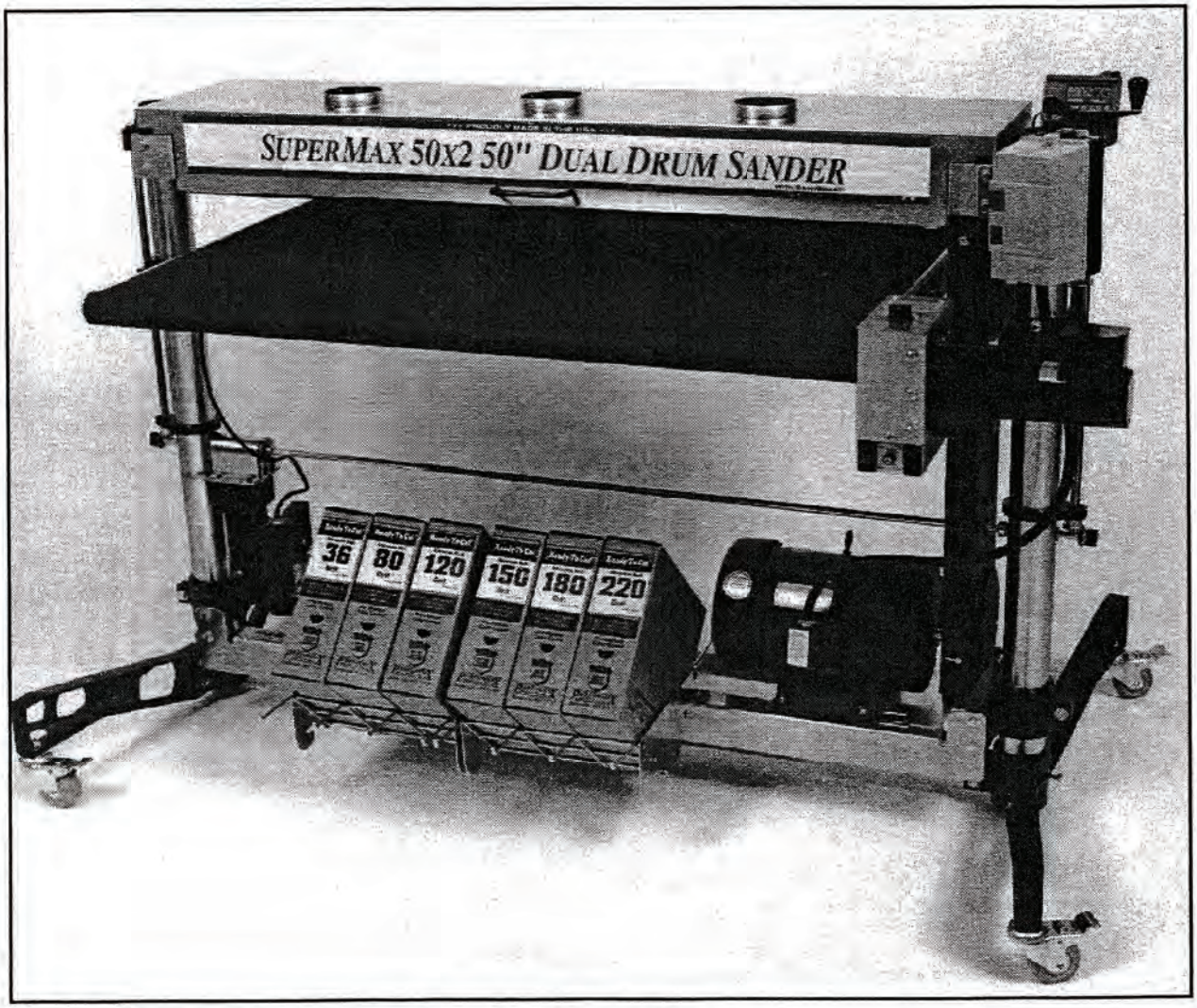
Keep This Manual Handy For Quick Reference

SUPERMAX OWNER'S MANUAL

SUPERMAX 50x2 50" DUAL DRUM SANDER



SHOWN WITH OPTIONAL
RACK-N-ROLL AND PRE-MARKED ABRASIVES

IMPORTANT: BEFORE OPERATING YOUR SUPERMAX, READ THE INSTRUCTIONS IN THIS MANUAL FOR UNPACKING AND SETTING UP YOUR MACHINE.

SUPERMAX TOOLS
Improving Your Greatest Asset...Time

CONGRATULATIONS

You have made a wise purchasing decision by adding this "Made In USA" machine to your tool line-up. My main purpose in inventing and developing the machine you've purchased was to bring a new dimension of productivity to your workshop, be it large or small. Right from the start, our goal at Performax Products has been to manufacture equipment that is capable of providing you with maximum economy, maximum utility, and maximum performance.

Your Performax® drum sander will pay you back many fold in the years ahead by helping you get better results in less time, start to finish. This tool incorporates a bundle of exclusive features which you will appreciate more every time you use it. All Performax drum sanders feature patented self-cooling drums and spring-tension abrasive take-up fasteners, as well as sealed and permanently lubricated bearings. The exclusive Performax variable-speed power feed conveyor system provides you with ultra-precise control, whether you are surfacing rough-sawn lumber, dimensioning otherwise unusable stock, cleaning up glued panels, or finish sanding either thick stock or the thinnest veneers.

Performax Products and its dealers are committed to providing you with innovative solutions, from selecting the right machine to helping you get top performance when you put it to work in your shop. Regardless of how you take advantage of these innovations, we are confident our equipment will help bring you a giant step forward in precision shop productivity.

Gary Green
Founder
PERFORMAX PRODUCTS, CORP.

CAUTION, SAFETY FIRST

When maintaining and operating this machine, always put safety first. For your own safety, read and understand this owner's manual before operating this machine. Always heed and follow all normal safety precautions, including the following:

- **Always wear eye protection while operating the sander.**
- **Always feed stock against the drum rotation.**
- **Never place hands or fingers under the drum or dust cover.**
- **Keep hands and clothing away from operating drums.**
- **Never operate the sander without its dust cover or drum and belt guarding in place.**
- **Always maintain control of boards to avoid kickback; know how to prevent it.**
- **Always disconnect electrical power before doing any servicing or adjusting of the machine.**

MODEL IDENTIFICATION

Your SUPERMAX drum sander is one of a family of machines from Performax Products designed to help you achieve results comparable to industrial-size sanders at a fraction of the cost. The SUPERMAX 50X2 DUAL DRUM SANDER is available in single or three phase models. For future reference, attach the Model/Serial # Bar Code label below or find the model and serial numbers on the front table mount (#20, page 41) and write them in below.

Model: _____

Serial Number: _____

Date Purchased: _____

Dealer: _____

_____

IMPORTANT: KEEP THIS MANUAL HANDY

Please read this manual first. It was designed to help you get the most from your SUPERMAX drum sander. Before unpacking or using the machine, familiarize yourself with its components, features, and basic adjustments by reviewing the following pages. You will find it an invaluable aid in setting up, operating and servicing your machine. If, after reviewing this manual, you still have a problem you can't solve, please call your Performax Products dealer.

CONTENTS

ABOUT THE SUPERMAX SYSTEM

SUPERMAX Nomenclature 4
Unpacking Your SUPERMAX Sander 4

SETTING UP YOUR SUPERMAX

Making Electrical Connections 6
Connecting Dust Collectors 7
Checking For Machine Level 7
Checking Drum Alignment 7
Checking The Conveyor Belt 8
Checking Table Height Controls 9
Monthly Maintenance 9
Wrapping Abrasive Strips 10

OPERATING YOUR SUPERMAX

Basic Operating Procedures 12
SUPERMAX Operating Controls 12
Setting The Depth of Cut 13
Setting Primary Drum 13
Setting Secondary Drum 14
Disengaging The Drums 14
Selecting Intellisand™ Feed Rates 15
Using The Depth Gauge 16
Selecting Drum Abrasives 16
Tips For Maximum Performance 17

TROUBLESHOOTING YOUR SUPERMAX

Troubleshooting Guide: Motors 20
Troubleshooting Guide: Machine 21
Troubleshooting Guide: Operations 23

SERVICING YOUR SUPERMAX

Adjusting Height Controls 25
Adjusting Table Support Castings 26
Adjusting Sanding Drums 27
Adjusting Tension Rollers 29
Replacing Sanding Drums 30
Replacing Conveyor Belts 32
Replacing V-Belt 33
Rotating/Replacing Drum Bearings 34
Replacing Electrical Components 37
Electrical Diagrams 37

SUPERMAX TECHNICAL DATA

SUPERMAX Specifications 39
Parts List For SUPERMAX Stand 40
Parts List For Dual Drum Assembly 42
Parts List For Conveyor Assembly 44
SUPERMAX Accessories & Supplies 47

FOR YOUR SAFETY: Read all instructions carefully, and note the safety cautions on the opposite page and on the back cover of this manual.

ABOUT THE SUPERMAX SYSTEM

This manual is designed to help you get familiar with your SUPERMAX drum sander, and to help you take advantage of its exclusive features. By understanding its major components, and how they work together, you will be able to get the most from your investment. The SUPERMAX system is basically made up of the following five major components: 1) precision machined revolving drums wrapped with abrasive strips held by a 2) patented take-up mechanism to process stock fed by the 3) no-give conveyor table which is adjusted by 4) an infinitely variable power feed motor and a 5) convenient height adjustment mechanism. The illustration below shows the major components.

UNPACKING YOUR SUPERMAX

Your SUPERMAX sander has been shipped assembled from the factory in a cardboard shroud on a pallet and shrink-wrapped in plastic. If any damage has occurred as a result of shipment, notify the transportation company as soon as possible and ask them to make an immediate inspection. Ask for a damage or loss report. Also notify your dealer of any loss or damage during shipment. See enclosed Warranty Statement.

Important: To avoid problems and potential damage to the machine, please read through the unpacking instructions below before proceeding to set up the machine in your shop.

1. Unbolt the machine legs from the shipping pal-

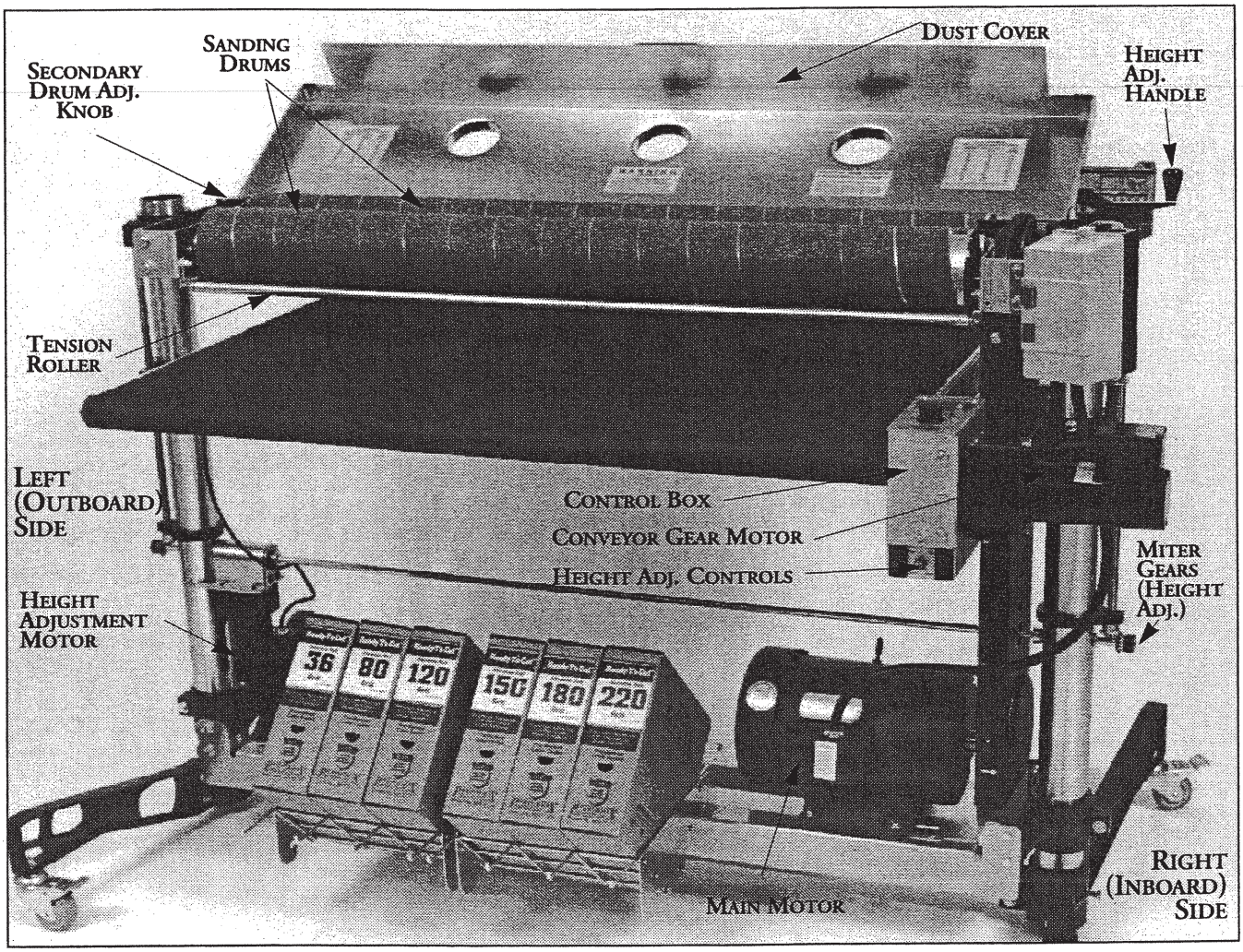


Fig. 1. SUPERMAX nomenclature.

let. Install the casters on legs (Fig. 2). The casters and mounting hardware are in a box shrink-wrapped to the conveyor bed.

2. Loosen the hex nut and set screws on the table support castings (Fig. 3). The set screws on the table support castings have been tightened at the factory to eliminate free-play between the table support casting and the column tube during shipment. There are two table support castings on the SUPERMAX, one each for the right and left column tubes. Important: These set screws are tightened for shipping and must be loosened and readjusted before operating either the height adjustment mechanism or the conveyor drive.

To properly adjust for operation, loosen each set screw by first loosening its hex nut with an open-end wrench and then the set screw with an Allen wrench. Then retighten each set screw with your fingers so it only lightly touches the column tube. Hold each set screw in position with an Allen wrench and retighten the hex nut. Failure to follow these procedures may result in misalignment of the drums and/or the conveyor table.

Caution: Do not loosen the set screws on the upper drum support castings.

3. Install the power feed gear motor and motorized height adjustment controls. Rotate the drive roller on the conveyor system so the flat part of the shaft is down. If necessary, connect power to an appropriate 208-230 Volt AC (50 Amp single or 30 Amp three phase, depending on model) circuit to rotate the gear motor output shaft coupling so the longer set screws face downward. Disconnect power to machine. Slide the power feed gear motor assembly onto the drive roller shaft, aligning the shaft coupling and six mounting holes. Start the six 5/16" hex head bolts on the power feed motor mounting bracket, but do not tighten yet.

Tighten the longer set screws in the coupling on the flat of the drive roller shaft. Rock the drive roller while tightening the set screws to make sure the set screws are centered properly on the flat of the shaft. Rotate drive roller shaft and coupler to expose shorter set screws. Tighten shorter set screws. Turn conveyor on full speed and tighten the six 5/16" hex bolts while running. Disconnect power to machine.

Attach the control box (tray) for the motorized height adjustment. The control box and height adjustment box both will have three wire leads hanging loose (page 37). One lead will be black (hot), one lead will be white (hot), and the other green (ground). Attach the male leads from height adjustment box to the corresponding color, female lead in the control box (i.e. - black to black, white to white and green to green). Attach the control box to the bottom of the gear motor base bracket using two 5/16" hex bolts. The two rocker switches and fuse should face out so as to be reached by operator. **NOTE:** Make sure the wires will not be touching any moving parts and are not caught in the edges of the brackets or boxes when installing.

4. If necessary, adjust the tension of the V-belt between the primary motor and driven pulleys. To do this, loosen the two screws in lower belt guard and loosen the pinch bolts located at the back of the two motor support castings. Slide the motor support castings down the column tube until the V-belt is taut. Tighten the two screws in lower belt guard. Retighten the motor support pinch bolts. Connect power to machine.

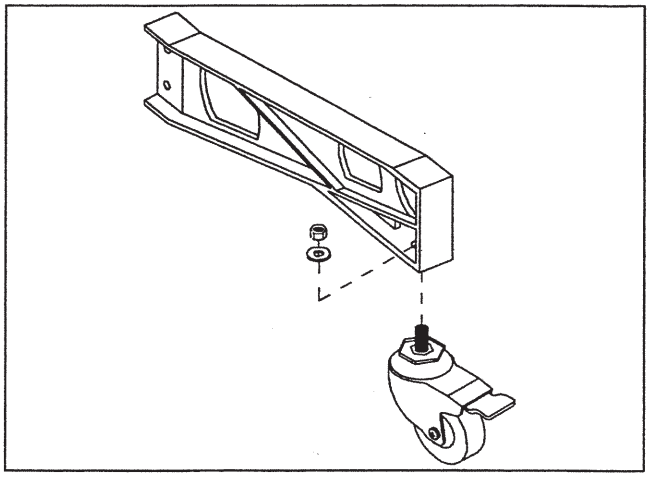


Fig. 2. Casters and mounting hardware.

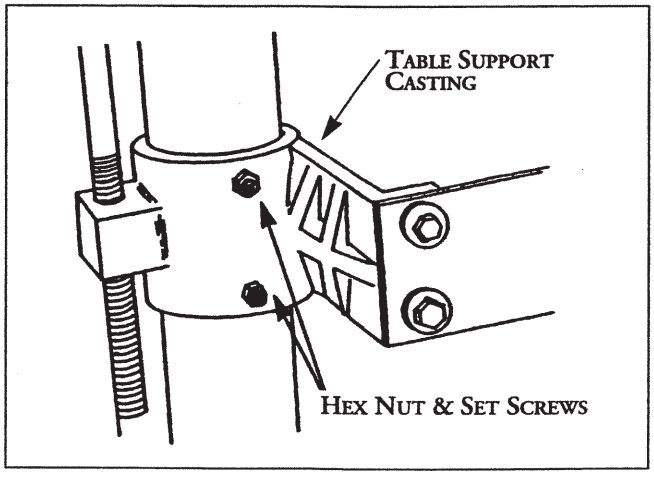


Fig. 3. Table support casting and set screws.

SETTING UP YOUR SUPERMAX

Your SUPERMAX drum sander was adjusted and aligned at the factory, and it has been carefully packed for shipment. However, because of possible stress during transit, the unit should be thoroughly checked before being put to use. This section covers the pre-operational checks you should make after unpacking and final assembly. Unnecessary problems can be avoided if these essential checks are performed before operating the sander. Likewise, performing the recommended monthly maintenance procedures listed at the end of this section will help assure trouble-free operation.

MAKING ELECTRICAL CONNECTIONS

Single Phase: The drums of the SUPERMAX 50x2 sanders are powered by a 7 1/2 HP, 208-230 volt, single phase motor. The sander is supplied with a NEMA 14-50 plug and cord. Included with the sander is a NEMA 14-50 flush mount receptacle to use with the sander. Single phase SUPERMAX 50X2 sanders require a minimum dedicated circuit of 8-gauge wire protected by a 50-amp fuse or breaker. Extension cords are not recommended, but if used, should be of at least 8-gauge wire for lengths up to 10' and of at least 6-gauge wire for longer lengths.

Three Phase: The drums of SUPERMAX 50x2 three phase sanders are powered by a 7 1/2 hp, 208-230 volt, three phase motor. Three phase machines include a four wire cord but no plug. Three phase SUPERMAX sanders require a minimum dedicated 30-amp circuit. Extension cords

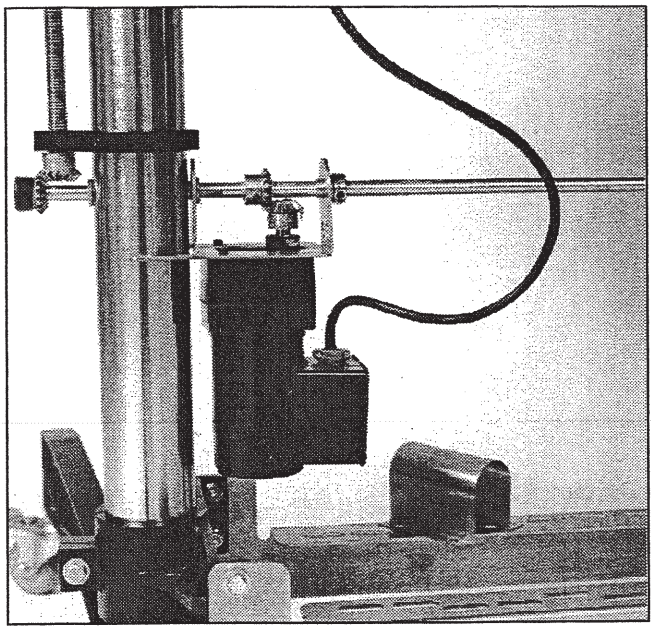


Fig. 4. Height adj. gear motor (with cover removed).

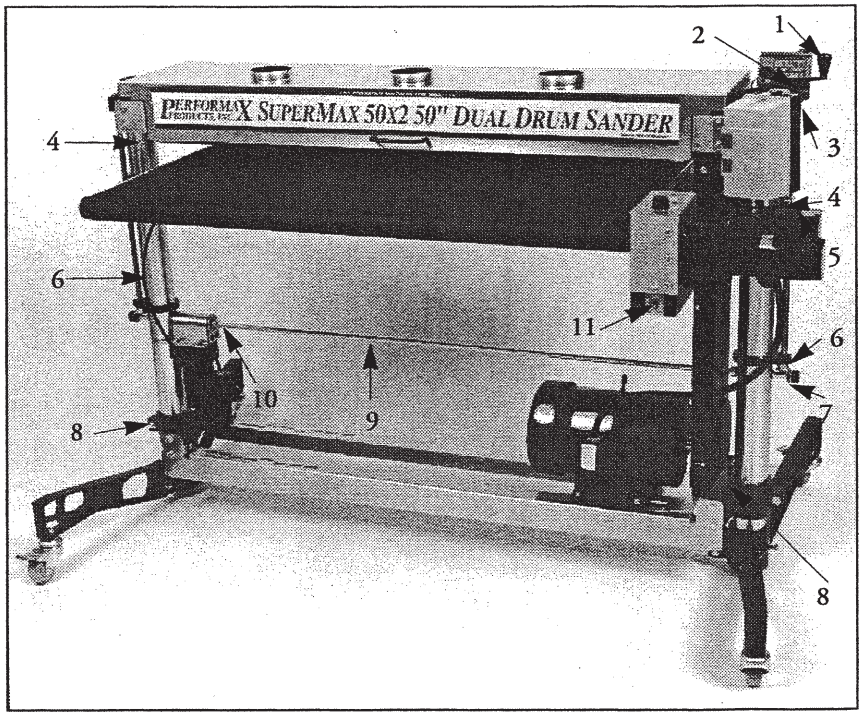


Fig. 5. SUPERMAX Components.

1. Height Adjustment Handle.
2. Adjusting Screw Support.
3. Drum Support Casting.
4. Height Adjusting Screw.
5. Table Support Casting.
6. Adjusting Screw Support.
7. Miter Gear.
8. Motor Support Castings.
9. Transfer Rod.
10. Shaft Collars.
11. Height Adjusting Control.

are not recommended, but if used, should be 10-gauge wire for lengths up to 10' and 8-gauge wire for longer lengths.

Note: The Intellisand™ Control (Fig. 6) protects both main drum and conveyor motors from most overload situations. The conveyor motor for feeding stock is infinitely variable from 0-15 ft/min. If the load on the drum motor reaches its optimum, the Intellisand Control will automatically slow the feed rate of the conveyor. When the load is decreased on the main motor, the feed rate will automatically increase but never exceed the manual setting on the dial.

Connecting Dust Collectors

Dust collection is necessary for all SUPERMAX sanders. The SUPERMAX 50x2 is equipped with three 4"-diameter dust exhaust ports at the top of the dust cover.

To attach the SUPERMAX to your collection system, install 4" hose from your collector using one hose per port. (See Tips For Maximum Performance, page 17 of this manual.) The **minimum** recommended dust collector capacity at the dust ports is 1,800 CFM. For best results, follow the recommendations of the manufacturer of your dust collection equipment.

Checking Machine For Level

Proper leveling of the machine is essential to achieve continued maximum performance from the SUPERMAX. Before making fine adjustments, place the unit where it will be used in the shop. Then adjust the four casters and mounting hardware using a carpenter's level both across the machine and in line with the machine, placing the level on the conveyor bed. Mark the position of the casters on the floor with tape so it can be returned to the same position.

Checking Drum Alignment

Your SUPERMAX was shipped from the factory preadjusted with the drums aligned to the conveyor table. Unless the machine was stressed during shipment, only fine adjustment should be necessary. Minor alignment corrections can be done without relieving V-belt tension or adjusting the tension rollers, but should be done without any abrasive strips attached to the drums.

Front Drum: Using a flat piece of wood or metal as a thickness gauge, insert it between the conveyor table and the primary (front) drum on the left (outboard) side of the machine (see Fig. 26). Raise the conveyor table up so the drum just contacts the thickness gauge. Then, holding up the front tension roller, check at inboard side (Fig. 7) of the drum to see that the drum is parallel to the table.

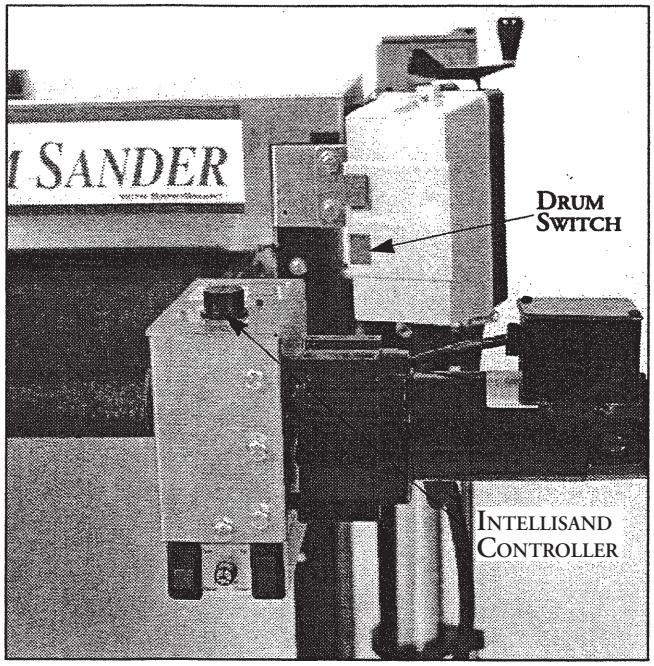


Fig. 6. Intellisand **Controller.**

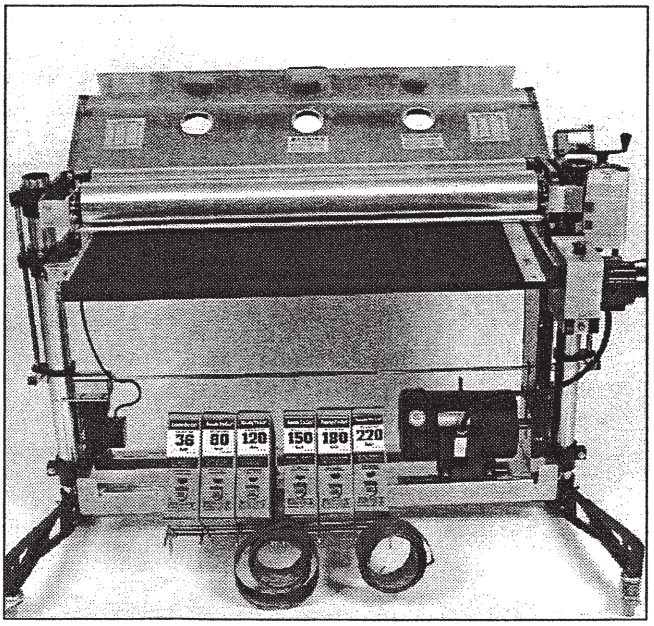


Fig. 7. Checking drum alignment (inboard side).

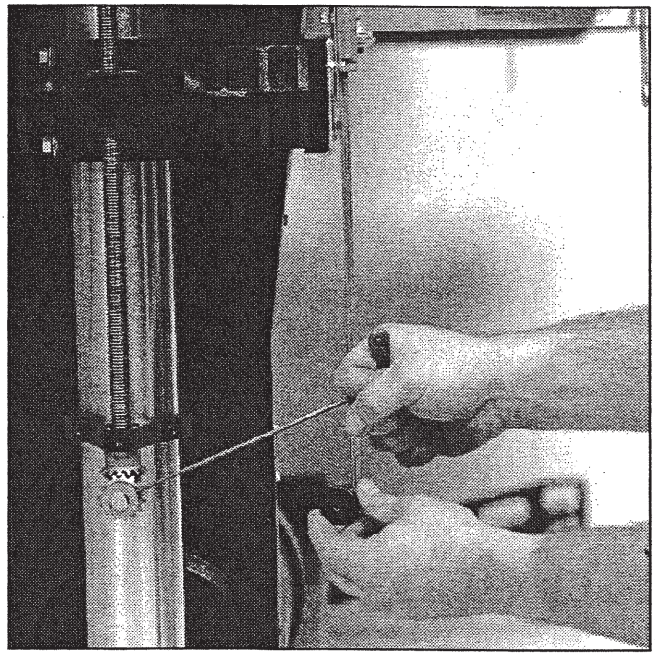


Fig. 8. Adjusting primary drum alignment.

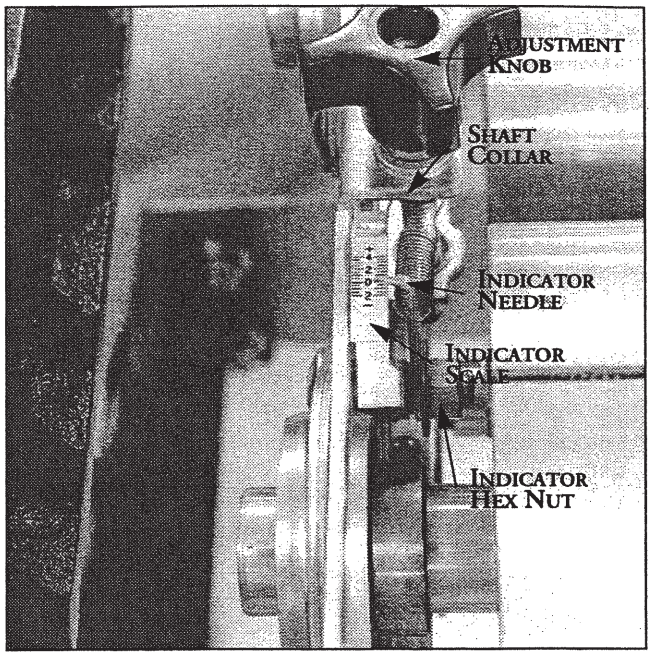


Fig. 9. Rear drum adjustment indicator.

If it is not, disengage the right (inboard) miter gear (see Fig. 8), finely raise or lower the right (inboard) side of the table to achieve parallel alignment of the front (primary) drum. The distance between the conveyor table and both sides of the front drum should be the same. Reinstall the miter gear, aligning the set screw to the flat of the shaft.

Rear Drum: Before altering this conveyor table position, also check to see that the rear drum is likewise parallel to the conveyor table, with both sides at the same height above the table. Using the same thickness gauge, check both sides of the rear drum from the rear of the machine while holding up the rear tension roller. Adjustment of the rear drum is done by using the right and left drum adjustment knobs (see Fig. 9).

After the rear drum is adjusted, it is important to reset the rear drum adjustment indicators to zero on both sides. Set the secondary drum adjustment indicators by loosening hex nut, then moving the indicator scale so that the zero mark is directly under the needle, and retightening the hex nut (see Fig. 9). Zero the indicator for other side of drum. Take care not to overtighten the hex nut of the indicator. This can flare the brass bushing and render the indicator inoperable.

Check that the secondary drum adjustment knobs turn with a slight resistance to avoid any movement during operation. To adjust knob resistance, turn the knob clockwise to reveal the set screw on the shaft collar below the bracket, then loosen the set screw. Making sure the adjustment knob is tightly seated on top of the bracket, raise the shaft collar up against the bracket from below and retighten the set screw. ***Note: The nut of the rear bolt on the rear (secondary) drum bearing bracket should be backed off a quarter-turn from being fully tightened. This allows the lock washer to be depressed slightly but not completely. This is the pivot point for the rear drum.***

Checking The Conveyor Belt

Conveyor belt tension and tracking adjustments may occasionally be necessary during break-in and normal operation to compensate for belt stretching.

Belt Tension. To adjust the tension of the conveyor belt, first adjust the take-up screw nut (see Fig. 10) on both sides of the conveyor to obtain approximately equal tension on both sides of the belt when taut. Insufficient belt tension will cause slippage of conveyor belt on the drive roller during sanding operation. The conveyor belt is too loose if it can be stopped by hand pressure applied directly to the top of the conveyor belt while running at full speed. Excessive belt tension can result in bent rollers, or premature wearing of the bronze bushings or belt.

Belt Tracking. Belt tracking adjustments are made while the conveyor belt is running. After the proper belt tension is obtained (see above), turn the convey-

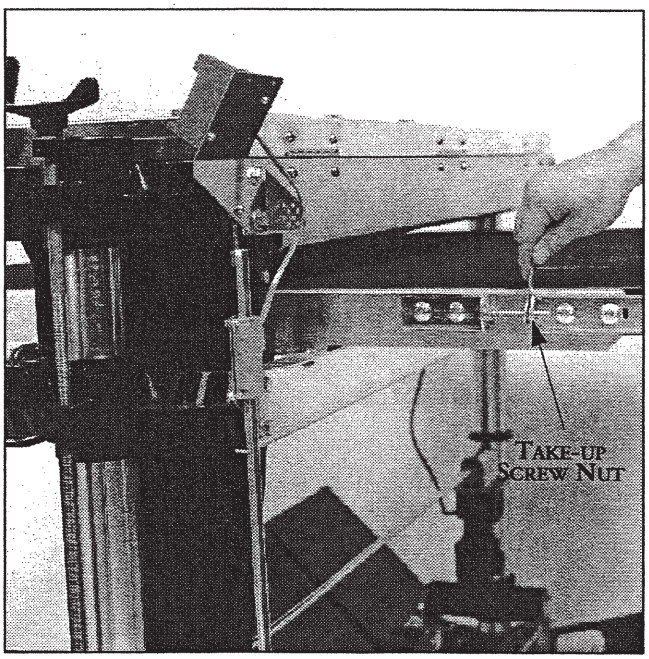


Fig. 10. Adjusting conveyor belt tracking.

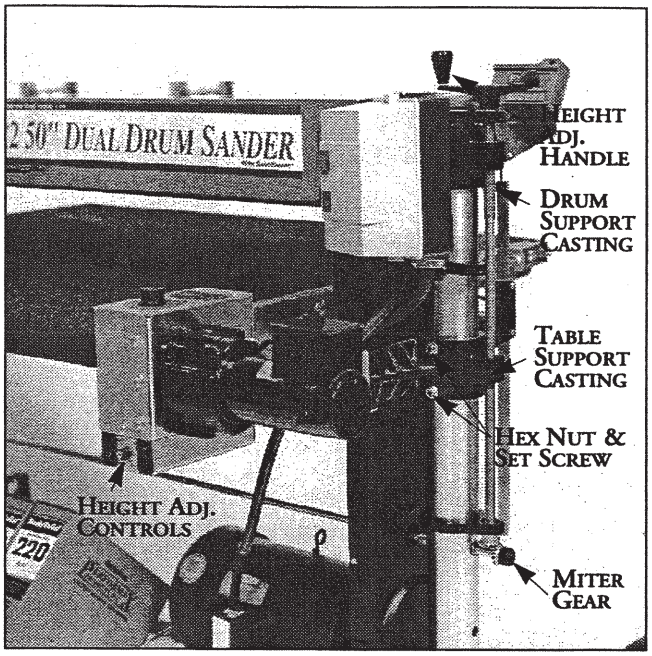


Fig. 11. Table height adjustment mechanism.

or unit on and set it at the fastest speed setting. Watch for a tendency of the conveyor belt to drift to one side of the conveyor. To adjust the belt tracking, tighten the take-up screw nut (see Fig. 10) on the side the belt is drifting toward, and loosen the take-up screw nut on the opposite side. Adjusting the take-up screw nuts on either side of the conveyor allows belt tracking adjustments to be made without affecting belt tension. **NOTE:** Adjust the take-up screw nuts only 1/4 turn at a time. Then allow time for the belt to react to the adjustments before proceeding further. Try to avoid over-adjustments. Make sure wrench is below surface when sanding.

Checking Table Height Controls

The table height and depth of cut is controlled by the height adjustment handle (see Fig. 11). Turning the handle raises or lowers both sides of the table simultaneously by transferring the handle rotation through the miter gear and cross bar assembly.

Important: Before using the height adjustment, be sure to loosen both the set screws located on the front of both table support castings (see Fig. 3 and Fig. 11) to allow the table support to slide on both column tubes. These set screws are tightened for shipping and must be loosened and readjusted to allow the table support castings to move freely on the column support tubes. Readjust the set screws just so they eliminate free-play between the table support casting and the column tube. To properly adjust, tighten the set screws (see Fig. 3) only finger-tight so they lightly touch the column tubes. Then hold each set screw in position with an Allen wrench and tighten the hex nut.

Check the operation of the height adjustment mechanism. If it does not operate smoothly or easily, further adjustments may be necessary. Refer to the servicing section of this manual, which begins on page 25, for further adjustment procedures.

Monthly Maintenance

For best results, perform the following recommended maintenance procedures on a monthly basis:

- Lubricate conveyor bushings and check for wear.
- Lubricate all moving parts, such as threaded rods, washers, and column tubes.
- Clean sawdust from the sandpaper and the conveyor belt.
- Blow dust from the inside of sanding drums and the motors.
- Check all set screws for tightness on parts such as table support castings, bearings, conveyor coupler, castings, pulleys, and miter gears.

WRAPPING ABRASIVE STRIPS

Note: When using SuperMax Pre-Marked abrasives on the 50x2, pull the strip from the box and cut on the second green line.

IMPORTANT! Proper attachment of the abrasive strip to the drum is critical to achieving top performance from your Performax drum sander. Abrasive strips do not have to be pre-measured. The end of the roll is first tapered and attached to the left (outboard) side of the drum. Then the strip is wrapped around the drum, and the second taper is made for attachment to the right (inboard) side of the drum. To attach a strip to the drum, follow the procedure below.

1. Mark and cut a taper at one end of the roll as shown in Fig. 12a. Because the tapered end should use most of the left (outboard) slot width, its end must be trimmed (Fig. 12-b and 12-c). Raise the clip lever on the left (outboard) side of the drum (Fig. 12-d). Insert the tapered end through the slot and into the fastener so that it uses most of the width of the slot. Release the clip lever to securely hold the strip end in the fastener.

2. Wrap the strip around the drum, being careful not to overlap the windings. The tapered cut of the strip end should follow the edge of the drum. Continue to wrap the abrasive in a spiral fashion by rotating the drum with your left hand and guiding the strip with your right hand (Fig 12-e). Successive windings of the strip should be flush with previous windings without any overlap.

3. Mark the trailing end of the strip where it crosses the right (inboard) end of the drum (Fig. 12-f). From this point, cut a taper as was done with the starting edge of the strip. Wrap the tapered strip on the drum over the slot on the inboard side. If the tapered end extends beyond the slot more than 1-1 1/4" trim the excess before inserting into inboard fastener. (The taper on the remaining roll can be used as the taper for the starting edge of the next strip to be cut.)

4. With the trailing edge of the strip properly cut, rewrap the drum and insert the tapered end through the slot in the right (inboard) end of the drum. Insert the tapered end into the inboard take-up fastener. Pull up on the clip lever to open the clip, and pull the take-up lever to the top as shown (Fig. 12-g). After inserting the strip end, release the clip lever by moving your index finger toward the drum slot. This allows the clip to retain the abrasive while holding the take-up lever in an "up" position.

5. The take-up fastener is designed to automatically take up any slack caused by stretching of the abrasive strip. ***Important: Position the abrasive strip in the slot with sufficient room between the inside of the slot and the tapered end of the strip to allow it to be pulled into the drum as needed (Fig. 12-h). Note that not leaving enough space between the strip and the inside of the slot will prevent the take-up fastener from operating properly.***

6. The abrasive strip may stretch enough in use to allow the take-up lever to reach its lowest position so it no longer is able to maintain tension on the strip (Fig. 12-i). If this occurs, it will be necessary to reset the take-up lever by raising it, pushing the strip end into the slot, and then releasing the clip lever.

Note: A sandpaper cleaning stick may be used to remove deposits and help extend sandpaper life. To use, operate the sanding drum with the dust cover open. (Caution: For your own safety, always wear eye protection while performing sandpaper cleaning, and take all precautions to avoid any contact of hands or clothing with uncovered drums.) Hold the cleaning stick against the rotating drum and move it along the drum surface. It is good procedure to use a shop brush to remove any cleaning stick crumbs from the drums and conveyor belt before resuming sanding operations.

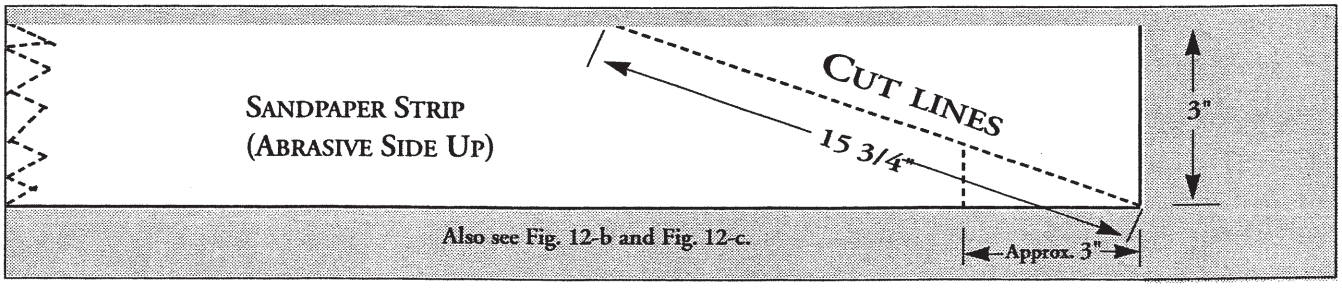


Fig. 12-a. Marking and cutting taper on strip.

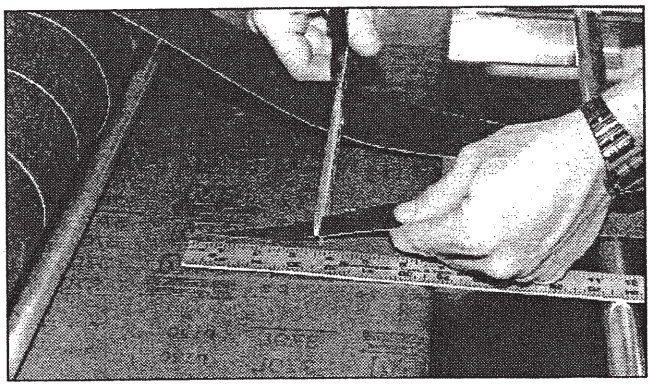


Fig. 12-b. Trim about 3" from end of cut taper.

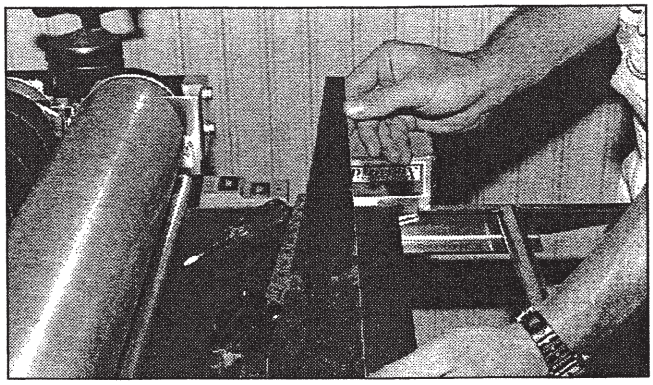


Fig. 12-c. Trimmed tapered end ready to install.

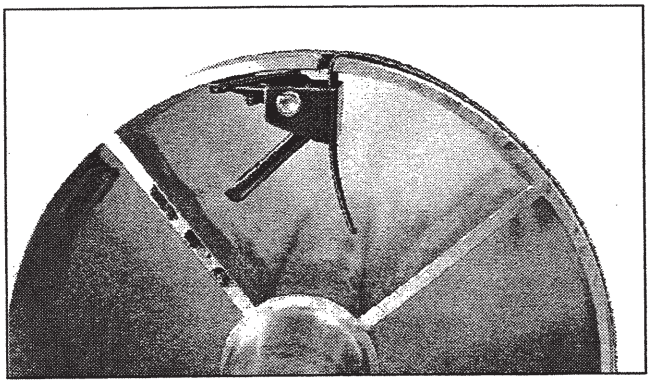


Fig. 12-d. Insert tapered end into outboard slot.

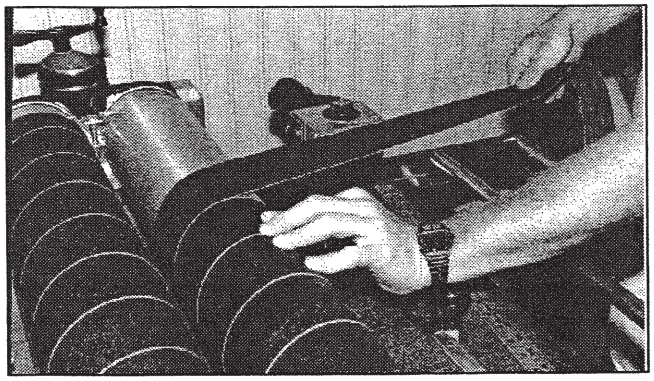


Fig. 12-e. Wrap strip around drum without overlap.

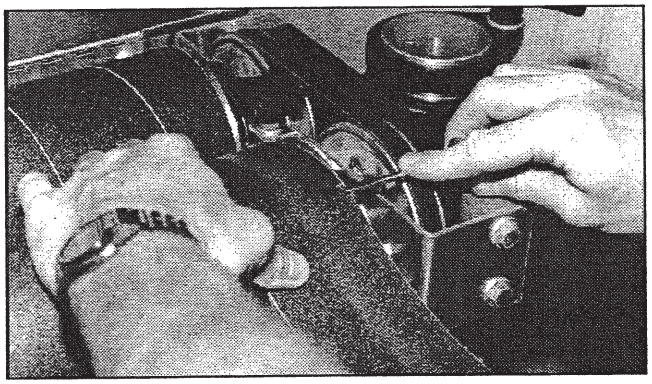


Fig. 12-f. Mark strip where it crosses drum edge.

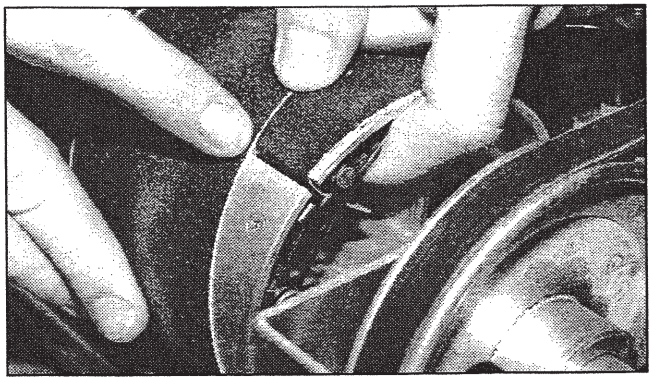


Fig. 12-g. Insert tapered end into inboard slot.

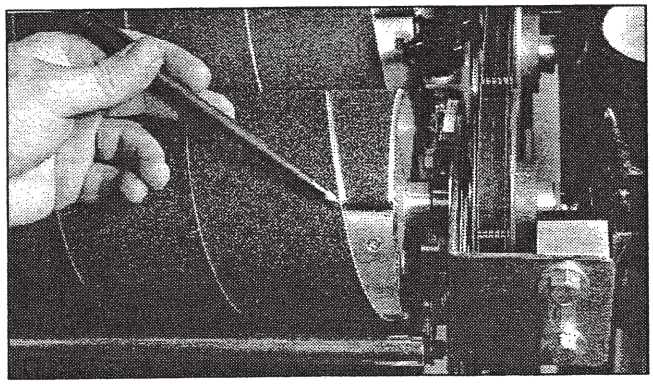


Fig. 12-h. Allow room inside slot for strip to move.

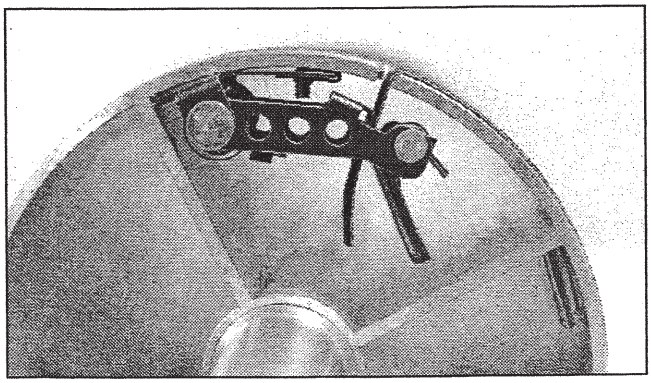


Fig. 12-i. Reset take-up as needed as strip stretches.

OPERATING YOUR SUPERMAX

Before using your SUPERMAX 50x2 drum sander, review the previous pages in this manual on initial set-up and adjustment. In this section, you will learn how to operate the machine. Note that connecting the machine to an adequate dust collection system is necessary before operating the unit.

BASIC OPERATING PROCEDURES

After you have selected and installed abrasive strips, and connected the machine to a dust collection system, you are ready to begin to use the SUPERMAX 50X2. The basic operating procedure is as follows:

1. Set depth of cut.
2. Start drums.
3. Start conveyor and select feed rate.
4. Start dust collector system.
5. Feed stock through unit.

To feed stock through the SUPERMAX, rest and hold the board to be sanded on the conveyor table, allowing the conveyor belt to carry the board into the drums. Once the stock is halfway through, reposition yourself to the outfeed side of the machine to receive and control the board as it exits the unit.

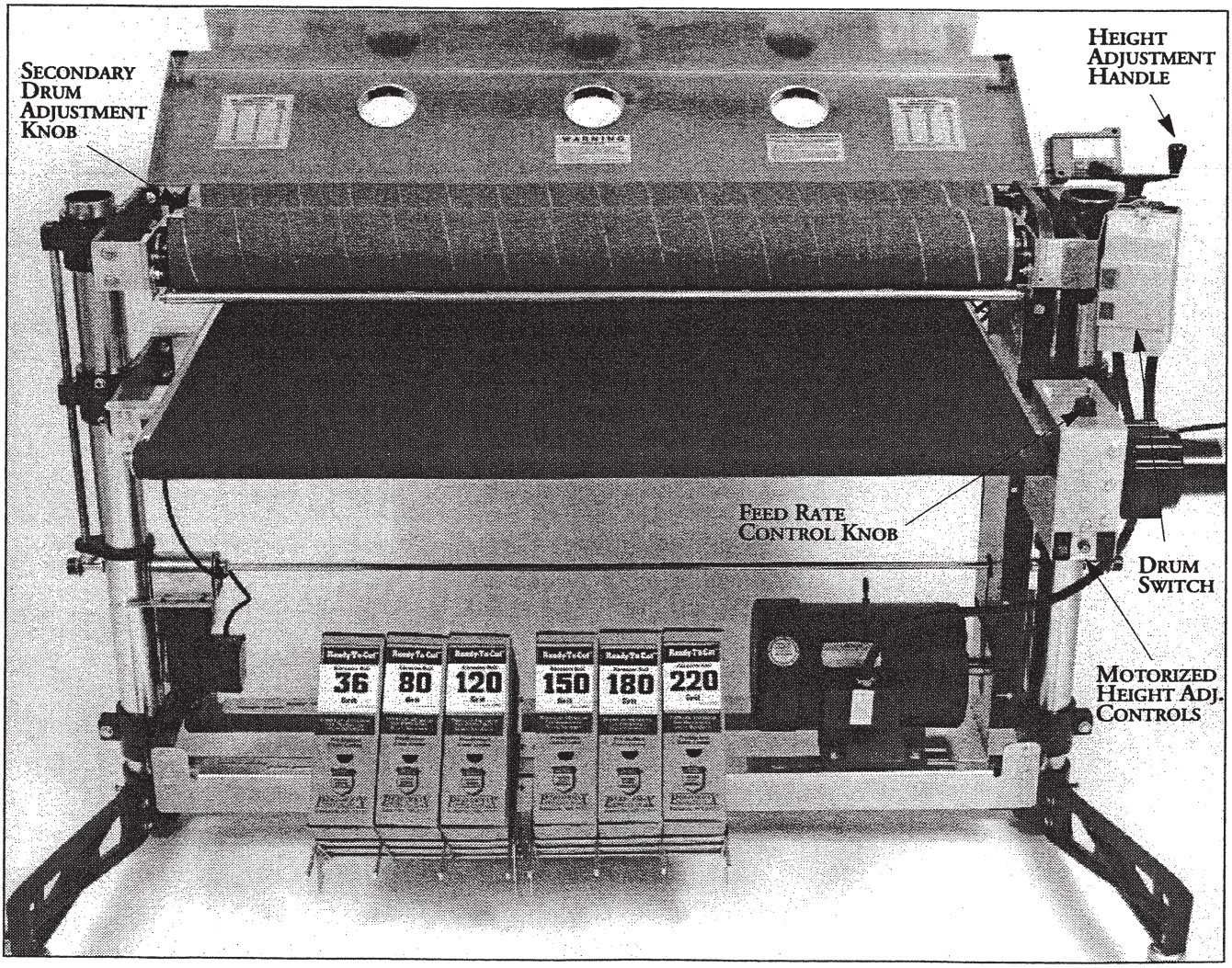


Fig. 13. SUPERMAX operating controls.

USING THE MOTORIZED HEIGHT ADJUSTMENT

The two rocker switches located at the bottom front of the control box assembly are for using with the motorized height adjustment (Fig. 13). The switch on the right (as you face the sander) is for moving the conveyor up or down to reach a desired height. The switch on the left is for changing conveyor movement from fast mode to slow mode. The "slow" up mode (raising conveyor), should be used for establishing drum contact and adjusting depth of cut per pass. Hand cranking can also be used to establish depth of cut and to adjust depth of cut per pass. Do not use fast mode for fine tuning adjustments or setting the depth of cut.

See "SETTING THE DEPTH OF CUT" below to establish proper contact of abrasives to stock.

The fuse holder between the two switches uses a one amp fast-acting fuse. The fuse will blow if an excessive load is placed on the conveyor or if the height adjustment is operated beyond its working range. **CAUTION:** The fuse may not blow before causing damage to the sander if operating beyond its range.

The motorized height adjustment can be bypassed by simply turning the height adjustment handle by hand. Hand cranking may feel stiff but the resistance from the gear motor is normal. Do not attempt to raise conveyor bed if the conveyor is touching the drum or if stock is caught between the drum(s) and conveyor system.

The speed of the "slow" mode can be fine tuned using a screw driver or coin on the exposed slot located under the housing containing the switches (Fig. 45A). Turn the slot until a desired speed is obtained to use for fine tuning adjustments. **CAUTION:** Do not loosen the Phillips head bolt located in front of the adjustment slot.

SETTING THE DEPTH OF CUT

Determining the depth of cut is the most important set-up procedure before operating the SUPERMAX 50x2 sander. It may take some experimentation to determine the proper depth of cut, given the variables of abrasive grit, type of wood, and feed rate. For best results, use scrap wood to practice sanding and to develop skill and familiarity with the machine before doing finish work.

Use only the slow mode of the electric height adjustment or the hand crank for setting the depth of cut or to fine tune adjustments. The fuse for the electric height adjustment may not blow before causing damage to the sander if operating beyond its range. Do not use fast mode for fine tuning adjustments or setting depth of cut.

A good rule of thumb when sanding with grits finer than 80 is to raise the conveyor table so the drums contact the workpiece but still can be rotated by hand. When using grits coarser than 80 grit, you can sometimes raise the conveyor table slightly more. However, a combination of several variables will determine the proper depth of cut to use, including the following:

1. Abrasive type and grit size.
2. Width of the piece being processed.
3. Hardness of the piece.
4. Feed rate of the conveyor belt.

The depth of cut for the primary drum is adjusted by the table height adjustment handle or electric controls. The depth of cut for the secondary drum is controlled by the two adjustment knobs (analog indicators) located on both sides of the drum. The drum adjustment knobs allow proper depth of cut with virtually any abrasive grit combinations on the drums. The two drums are normal-

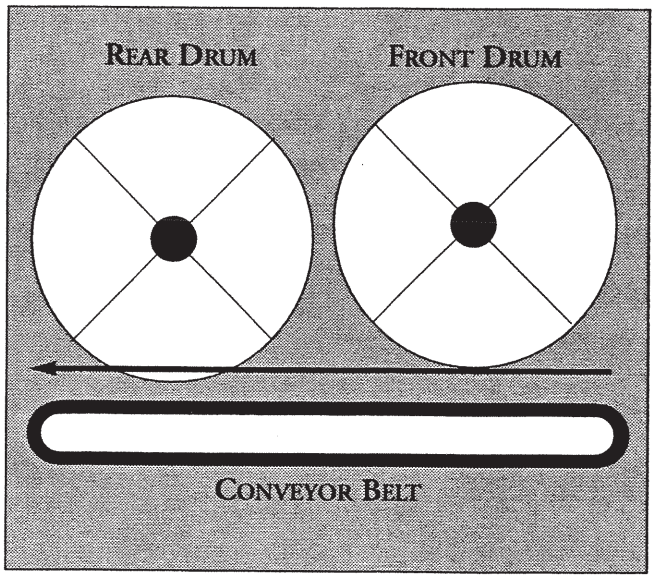


Fig. 14. Relative positions of dual drums.

DUAL DRUM GRIT COMBINATIONS & SETTINGS

ABRASIVE GRIT GRADES		
FRONT DRUM GRIT	REAR DRUM GRIT	REAR DRUM SETTING
24	24	2.5
36	36	2.0
36	60	2.5
36	80	2.5
60	80	2.0
60	100	1.5
80	100	1.0
80	120	1.0
100	150	0.5
120	150	0.5
120	180	0.5
150	220	0.5

Note: The grits and settings shown are starting suggestions only. Other combinations and settings are possible, depending on your particular circumstances.

ly both used during sanding operations, but either the primary or secondary drum can be used alone.

Primary Drum. To adjust the primary drum, set the drum height equal to the thickness of the piece to be processed. **NOTE:** Raise the rear drum to the -2 or -3 setting before proceeding (Fig. 9). This is done as follows: Lower the conveyor table to a depth greater than the thickness of the board. **Do not start the drum at this time.** Start the conveyor and feed the board until it is beneath the primary drum. Raise the conveyor table, using "slow" mode or hand crank, so the drum contacts the board but the drum can still be rotated by hand. Continue to run the board through the machine. This is the setting for the first sanding pass.

The depth of cut can be measured on the depth gauge, or by fractions of a revolution of the height adjustment handle. (Note: One revolution of the handle will raise the table 3/32 of an inch; 1/3 of a turn will equal 1/32 of an inch, etc.)

Secondary Drum. Sanding with a different abrasive grit on each drum is possible in a single pass. The coarser abrasive is wrapped on the primary (front) drum for dimensioning and surfacing of the wood, while the finer abrasive is wrapped on the secondary (rear) drum. When used in this way, the secondary drum generally is positioned just slightly lower than the primary drum so it removes the scratches left by the coarser grit on the primary drum (Fig. 14). However, the exact depth of cut of the secondary drum will depend on the specific abrasive grits on each of the drums.

The chart on page 14 shows grit combinations and rear drum settings, and can also be found under the dust cover of your machine. It suggests settings for various abrasive grit combinations; try these to start and make adjustments as necessary for your work. When adjusting the secondary drum, turn both adjustment knobs so that the indicator needles move to the desired setting at the plus (+) end of the scale. (See Fig. 9, page 8.) The depth of cut of the secondary drum should be rechecked each time a different grit combination is used.

Fine-tuning the rear drum settings can help improve performance. Raise the rear drum so it is higher than the front drum, with the indicators showing a -2 or -3 setting. Place the stock to be sanded under the front drum. Then raise the conveyor table so the front drum contacts the wood, but still can be rotated by hand. Sand the piece with the front drum and stop the machine. Then insert the stock in from the back so it is under the rear drum only. Turn down the rear drum using the plastic adjustment knobs on each side. Lower the rear drum until it contacts the stock but still can be rotated by hand. Use this setting, and note the readings on the depth indicators for future reference.

DISENGAGING THE DRUMS

Either the primary (front) or secondary (rear) drum may be disengaged so that the other drum can be used alone. To use the primary drum only, disengage the secondary drum by raising it to the -2 or -3 setting on the indicators on both sides. To use the secondary drum alone, lower it to the +4 setting on both sides. In this mode, the table height adjustment handle is used to determine the depth of cut, which will be limited to about 1/32 of an inch before the primary drum starts contacting the work piece.

SELECTING INTELLISAND FEED RATES

Selecting the proper feed rate is essential to proper finish sanding. The variable feed rate control of the conveyor belt adjusts the load on the machine; it can be infinitely adjusted for maximum operating performance. A faster feed rate allows faster sanding but fewer revolutions of the drums per inch of sanding. A slower feed rate provides more revolutions of the drum per inch of sanding to allow a greater depth of cut and smoother sanding.

The Intellisand control (See Fig. 15) continuously monitors the load on the drum motor and automatically regulates the speed of the conveyor motor to maintain the highest feed rate without overload. If the load on the drum motor increases, the Intellisand control will decrease the conveyor feed rate and will stop the conveyor under extreme conditions. If the load on the drum decreases, the Intellisand control will increase the feed rate but WILL NOT increase it faster than the manual setting on the switch dial.

For abrasive planing and thicknessing, the feed rate can be set at any speed after adjusting for the proper depth of cut. If the load on the drum motor approaches its optimum due to inconsistent stock, the feed rate will automatically slow down. As the load on the drum motor decreases, the feed rate will automatically increase to its original setting.

When finish sanding with grits finer than 80, the best finish will be achieved if the conveyor does not change speeds during operation. While the Intellisand control will slow the feed rate when the main motor reaches its optimum, it is advisable to operate below the regulation point. When the red indicator light comes on, the Intellisand control has detected too great a depth of cut and/or too fast a feed rate. This change in conveyor speed may leave a detectable mark on finish surfaces. If a mark is visible, make adjustments by slowing conveyor and/or lessening the depth of cut and run the stock through again.

Begin experimenting with the feed rate set at about 40% to 50% of maximum. The best feed rate will depend on a number of factors, including type of stock, grit and depth of cut used, and whether the stock is feed directly in line with the conveyor bed or at an angle. If you observe a ripple effect on the stock, slow down the feed rate. If the finish is smooth and the machine is not overworking, you can experiment with using a faster feed rate.

Also try a faster feed rate if the stock you are working begins to show burn marks. With cherry, hard maple and some other hardwoods, using a shallower depth of cut and a faster feed rate will help minimize burn marks. Slightly angling the stock as it is fed into the machine may also help prevent burning the stock.

Because of the wide range of variables, it is impor-

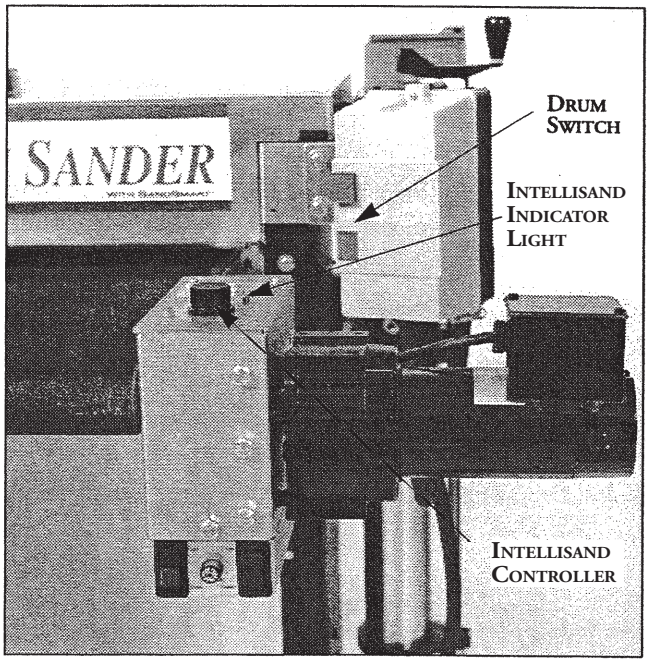


Fig. 15. Intellisand Controller.

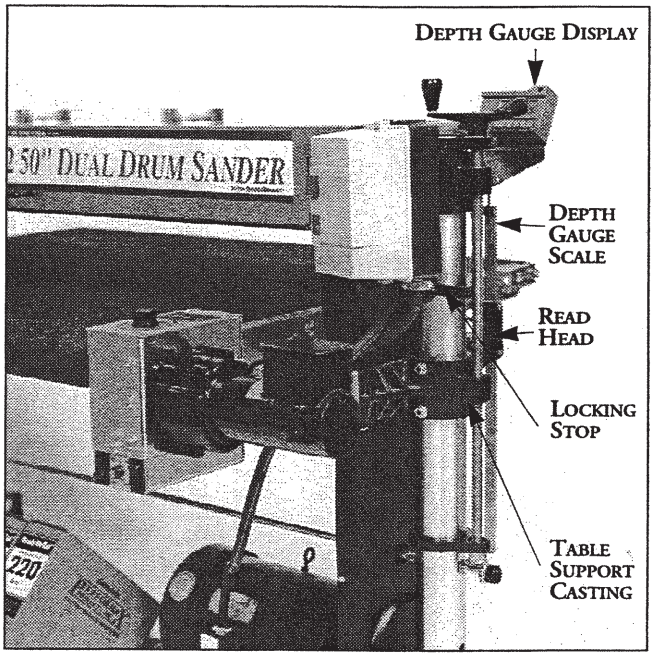


Fig. 16. Depth gauge components.

tant to experiment with your specific conditions and make adjustments to achieve the optimum feed rate. If problems occur, first check the depth of cut and/or adjust the feed rate. Refer to **Troubleshooting Your SUPERMAX** in this manual, page 20.

USING THE PROSCALE™ DEPTH GAUGE

The ProScale depth gauge (Page 36, Fig. 45A) has its own manual inserted with the SUPERMAX 50x2 manual packet. The ProScale can be calibrated by raising the conveyor until the drums are touching the conveyor and zero the readout. Another calibration method is to sand a piece of wood, measuring the thickness of the wood and change the reading on the ProScale. See included ProScale manual for details on calibrating and operation.

USING THE DEPTH STOP

A depth stop (Fig. 16) is located on the column tube just above the table support casting on the right (inboard) side. The depth stop casting has a locking knob located on one side of the casting. To operate the depth stop: Determine desired thickness of sanded part by either referencing the depth gauge or sanding a part and measuring the thickness of the sanded part. At this sanding thickness, position the depth stop along the column tube with the gauge resting on the table support casting and tighten the locking knob on the depth stop. This will give a desired exiting thickness to the material and help prevent under dimensioning.

SELECTING DRUM ABRASIVES

It is important to select the proper grit of abrasives for the type of sanding being performed to achieve maximum sanding results. As with any sanding operation, first begin sanding with a coarser grit, depending on the roughness of the stock or the amount of stock to be removed. Then progressively work toward finer grits. The chart below shows the general uses for the various grits. Performax Products offers abrasives in the ten various grits shown.

Selecting Abrasive Grits. The amount of stock to be removed is a major consideration when choosing the proper grit grade. Grits 24, 36, 50, 60, and 80 are primarily designed for stock removal. Grits 24 and 36 will remove the most material in one pass, whether you are doing abrasive planing, cleaning up glued panels, or flattening stock. Grits from 100 through 220 are primarily finishing grits designed to remove the scratch pattern from the previous grit used. For best results, never skip more than one grit grade when progressing through a sanding sequence.

For fine work, such as furniture, try not to skip

ABRASIVE SELECTION GUIDE

GRIT	COMMON APPLICATION
24 Grit	Abrasive planing, surfacing rough-sawn boards, maximum stock removal, glue removal.
36 Grit	Abrasive planing, surfacing rough-sawn boards, maximum stock removal, glue removal.
50 Grit	Surfacing and dimensioning boards, trueing warped boards.
60 Grit	Surfacing and dimensioning boards, trueing warped boards.
80 Grit	Surfacing, light dimensioning, removal of planer ripples.
100 Grit	Light surfacing, removal of planer ripples.
120 Grit	Light surfacing, minimal stock removal.
150 Grit	Finish sanding, minimal stock removal.
180 Grit	Finish sanding only, not for stock removal.
220 Grit	Finish sanding only, not for stock removal.

any grit grades during the sanding process. In general, premium quality abrasives such as Genuine Performax abrasives will produce a better finish with a less noticeable scratch pattern. **Caution:** Grits that are too fine can sometimes burnish the wood and leave a glossy surface which will not accept stains evenly. This will vary by type of wood. Oak, for example, is susceptible to burnishing because of its open pores.

Selecting Grit Combinations. The chart shown on page 14 is a general guide to consult when selecting grits to use on dual drum machines and setting the rear drum. This chart is also provided under the dust cover on the SUPERMAX for quick reference. The first column suggests grits for the primary (front) drum, while the second column suggests a corresponding grit to use on the second (rear) drum. The third column suggests depth settings to try on the rear drum, depending on the grit used. The setting values are based on a "0" reading when the drum contacts the work piece but still can be rotated by hand.

Note that the grits and settings are starting suggestions only. Other combinations and settings are possible, depending on your particular circumstances. It is a good idea to keep records of the combinations you use and their results. Keeping these records handy will help you select the best combinations of grits for future work.

TIPS FOR MAXIMUM PERFORMANCE

The versatility designed into the SUPERMAX drum sander allows it to be used for a wide-ranging variety of tasks that will boost the return on your investment. For example, its capabilities range from taking the place of a planer to thickness rough stock, all the way to speeding up fine sanding work often done with slower, dust-generating hand sanders.

Learning to use its multiple adjustments and controls will allow you to fine-tune the machine for maximum results, regardless of the job to be done. The best results come from experimenting with different abrasive combinations and machine adjustments to fit the job at hand. Following is a listing of useful tips which can help you improve performance of your sander.

Dust Collection. When connecting dust collectors, remember that straight pipe will not restrict airflow as much as flexible tubing. Also, Ys and elbows will restrict airflow less that Ts. When connecting to the triple ports of the SUPERMAX 50x2, use three 4" hoses connected to the ports. An alternative is to run one, five or six inch hose and split it into two, four inch lines and run a separate third line to the 50x2. **Do not** run a single 4" hose and split it by the sander.

Multiple-Piece Sanding Runs. When abrasive planing (or thickness sanding) a run of similar pieces that you want to have the same thickness, it is best to determine the thickness of the thinnest piece and process all pieces to that same thickness. Be aware that the sander will remove cups and crowns in the work piece; consider this when measuring and processing stock to the same thickness.

Sanding Multiple Pieces At Once. When sanding multiple pieces simultaneously, make sure to stagger (step) the pieces across the width of the conveyor belt. This provides better contact with the tension rollers. Try to only process multiple pieces of similar thickness. If there is a significant thickness difference, the thinner pieces can slip on the conveyor belt if they do not contact the tension rollers. Also note that pieces thicker than 3/4" should be longer than the minimum normally recommended to prevent tipping of the stock (see Specifications, page 39). Going to longer pieces is especially important when sanding boxes or other tall, short or light stock.

Edge Sanding. When edge sanding, the Performax sander will mimic the opposite edge of the stock which is laying on the conveyor belt. Because of this, it is important for the stock edge to have been ripped at the proper angle to the face before the sanding process. When edge sanding stock that is less than 3/4" wide, or more than 2" high, it is good procedure to stack and clamp several pieces together to prevent them from slipping or tipping on the conveyor belt.

Sanding Imperfect Stock. When sanding stock with a cup or crown, place the crown up. This will stabilize the stock to help prevent tipping or rock-

ing during sanding. (After the crown has been removed and the top is flat, turn the stock over and sand the opposite side.) To avoid personal injury, take special care when sanding stock that is twisted, bowed, or otherwise varies in thickness from end to end. If possible, support such stock as it is being sanded to keep it from slipping or tipping. Use extra roller stands, help from another person, or hand pressure on the stock, to minimize potentially hazardous situations.

Face Frames & Raised Panel Doors. It is very important to have the proper abrasive contact when doing this type of sanding. If the machine is set to take an excessive depth of cut, the result will be a gouge or dip as the drum goes from sanding the rails at full width to sanding just a few inches of width on the stiles. To prevent this problem, make sure that when using abrasives finer than 80 grit the drum is in contact with the wood but can still be spun by hand. If there is room, angling the stock on the conveyor belt can also help. Slowing the conveyor feed when coming to a rail in the stock can help prevent a dip or gouge. This allows the abrasive to work the wider width with less effort, and to achieve better consistency of the finished surface.

Stock Feeding Angle. Some pieces, because of their dimensions, will need to be fed into the machine at a 90° angle (perpendicular to the drums). However, even a slight offset angle of the stock will provide for more effective stock removal. The optimum feeding angle for stock removal is about 60° (see Fig. 17). Angling the workpiece for stock removal provides other advantages, such as less loading of certain areas of the drums due to glue lines or mineral streaks in the stock, more even wear of abrasive strips, potentially faster feed rates, and lighter loads on the motor.

Note that to get the best final finish, however, the stock should be fed through the machine so it will be sanded in line with the grain of the wood on the final one or two passes.

Cleaning Abrasive Strips. Regularly clean the abrasive strips on the drums with commercially available cleaning sticks, following the manufacturer's directions. (See Fig. 18.) Cleaning sticks are available from your dealer or from Performax Products. When cleaning, also brush the stick crumbs from the drum while it is still rotating and from the conveyor belt. **Important:** Wear eye protection, tight-fitting clothes and keep alert during this operation to avoid injury.

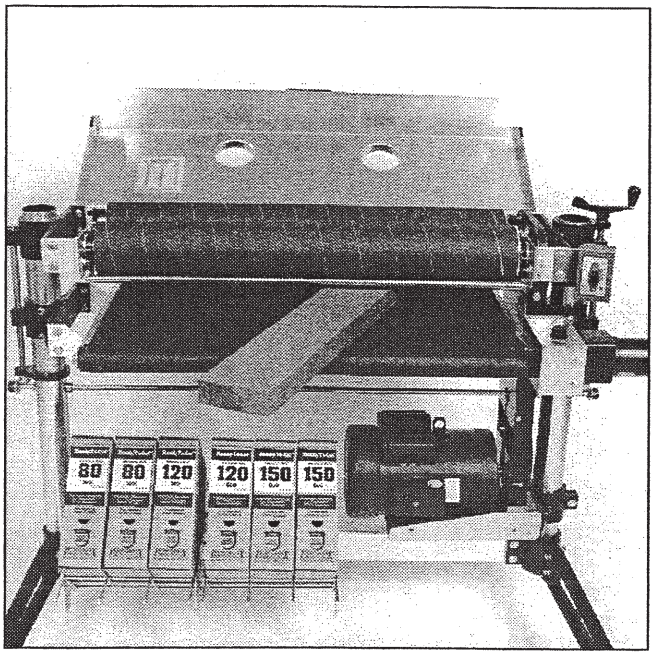


Fig. 17. Offset stock feeding angle.

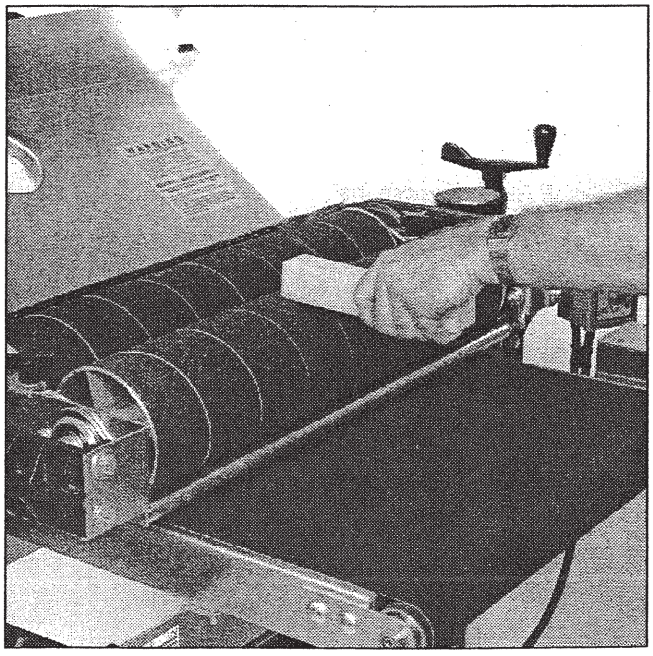


Fig. 18. Cleaning abrasive strips.

Cloth-backed abrasives can be cleaned by soaking in paint thinner or mineral spirits for 20 minutes to 1 hour, then using a brush to remove any build-up or burns. Dry the abrasive strips completely before reuse. In some cases build-ups resulting from burns can be removed with Plexiglas held on edge over a rotating drum. Have dust collection turned on and wear eye and face protection when cleaning.

Stretching Abrasive Life. When sanding metal or solid surface, MDF, or particle board, ceramic abrasive (Regalite™) will last longer than aluminum oxide and will also allow a more uniform finish. Abrasive life can also be increased on SUPERMAX machines by removing the abrasive strip from the drum and reversing it. To do this, remove the strip and use what was the trailing end as the starting end on the left (outboard) side of the drum. Reversing the strip will provide a fresh set of cutting edges on the drum.

Keeping The Machine Clean. For best results, make cleaning the machine a regular shop procedure. Allowing excess build-up of dust and debris can adversely affect performance through the loading of the abrasives, slippage on the conveyor table, and/or the accumulation of material inside the drums which can throw off the center of balance. Leave the dust collector on when cleaning dust from the drums. Also brush the conveyor belt after cleaning operations. If not cleaned, the conveyor belt could allow stock to slip during sanding operations.

TROUBLESHOOTING YOUR SUPERMAX 50X2

Any operating problems with the SUPERMAX drum sander will likely occur most often during the period that you are becoming familiar with its components and their adjustments. If you are experiencing a problem affecting the machine's sanding performance, check the following listings for potential causes and solutions; it may also pay to review the previous sections in this manual on setting up and operating your machine.

TROUBLESHOOTING GUIDE: MOTORS

Problem	Possible Cause	Solution
Motors do not start.	1. Main power cord unplugged from receptacle.	Plug in primary power cord.
	2. Circuit fuse blown or circuit breaker tripped.	Replace fuse or retrip breaker (after determining cause).
	3. Magnetic starter thermal overload protector tripped	Reset after allowing to cool; check circuit and/or reduce load or slow feed rate.
Drum motor overloads.	1. Inadequate circuit.	Check electrical requirements.
	2. Machine overloaded.	Use slower feed rate and/or reduce depth of cut.
Conveyor motor oscillates.	1. Motor not properly aligned.	Loosen housing bolts, run motor, retighten bolts.
	2. Shaft collar or bushings worn.	Replace shaft collar or bushings (page 5).
	3. Drive roller bent.	Replace drive roller (page 31).
Drum motor or conveyor gear motor stalls.	1. Excessive depth of cut.	Reduce depth of cut; reduce feed rate.
Height adjustment motor will not start or stalls.	1. Set screws not loosened in table support casting	Loosen set screws (Fig. 3, page 5).
	2. Fuse blown.	Replace fuse (Fig. 11, page 9; page 37).
	3. Not wired properly.	Wire (page 5, 37).

TROUBLESHOOTING GUIDE: MACHINE

Problem	Possible Cause	Solution
Abrasive strip comes off drum.	1. Slack in abrasive strip on drum.	Remove slack in strip (page 10).
	2. Abrasive improperly installed.	Read section on abrasive installation (page 10).
Abrasive strip loose.	1. Strip caught on inside edge of slot or on inboard side of drum.	Readjust strip end in slot and/or trim abrasive edge (page 10).
	2. Strip not cut properly.	Recut and install abrasive strip (page 10).
Abrasive loads up prematurely.	1. Excessive depth of cut.	Reduce depth of cut.
	2. Excessive feed rate.	Use slower feed rate.
	3. Inadequate dust collection.	Increase air flow at dust ports.
	4. Inadequate abrasive.	Use open-coat abrasive.
	5. Stock fed at 90° angle. to drum.	Angle stock to avoid resin line build-up (page 18).
Conveyor rollers run intermittently.	1. Shaft coupling loose.	Align shaft flats of gear motor and drive roller, and tighten shaft coupling set screws (page 5).
Conveyor belt slips on drive roller.	1. Improper conveyor belt tension.	Adjust belt tension (page 8).
	2. Excessive depth of cut.	Reduce depth of cut; reduce feed rate.
Board slips on conveyor belt.	1. Excessive depth of cut.	Reduce depth of cut.
	2. Tension rollers too high.	Lower tension rollers (page 29).
	3. Excessive feed rate.	Reduce feed rate.
	4. Dirty or worn conveyor belt.	Clean or replace conveyor belt (page 32).

TROUBLESHOOTING GUIDE: MACHINE (Continued)

Problem	Possible Cause	Solution
Conveyor belt tracks to one side, or oscillates from side to side.	1. Belt out of adjustment.	Readjust belt (page 8).
	2. Drive or driven conveyor belt rollers misaligned.	Readjust (page 8).
	3. Conveyor table not flat and square.	Readjust by leveling with leg glides (page 7).
	4. Conveyor belt worn or defective.	Replace conveyor belt (page 32).
	5. Roller bushings elongated due to excessive wear.	Replace bushings (page 35).
Table height adjustment works improperly.	1. Improper adjustment of height control.	Readjust height control (pages 9, 25, 26).
Drum drive belt slips.	1. Improper V-belt tension.	Increase V-belt tension (pages 5, 33).
Knocking sound while running.	1. Bearing out of alignment.	Realign bearing (page 34).
	2. V-belt worn.	Replace V-belt (page 33).
	3. Loose weight in drum.	Glue weight back in place.
	4. Pulleys wobbling or out of round.	Replace pulley (page 34).
	5. Set screws loose in pulley or bearing.	Retighten or replace set screws.
	6. Abrasive fastener on drum loose (without abrasive strip in place).	Insert abrasive paper, or replace fastener (page 10).
	7. Drum bearings or idler pulley bearing worn.	Replace bearing (page 34).

TROUBLESHOOTING GUIDE: OPERATIONS

Problem	Possible Cause	Solution
Rippled sanded surface (non-uniform ripples).	1. Uneven feed rate.	Check for these conditions and refer to previous section, Troubleshooting: Machine. • See Selecting Intellisand Feed Rates (page 15). • Conveyor belt slipping on drive roller. • Board slipping on conveyor belt. • Conveyor gear motor stalling. • Excessive V-belt tension (page 5). • Set screw loose on shaft coupler between gear motor and conveyor. • Conveyor bushings dry; lubricate.
Rippled sanded surface (uniformly spaced ripples).	1. Excessive feed rate.	Reduce depth of cut or reduce feed rate
	2. Excessive depth of cut.	Reduce depth of cut or reduce feed rate.
	3. Sander vibration.	Check for these conditions: • Loose bolts or bearing and pulley set screws; retighten. • Dirty drum; clean inside. • Excessive V-belt tension; reduce tension (page 5). • Worn V-belt; replace (page 33). • Warped driven pulley, replace (page 34).

TROUBLESHOOTING GUIDE: OPERATIONS (Continued)

Problem	Possible Cause	Solution
Sniping of wood (gouging near end of board).	1. Tension rollers set too far down.	Reset tension rollers (page 29).
	2. Stock not supported properly during infeed or outfeed.	Support stock with roller stands, tables or benches.
	3. Conveyor drive or driven rollers higher than conveyor bed.	Readjust rollers (page 29).
Burning of wood.	1. Feed rate too slow.	Increase feed rate.
	2. Excessive depth of cut for grit used.	Reduce depth of cut or increase grit coarseness.
	3. Excess build-up on abrasive strips.	Reduce depth of cut; clean strips or replace.
	4. Abrasive is too fine.	Replace with abrasive of coarser grit.
	5. Abrasive strips overlapped.	Rewrap strip without overlap.
	6. Drum out of alignment.	Realign drum (page 27).
Gouging of wood.	1. Conveyor belt is too loose.	Adjust belt tension (page 8).
	2. Excessive depth of cut.	Reduce depth of cut.
	3. Wood slipping on conveyor due to lack of contact.	Use alternate feeding procedure (page 17).
	4. Abrasive is too fine.	Replace with coarser grit.
Unsanded ridge along length of piece (sandpaper appears clean).	1. Grit has been removed from backing.	Avoid this area of drum, or change abrasive strips.

SERVICING YOUR SUPERMAX 50X2

The basic adjustment procedures for your machine are covered under Setting Up Your SUPERMAX Sander, page 6. Review that section first. If following the general instructions does not solve a specific problem or result in smooth operation, also check Troubleshooting Your SUPERMAX, page 20. Below are suggested procedures to follow when more thorough readjustment or replacement is necessary.

ADJUSTING HEIGHT CONTROLS

Height adjustment problems may be the result of not loosening the set screws in the table support castings before attempting operation. (This is covered on page 5 of this manual, and also on the separate unpacking sheet which was shipped with your machine.) If the set screws were not loosened as instructed, do so now before proceeding further. Also make sure all moving parts of the height adjusting mechanism are well lubricated, including the miter gears, column tubes, and threaded height adjusting screws.

When troubleshooting the height adjustment mechanism, first check the conveyor table for level (see page 7). Then test the height adjustment mechanism (See Fig. 19). If it does not operate easily, further adjustments may be necessary, as outlined below. Following these steps should result in smooth operation.

Readjustment Procedure

1. Loosen the set screws located at the front of the table support castings (Fig. 19).

2. Lubricate thoroughly by applying penetrating lubricant to the table support castings where they contact the column tubes, and to all contact points of adjusting screws and cross bar (Fig. 20). Also apply oil or grease to the miter gears.

3. If the height adjustment feels stiff, check for misalignment of adjusting screw supports and the drum support castings which could cause binding on the adjusting screw rods (Fig. 19). These castings can be adjusted by loosening the set screws which secure them to the column tubes. Realign the adjusting screw supports by loosening the two set screws that hold them to the column tubes and rotate to the proper position.

4. The adjusting screw supports located immediately below the height adjustment handle and the left (outboard) drum supporting casting (Fig. 19)

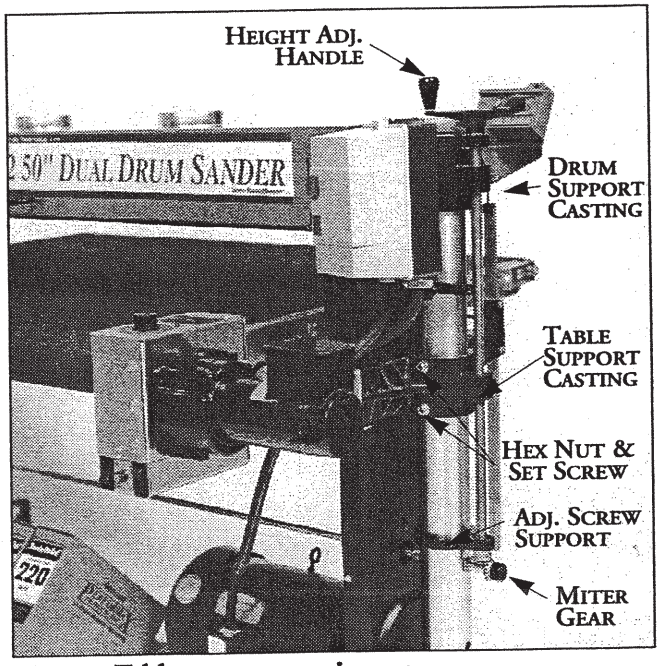


Fig. 19. Table support casting set screws.

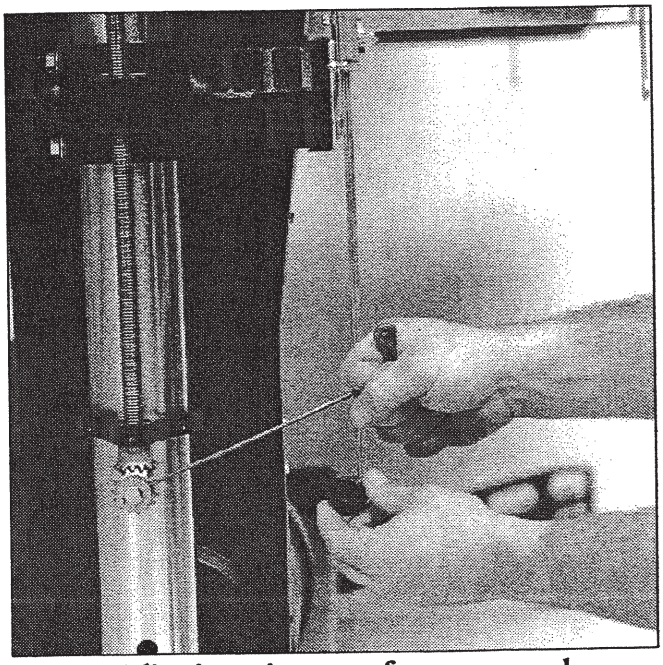


Fig. 20. Adjusting miter gears for proper mesh.

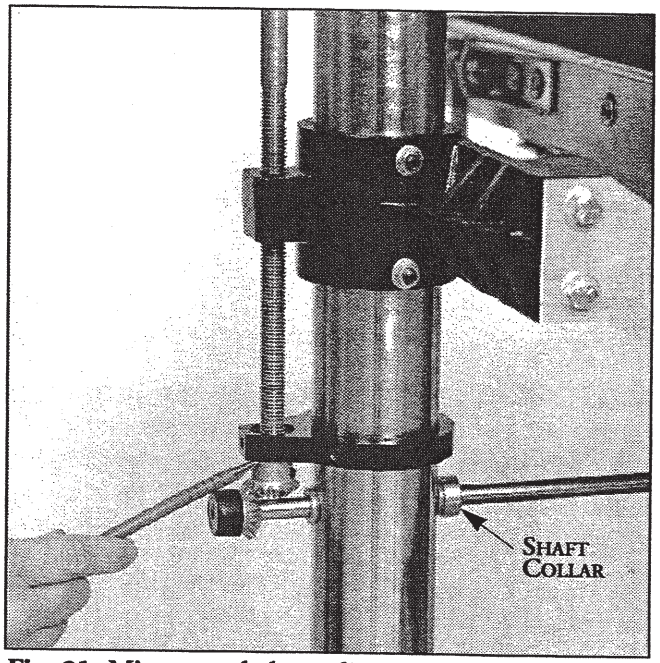


Fig. 21. Miter gear below adjusting screw support.

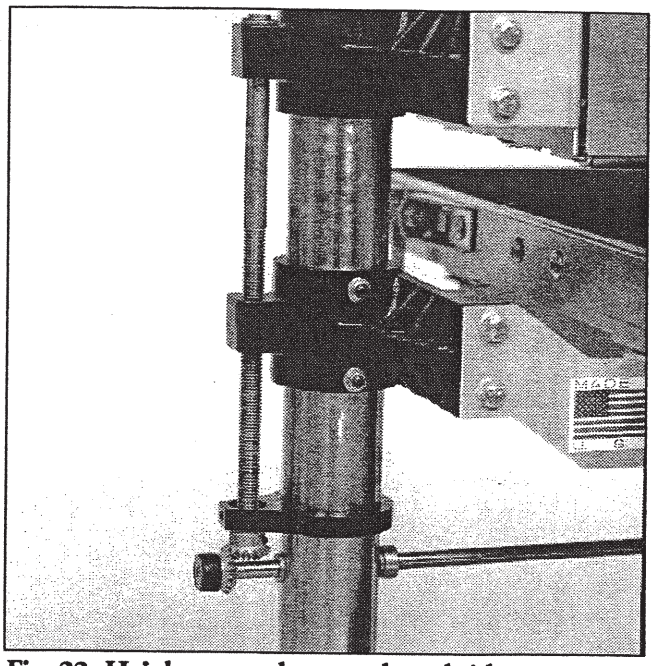


Fig. 22. Height controls on outboard side.

must both be set at the proper height along the column tubes so the height adjusting screws provide for proper miter gear alignment. Before adjusting these parts, tighten one set screw in the table support castings (Fig. 19) to hold the height adjusting screw in position during adjustment.

Also check to see that the column tubes are centered inside the bore of the table support castings (Fig. 19). If not, loosen the casting bolts and tighten the set screws at the front of table support casting to center the tube. Retighten the bolts and loosen the set screws.

5. If the height adjustment mechanism feels rough, check the miter gear (Fig. 20) alignment. The miter gears can be adjusted on their shafts by loosening the set screws on the gears. Check and adjust so that the gear mesh is not too tight or too loose, and that the gear teeth align with the opposing gear. Note that the shaft collars located on the cross bar (Fig. 21) should be adjusted to control the lateral movement of the cross bar to maintain accurate miter gear alignment and mesh.

The mesh of the miter gears should be smooth and even. If not, adjust the gears for good mesh (Fig. 20). Measure the space between the miter gear and the adjusting screw support that holds the height adjusting screw in place (Fig. 21). The distance should be 1/32" or less. If there is excessive space, move the adjusting screw support to the proper distance above the miter gear and retighten. Loosen the set screws in the table support castings (Fig. 19) and test for smooth operation.

6. Next, check the position of the height adjusting screw rods. First raise the conveyor table. Then check the E-clip and washer at the top of the height adjusting screw on the left (outboard) side, and under the height adjustment handle on the right (inboard) side of the machine. On both sides, the washer and E-clip (or washer only) should be snug on the casting just below the washer. If there is a space between the washer and the casting, tighten one set screw in each of the table support castings. If one height adjusting screw is loose, remove the miter gear from the cross bar on that side. Turn down the threaded height adjusting screw rod until it is snug with the washer. Make sure both sides are snug on top. Reinstall the miter gear and tighten. Loosen the set screws in the table support castings and test for smooth operation.

7. The controls for the motorized height adjustment are located under the gear motor assembly. The motor for the height adjustment is located on left (outboard) side of sander, below the transfer rod.

Access to the drive gears is possible through a

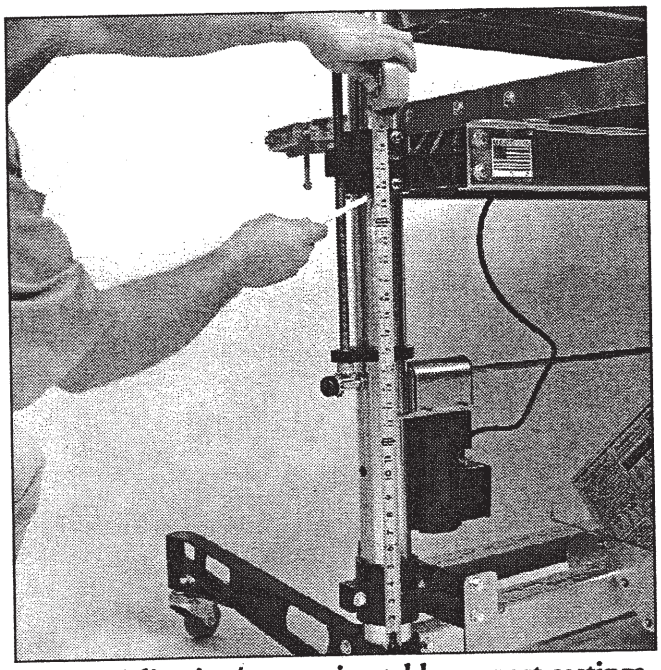


Fig. 23. Adjusting/comparing table support castings.

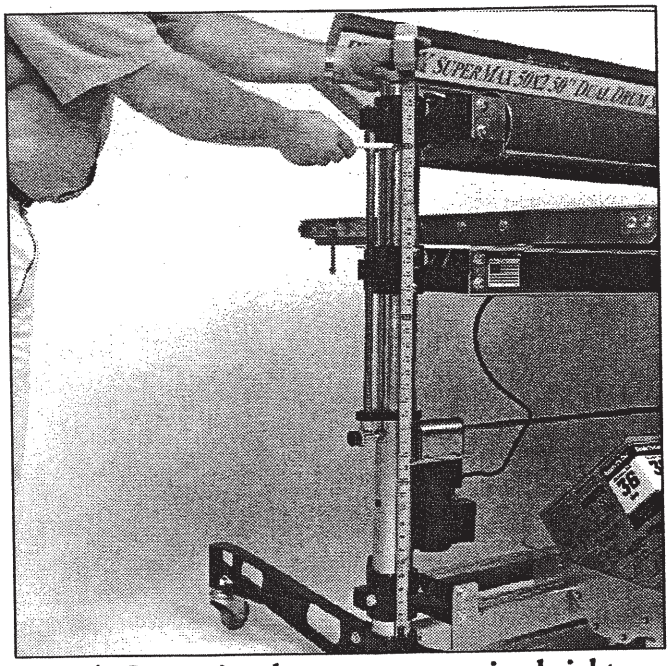


Fig. 24. Comparing drum support casting heights.

cover over the transfer rod above the motor. Remove the cover by loosening and removing two set screws in the cover which are holding the cover. The other two set screws are only holding the motor in place. The cover has holes oversized so these two set screws do not attach. To access the gears and motor remove the cover (guard).
CAUTION: Do not operate motorized height adjustment without guards in place.

If the height adjustment is not operating smoothly and the before mentioned checks are complete the next step is to check the motor and drive components for the motorized height adjustment. The gears for the motorized height adjustment need to be properly meshed. Too tight a fit and the height adjustment will be rough. Too loose and the adjustment could slip or not be precise. To adjust, disconnect power to sander. Using the height adjustment crank, turn to expose set screws in gears. Loosen set screws and adjust gears so back of teeth, when meshed, are smooth. The gears need to be seated on the flat of the shaft on which they are mounted. The gears should be lubricated with grease every six months.

Adjusting Table Support Castings

If the conveyor table does not raise and lower easily, measure the distance between the top of the base column support and the bottom of the table support casting (Fig. 23) on both the right (inboard) side and the left (outboard) side of the machine. Compare these measurements; they should be within 1/16". If not, disengage the miter gear on the right (inboard) side of the cross bar. Adjust the conveyor bed height using the height adjustment handle to get the same measurement on both sides. Then re-engage the miter gear on the cross bar.

If the conveyor table is still difficult to raise or lower, the table support castings may need to be recentered on the column tubes. To do this, loosen the 3/8" x 1" hex head bolts in each table support casting, adjust and tighten the set screws to hold the casting in position. Then tighten the hex head bolts and loosen the set screws.

Adjusting Sanding Drums

After any adjustments of the castings on the columns, check to make sure the sanding drums are in alignment. To begin realignment of the sanding drums, first remove the abrasive strip from the drum. Release the V-belt tension from the motor by loosening the pinch bolt of the motor support casting (see #8, Fig. 5, page 6). Loosen two screws in lower belt guard. Slide the motor mount up the column tube and retighten the pinch bolt. After the feed table has been leveled, loosen all four tension roller suspension bolts (see

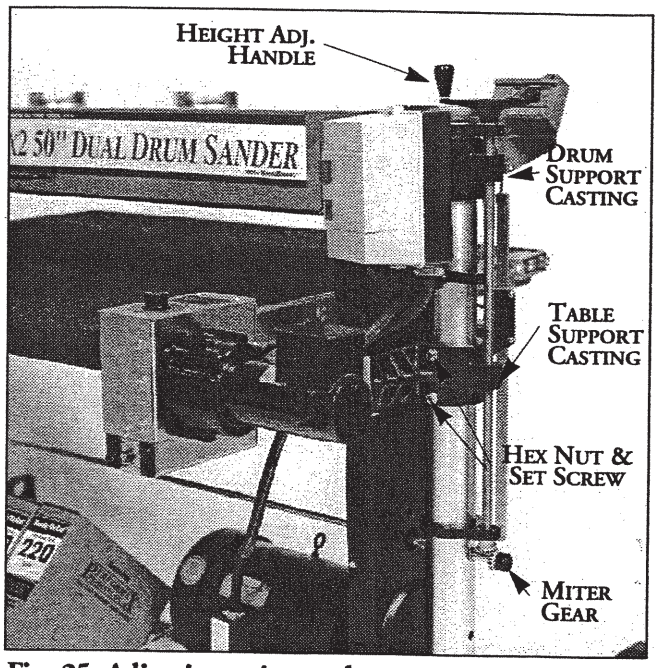


Fig. 25. Adjusting primary drum.

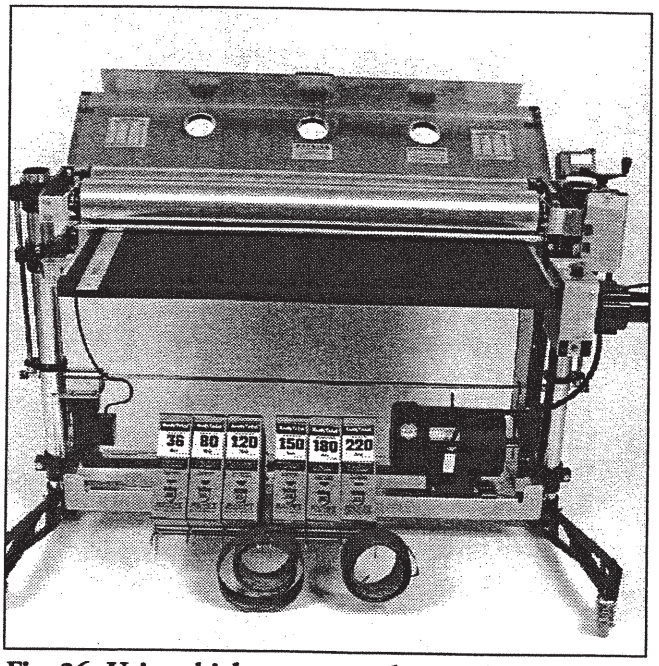


Fig. 26. Using thickness gauge during alignment.

#1, Fig. 28, page 29). Raise the tension roller suspension assembly (#2, Fig. 28) to its highest position so that the tension rollers are positioned higher than the bottom of sanding drums. Then retighten the four tension roller suspension bolts to hold the tension rollers in that position during drum alignment.

Primary Drum Alignment. Using a flat piece of wood or a steel rule as a thickness gauge, insert it between table and primary (front) drum and adjust the table height (Fig 26) on left (outboard) side to gauge the thickness. Raise the table so the drum can barely be turned by hand. Measure at both sides of the drum to check that the primary drum is parallel to the table.

Achieving a very precise primary drum alignment can be accomplished by disengaging the right (inboard) miter gear (Fig. 25) from the height adjustment cross bar, and using the height adjustment handle to finely raise or lower the inboard side of the table to achieve parallel alignment of the drum (see **Adjusting Table Level**, page 7). Note that if only fine adjustment of the primary drum alignment is required, these adjustment procedures can be used to correct alignment without relieving V-belt tension or adjusting tension rollers as described below.

To adjust the primary drum alignment, loosen both set screws at the front of the right (inboard) drum support casting (Fig. 24) and raise or lower the casting on the column tube to correct drum alignment. Retighten the set screws and recheck the alignment. **Note:** Do not loosen the set screws of the left (outboard) drum casting as this will cause miter gear misalignment.

Secondary Drum Alignment. With the primary

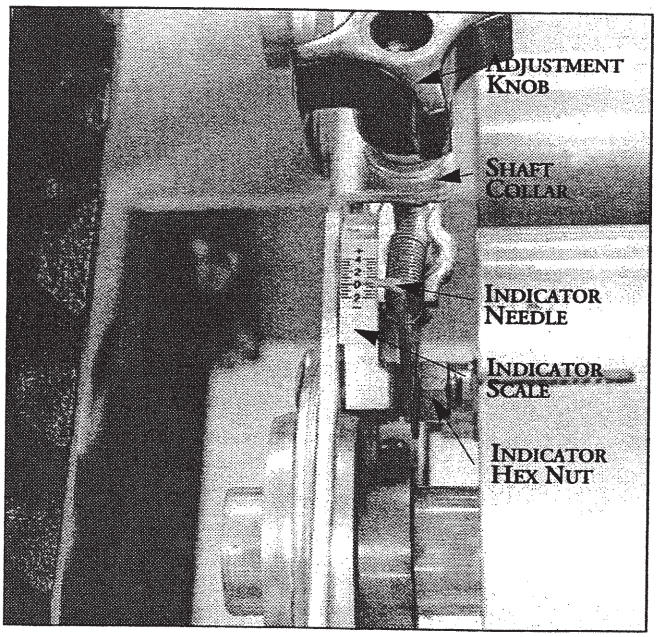


Fig. 27. Secondary drum adjustment indicator.

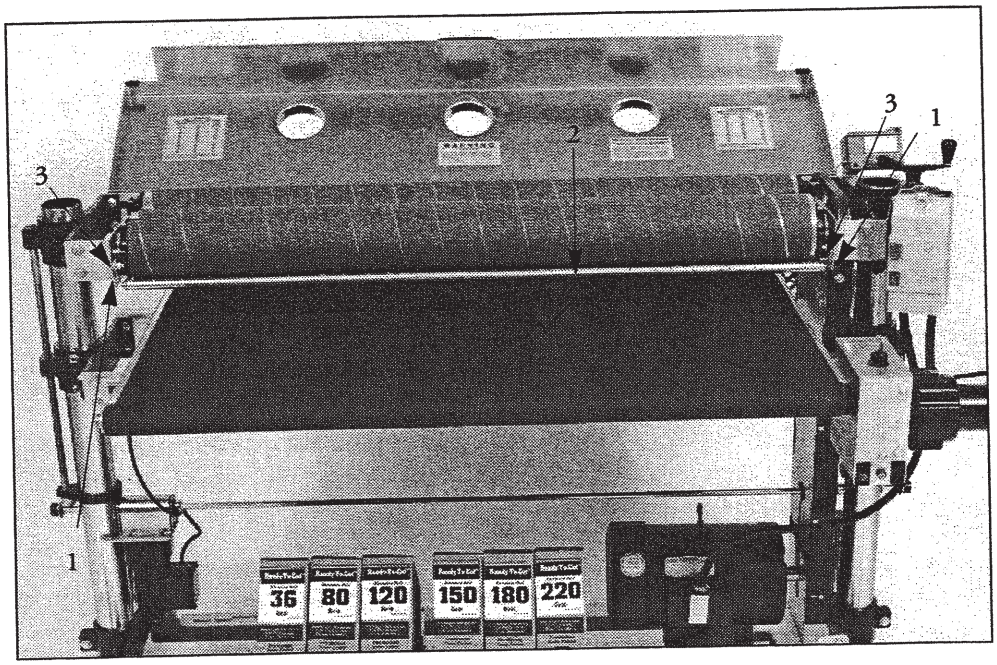


Fig. 28. Tension roller adjustment.

1. **Tension Roller Suspension Bolts.**
2. **Tension Roller.**
3. **Spring Retaining Screws.**

drum properly aligned, use the same thickness gauge and insert it between the secondary drum and the table from the back side of the machine. (Again, adjust the contact between the drum and guide so the drum can barely be turned by hand.) Measure at both sides of the drum to check that the secondary drum is parallel to the table. To adjust the secondary drum alignment, use the right and left drum adjustment knobs (Fig. 27) to raise or lower each side of the drum.

At this point both the primary and secondary drums will be aligned parallel to the table and both drums will be at the same height above the table. Set the secondary drum adjustment indicators by loosening the hex nut (Fig. 27), moving the scale so that the zero mark is directly under the needle, and retightening the hex nut. Zero the indicator for other side of drum in the same manner.

Caution: Do not overtighten the hex nut of the indicator (Fig. 27). This can flare the brass bushing and render the indicator inoperable. Also, the secondary drum adjustment knobs should turn with a slight resistance to avoid any movement during operation. To adjust knob resistance, turn the knob clockwise to reveal the set screw on the shaft collar below the bracket, then loosen the screw. Making sure the adjustment knob is tightly seated on top of the bracket, raise the shaft collar up against the bracket from below and tighten the set screw. **Note:** The nut of the rear bolt on the rear (secondary) drum bearing bracket should be backed off a quarter-turn from being fully tightened. This allows the lock washer under the rear bolt on the rear bracket to be depressed slightly, but not completely. After alignment is completed, lower the motor mount to re-establish V-belt tension. Tighten two screws in belt guard.

Adjusting Tension Rollers

With the sanding drums properly aligned, raise the conveyor table to the bottom of the sanding drums. Loosen all four tension roller suspension bolts (see #1, Fig. 28). Lower the table by one full turn of the height adjustment handle. At this position the tension roller assembly should be resting on the table with the drums suspended slightly above the table. Then retighten the tension roller suspension bolts.

Note: Too much tension roller pressure can cause snipe marks which are identified as a visible line running across the width of the board approximately 2 1/4" from the end of the board. If a snipe mark occurs on the trailing end of the board, adjust the infeed tension roller. Tension roller pressure can be adjusted two ways, either by loosening the tension roller spring retaining screws (see #3, Fig. 28) or by raising the height of the tension

rollers. To adjust the tension rollers to eliminate snipe marks, use this two-step procedure:

Step 1. With the sanding drums properly aligned, loosen all four tension roller suspension bolts. Raise the table to the bottom of the sanding drum. The tension rollers should be resting firmly on the conveyor bed. Tighten only the two rear (outfeed) tension roller suspension bolts.

Step 2. Lower the conveyor table by one full turn of the height adjustment handle. At this point, press down on the front (infeed) tension roller so it is resting on the table. Now tighten the front (infeed) tension roller suspension bolts. If there still is a snipe mark left on pieces being sanded, repeat Step 1 and Step 2, but in Step 2 lower the conveyor bed a half turn instead of a full turn.

Warning: Improperly adjusted tension rollers (i.e., those set too high, rendering them non-functional) could allow kick-back/slippage of pieces being sanded.

Replacing Sanding Drums

Changing drums on the SUPERMAX is a relatively rare procedure, most often the result of external damage or damage resulting from improper settings for the stock being sanded.

To begin, disconnect power to sander. Remove the sandpaper on the drums and level the sanding drums to each other. Next, loosen the pinch bolt of the motor support casting, loosen two screws in lower belt guard, raise the motor, and retighten the pinch bolt. With this done, follow the steps below.

Disassembly Procedure

1. Disengage the outer belt guard cover by removing the four 10-32 screws and the two 5/16" x 1/2" bolts holding it in place. (Fig. 29). Loosen the pinch bolts in both motor support castings. Raise the main drive motor to loosen V-belt tension. Remove the V-belt from driven pulleys.

2. Level the drums to each other (see pages 7 and 8 in this manual). Then raise the conveyor bed until the drums rest on the conveyor bed.

3. Remove the four 3/8" x 1 1/4" bolts from the drum support casting on the right side (see Fig. 30). Remove on/off switch, bracket, and depth gauge.

4. Remove the top two 3/8" x 1" bolts from the drum support casting on the left (outboard) side of the sander. Loosen the bottom two 3/8" x 2 1/4" bolts from the left drum support casting, **but do not remove them.**

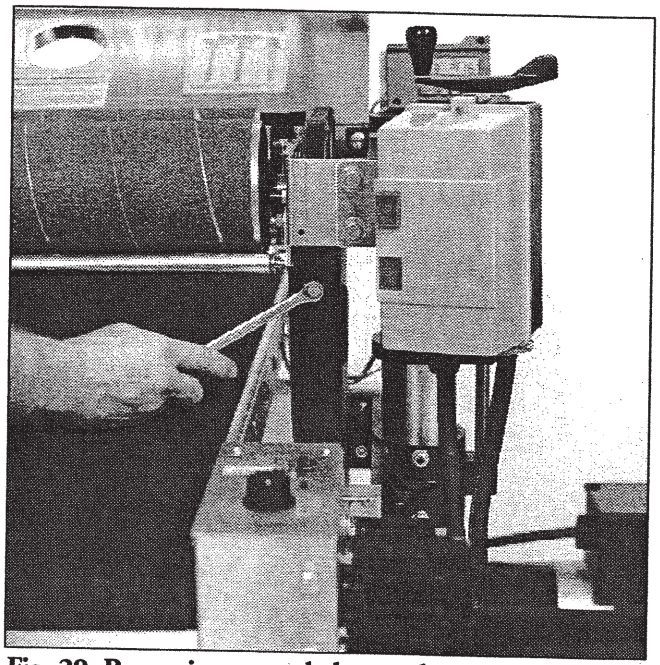


Fig. 29. Removing outer belt guard.

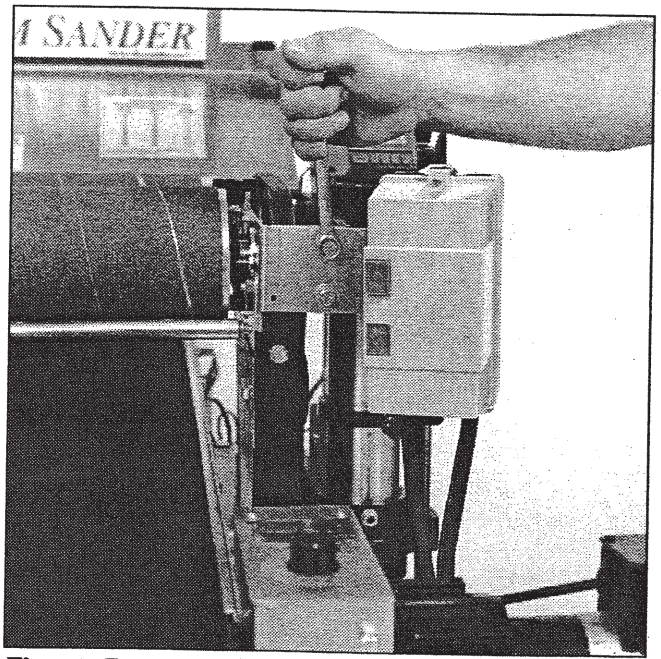


Fig. 30. Removing bolts from drum support casting.

5. Lift the right (inboard) side of drums and place a 2x6 on edge under the drums (Fig. 32). Loosen and remove the V-belt pulleys from drum shafts. **Important:** Make sure to note the location of the pulleys. Also measure the distance from pulley edge to the drum support casting to use as a reference when reinstalling pulleys so they will be properly aligned.

6. Loosen the set screws in the two V-belt pulleys and remove the pulleys. Loosen the two set screws in each of the four bearing collars (Fig. 33). Remove the sanding drum support brackets that hold the bearings (Fig. 34). Remove the sanding drums at this time and install the new drums. If the bearings need replacing, replace them at this time (see page 34).

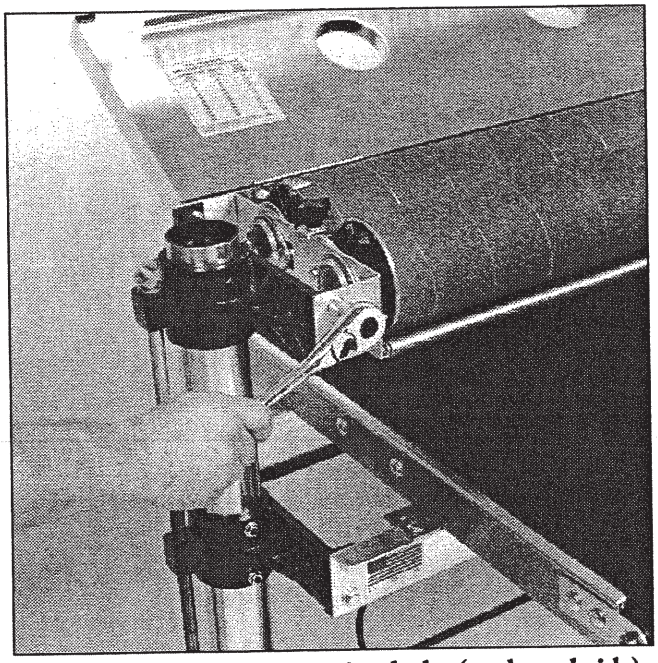


Fig. 31. Drum support casting bolts (outboard side).

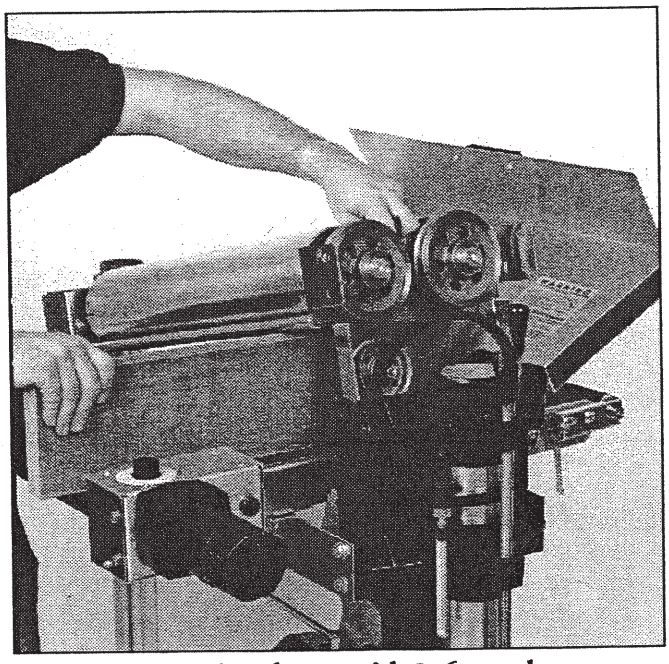


Fig. 32. Supporting drums with 2x6 on edge.

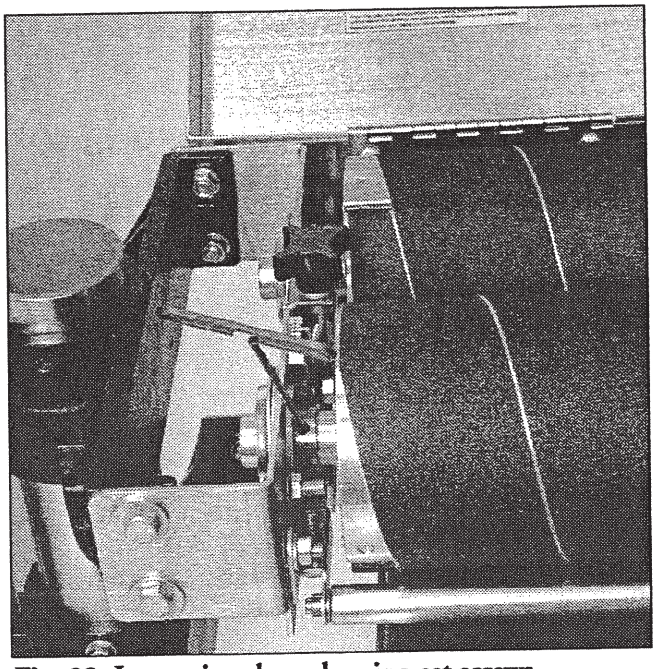


Fig. 33. Loosening drum bearing set screws.

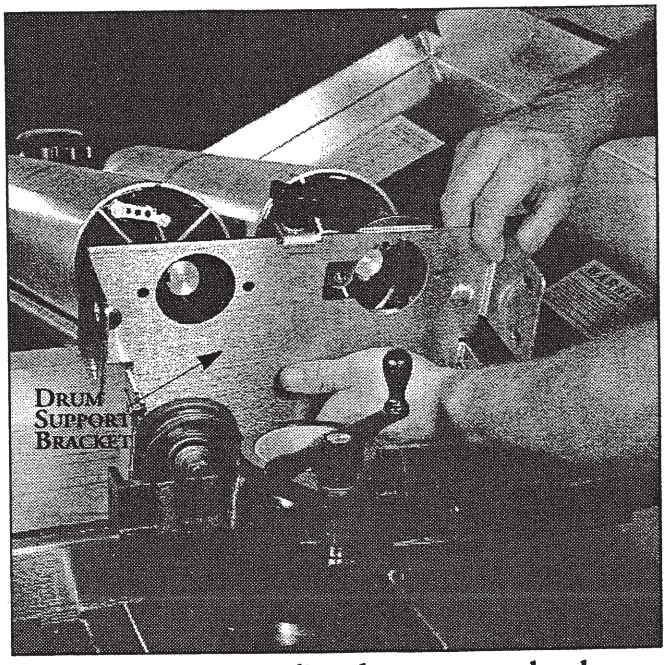


Fig. 34. Removing sanding drum support bracket.

Reassembly Procedure

1. To assemble the unit after replacing drums, install the sanding drum support brackets. Slide the drums through the bearings but do not tighten the set screws in the bearings yet. Install the V-belt pulleys, but don't tighten the set screws yet.

2. Remove the 2x6 from the conveyor bed at this time. Align the cross brace and the dust cover. Install the four bolts on the right (inboard) side. Install the on/off switch with the infeed bolts and two bolts on the left (outboard) side of the sander and tighten securely.

3. Tighten the two set screws in each of the four bearing collars. Spin the drums by hand to check if they spin freely.

4. Align the V-belt pulleys with the pulley on the motor and then tighten the set screws in the V-belt pulleys. Spin the drums by hand to make sure the pulleys are in proper alignment.

5. Check the alignment of the front drum to the conveyor table. If they are not parallel, level the front and then the rear drum (see pages 7 and 8) before proceeding further.

6. Readjust the tension of the V-belt by sliding the motor down and then tightening the pinch bolt in the motor support casting. Make sure all pulleys are aligned and all bolts tight before using the sander.

7. Reinstall the outer belt guard using the two 5/16" x 1/2" hex head bolts. Reinstall the lower belt guard using the two 10-32 screws and the middle, inner guard using two 10-32 screws.

REPLACING CONVEYOR BELTS

To replace the conveyor belt, the conveyor assembly must be removed from the machine. Lower the conveyor table to its lowest position with the height adjustment handle. Remove the bottom cover from control box, rotate shaft to access set screws in shaft coupler. Loosen one set screw. Important: Disconnect power to sander. Remove the four 5/16" bolts holding the conveyor motor control box base bracket (Fig. 45). Remove conveyor motor control box and place on dust cover. Loosen the conveyor take-up screws (Fig. 35 and Fig. 36) to relieve belt tension and slide the driven roller fully inward. Remove the four bolts that attach the conveyor assembly to the table mount

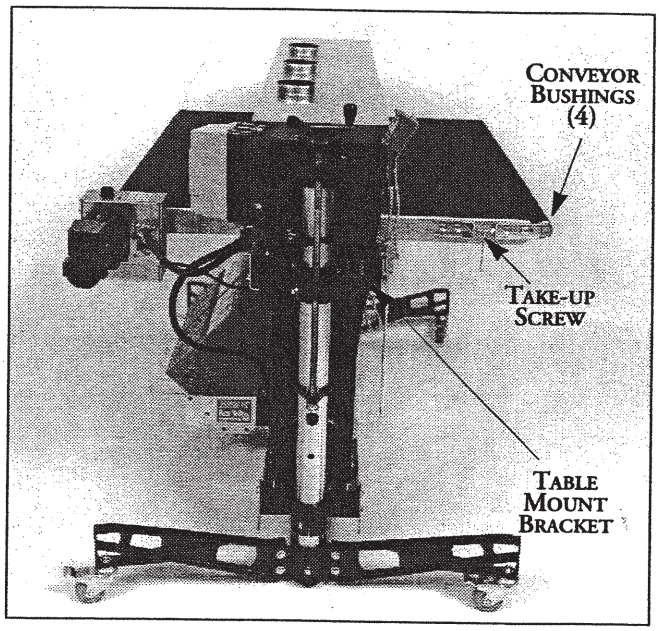


Fig. 35. Conveyor belt replacement.

brackets (see Fig. 36). Lift the conveyor and remove it from the machine by sliding the conveyor out toward the front of the machine. Avoid tearing the belt on any edges underneath the conveyor bed during removal. Reverse the procedure for re-installation.

Note: If the conveyor belt continually tracks to one side of the machine, first try reversing the belt

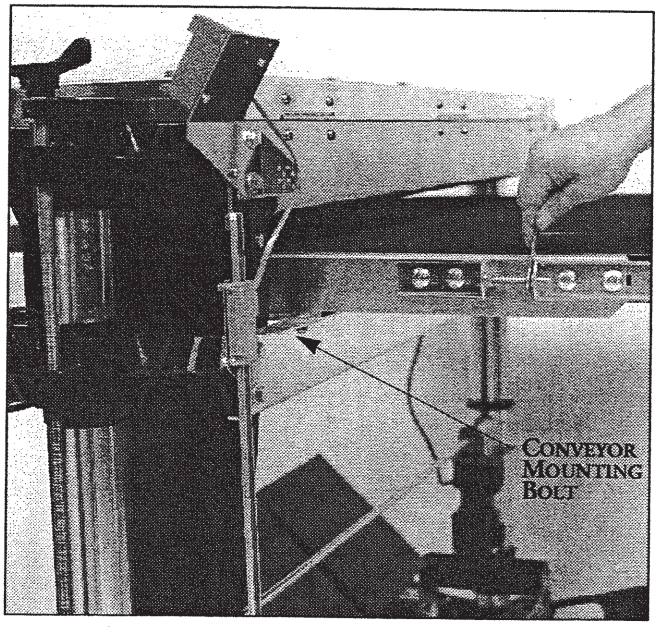


Fig. 36. Tensioning and tracking conveyor belt.

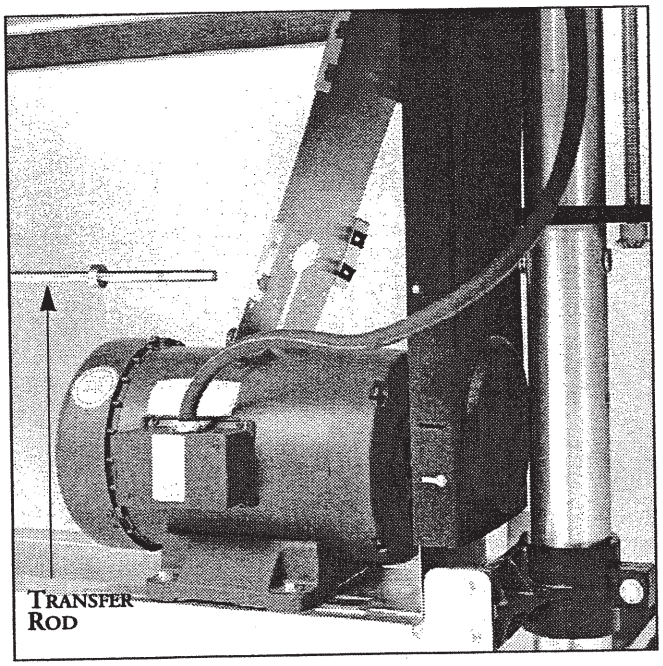


Fig. 37. Removing belt guard and transfer rod.

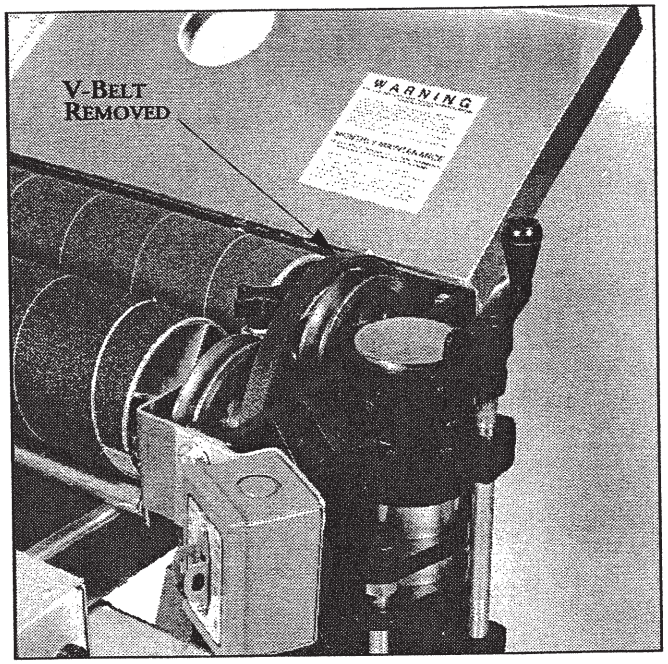


Fig. 38. Removing main motor V-belt drive.

on the conveyor bed. If this doesn't remedy the problem, place a level on the conveyor bed to make sure the conveyor bed is not twisted. If it is twisted, see page 7 for instructions on squaring up the bed. If squaring up the bed does not remedy the problem, proceed with the steps below:

Step 1. Check the conveyor drive and driven roller to make sure they are parallel to the surface of the conveyor bed. To do this, first center the conveyor belt on the bed. Then lay a straight-edge on the exposed edge of the conveyor table on the left (outboard) side, extending it over the drive roller, then driven roller. Note the distance between the drive roller then driven roller and the straight-edge.

Step 2. Now repeat Step 1 on the right (inboard) side of the conveyor. Compare the measurements from side to side. If they are not equal, loosen one of the brackets that hold the drive or driven roller in place. Tip this bracket until the distance between the drive or driven roller and the straight-edge are equal from side to side, then tighten the bracket.

REPLACING V-BELT

To change the V-belt on the SUPERMAX, first unplug machine from the outlet. Remove two screws in lower section of belt guard and loosen the pinch bolt of the motor support casting. Raise the motor and retighten the pinch bolt.

V-Belt Removal

1. Remove the lower outer belt cover by removing the four 10-32 screws holding it in place (see Fig. 29 and 37). Remove the two 5/16" x 1/2" hex head bolts holding it in place; pull the middle cover to the left. Take the V-belt off the pulley (Fig. 38).

2. Loosen the pinch bolt of both motor support castings, raise the motor, and re-tighten pinch bolts.

3. Remove the miter gear from the right (inboard) side of the transfer rod. Loosen the shaft collar on the left (outboard) side of the rod, and pull the rod back enough so the V-belt can be removed. Note the routing of the old V-belt; now remove the old V-belt and replace it with the new V-belt.

Machine Reassembly

1. To reassemble the unit after replacing the V-belt, first place the transfer rod back through the machine. Tighten the shaft collar. Reinstall the miter gear on the transfer rod, making sure the set screw is centered on the flat of the rod.

2. Adjust the tension on the V-belt by sliding the motor down and then tightening the pinch bolts

in the motor support castings. Adjust so the V-belt deflects about 1/2" between the pulleys when pressed. Excessive tension can increase motor load and decrease bearing life, while a loose belt can reduce operating efficiency and shorten belt life.

3. Reinstall the outer and middle belt guard using the two 5/16" x 1/2" hex head bolts and the four 10-32 screws.

4. Make sure that the pulleys are in alignment by holding a straightedge across their flat sides and adjusting to it. Also check that all bolts are tight before using the sander.

ROTATING/REPLACING DRUM BEARINGS

Replacing the permanently lubricated drum bearings on the SUPERMAX sander is a relatively straight-forward procedure. Bearings should be replaced when they allow excessive play of the drum, make excessive noise, or otherwise indicate failure.

Note that if clicking noises in the bearings are a problem, rotating may be a solution instead of replacement, as follows (See Fig. 40):

Rotating Bearings

Step 1. Loosen the set screws in the bearing collar. Leave the allen wrench in one of the set screws. Then rotate the drum within the bearing and tighten the set screws.

Step 2. If the clicking persists, or if the drum shaft is tight in the bearing and cannot rotate, then loosen the two bolts holding the bearing and the flange for the bearing. Remove both set screws in bearing collar and apply penetrating oil in set screw holes. Install set screws loosely. Allow oil to penetrate around shaft. Now repeat Step 1. After the drum is rotated within the bearing, tighten the flanges first and then the set screws. **Note:** After tightening the rear bolt in the flange, loosen it approximately 1/4 turn, which allows the rear drum to pivot. After the machine has run for a half hour, stop to check that the set screws and bearing bolts are tight.

The general procedure outlined below suggests replacing bearings on the left (outboard) side, one at a time, starting with the rear drum, then moving to the front drum. Then, if needed, proceed to the right (inboard) side, also working on the rear drum first, then the front drum.

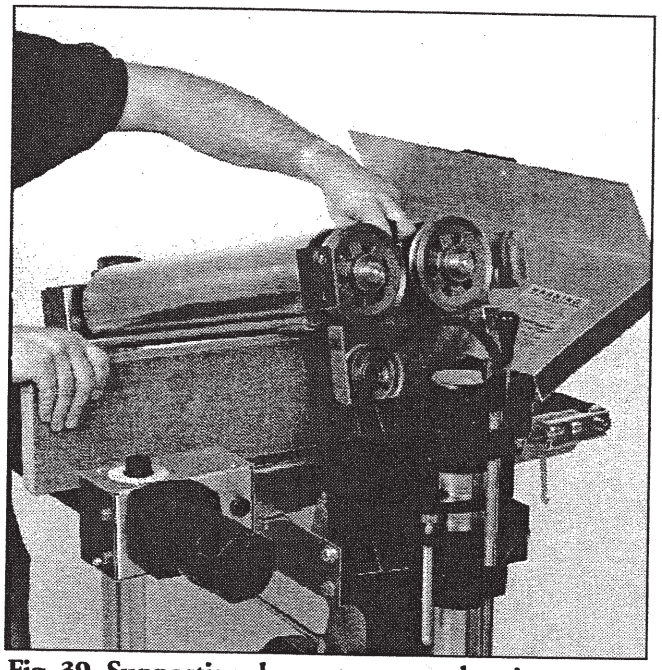


Fig. 39. Supporting drums to remove bearings.

Disassembly Procedure

1. To begin the procedure in all cases, disconnect power to sander.

2. Remove the outer belt guard cover by removing the two 5/16" x 1/2" hex head bolts holding it in place, then the four 10-32 screws in the lower half. Slide the middle section back and the outer guard to the side.

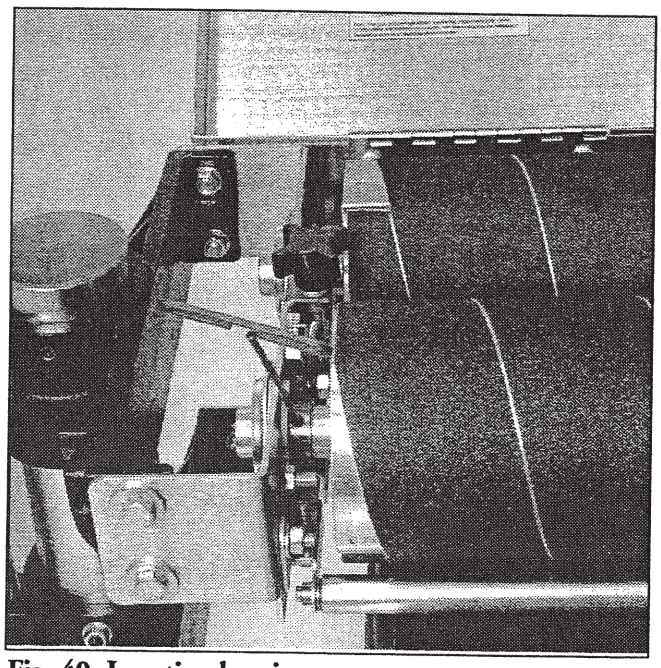


Fig. 40. Locating bearing set screws.

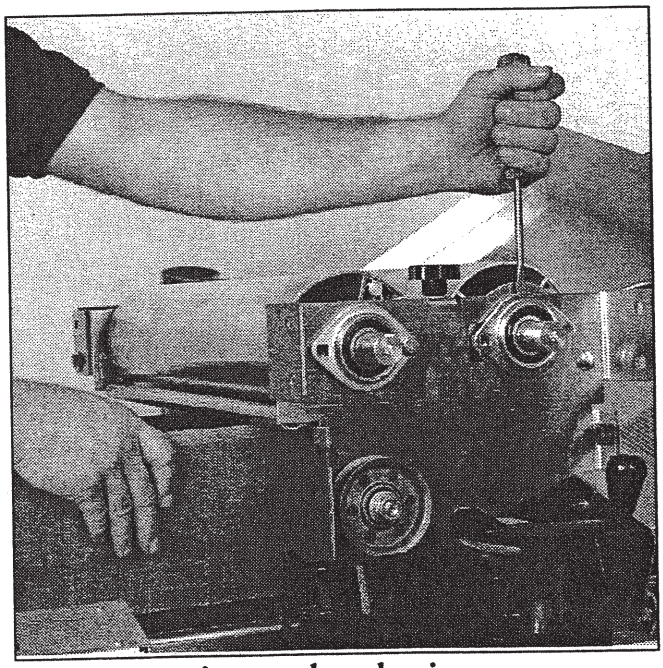


Fig. 41. Removing rear drum bearing.

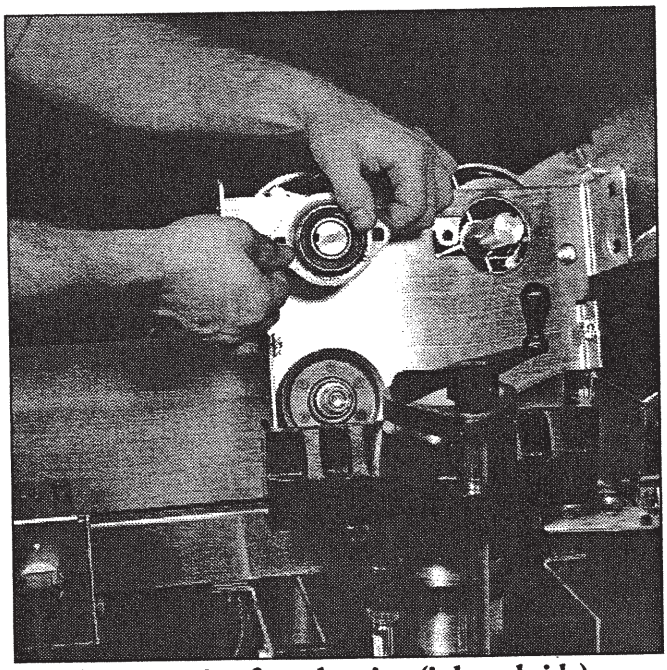


Fig. 42. Removing front bearing (inboard side).

3. Loosen the pinch bolts of the motor support castings and raise the motor to loosen the V-belt.

4. Next, level the drums to each other (see pages 7 and 8). Then raise the conveyor bed until the drums rest on the conveyor bed. With this done, follow the steps below:

Bearing Replacement (Left Side). If replacing all bearings, work first on the bearings on the left (or outboard) side of the sander first, one at a time, starting with the rear drum.

1. Begin by removing the outer half of the bearing flange. Loosen the set screws in the bearing collars and remove the bearing (Fig. 41).

2. If the shaft of the drum is rough from the set screws, use emery cloth or sandpaper to smooth down any raised edges. Slide the new bearing on the shaft, but do not tighten the set screws yet.

3. Install the outer half of the original bearing flange and tighten the bolts on the rear drum. After tightening the rear bolt in the flange, loosen it approximately 1/4 turn, which allows the rear drum to pivot. Then tighten the set screw in the bearing collar (Fig. 43).

4. Now move to the front drum and repeat Steps 1 through 3, but do not loosen the rear bolt as instructed in Step 3. **Important:** Be sure to note the sequence of parts used for the rear drum indicator assembly. Also, when reinstalling, do not over-tighten the nut that holds the indicator in place (see exploded view, page 43).

Bearing Replacement (Right Side). If the left (outboard) bearings are the only ones that need changing, proceed to reassemble the unit. You can check the drums at this point by lowering the conveyor bed and spinning the drums by hand. This will help determine if the inboard bearings need to be changed to eliminate noise or excessive play in the drum.

1. With the drums resting on the conveyor bed, proceed as follows. Remove the four 3/8" x 1 1/4" bolts from the drum support casting on the right side, remove the on/off switch and depth gauge with the bolts.

2. Next, remove the upper two 3/8" x 1 1/4" bolts from the drum support casting on the left (outboard) side of the sander. Loosen the bottom two 3/8" x 1 1/4" bolts from the left drum support casting, but do not remove them.

3. Lift the right (inboard) side of drums and place a 2x6 on edge under the drums. Loosen and remove the V-belt pulleys from drum shafts (see

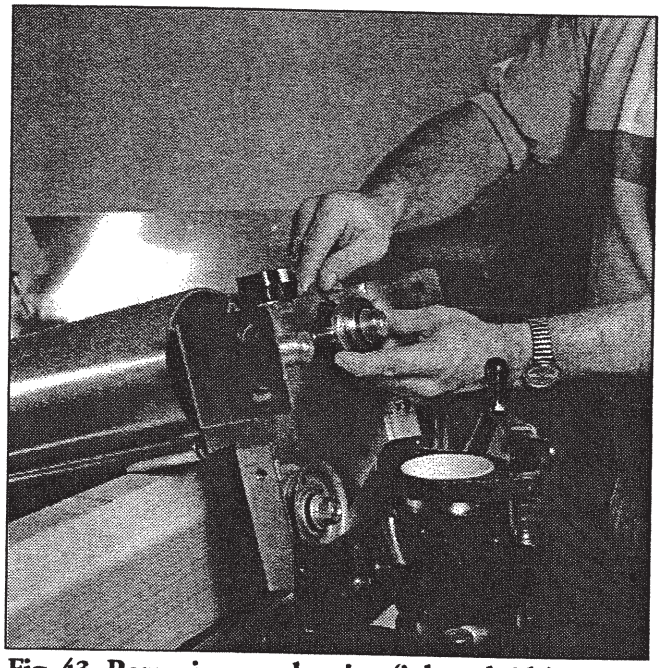


Fig. 43. Removing rear bearing (inboard side).

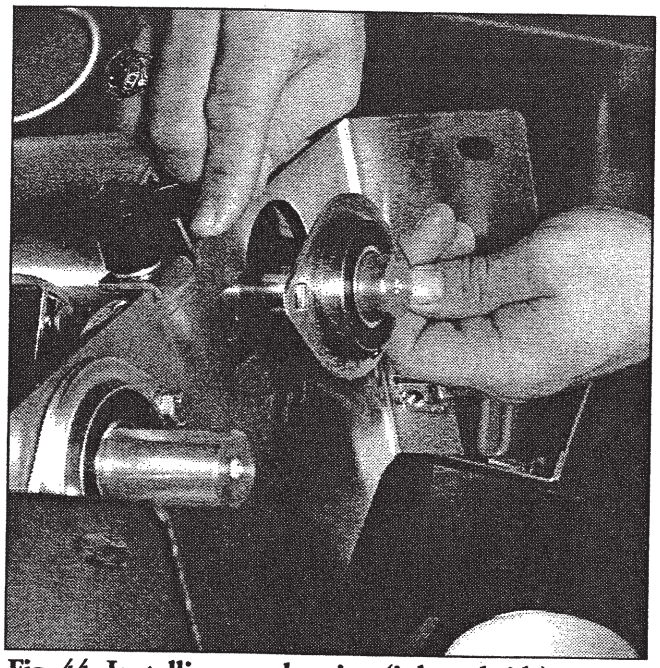


Fig. 44. Installing rear bearing (inboard side).

Fig. 39). **Important:** Make sure to note the location of the pulleys. Also measure the distance from pulley edge to the drum support casting to use as a reference when reinstalling pulleys so they will be properly aligned.

4. Replace bearings by following Steps 1 through 4 under **Bearing Replacement (Left Side)** above (Fig. 41-44).

5. Reinstall V-belt pulleys on the drum shafts, making sure they are located in the same position as before. Doublecheck this alignment after the drums have been bolted back in place, using the measurement from Step 3 above.

6. Lower the drums by removing the 2x6. Reinstall the six 3/8" x 1 1/4" bolts in the drum support castings and tighten them. Install the on/off switch and depth gauge with the two inboard bolts.

Reassembly Procedure

1. Lower the conveyor and spin the drums by hand to make sure the drum shaft is not binding in the bearing. If the bearings bind, loosen the set screws and the bearing flange for one bearing at a time. Spin the drum within the collar, then tighten the set screws and then the bearing flange (Fig. 40).

2. Next, check the alignment of the drums to the conveyor system. (For instructions on this procedure, see pages 7 and 8.) Make sure the drums are parallel to each other.

3. Reinstall the V-belt on the motor pulley and adjust its tension. Then reinstall the pulley guard.

4. Test-run the sander before sanding stock to recheck that all is operating properly and is aligned before sanding good stock. Also, stop the sander after a couple hours of use and check the bolts and set screws to make sure they are seated properly.

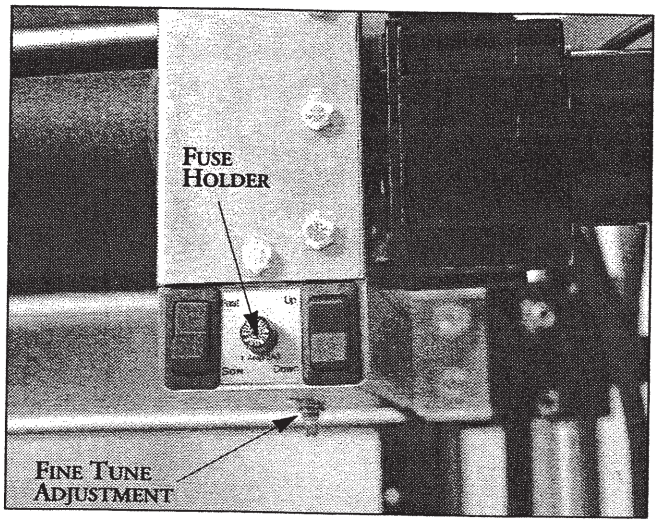


Fig. 45A. Motorized height adjustment controls and fuse holder.

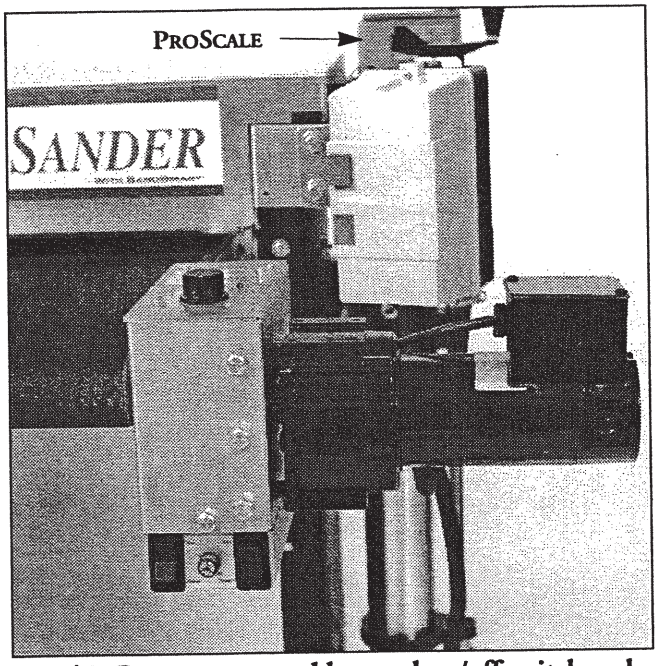


Fig. 45. Conveyor control box and on/off switch and ProScale SUPERMAX 50x2.

REPLACING ELECTRICAL COMPONENTS

To replace either the variable-speed Intellisand control, the on-off switch, conveyor motor, or the height adjustment, use the following disassembly procedure (Fig. 45, 45A and 46-48):

First disconnect the power supply to the machine.

Next, remove the "**height adjustment**" bottom tray from the control box and disconnect three wires. Loosen the set screws in the shaft coupler, and then remove the four or six 5/16" bolts that hold the conveyor motor assembly in place (Fig. 45). Next, remove the assembly from the machine, then turn it upside down to disconnect the leads from the components to be removed.

To replace the Intellisand control: (Fig. 47 or 48) remove the knob by loosening screw and remove nut that was under knob. Turn housing over, and remove the nuts holding control board in place. Lift control board from housing. Install the new controller, referring to the correct electrical diagram and reverse the disassembly procedure.

To replace the on-off switch: (Figs. 45-47) remove the screw(s) holding cover in place. Disconnect wire leads from switch. Referring to the correct electrical diagram, reverse the disassembly procedure.

To replace the gear motor: (Fig 45) disconnect the three wire leads from the controller. Disconnect the grommet protecting the wires passing through the sheetmetal. Then remove the three or four set screws that hold the motor to the sheetmetal bracket. Remove the old motor and install the new motor. Referring to the correct electrical diagram, reverse the disassembly procedure.

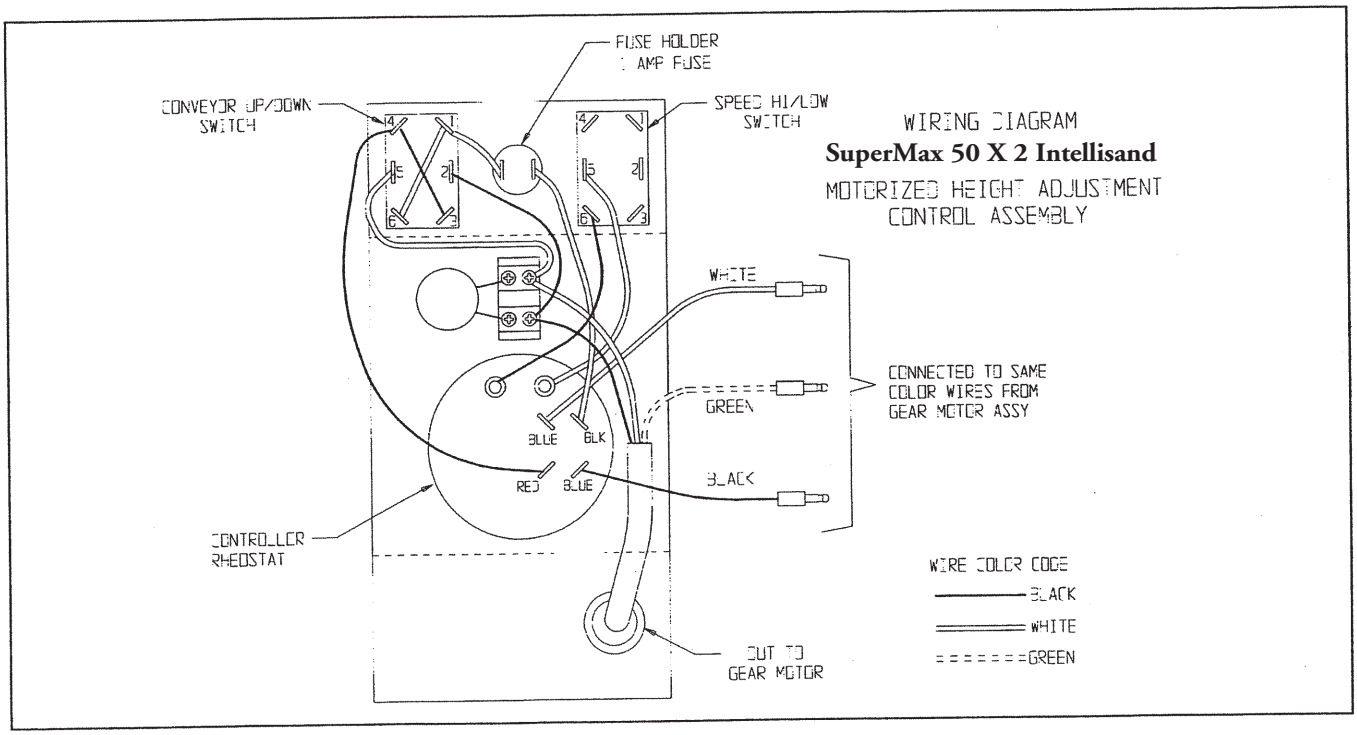


Fig. 46. Height adjustment wiring diagram.

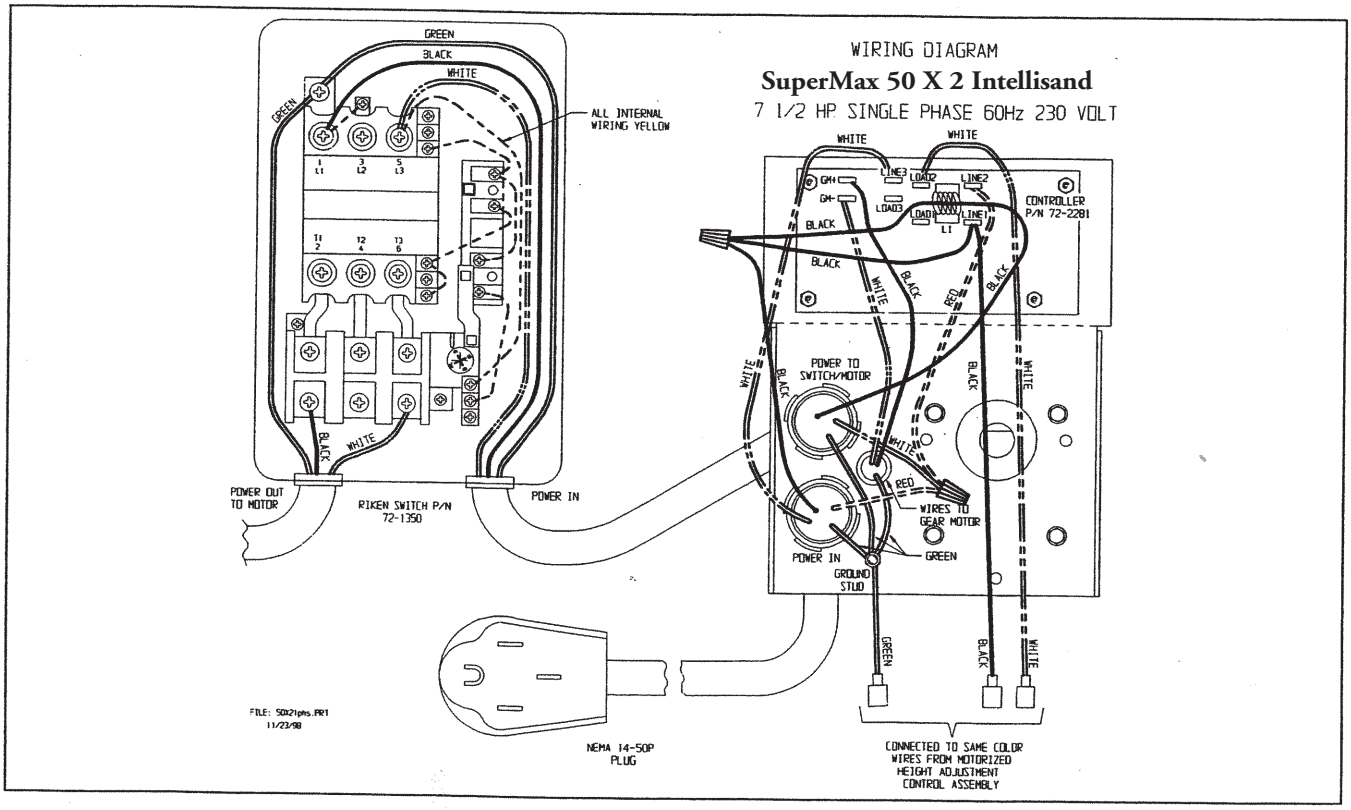


Fig. 47. Single phase wiring diagram.

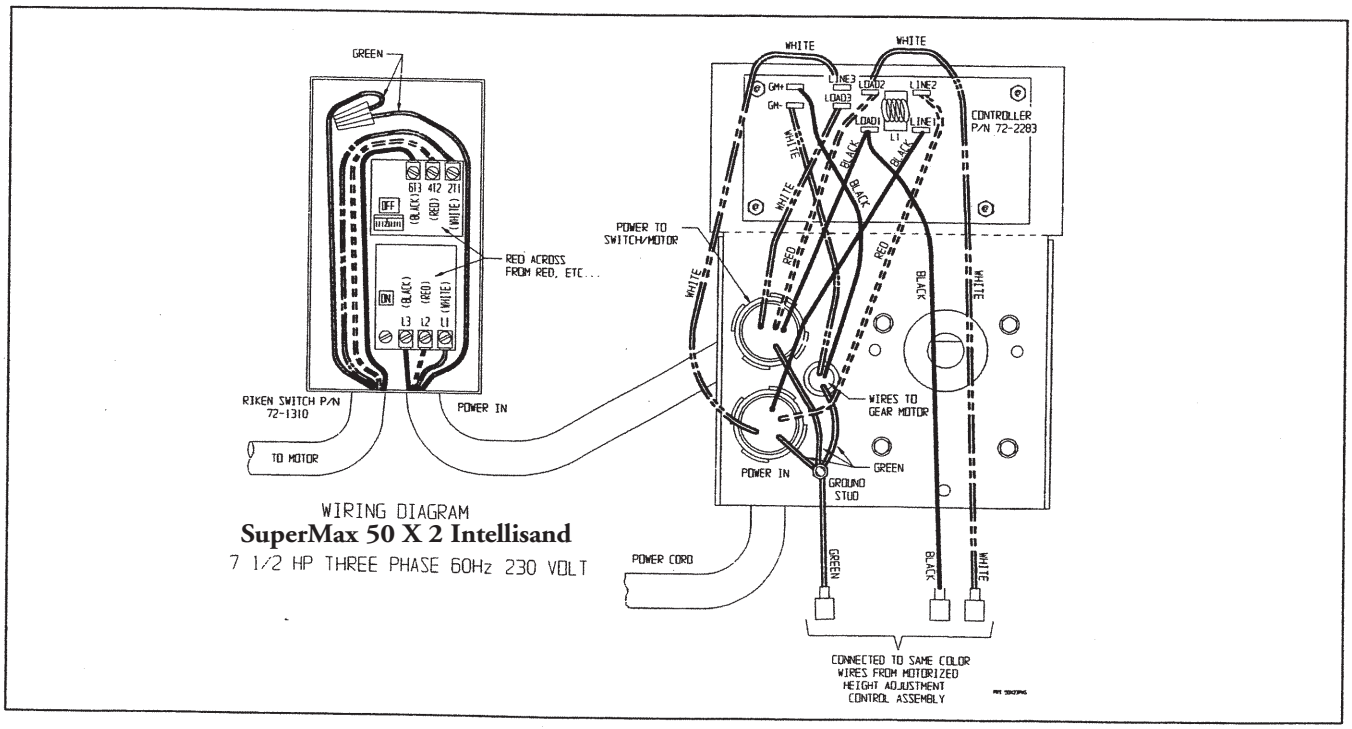


Fig. 48. Three phase wiring diagram.

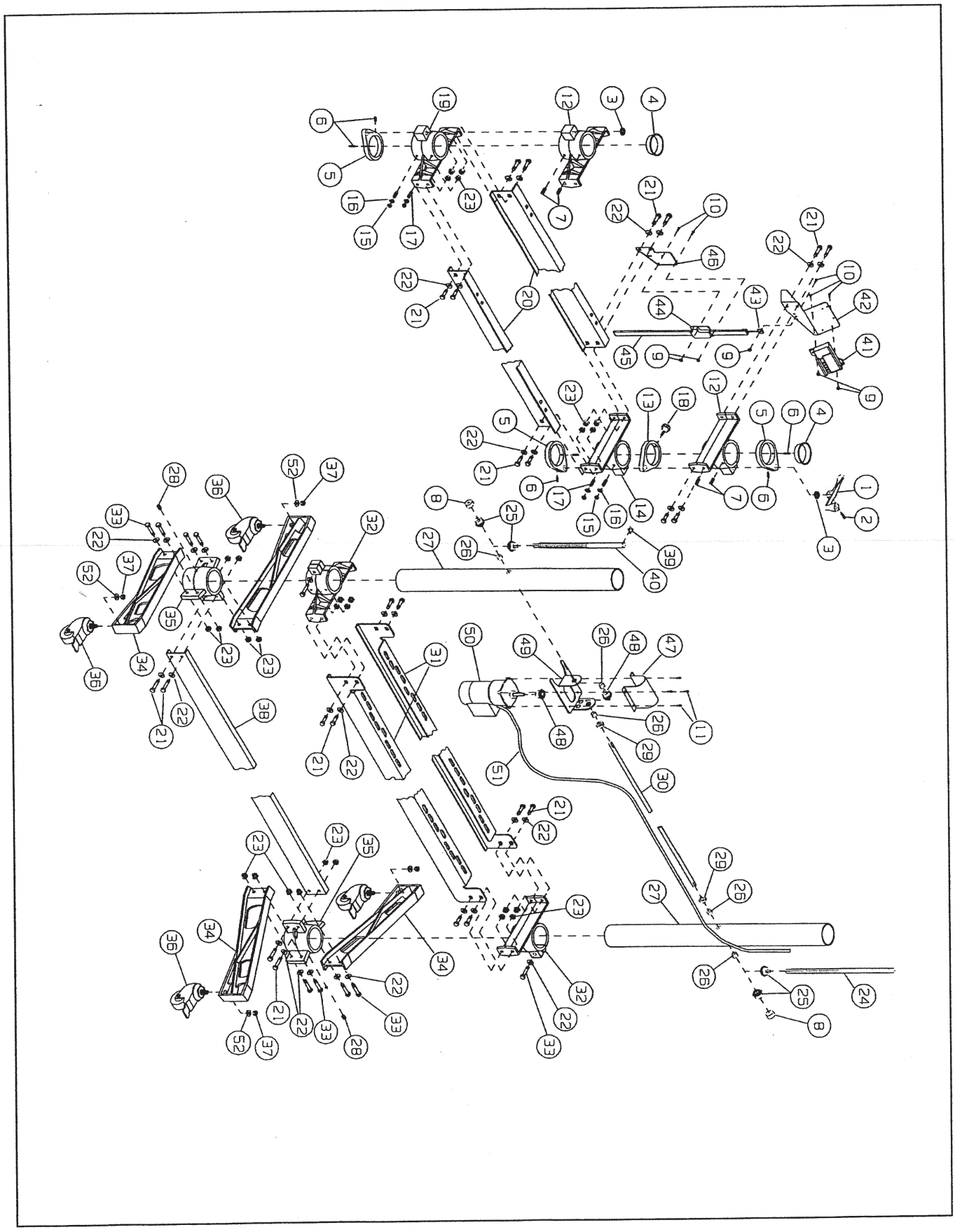
SUPERMAX SPECIFICATIONS

SUPERMAX 50X2 50" DOUBLE DRUM SANDER
SINGLE AND THREE PHASE

Dimensions:	Model 50x2: Height: 50"; Width: 71"; Depth: 44"
Dust Hood:	Hinged back steel hood with three 4" vacuum ports.
Drums:	Two 5" x 50" All drums extruded aluminum, precision machined and balanced, 1,600 RPM.
Bearings:	Four 1" sealed, permanently lubricated, ball bearings.
Abrasive Strips:	Tapered aluminum oxide or ceramic cloth-backed abrasive strips recommended. Fasteners accept any grit. No felt, velcro, or adhesive necessary. One strip per drum included.
Conveyor Bed:	Steel conveyor bed reinforced with five steel cross sections.
Conveyor Motor:	220 in-lbs. torque, direct-drive DC motor. Infinitely variable from 0 to 15 feet per minute with Intellisand.
Conveyor Belt:	100-grit abrasive conveyor belt included.
Stand Construction:	Zinc-plated steel, cast aluminum. Column tubes are centerless ground.
Drive Motor:	7 1/2 HP; TEFC; 1,740 RPM; 208-230 volts; 60 HZ. Single or three phase.
Minimum Stock Length:	3 1/2"
Height Adjustment:	3/32" per turn; Pro Scale Depth Gauge included.
Stock Thickness Capacity:	12"
Shipping Weight:	690 lbs.
Dust Collection:	Mandatory for all models. Minimum 1,800 cfm.

SUPERMAX 50X2 STAND ASSEMBLY PARTS LIST

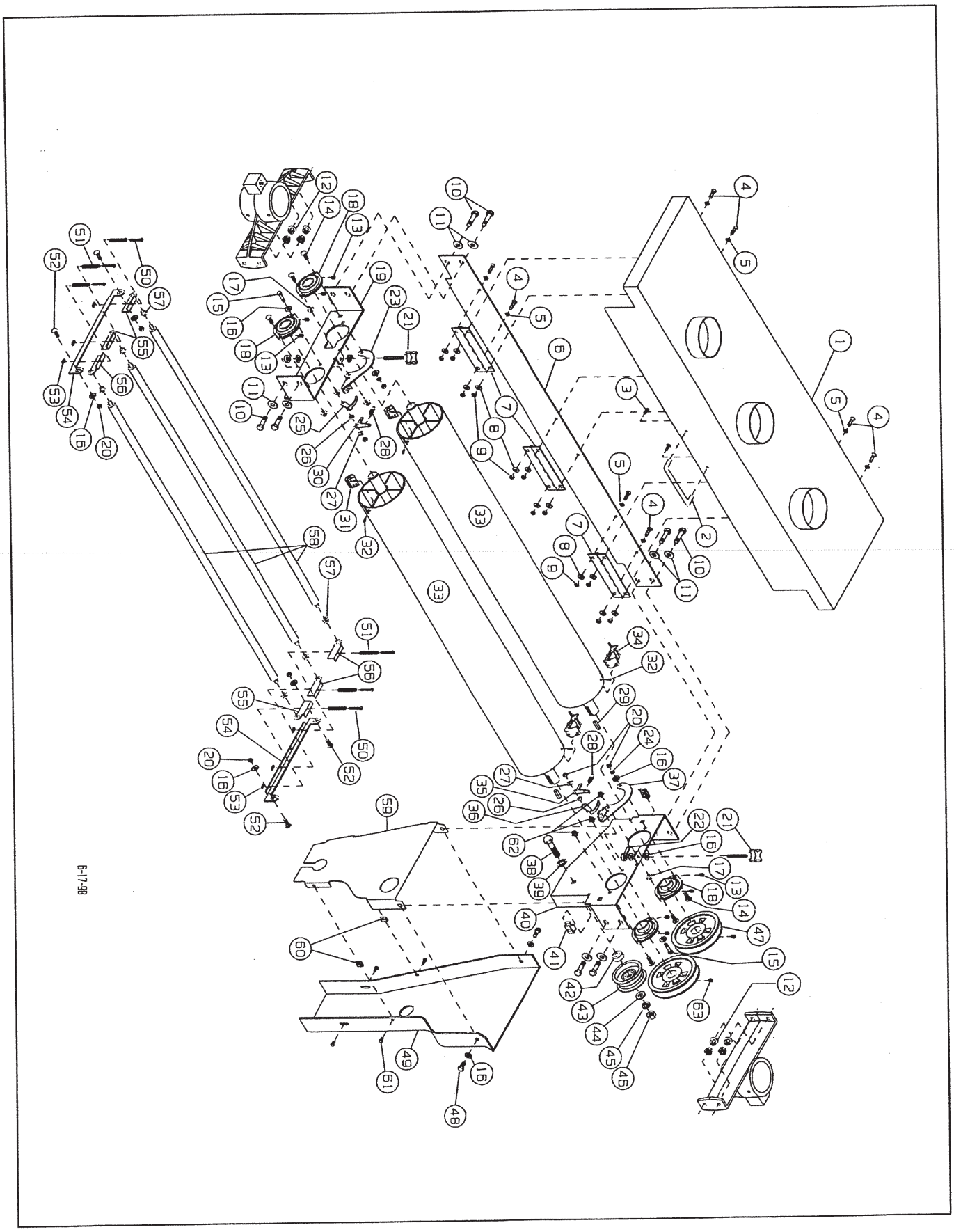
Ref. Number	Description	Part Number 50x2	Qty./ Unit
1	HEIGHT ADJUSTMENT HANDLE ASSEMBLY	31-0020	1
2	3/16"x1" ROLL PIN	20-0772	1
3	5/8" I.D. OILITE WASHER	50-3080	2
4	3" PLASTIC COLUMN TUBE CAP	80-4015	2
5	ADJ. SCREW SUPPORT	30-1112	3
6	1/4"–20x1/2" SOCKET HEAD SET SCREW	10-2804	6
7	5/16"–18x3/8" SOCKET HEAD SET SCREW	10-2903	8
8	PLASTIC CAP	80-4013	2
9	8-32 LOCK NUT	12-0118	6
10	8-32 X 1/2" PHILLIPS SCREW	10-3808	6
11	10-32 X 1/2" SOCKET HEAD SET SCREW	10-2404	4
12	DRUM SUPPORT CASTING	30-5206	2
13	DEPTH LOCK CASTING	30-1109	1
14	INBOARD TABLE SUPPORT CASTING	30-5204	1
15	5/16"–18 HEX NUT	12-0003	4
16	5/16" SAE WASHER	11-0206	4
17	5/16"–18x3/4" BRASS TIPPED SET SCREW	10-9906	4
18	LOCKING KNOB	81-3132	2
19	OUTBOARD TABLE SUPPORT CASTING	30-5205	1
20	TABLE MOUNT BRACKET	40-4252	2
21	3/8"–16x1" HEX HEAD BOLT	10-0205	18
22	5/16" WROUGHT WASHER	11-9103	33
23	3/8"–16 FLANGE LOCK NUT	12-0209	24
24	INBOARD HEIGHT ADJ. SCREW	30-1212HR	1
25	MITER GEAR	20-1101	4
26	1/2" I.D. OILITE BUSHING	50-3107	5
27	COLUMN TUBE	30-3044	2
28	1/2-13x1/2" SOCKET HEAD SET SCREW	10-8905	2
29	SHAFT COLLAR 1/2" I.D.	20-1103	2
30	TRANSFER ROD	30-3150 3033-05	1
31	MOTOR MOUNT	40-5002	2
32	MOTOR SUPPORT CASTING	30-5107	2
33	3/8"–16x1 1/2" HEX HEAD BOLT	10-9207	9
34	LEG CASTING	30-1103	4
35	COLUMN BASE CASTING	30-1101	2
36	CASTERS	20-0622	4
37	1/2"–13 HEX NUT	12-0009	4
38	BASE SUPPORT BRACKET	40-4244	1
39	RETAINING RING	20-0752	1
40	OUTBOARD HEIGHT ADJ. SCREW	30-1211HR	1
41	DIGITAL DISPLAY	98-0110-4	1
42	BRACKET, DISPLAY MOUNT	40-4120	1
43	FLEX LINK	98-0110-2	1
44	READ HEAD	98-0110-3	1
45	READ SCALE	98-0118-6	1
46	BRACKET, SCALE MOUNT	40-4122	1
47	COVER, MOTOR, GEARS	40-5001	1
48	MITER GEAR, MOTOR	20-1100	2
49	MOTOR MOUNT BRACKET	40-5000	1
50	GEAR MOTOR	71-1173	5
51	CORD SET, 18/3	72-5432	1
52	1/2" SAE WASHER	11-0209	4
53	CLIP, CORD (NOT SHOWN)	72-6224	4



SUPERMAX 50X2 DUAL DRUM HEAD ASSEMBLY PARTS LIST

Ref. Number	Description	Part Number 50x2	Qty./ Unit
1	DUST COVER	40-4250	1
2	DUST COVER HANDLE	80-2841	1
3	#8x1/2" SELF TAPPING SCREW	10-3904	2
4	1/4"–20x1/2" ROUND HEAD MACH SCREW	10-3205	12
5	1/4" INTERNAL TOOTH LOCK WASHER	11-0504	12
6	DUST COVER MOUNT	40-4050	1
7	HINGE	40-0225	3
8	1/4" SAE WASHER	11-0205	12
9	1/4"–20 HEX NUT	12-0001	12
10	3/8"–16 x1" HEX HEAD BOLTS	10-9205	8
11	5/16" WROUGHT WASHER	11-9103	8
12	3/8"–16 FLANGED LOCK NUT	12-0209	8
13	1/4"-28x1/4" SOCKET HEAD SET SCREW (BEARING)	10-8602	8
14	5/16"–18x1" CARRIAGE HEAD BOLT	10-1204	6
15	5/16"–18x1 1/4" HEX HEAD BOLT	10-9106	2
16	5/16" SAE WASHER	11-0206	10
17	5/16" I.D. SPACER	30-1305	2
18	DRUM BEARING	50-3067	4
19	OUTBOARD DRUM MOUNT BKT.	40-0519	1
20	5/16"–18 HEX NUT	12-0003	8
21	SECONDARY DRUM ADJ. KNOB	80-3135	2
22	5/16" I.D. SHAFT COLLAR WITH SET SCREW	20-1102	2
23	OUTBOARD SECONDARY DRUM ADJ. BKT.	40-0527	1
24	5/16" LOCK WASHER	11-0010	2
25	OUTBOARD SECONDARY DRUM INDICATOR	95-1659	1
26	BRASS SPACER	30-1303	2
27	3/8" SPRING WASHER	20-1165	2
28	EXTENSION SPRING	20-3210	2
29	1/4" x 1" KEY STOCK	20-0762	2
30	OUTBOARD INDICATOR NEEDLE	40-0531	1
31	OUTBOARD ABRASIVE FASTENER	21-1173	2
32	#6–32x3/8" FLAT HEAD PHILLIPS SCREW	10-3003	4
33	SANDING DRUM	30-5200	2
34	INBOARD ABRASIVE TAKEUP FASTENER	21-1172	2
35	INBOARD INDICATOR NEEDLE	40-0530	1
36	INBOARD SECONDARY DRUM INDICATOR	95-1660	1
37	INBOARD SECONDARY DRUM ADJ. BKT.	40-0526	1
38	1/2"–13x2" HEX HEAD BOLT	10-0407	1
39	1/2" INTERNAL TOOTH LOCK WASHER	11-0508	1
40	INBOARD DRUM MOUNT BKT.	40-0520	1
41	5/16"–18 RETAINING NUT	20-1159	2
42	1/2" I.D. SPACER	30-1304	1
43	IDLER PULLEY	50-1258	1
44	1/2" SAE WASHER	11-0209	1
45	1/2" LOCK WASHER	11-0013	1
46	1/2"–13 HEX NUT	12-0009	1
47	DRIVEN PULLEY	50-0502	2
48	5/16"–18x1/2" HEX HEAD BOLT	10-9101	2
49	BELT GUARD COVER	80-1038	1
50	#8-32x1" PHILLIPS FILLISTER HEAD SCREW	10-3107	6

(Continued on page 44)


6-17-98

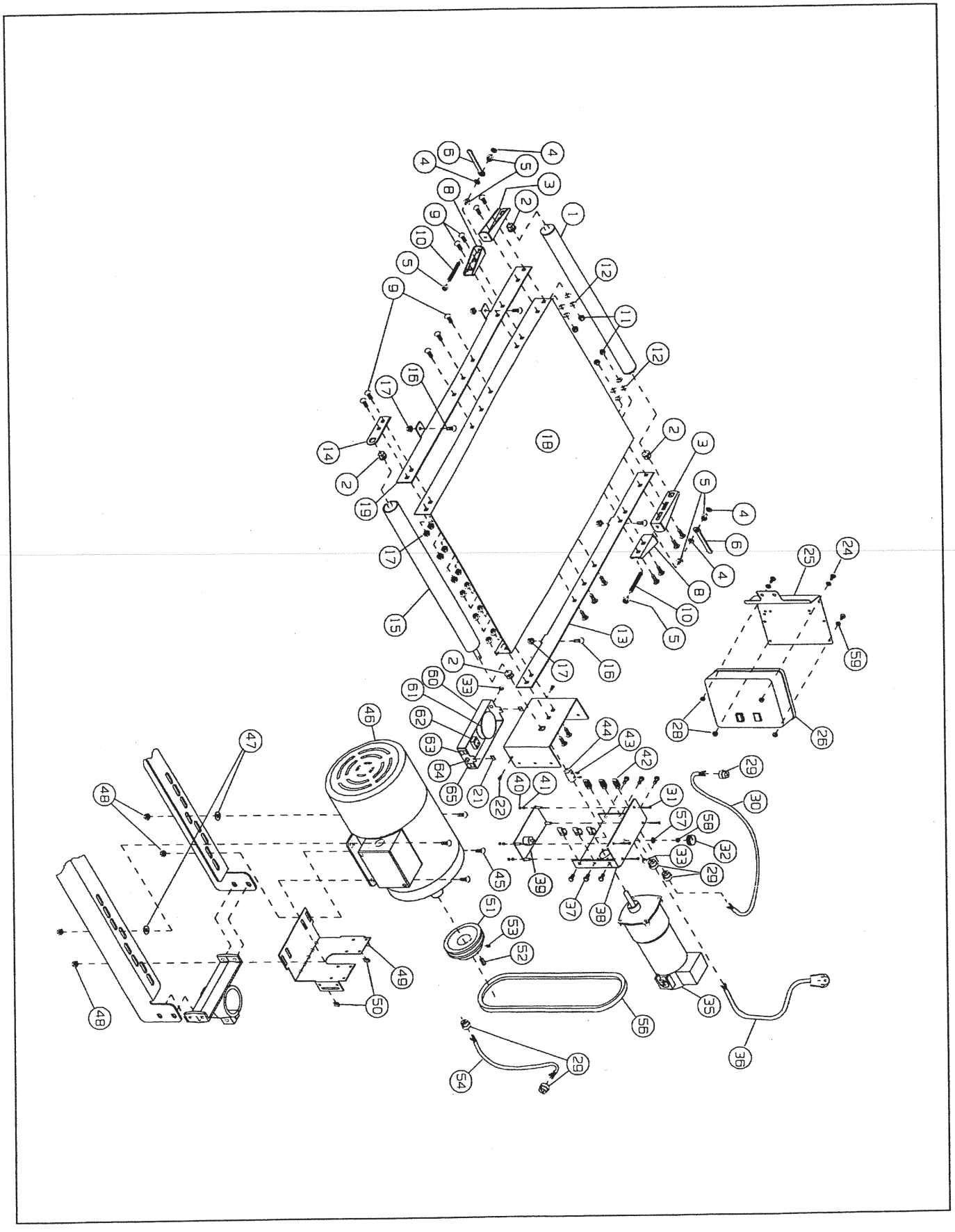
SUPERMAX 50X2 DRUM HEAD ASSEMBLY PARTS LIST (Cont'd)

Ref. Number	Description	Part Number 50x2	Qty./ Unit
51	COMPRESSION SPRING	20-3268	6
52	5/16"–18x3/4" CARRIAGE HEAD BOLT	10-1203	4
53	#8-32 SQUARE NUT	12-0102	6
54	TENSION ROLLER BASE BKT.	40-0306	2
55	TENSION ROLLER SUSPENSION BKT., RIGHT	40-0302	3
56	TENSION ROLLER SUSPENSION BKT., LEFT	40-0303	3
57	5/16" I.D. OILITE BUSHING	50-3105	6
58	TENSION ROLLER	30-3152	3
59	MIDDLE INNER BELT GUARD	41-1028	1
60	#10–24 RETAINING NUT	20-1155	2
61	#10–24x3/8" SLOTTED HEX HEAD SCREW	10-3803	4
62	5/16"–18 FLANGED LOCK NUT	12-0207	6
63	5/16"–18x3/8" SET SCREW (PULLEY)	10-8903	2

SUPERMAX 50X2 CONVEYOR & MOTOR PARTS LIST

Ref. Number	Description	Part Number 50x2	Qty./ Unit
1	DRIVEN ROLLER	30-3501	1
2	1/2" I.D. SQUARE OILITE BUSHING	50-3109	4
3	TAKEUP SLIDE	40-4108	2
4	5/16" SAE WASHER	11-0206	2
5	5/16"–24 FLANGED NUT	12-0308	6
6	WRENCH	40-0375	2
8	TAKEUP BASE BRACKET	40-4107	2
9	3/8"–16x1" CARRIAGE BOLT	10-1302	18
10	5/16"–24x3" STUD	30-1306	2
11	3/8"–16 NYLON INSERT LOCK NUT	12-8005	4
12	3/8" SPRING WASHER	20-1165	8
13	SIDE RAIL	40-4105	1
14	ROLLER SUPPORT BRACKET	40-4109	1
15	DRIVE ROLLER RUBBER COVERED	30-3502	1
16	3/8"–16x3/4" CARRIAGE BOLT	10-1301	4
17	3/8" FLANGED LOCK NUT	12-0209	18
18	CONVEYOR BED	40-4202	1
19	SIDE RAIL	40-4106	1
21	5/16" RETAINING NUT	20-1159	2
22	5/16 X 3/4" HEX HEAD BOLT	10-9103	2
23	CONTROL BOX BASE BRACKET	40-4121	1
24	1/4"–20x5/8" ROUND HEAD MACH SCREW	10-3206	3
25	SWITCH BRACKET, SINGLE PHASE SWITCH BRACKET, THREE PHASE	40-5008 40-5006	1 1
27	ON/OFF SWITCH (DRUM), SINGLE PHASE ON/OFF SWITCH (DRUM), THREE PHASE	72-1350 72-1320	1 1
28	1/4"–20 HEX NUT	12-0001	3
29	STRAIN RELIEF	72-1404	5

(Continued on page 46)



SUPERMAX 50X2 CONVEYOR & MOTOR PARTS LIST (Cont'd.)

Ref. Number	Description	Part Number 50x2	Qty./ Unit
30	CORD SET, SINGLE PHASE	72-5306	1
	CORD SET, THREE PHASE	72-5301	1
31	#6-32x1–1/4" PHILLIPS PAN HEAD SCREW	10-3902	4
32	KNOB	72-1270-1	1
33	SMALL STRAIN RELIEF	72-6102	1
35	180-VOLT GEAR MOTOR	71-1172	1
36	MAIN CORD SET, SINGLE PHASE W/ PLUG	72-5431	1
	MAIN CORD SET, THREE PHASE	72-5301	1
37	5/16"–18x1/2" HEX HEAD BOLT	10-9101	8
38	CONTROL HOUSING	40-5014	1
39	INTELLISAND CONTROLLER, SINGLE PHASE	72-1281	1
	INTELLISAND CONTROLLER, THREE PHASE	72-1283	1
40	#6–32 NUT	12-9001	4
41	#6 WASHER	11-0202	4
42	5/16"–18 RETAINING NUT	20-1159	8
43A	5/16-18X1/4" SOCKET HEAD SET SCREW	10-2902	2
43B	5/16-18X3/8" SOCKET HEAD SET SCREW	10-2903	2
44	COUPLING (CONVEYOR)	30-0500	1
45	5/16"–18x3/4" CARRIAGE BOLT	10-1203	4
46	7 1/2 H.P. TEFC ELECTRIC MOTOR, SINGLE PHASE	70-0150	1
	7 1/2 H.P. TEFC ELECTRIC MOTOR, THREE PHASE	70-0350	1
47	3/8" WROUGHT WASHER	11-0104	2
48	5/16"–18 FLANGED LOCK NUT	12-0207	4
49	LOWER INNER BELT GUARD	40-1000	1
50	#10–24 RETAINING NUT	20-1157	2
51	4 1/2" DRIVE PULLEY	50-0450	1
52	1/4"x1" KEY STOCK	20-0762	1
53	5/16"–18x3/8" SOCKET HEAD SET SCREW	10-8903	1
54	CORD SECTION, HD, SE SINGLE PHASE	72-5315	1
	CORD SECTION, SE THREE PHASE	72-5305	1
55	RETAINING CLIP	72-6210	1
56	V-BELT	50-2030	1
57	5/16" I.D. THIN WASHER	72-1270-3	1
58	5/16"–32 JAM NUT	72-1270-4	1
59	1/4" LOCK WASHER	11-0504	4
60	HOUSING, HEIGHT ADJUSTMENT	40-4255	1
61	CONTROLLER	72-1260	1
62	TERMINAL BLOCK	72-6225	1
63	SWITCH, UP/DOWN	72-2050	1
64	FUSE HOLDER	72-6202	1
65	SWITCH, SLOW/FAST	72-2051	1
66	FUSE, HEIGHT ADJ. 1 AMP (NOT SHOWN)	72-6199	2
67	6-32X 1 1/4 PHILLIPS SCREW (NOT SHOWN)	10-3902	1
68	6-32 NYLON, LOCK NUT (NOT SHOWN)	12-9001	1
69	CONVEYOR BELT (NOT SHOWN)	60-0350	1
70	RECEPTACLE, 50 AMP, NEMA 14-50, SINGLE PHASE (NOT SHOWN)	72-2116	1
71	STRAIN RELIEF	72-1407	2
72	STRAIN RELIEF, PLASTIC	72-6103	1
73	STRAIN RELIEF, PLASTIC	72-6105	1

SUPERMAX ACCESSORY & SUPPLY CHECKLIST

ITEM #	DESCRIPTION	QTY.

SUPERMAX OPTIONS

98-0130	CASTER SET: Heavy duty, roll & swivel lock. (Set of 4)	
98-0070	RACK-N-ROLL: Abrasive storage system.	

ABRASIVES

Resin bond, non-adhesive abrasive cloth strips.
- **Pre-Marked 50 grit and finer covers 50" drum 6 times**
- **Pre-Marked 24 and 36 grit covers 50" drum 4 times**

Ready-To-Cut Premium Part No.	3M Regalite Part No.		
60-9024	n/a	24 GRIT: Surface rough sawn boards, stock & glue removal	
60-9036	n/a	36 GRIT: Surface rough sawn boards, stock & glue removal.	
n/a	60-4050	50 GRIT: Surfacing and dimensioning boards, trueing warped boards.	
60-9060	60-4060	60 GRIT: Surfacing and dimensioning boards, trueing warped boards.	
60-9080	60-4080	80 GRIT: Surfacing, light dimensioning, remove planer ripples.	
60-9100	60-4100	100 GRIT: Light surfacing, remove planer ripples.	
60-9120	60-4120	120 GRIT: Light surfacing, minimal stock removal.	
60-9150	60-4150	150 GRIT: Finish sanding, minimal stock removal.	
60-9180	n/a	180 GRIT: Finish sanding, not for stock removal.	
60-9220	n/a	220 GRIT: Finish sanding, not for stock removal.	
60-0505		ABRASIVE CLEANING STICK	

SUPERMAX POWER FEED CONVEYOR BELTS

TYPE 1: 100 grit abrasive surface with reinforced film backing.
TYPE 2: Polyurethane roughtop surface with monofilament backing.

TYPE 1	TYPE 2		
60-0350	61-1010	50" Power Feed Bed with 2" diameter Drive Roller.	

N
a
F
c

SUPERMAX TOOLS
1275 Corporate Center Dr.
Eagan, MN 55121
sales@supermaxtools.com
888-454-3401

an

1,

DEALER NEAREST YOU:

_____

_____

_____

2 YEAR WARRANTY

Limited warranty. We will provide all replacement parts which are found to be defective in materials or workmanship.

CAUTION:
IMPORTANT SAFETY INFORMATION

FOR SAFE SANDING OPERATION, FOLLOW THESE GUIDELINES:

- BECOME FAMILIAR WITH THE PROPER OPERATIONAL PROCEDURES FOR USING THIS MACHINE.
- ALWAYS BE SAFETY CONSCIOUS WHEN OPERATING THE MACHINE.
- ALWAYS WEAR EYE PROTECTION WHILE OPERATING THE SANDER.
- ALWAYS FEED STOCK AGAINST THE ROTATION OF THE DRUM(S).
- NEVER PLACE HANDS UNDER THE DRUM(S) OR DUST COVER.
- NEVER OPERATE SANDER WITHOUT ITS DUST COVER OR DRUM AND BELT GUARDING IN PLACE.
- KEEP HANDS AND CLOTHING AWAY FROM OPERATING DRUM(S), BELT AND PULLEYS.
- ALWAYS MAINTAIN CONTROL OF STOCK TO AVOID KICKBACK; KNOW HOW TO PREVENT IT.
- ALWAYS DISCONNECT ELECTRICAL POWER BEFORE PERFORMING ANY SERVICING OR ADJUSTMENT OF THE MACHINE.
- DO NOT MODIFY THIS MACHINE: MODIFICATIONS ARE DONE AT THE OWNER'S RISK AND ALSO WILL VOID THE MANUFACTURER'S WARRANTY.
- FOR CUSTOMER SERVICE AND QUESTIONS ABOUT THE OPERATION OR MAINTENANCE OF THIS MACHINE, PLEASE CALL YOUR AUTHORIZED PERFORMAX DEALERSHIP.

PART NO. 92-6250
© COPYRIGHT 1999
PRINTED IN USA