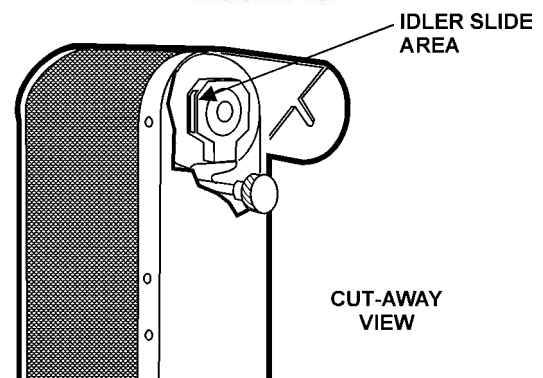


FIGURE 19

# GRIT COMPARISON CHART

	ALUMINUM OXIDE, SILICON CARBIDE		EMERY
	Mesh Number	Comparable Grit Symbol	Grit Grade
Extra Fine	600 500 400 360 320	9/0	
Very Fine	280 240 220	8/0 7/0 6/0	
Fine	180 150 120	5/0 4/0 3/0	Fine
Medium	100 80 60	2/0 0 1/2	Medium
Coarse	50 40	1 1-1/2	
Very Coarse	36 30 24	2 2-1/2 3	Extra Course
Extra Course	20 16 12	3-1/2 4 4-1/2	

## Accessories

### SANDING BELTS

57617110 6" x 48" Sanding Belt, 24 Grit, Closed Coat\*  
 57617210 6" x 48" Sanding Belt, 40 Grit, Closed Coat  
 57617410 6" x 48" Sanding Belt, 60 Grit, Closed Coat  
 57617510 6" x 48" Sanding Belt, 80 Grit, Closed Coat  
 57617610 6" x 48" Sanding Belt, 100 Grit, Closed Coat  
 57617710 6" x 48" Sanding Belt, 120 Grit, Closed Coat  
 57512210 6" x 48" Sanding Belt, 150 Grit, Closed Coat  
 57512310 6" x 48" Sanding Belt, 180 Grit, Closed Coat

57432910 6" x 48" Sanding Belt, 24 Grit, Open Coat\*  
 57422110 6" x 48" Sanding Belt, 40 Grit, Open Coat  
 57422210 6" x 48" Sanding Belt, 60 Grit, Open Coat  
 57422310 6" x 48" Sanding Belt, 80 Grit, Open Coat  
 57422410 6" x 48" Sanding Belt, 100 Grit, Open Coat  
 57422510 6" x 48" Sanding Belt, 120 Grit, Open Coat  
 57422610 6" x 48" Sanding Belt, 150 Grit, Open Coat  
 57422710 6" x 48" Sanding Belt, 180 Grit, Open Coat

### SANDING DISCS

57698525 12" Sanding Disc, 36 Grit  
 57698650 12" Sanding Disc, 50 Grit  
 57698750 12" Sanding Disc, 60 Grit  
 57698850 12" Sanding Disc, 80 Grit  
 57698950 12" Sanding Disc, 100 Grit  
 57699050 12" Sanding Disc, 120 Grit

#### \*NOTE:

Open coat - 70% grain coverage,  
for woodworking applications.  
 Closed coat - 100% grain coverage  
for metalworking and some  
woodworking applications

## TROUBLE SHOOTING for Model 31A Sander

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Machine fails to start.	<ol style="list-style-type: none"> <li>1. Faulty switch.</li> <li>2. Bad motor.</li> <li>3. Not connected to power source.</li> <li>4. Connected to wrong voltage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace switch.</li> <li>2. Replace motor.</li> <li>3. Check connection.</li> <li>4. Reconnect to correct voltage.</li> </ol>
Belt won't track.	<ol style="list-style-type: none"> <li>1. Platen shifted or worn.</li> <li>2. Drum is worn.</li> <li>3. Belt is stretched unevenly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Raise platen to 1/32" beyond the apex of the drum.</li> <li>2. Replace drum.</li> <li>3. Replace belt.</li> </ol>
Abrasive disc comes free of aluminum discs.	<ol style="list-style-type: none"> <li>1. Improperly bonded.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean adhesive off aluminum and reapply adhesive.</li> </ol>
Belt slips or stalls on application of pressure.	<ol style="list-style-type: none"> <li>1. Abrasive belt tension inadequate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten belt.</li> <li>2. Reduce pressure.</li> <li>3. Tighten motor belt.</li> </ol>
Disc stalls.	<ol style="list-style-type: none"> <li>1. Motor belt loose.</li> <li>2. Disc shaft key missing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten motor belt.</li> <li>2. Replace pin.</li> </ol>
Excessive abrasive belt replacement.	<ol style="list-style-type: none"> <li>1. Too much pressure.</li> <li>2. Not using full width of belt.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce pressure.</li> <li>2. Stroke across belt using full width.</li> </ol>
Belt arm won't index.	<ol style="list-style-type: none"> <li>1. Shot pin stuck.</li> <li>2. Broken spring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove arm and free shot pin.</li> <li>2. Remove arm and replace spring.</li> </ol>

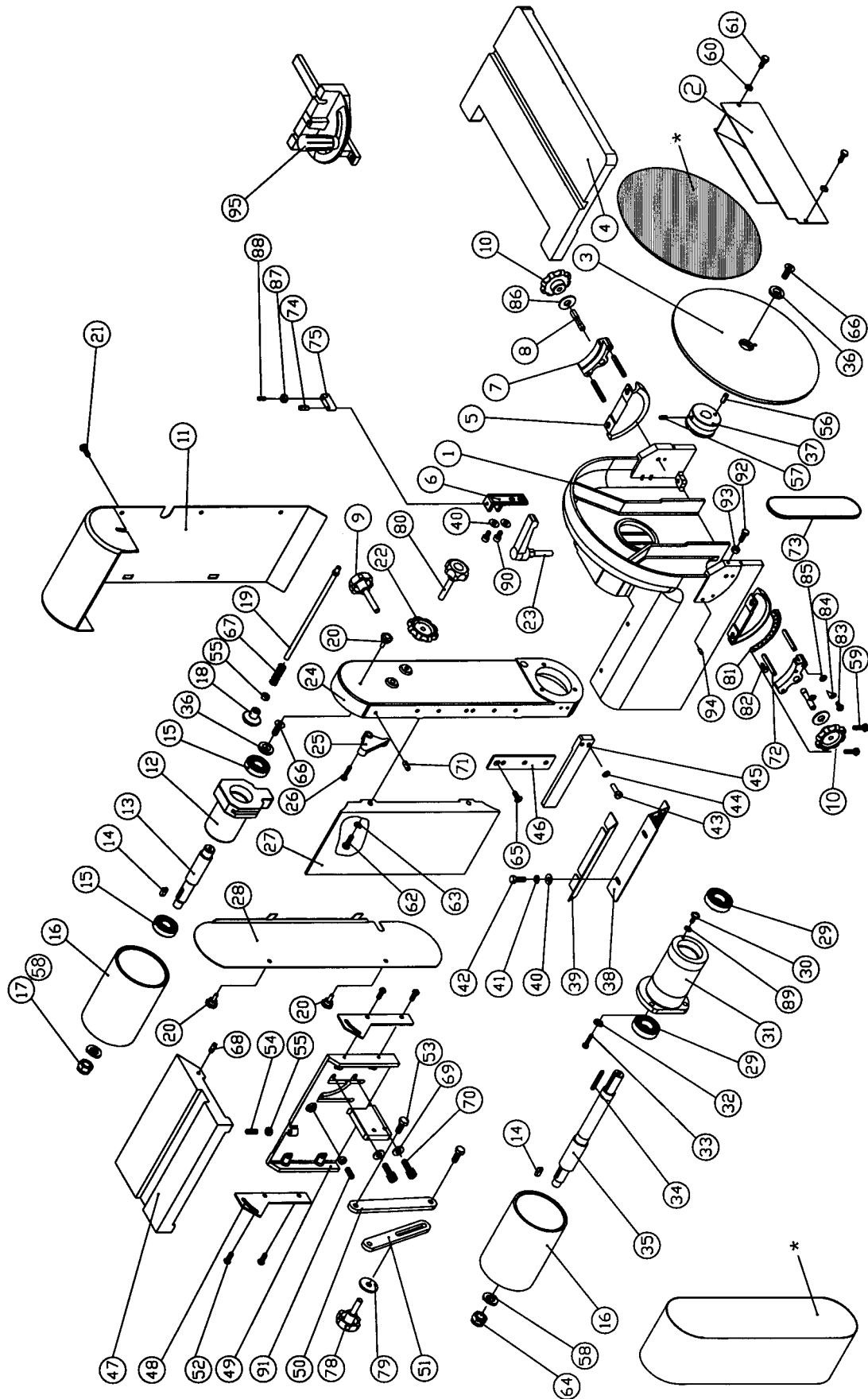
## PARTS LIST: **Body Assembly** (Model 31A Sander)

No.	Part No.	Description	Quantity
1	31A-1	Cast Base .....	1
2	31A-2	Dust Chute (Disc) .....	1
3	31A-3	Sanding Disc .....	1
4	31A-4	Disc Table.....	1
5	31A-5	Trunnion.....	2
6	31A-6	90° Stop Bracket.....	1
7	31A-7	Trunnion Holder.....	2
8	31A-8	Set Screw, M10 x 55 .....	2
9	31A-9	Lock Knob, M10 x 57 .....	1
10	31A-10	Ring Spanner.....	2
11	31A-11	Sanding Belt Guard .....	1
12	31A-12	Idler Bearing Housing .....	1
13	31A-13	Shaft .....	1
14	31A-14	Key, 6 x 6 x 25 .....	2
15	31A-15	Bearing, 6204ZZ.....	2
16	31A-16	Aluminum Drum.....	2
17	31A-17	Hex Nut, M16 x 2 (L.H. Threads) .....	1
18	31A-18	Knob .....	1
19	31A-19	Index Pin.....	1
20	31A-20	Knob, M6 x 12 .....	3
21	31A-21	Pan Head Screw w/ Flange, M6 x 12 .....	3
22	31A-22	Locking Handle, M10 x 1.25P .....	1
23	31A-23	Lock Handle, M10 x 45.....	1
24	31A-24	Side Plate Casting.....	1
25	31A-25	Rocker Arm.....	1
26	31A-26	Hex Head Bolt .....	1
27	31A-27	Platen.....	1
28	31A-28	Side Cover .....	1
29	31A-29	Bearing 6205ZZ.....	2
30	31A-30	Pan Head Screw w/ Flange, M5 x 8 .....	1
31	31A-31	Bearing Housing .....	1
32	TS-1551061	Lock Washer, M8.....	3
33	TS-1504051	Socket Head Cap Screw, M8 x 25 .....	3
34	31A-32	Key, 6 x 6 x 40 .....	1
35	31A-33	Shaft .....	1
36	31A-34	Special Washer .....	2
37	31A-35	Pulley.....	1
38	31A-36	Belt Guard.....	1
39	31A-37	Guard.....	1
40	TS-1550041	Flat Washer, M6 x 16 .....	2
41	TS-1551041	Lock Washer, M6.....	2
42	31A-38	Hex Head Bolt, M6 x 12.....	2
43	31A-39	Hex Head Bolt, M6 x 20.....	2
44	TS-1551041	Lock Washer, M6.....	2
45	31A-40	Work Rest.....	1
46	31A-41	Pivot Plate.....	1
47	31A-42	Fence Table.....	1
48	31A-43	Fence End Bracket .....	2
49	31A-44	Fence Base .....	1
50	31A-45	Long Link .....	1
51	31A-46	Short Link.....	1
52	31A-47	Socket Head Button Screw, M6 x 12.....	4
53	31A-48	Hex Head Bolt .....	3
54	31A-49	Set Screw, M8 x 35 .....	1
55	TS-1540061	Hex Nut, M8.....	2
56	31A-50	Spring Pin, 6mm dia x 20 .....	1



No.	Part No.	Description	Quantity
57	31A-51	Set Screw, M6 x 8.....	1
58	31A-52	Lock Washer, M16.....	2
59	31A-53	Hex Head Flange Bolt, M6 x 20.....	4
60	31A-54	Lock Washer, M6.....	2
61	31A-55	Hex Head Bolt, M6 x 8.....	2
62	TS-1504041	Socket Head Cap Screw, M8 x 20.....	2
63	TS-1551051	Lock Washer, 8mm.....	2
64	31A-56	Hex Nut, M16 x 2 (L.H. Threads).....	1
65	31A-57	Socket Head Flat Screw, M6 x 16.....	1
66	31A-58	Socket Head Flat Screw, M8 x 20.....	2
67	31A-59	Spring.....	1
68	31A-60	Pin, 6mm dia x 16.....	2
69	TS-1550071	Flat Washer, M10 x 20.....	2
70	TS-1505031	Socket Head Cap Screw, M10 x 25.....	2
71	31A-61	Roll Pin, 6mm dia x 24.....	2
72	31A-62	Roll Pin, 6mm dia x 45.....	4
73	31A-63	V-belt, A50.....	1
74	31A-64	Roll Pin, 5mm dia x 30.....	1
75	31A-65	Stop Block.....	1
78	31A-68	Lock Knob, 8mm x 20.....	1
79	31A-69	Flat Washer, M8 x 30 dia.....	1
80	31A-70	Lock Knob, M10 x 1.25P.....	1
81	31A-71	Tilting Scale.....	1
82	31A-72	Rivet, 2mm dia. x 5.....	1
83	31A-73	Pan Head Bolt, M6 x 8.....	1
84	31A-74	Pointer.....	1
85	TS-1550041	Flat Washer, M6 x 13.....	1
86	TS-1550071	Flat Washer, M10 x 20 dia.....	2
87	TS-1540041	Hex Nut, M6.....	1
88	TS-1523071	Socket Set Screw, M6 x 25.....	1
89	TS-1550031	Flat Washer, M5.....	1
90	TS-1503051	Socket Head Cap Screw, M6 x 20.....	2
91	TS-1524051	Socket Set Screw, M8 x 20.....	1
92	31A-75	Hex Head Bolt, M6 x 25.....	1
93	TS-1540041	Hex Nut, M6.....	1
94	31A-76	Pin.....	1
95	31A-77	Mitre Gauge Assembly.....	1

# Body Assembly (Model 31A Sander)

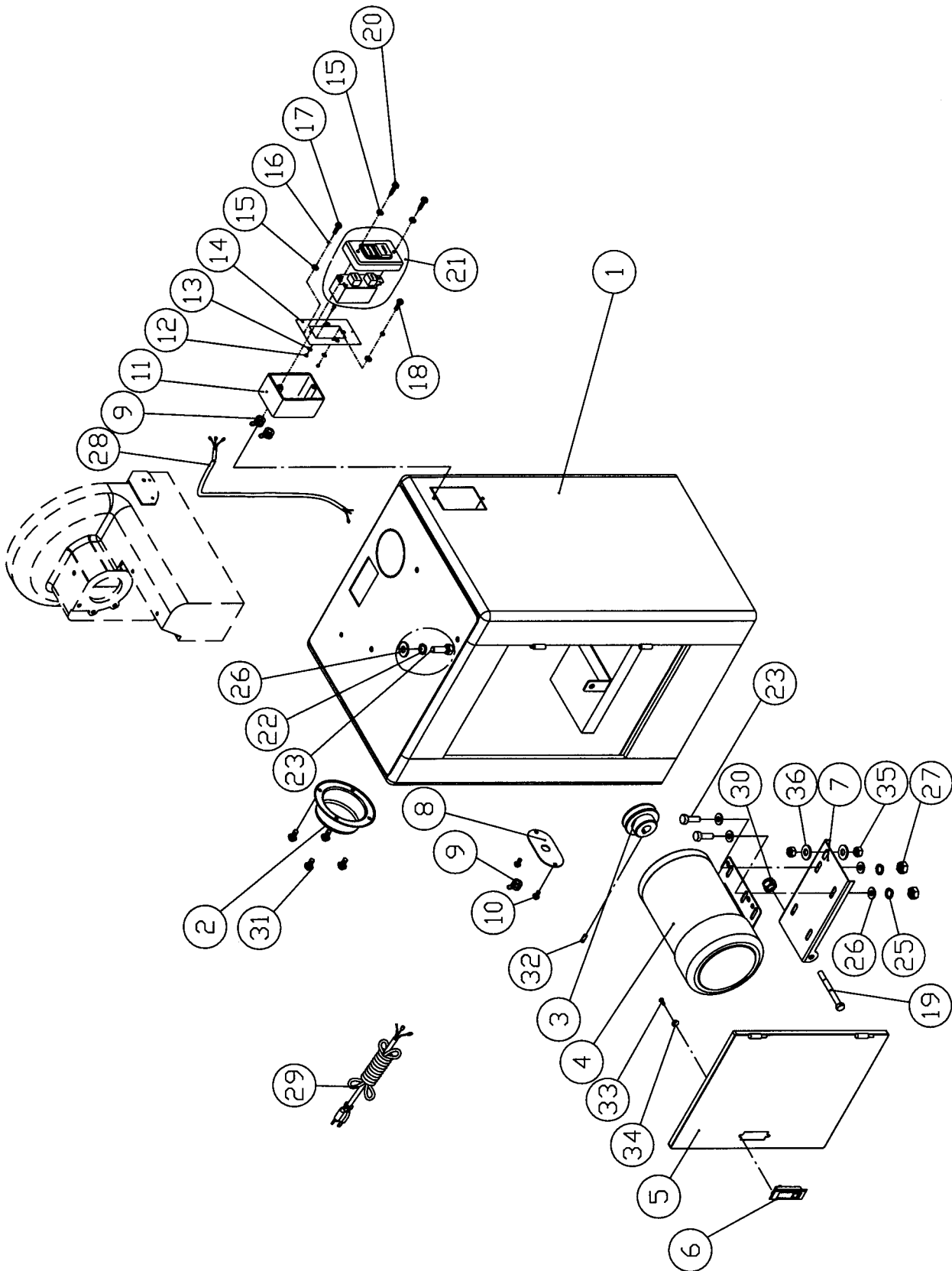


\* Refer to Accessories List

## PARTS LIST: **Stand Assembly** (Model 31A Sander)

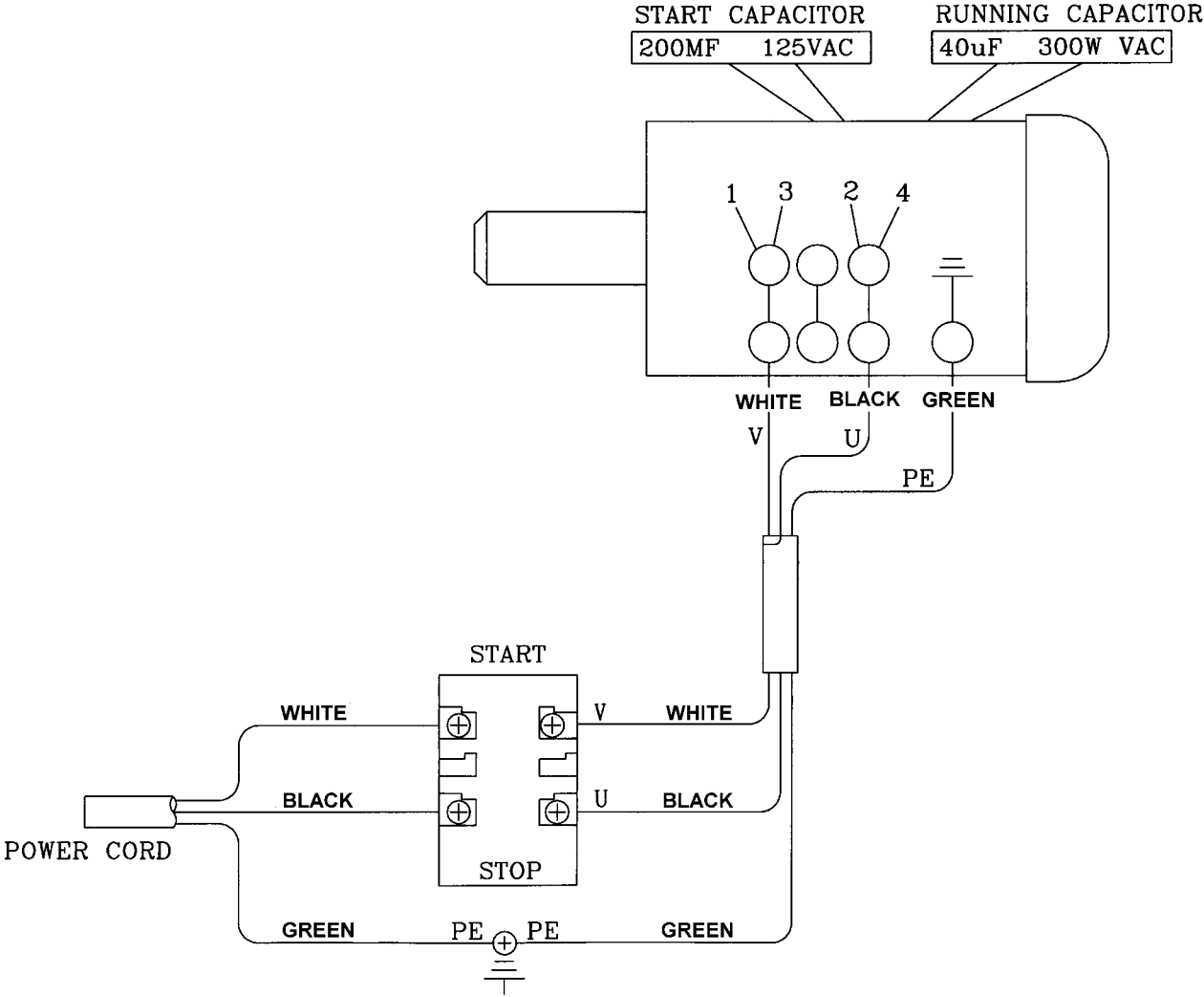
No.	Part No.	Description	Quantity
1	31A-78	Stand.....	1
2	31A-79	Dust Outlet.....	1
3	31A-80	Motor Pulley.....	1
4	31A-81	Motor, 1.5 HP, 1 Ph, 115/230V, 12/6 A, 1750 RPM.....	1
	31A-103	Motor, 2 HP, 3 Ph, 230/460V.....	1
5	31A-82	Door.....	1
6	31A-83	Door Latch Assembly.....	1
7	31A-84	Motor Mounting Bracket.....	1
8	31A-85	Cord Plate.....	1
9	31A-86	Strain Relief.....	3
10	TS-1533042	Pan Head Screw, M5 x 12.....	2
11	31A-87	Switch Box.....	1
12	TS-1540031	Hex Nut, M5.....	2
13	31A-88	Star Washer (External), 5M.....	2
14	31A-89	Switch Cover.....	1
15	TS-1550021	Flat Washer, M4.....	4
16	TS-1551021	Lock Washer, M4.....	4
17	31A-90	Pan Head Screw, M4 x 8.....	2
18	31A-91	Pan Head Screw, M5 x 8.....	2
19	31A-92	Hex Head Screw, M10 x 135.....	1
20	31A-93	Self Tapping Screw, M3.5 x 38.....	2
21	31A-94	Switch, 1Ph.....	1
	31A-104	Switch, 3Ph.....	1
22	TS-1551061	Lock Washer, M8.....	4
23	31A-95	Hex Head Screw, M8 x 25.....	8
25	TS-1551061	Lock Washer, M8.....	4
26	TS-1550061	Flat Washer, M8 x 18.....	12
27	TS-1540061	Hex Nut, M8.....	1
28	31A-97	Motor Cord, 1Ph.....	1
	31A-105	Motor Cord, 3Ph.....	1
29	31A-98	Power Cord, 1Ph.....	1
	31A-106	Power Cord, 3Ph.....	1
30	31A-99	Hex Nut, M10.....	1
31	31A-21	Pan Head Screw w/ Flange, M6 x 12.....	4
32	TS-1523041	Socket Set Screw, M6 x 12.....	1
33	31A-100	Pan Head Screw, M4 x 5.....	2
34	31A-101	Spacer Washer.....	2
35	31A-99	Hex Nut, M10.....	2
36	TS-1550071	Flat Washer, M10.....	2
37	31A-102	Warning Label - Model 31A Sander (not shown).....	1

# Stand Assembly (Model 31A Sander)



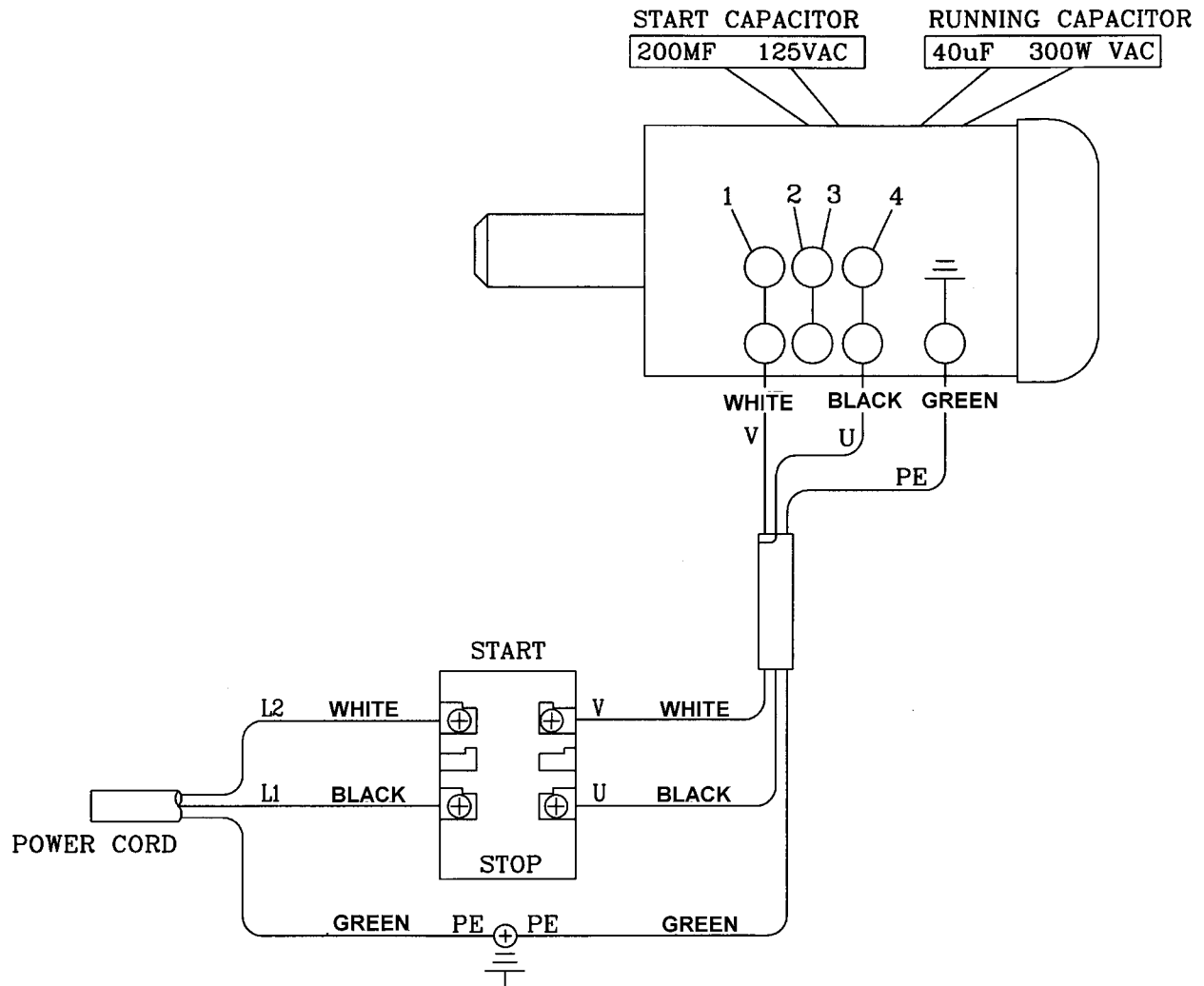
# ELECTRICAL SCHEMATIC (Model 31A Sander)

## 1 Phase 115V (factory pre-wired 115V)



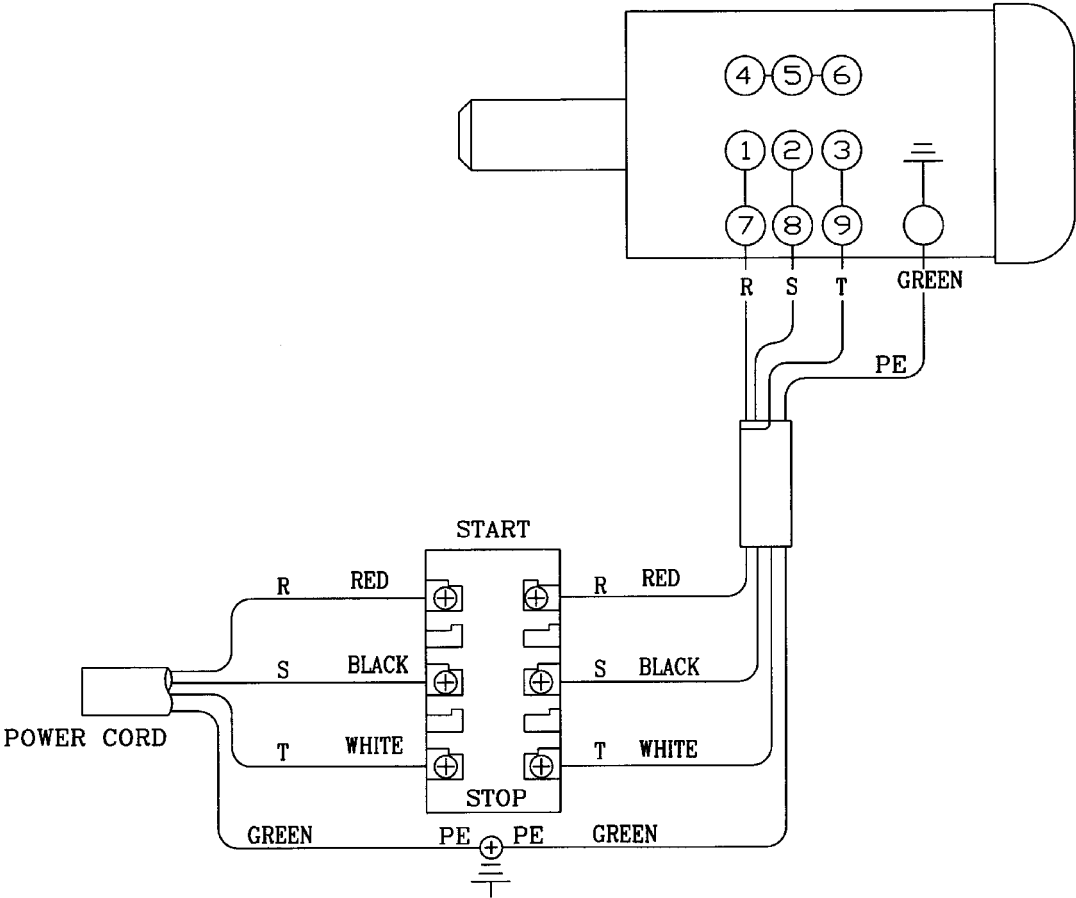
# ELECTRICAL SCHEMATIC (Model 31A Sander)

## 1 Phase 230V



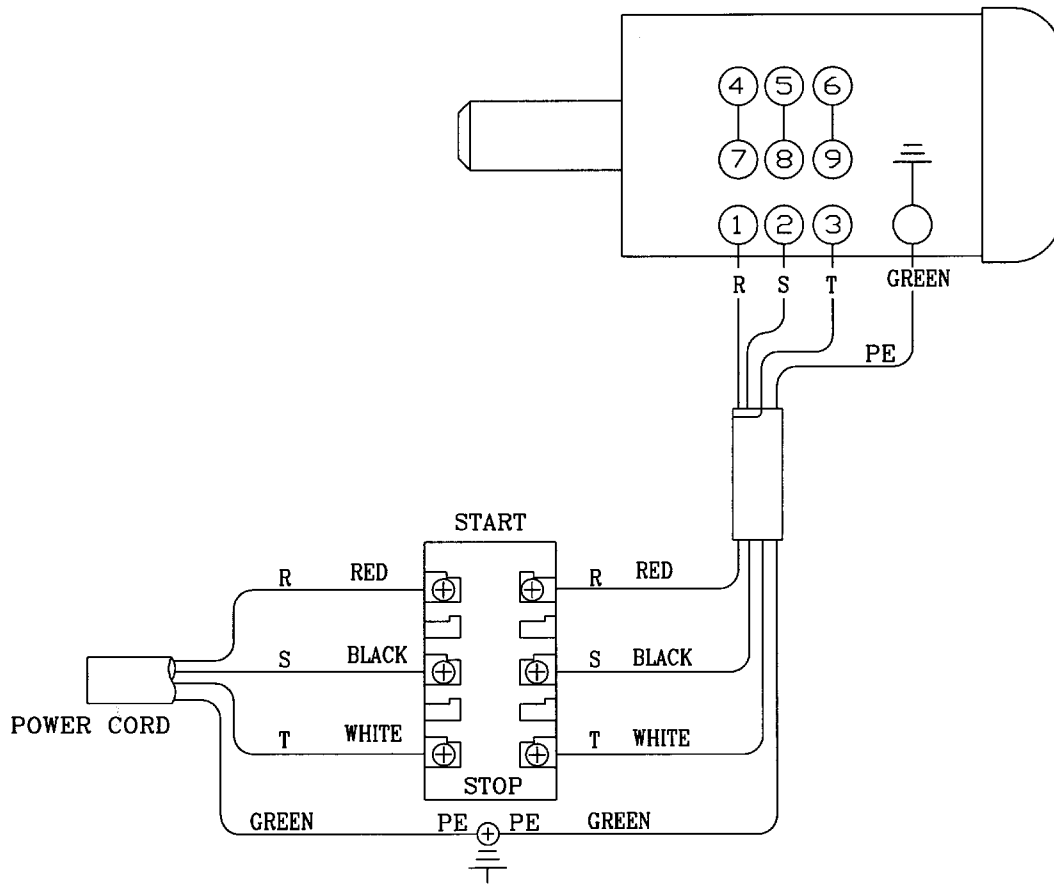
# ELECTRICAL SCHEMATIC (Model 31A Sander)

## 3 Phase 230V



# ELECTRICAL SCHEMATIC (Model 31A Sander)

## 3 Phase, 460V









To order parts or reach our service department, please call our toll-free number between 8:00 a.m. and 4:30 p.m. (CST), Monday through Friday. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately. Locating the stock number of the part(s) required from your parts manual will also expedite your order.

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