

# Widebelt Sander Manual

## Model 25" & 37" Widebelt Sander



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Part No. MSANWB25X60-1K-7.5-0197  
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**Note: The manual covers two machines, and the photographs may vary depending on the machine that is purchased. The principles described apply to both machines.**

# Safety Rules

As with all machinery, there are certain hazards involved with the operation and use. Using it with caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. If you have any questions relative to the installation and operation, do not use the equipment until you have contacted your supplying distributor.

Read the following carefully before operating the machine.

1. Keep the working area clean and be sure adequate lighting is available.
2. Do not wear loose clothing, gloves, bracelets, necklaces or ornaments. Wear face, eye, respiratory and body protection devices as indicated for the operation or the environment.
3. Be sure that the power is disconnected from the machine before tools are serviced or an attachment is to be fitted or removed.
4. Never leave the machine with the power on.
5. Do not use dull, gummy or cracked cutting tools.
6. Be sure that the keys and adjusting wrenches have been removed and all the nuts and bolts are secured.

# Limited Warranty

New machines and accessories sold by Laguna Tools carry a one-year warranty effective from the date of shipping. Machines sold through dealers must be registered with Laguna Tools within 30 days of purchase to be covered by this warranty. Laguna Tools guarantees all new machines and accessories sold to be free of manufacturers' defective workmanship, parts and materials. We will repair or replace, without charge, any parts determined by Laguna Tools, Inc. to be a manufacturer's defect. We require that the defective item/part be returned to Laguna Tools with the complaint. Any machines returned to Laguna Tools must be returned with packaging in the same manner in which it was received. If a part or blade is being returned it must have adequate packaging to ensure no damage is received during shipping. In the event the item/part is determined to be damaged due to lack of maintenance, cleaning or misuse/abuse, the customer will be responsible for the cost to replace the item/part, plus all related shipping charges. This limited warranty does not apply to natural disasters, acts of terrorism, normal wear and tear, product failure due to lack of maintenance or cleaning, damage caused by accident, neglect, lack of or inadequate dust collection, misuse/abuse or damage caused where repair or alterations have been made or attempted by others.

Laguna Tools, Inc. is not responsible for additional tools or modifications sold or performed (other than from/by Laguna Tools, Inc.) on any Laguna Tools, Inc. machine. Warranty maybe voided upon the addition of such described tools and/or modifications, determined on a case-by-case basis.

Software purchased through Laguna Tools Inc. is not covered under this warranty and all technical support must be managed through the software provider. Software is non-refundable.

Normal user alignment, adjustment, tuning and machine settings are not covered by this warranty. It is the responsibility of the user to understand basic machinery operation, settings and procedures and to properly maintain the equipment in accordance with the standards provided by the manufacturer.

Parts, under warranty, are shipped at Laguna Tools, Inc.'s cost either by common carrier, FEDEX ground service or a similar method. Technical support to install replacement parts is primarily provided by phone, fax, e-mail or Laguna Tools Customer Support Website. The labor required to install replacement parts is the responsibility of the user.

Laguna Tools is not responsible for damage or loss caused by a freight company or other circumstances not in our control. All claims for loss or damaged goods must be notified to Laguna Tools within twenty-four hours of delivery. Please contact our Customer Service Department for more information.

Only **new** machines sold to the original owner are covered by this warranty. For warranty repair information, **call 1-800-332-4094**.



# Noise Emission

Notes concerning noise emission.

Given that there exists a relationship between noise level and exposure times, it is not precise enough to determine the need for supplementary precautions. The factors affecting the true level of exposure to operators are clearly the amount of time exposed and the characteristics of the working environment, such as other sources of dust and noise – for example, adjacent machines – in other words, the level of ambient noise. It is possible that exposure level limits will vary from country to country.

# Specification Sheet for Widebelt Sander

SPECIFICATION	<u>SEM-600B</u>	<u>SEM-900B</u>
Main motor	7.5HP (1ph)	15HP (3ph)
Variable feed speed	1HP (two speed by gear)	1HP (two speed)
Table lifting motor	0.33HP (table hoist motor)	0.25HP (table hoist motor)
Voltage	60HZ/220V	60HZ/220V
Max sanding height	38"	38"
Min sanding height	32"	32"
Max sanding width	24 3/8"	36 3/8"
Sanding belt size	25" * 60"	37" * 60"
Diameter of sanding drum	DIA. 100mm for B type	DIA. 100mm for B type
Length of sanding drum	26"	38"
Sanding drum RPM	1725 RPM	1725 RPM
Conveyor speed	-	-
Dust port size	5"	5"
Number of dust ports	2	3
Foot print	19 5/16" x 39 3/8"	19 5/16" x 51 1/2"
Width x Depth	39 3/8" x 50"	53" x 49 1/2"
Height with dust collection ports	66 1/4"	66 1/4"
Height without dust collection ports	-	-
Conveyor height at lowest setting	32"	32"
Cabinet	Steel	Steel
Operating air pressure	75 PSI	75 PSI
Sanding belt oscillation	Adjustable	Adjustable
Sanding belt motor break	Air Disc Brake	Air Disc Brake

## Receiving Your Widebelt Sander

**Note.** It is probable that your machine will be delivered by a third party. Before you unpack your new machine, you will need to first inspect the packing, invoice and shipping documents supplied by the driver.

Ensure that there is no visible damage to the packing or the machine. You need to do this prior to the driver leaving. All damage must be noted on the delivery documents and signed by you and the delivery driver. You must then contact the seller (Laguna Tools) as soon as is practical. If damage is found after delivery, contact the seller as soon as is practical.

**Note.** It is probable that you will find sawdust within your machine. This is because the machine has been tested prior to shipment from the factory and/or Laguna Tools. Laguna Tools endeavors to test machines prior to shipping to customers, as movement can take place during transportation. It must be noted that additional machine movement can take place between Laguna Tools and the end user and that some adjustments may have to be undertaken by the customer. These adjustments are covered in the various sections of this manual.

## Introduction to Your Widebelt Sander

This machine is designed to give you years of safe service. Read this owner's manual in its entirety before assembly or use.

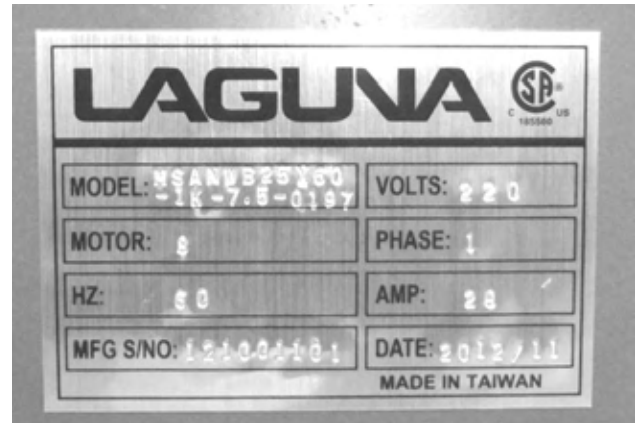


# Parts of the Widebelt Sander

The Widebelt Sander consists of a number of major parts, which are discussed in this manual. Take the time to read this section and become familiar with the machine.

## **Identification.**

There is a plate on the machine listing all the manufacturing data, including the model.



### **1. Control panel**

The control panel controls all the electrical functions of the machine. This includes the speed of the drive belt, vertical adjustment of the bed and on/off functions.

### **2. Bed vertical setting device**

This device is used to set the height of the bed in relation to the sanding rollers.

### **3. Manual bed vertical adjusting handle**

This handle is used to manually adjust the bed vertically.

### **4. Bed**

The bed of the sander has a rubber drive belt that transports the job through the machine. The speed of the belt is adjustable.

### **5. Safety plate**

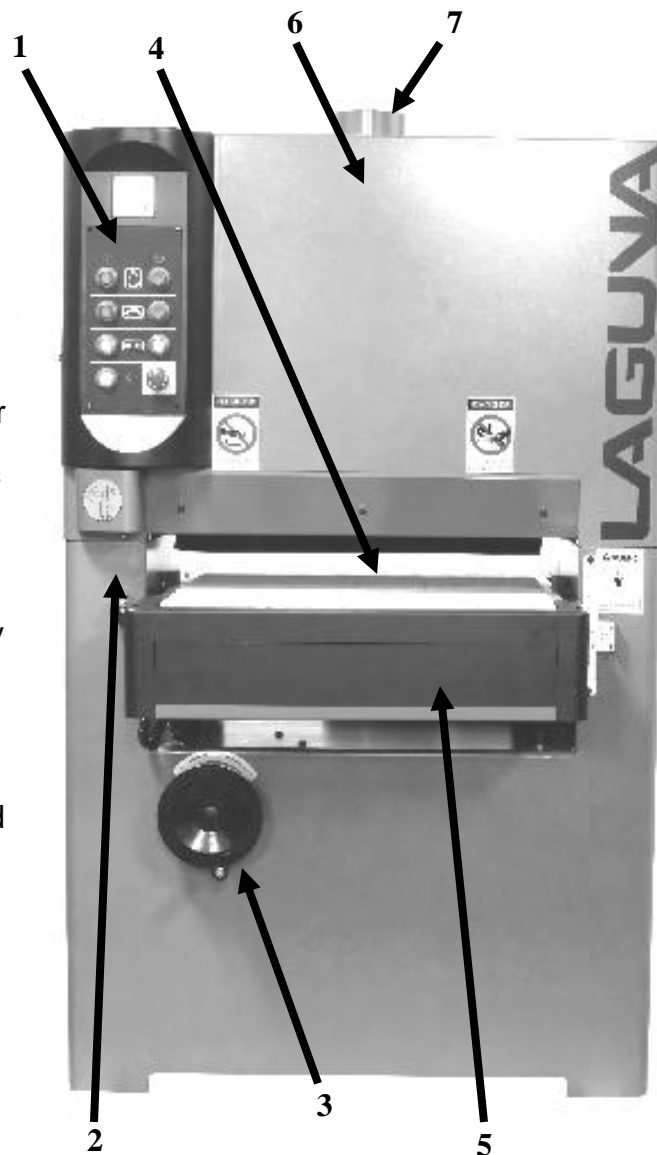
The safety plate is used to remove power from the motors. This is very convenient should a job get jammed, as it can be operated by hand, leg or hip.

### **6. Machine body**

The machine body is manufactured from heavy-gauge steel.

### **7. Dust extraction**

There are three or two dust extraction pipes located on the top of the machine that are 5 inches (127mm) in diameter. Dust extraction is critical when sanding. The sander produces a lot of sawdust that must be removed for



health reasons and also because the belt will clog and poor surface finish will result. It is not possible to be exact when recommending the size of dust collector to be used; this will depend on the type of work that the machine is used for. It is recommended that a dust collector with a minimum of 3500 cubic feet/minute be attached to the sander.

**8. Air supply**

A clean, dry air supply with a minimum pressure of 6 bar must be connected to the sander. If the pressure drops below 5 bar, the machine will stop functioning.

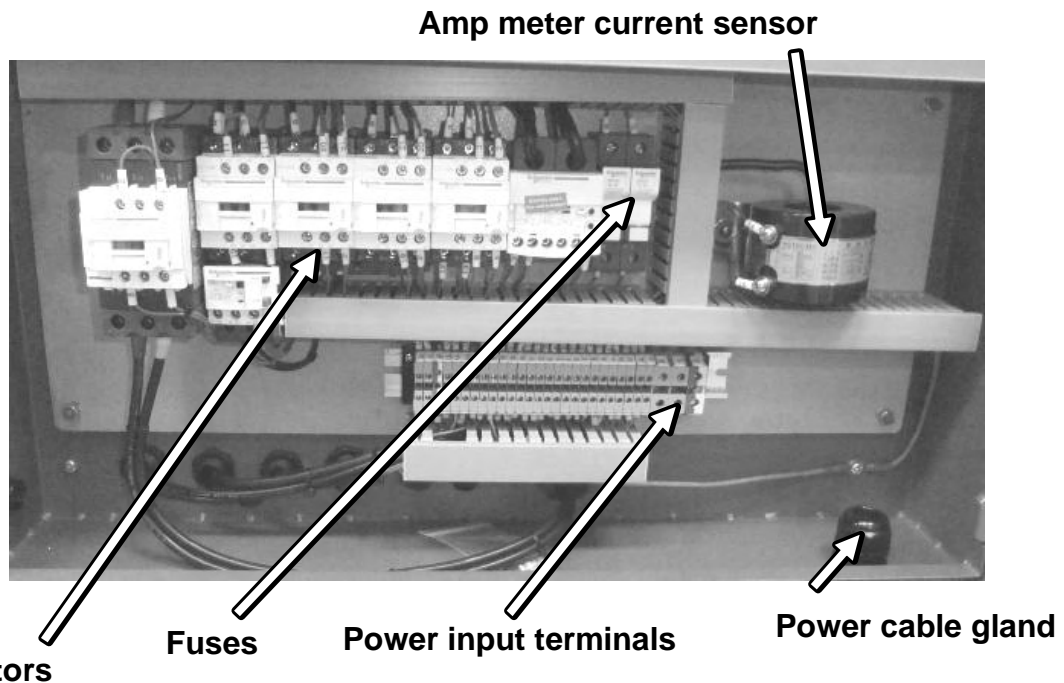
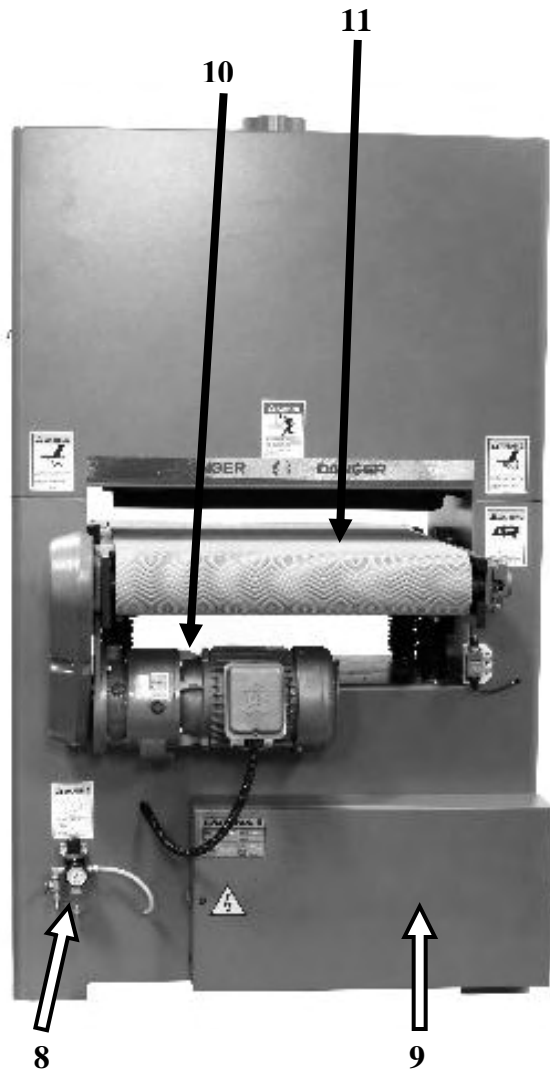
**9. Electrical control box**

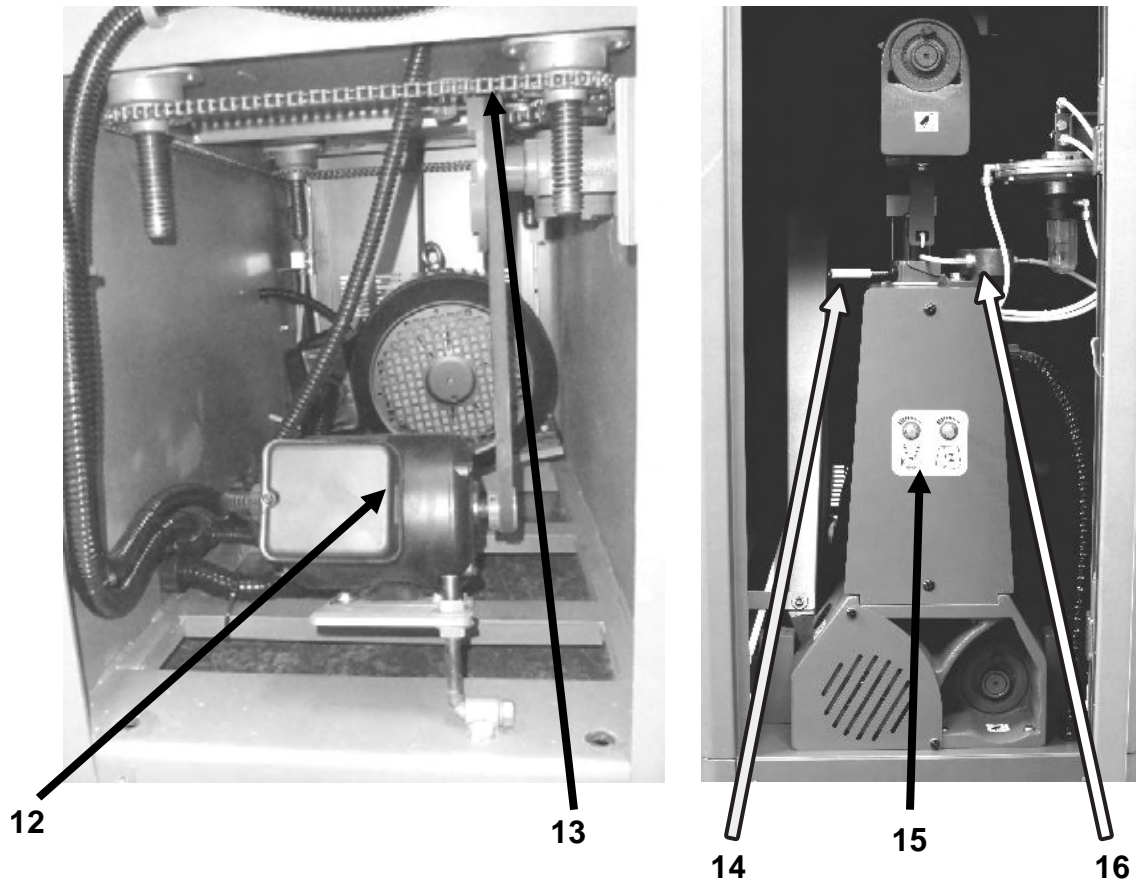
The electrical control box houses all the electrical control components and must never be opened while power is supplied to the machine.

**10. Conveyor motor and gearbox**

**11. Conveyor**

The conveyor is a continuous rubber belt that transports the job past the sanding head.





**12. Bed vertical drive motor**

The bed of the machine can be adjusted vertically by using the switches on the control panel. The switches control the motor and gearbox.

**13. Table vertical adjustment chain**

The bed vertical adjusting handle (front of the machine) moves a chain that rotates four cogs. The cogs turn threaded shafts that lift or lower the bed. The chain is also driven by the motor and gearbox [10].

**14. Sanding belt sensor**

This sensor controls the action of the sanding belt oscillation. As the belt moves in and out of the sensor, a piston moves a cam that is attached to the top sanding roller. This action changes the angle of the top roller and forces the belt to move along the roller.

**15. Sanding belt control knobs**

These knobs control the actions of the sanding belt sensor and also the amount of oscillation of the sanding belt.

**16. Sanding belt limiter**

There are two ceramic limiters, one on either side of the machine. If the belt hits either of the limiters, a micro switch is activated, and the machine will stop. If the sanding belt hits any of the limiters, the sanding belt will have to be adjusted prior to restarting the sander.

**17. Platen adjuster**

The platen can be adjusted lower than the sanding rollers. The amount below the rollers will vary depending on the type of sanding being conducted. If conducting rough sanding, the platen is adjusted above the sanding rollers so that it is not in contact with the sanding belt.

**18. Sanding belt tensioning knob**

The belt tensioning knob controls the amount of pressure that the piston exerts on the sanding belt.

**19. Sanding belt adjustor**

The sanding belt adjustor is used to adjust the belt centrally on the top roller.

**20. Sanding belt oscillation piston**

The sanding belt oscillation piston moves a cam that is attached to the top sanding roller. This action changes the angle of the top roller and oscillates the belt along the rollers.

**21. Sanding belt tension piston**

The piston keeps a constant pressure on the sanding belt and is retracted to allow the belts to be changed.

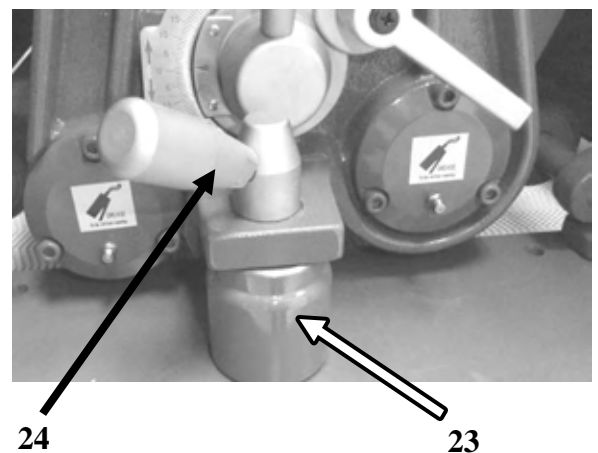
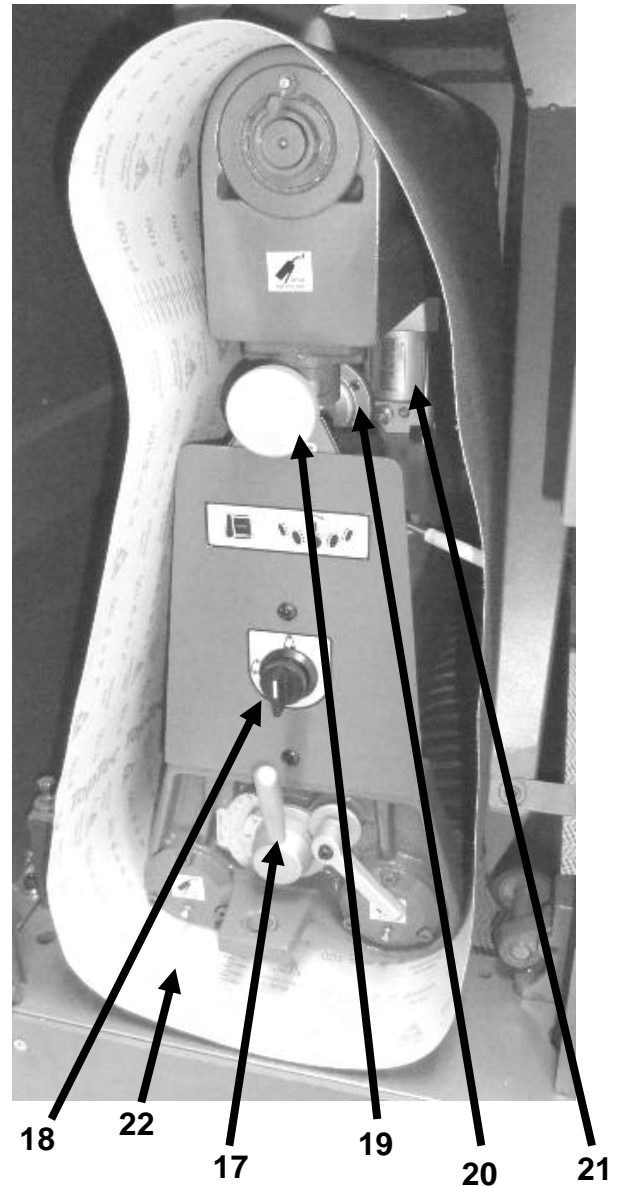
**22. Sanding belt**

**23. Spacer**

The spacer is used to clamp the sanding head to the body of the machine. The spacer is removed when changing sanding belts.

**24. Clamp handle**

The clamp handle has a quick-action thread that requires approximately a half turn to clamp the sanding head to the body of the machine.

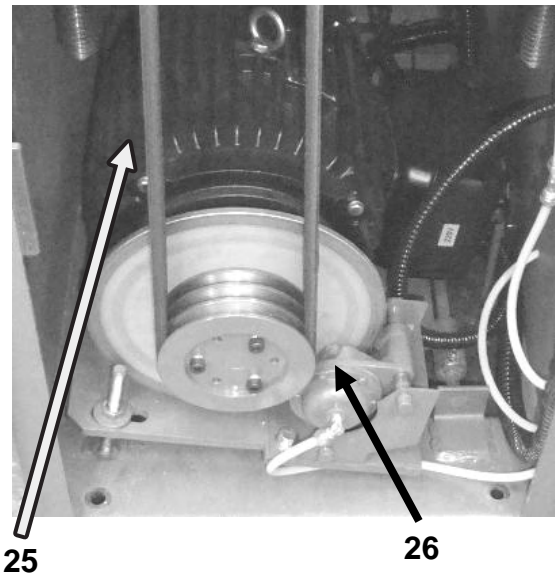


**25. Main drive motor**

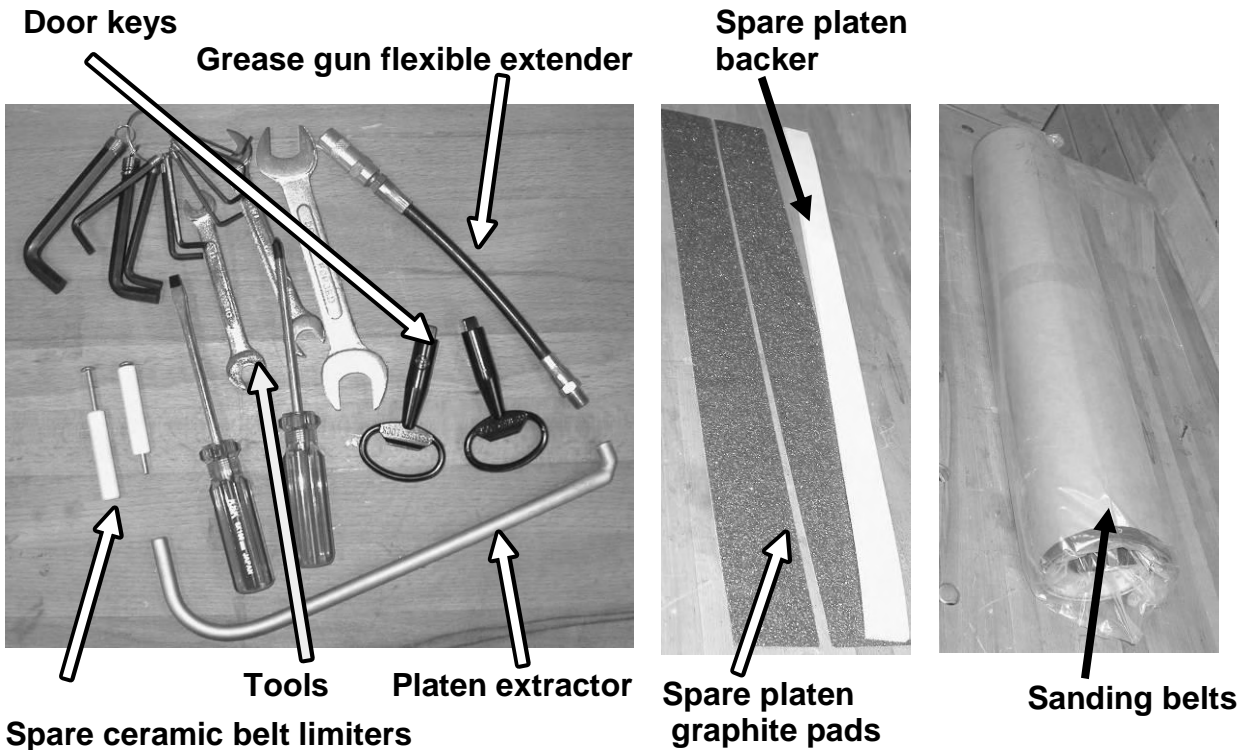
The main motor powers the sanding belt.

**26. Motor disc brake**

The disc brake is air operated and stops the main drive motor when power is removed.



## What you will Receive with the Widebelt Sander



## Where to Locate Your Widebelt Sander

Before you remove your machine from the packaging, select the area where you will use your machine. There are no hard-and-fast rules for its location, but below are a few guidelines:

1. There should be an area at the front and back of the machine suitable for comfortable working and the length of the work pieces.
2. Adequate lighting. The better the lighting, the more accurately and safely you will be able to work.

3. Solid floor. You should select a solid, flat floor, preferably concrete or something similar.
4. Locate it close to a power source and dust collection.
5. Allow an area for the storage of blanks, finished products and tools.

## Unpacking Your Widebelt Sander

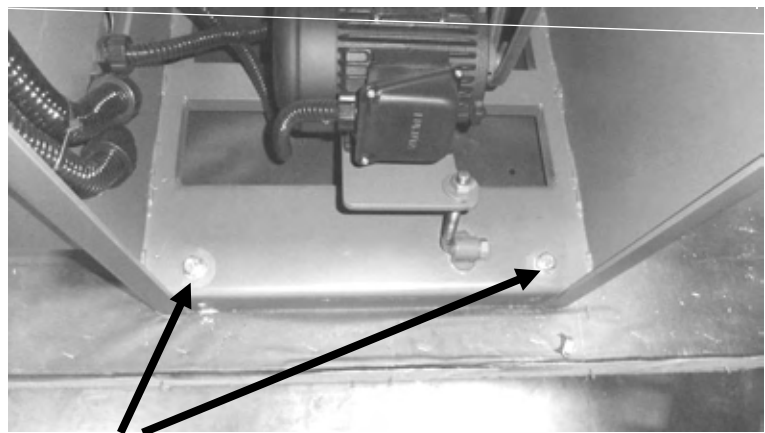
To unpack your sander, you will need tin snips, knife, screwdriver and a wrench.

1. Using the tin snips, cut the banding that is securing the packing box (if fitted).  
**WARNING: EXTREME CAUTION MUST BE USED BECAUSE THE BANDING WILL SPRING AND COULD CAUSE INJURY.**

2. Dismantle the box.
3. Remove any bolts that secure the machine to the base (if fitted).

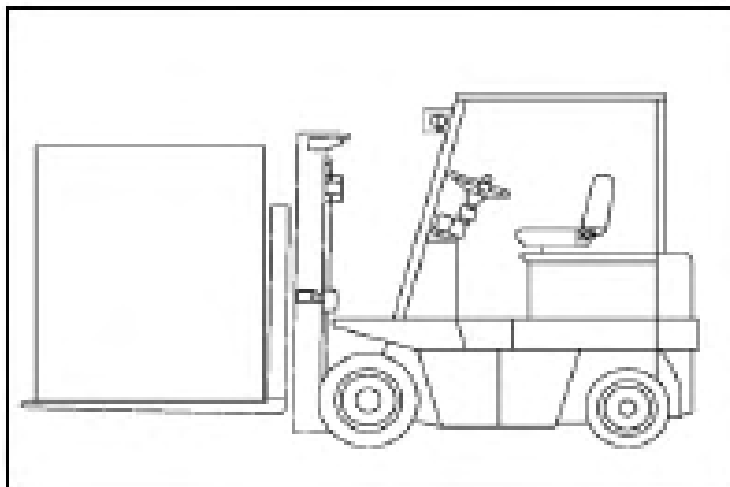
**Note:** You may find that the machine is bolted to the base through the frame. To access the bolts, both side panels have to be removed.

4. Remove the machine from the base with a forklift truck. The forklift truck must have sufficient capacity to achieve the job safely.



**Shipping bolts (side panel removed)**

5. Remove the base and lower the machine to the floor.  
**Note.** If you have any doubt about the described procedure, seek professional assistance. Do not attempt any procedure that you feel is unsafe or that you do not have the physical capability of achieving.



# Assembly and Setup

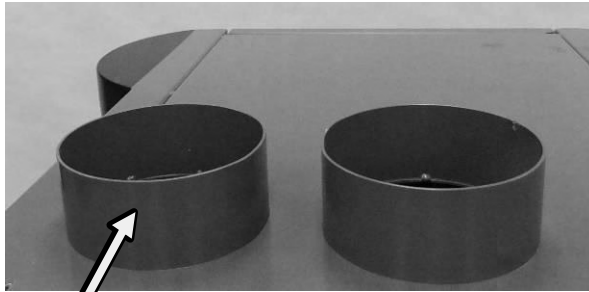
Very little assembly and setup is required, as the machine comes fully assembled. You will have to fit the sanding belt and connect the air and electricity.

## Cleaning the machine

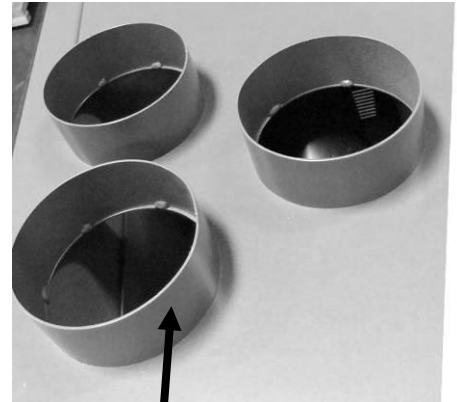
Remove the rust protection grease with WD 40 or a similar solvent. It is important that you remove all the grease.

## Connecting the dust collection

There are 5-inch dust ports on the top of the machine. Depending on the machine, it will either have two or three ports. It is not possible to



5-inch dust port



5-inch dust port

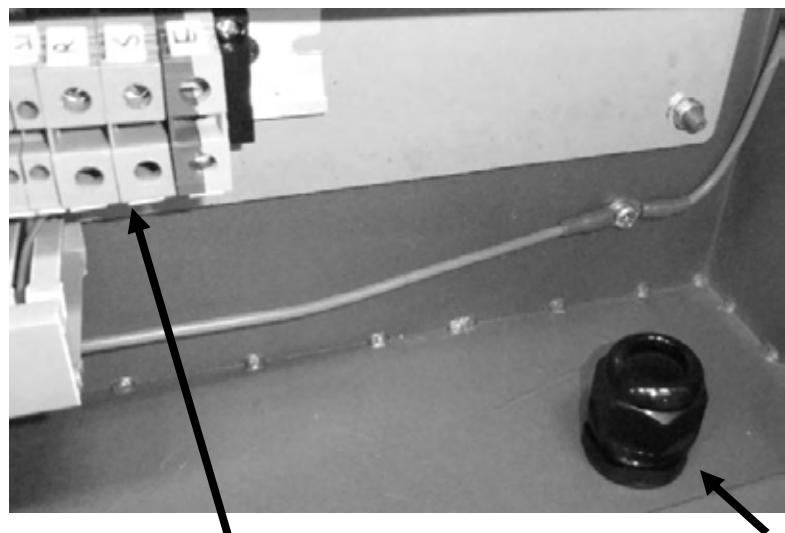
be exact when recommending the size of the dust collector to be connected to the sander, as this will depend on the type of work that you will be using the sander for. Connect to your dust collector with 5-inch dust hose. You will need a dust-collection system with a minimum airflow of 65 feet per second and of 3500 cubic feet/minute. The sander produces a lot of dust, and the stronger the dust collection the better.

## Connecting the electrical supply

**Note. A qualified electrician must carry out the installation.**

Ensure that the main supply corresponds with that of the machine (three-phase 220 V or single phase 220V). It is recommended that you use a 70-amp mains breaker for single phase machine and 30 amp breaker for three phase machine.

Due to the high amp draw of this machine, it is recommended that the machine be wired directly into the electrical distribution system.



Electrical termination block

Mains gland

### **Connecting the air supply**

The input air regulator regulates the air pressure that is supplied to the machine.

The machine is supplied with an air connector, to which you can connect your air supply. You will require an air supply that can deliver a constant minimum pressure of 6 bar. The machine is supplied with an input air regulator that you will need to adjust to 5.5 bar once you have connected your air supply to the machine.

**Note.** No air pipe is supplied, as the length will depend on your installation.

To adjust the air pressure, pull the cap up and rotate until the gauge reads the correct pressure. Once the pressure is adjusted, push the cap in.

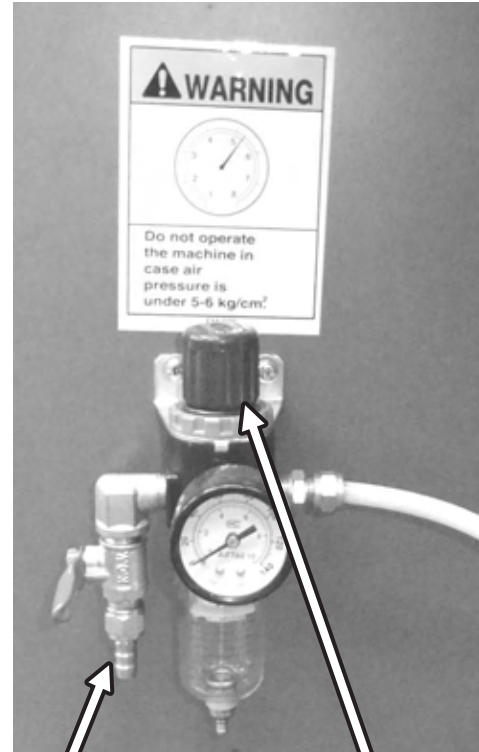
**Note.** An air supply of 6 bar minimum is required for the machine.

It is strongly recommended that 7 bar be supplied to the machine and that the regulator then be set to 5.5 bar. This will ensure that the machine always has the minimum required air pressure. The input regulator has a moisture trap that must be emptied each day. To drain the moisture, pull down the nipple at the bottom of the moisture trap.

**Note.** It is important that the air supplied to the machine be clean and dry. The machine will not perform consistently if the air is dirty, as any dirt will block the valves. Wet or damp air will damage your machine and cause inconsistent performance.

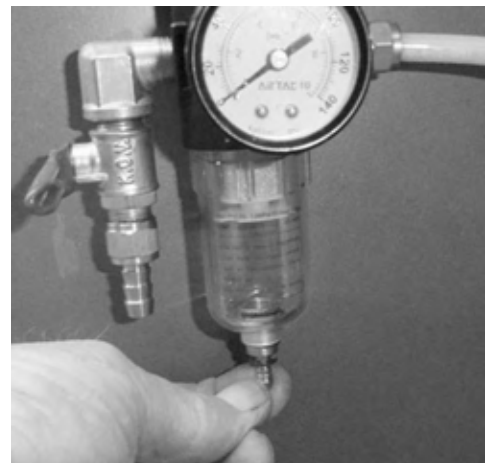
**Note.** The pneumatic system does not need any type of lubricant. Some types of lubricant can damage the machine and compromise the machine's functions.

**Note.** During maintenance, always disconnect the air supply.



**Air line connection**

**Air pressure adjuster**

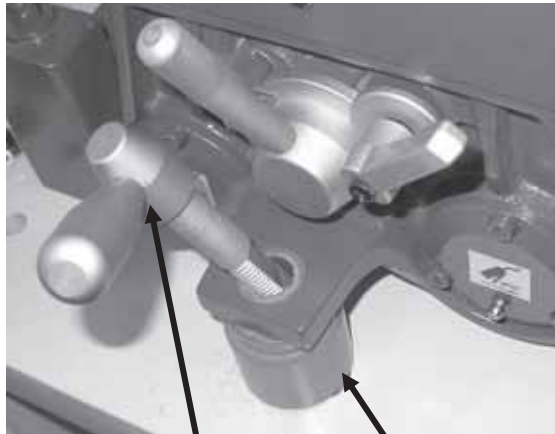


**Moisture trap nipple**



## Fitting the sanding belt

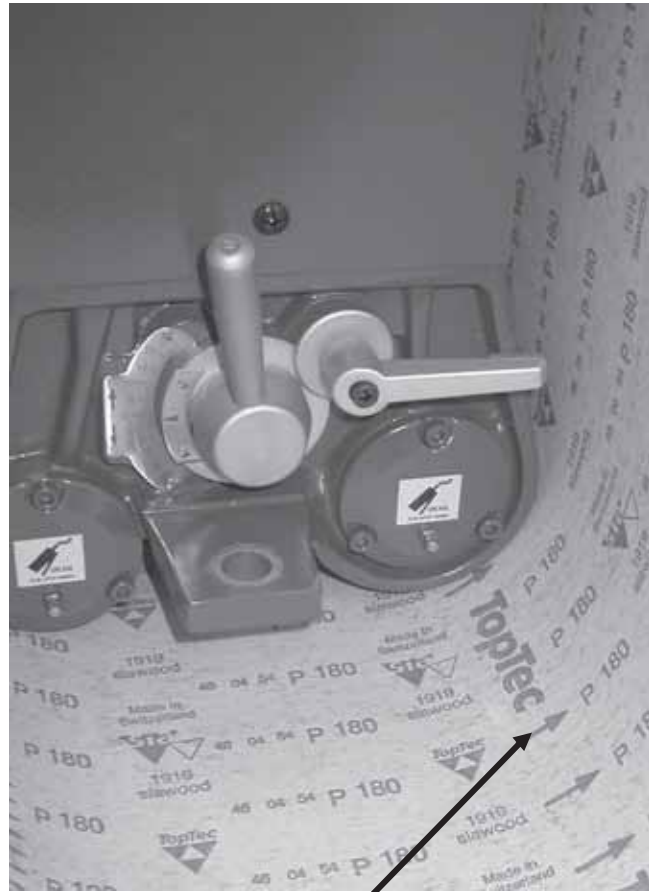
**Note.** Disconnect the sander from the electrical supply.



**Clamp**      **Spacer**



**Roller tension switch**



**Sanding belt direction arrow**

1. Rotate the roller tension switch counter-clockwise to lower the tension roller.
2. Rotate the clamp counter-clockwise and lift out.

**Note.** The clamp is a quick release and needs only to be rotated approximately 90 degrees to release.

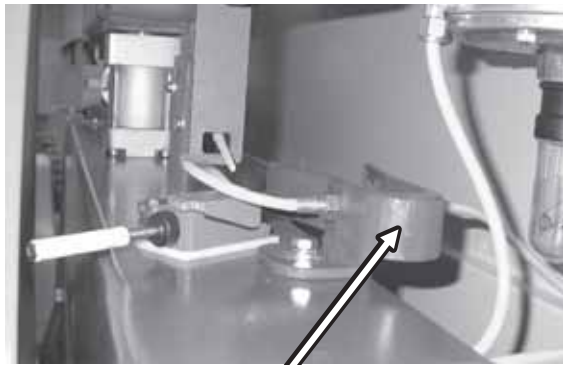
3. Remove the spacer. This will allow access for the sanding belt.
4. Slide the sanding belt onto the top and bottom rollers.

**Note.** Ensure that the direction arrows on the inside of the sanding belt are facing in the correct direction (counter-clockwise). If the belt is assembled with the arrows in the incorrect direction, **the belt will break.**

5. Replace the spacer and clamp.
6. Rotate the roller tension switch clockwise to raise tension roller.



**Clamp and spacer assembled**



**Belt sensor**



**Sanding belt assembled**

**Note.** Never run the sander without the spacer and clamp assembled, as this will damage the machine.

**Note.** The machine is supplied with a sanding belt, and this may not be the correct one for your work. Purchase a number of belts to suit your work and always have spare belts available; you can never predict when a belt will break or wear out.

**Note.** The sanding belt must be positioned centrally on the rollers. It must also be between the forks of the belt sensor.

**Choosing sandpaper**

The grit type that you chose will depend on the type of work that you are doing and the finish that the job dictates. It usually saves time and results in a better finish if you start a job with a coarse grit and then complete the finishing cuts with a fine grit. This will entail changing the sanding belt but can save time in the long run.

Grit	Type
60	Coarse
80 to 100	Medium
120 to 150	Fine

### **Starting the sander**

1. Connect the sander to the power.
2. Press the table up and down keys. The table should move smoothly.  
**Note.** Check that the table moves in the correct direction according to the arrow that is being pressed. If the table moves in the incorrect direction, you will probably have the input electrical wiring wrong and will need to change phase wires (3-phase machine only).
3. Press the conveyor start and stop buttons. The conveyor should start, run and stop smoothly.
4. Press the sanding belt start and stop buttons. The sanding belt should start, run and stop smoothly.
5. Let the sander run for a few minutes and listen for unusual noises or vibration. If any unusual noises or excessive vibration is detected, correct the problem before sanding a job.

## **Adjusting the Sander**

There are two main functions to adjust on the sander: the bed of the sander and the sanding belt.

### **Vertical adjustment of the bed**

The bed is adjusted both manually and electronically.

#### **Manual vertical bed adjustment**

The manual handle is located on the front of the machine under the bed. This handle is not recommended for everyday operations and should only be used for emergency operations, or when the bed has to be moved while no power is connected to the machine.



**Manual bed adjusting handle**

### **Electronic control panel**

The control panel is set on the front of the machine. It has a number of switches.

1. Bed up/down buttons.
2. Sanding belt start/stop buttons.
3. Conveyor start/stop buttons.
4. Emergency stop switch.
5. Power indicator light.



Control panel

### **Quick set**

The sander has a device on the side that is used to set the height of the bed without measuring the job. Simply put the job on the height setting button, press and hold the arrow up button. The table will move up until the job hits the micro switch. The distance between the sanding head and the job is now set.



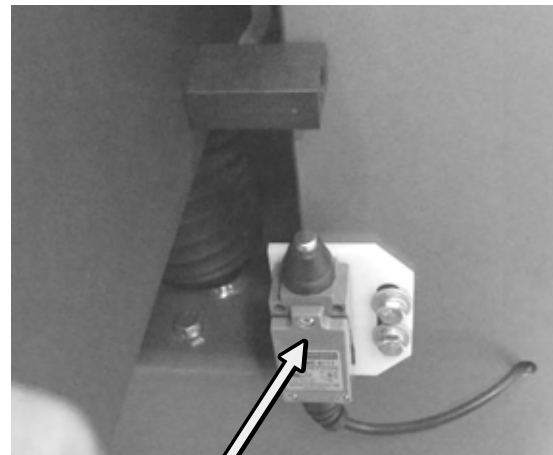
Quick set

Micro switch

Height setting button

### **Down limit switch**

The sander is fitted with a limit switch located at the back of the machine. This limit switch limits the down travel of the bed.



Down limit switch

### **Vertical rule**

There is a vertical quick reference rule that can be used to check the distance between the sanding head and the bed of the machine.

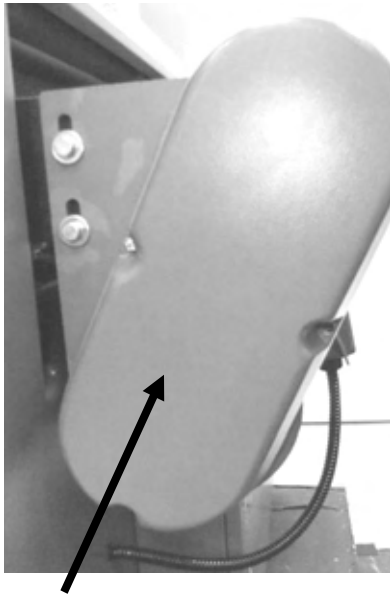


## Belt speed

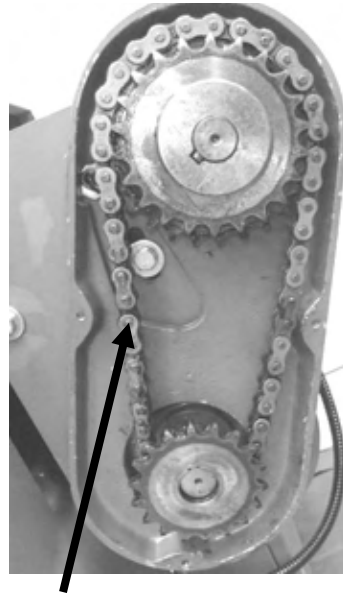
The speed of the belt can be adjusted to between high and low. It is a matter of experience when selecting the correct speed.

### **Changing conveyor speed.**

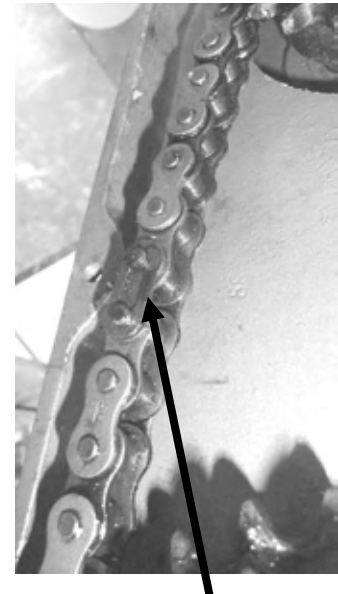
1. Disconnect the power to the machine.
2. Remove the conveyor drive cover.
3. Remove the split link.
4. Move the chain to the other set of gears.
5. Refit the split link and the conveyor drive cover.



**Conveyor drive cover**

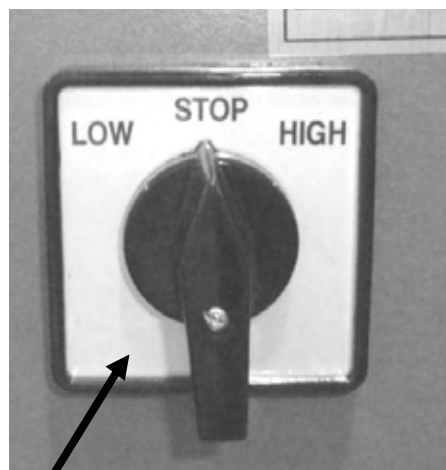


**Conveyor drive chain**

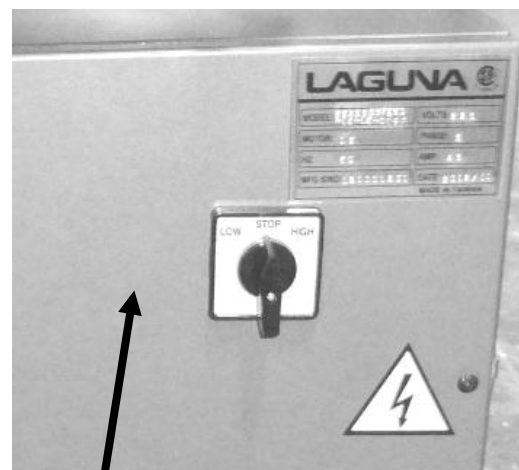


**Split link**

On the MSANWB37X60-1K-15-0197, there is a switch on the electrical box that adjusts the conveyor speed from high to low speed.

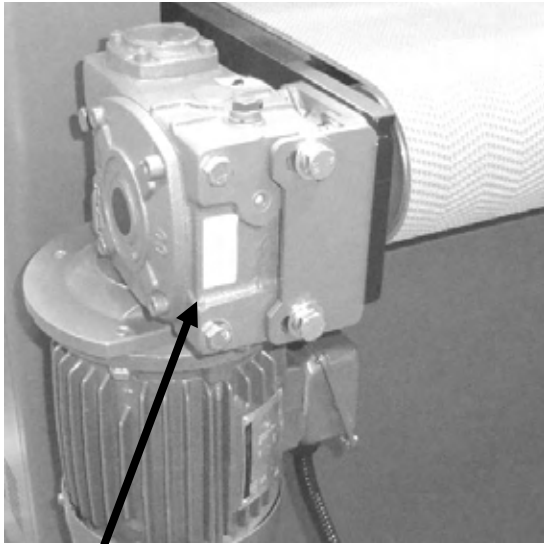


**Conveyor speed selection switch**

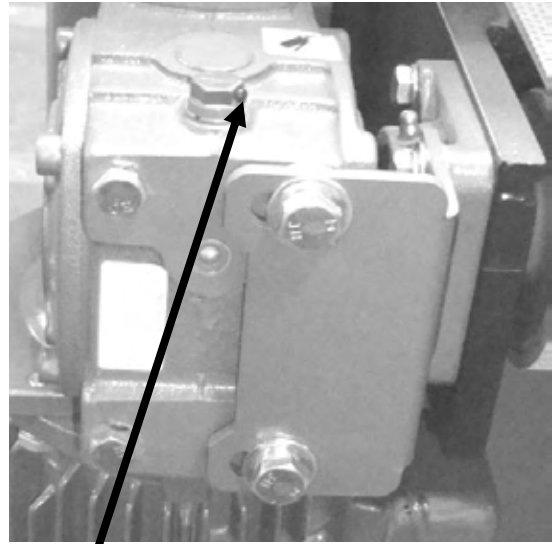


**Electrical box**

The belt drive gearbox is filled with oil. As the oil heats, it expands and causes pressure within the gearbox. To relieve this pressure, there is a small hole on the side of the bolt. To ensure there is no leakage during shipping, the hole is sealed with a small plastic pin. **Before the machine is run, this pin must be removed.** This will allow the oil to expand without causing damage or leakage during use.



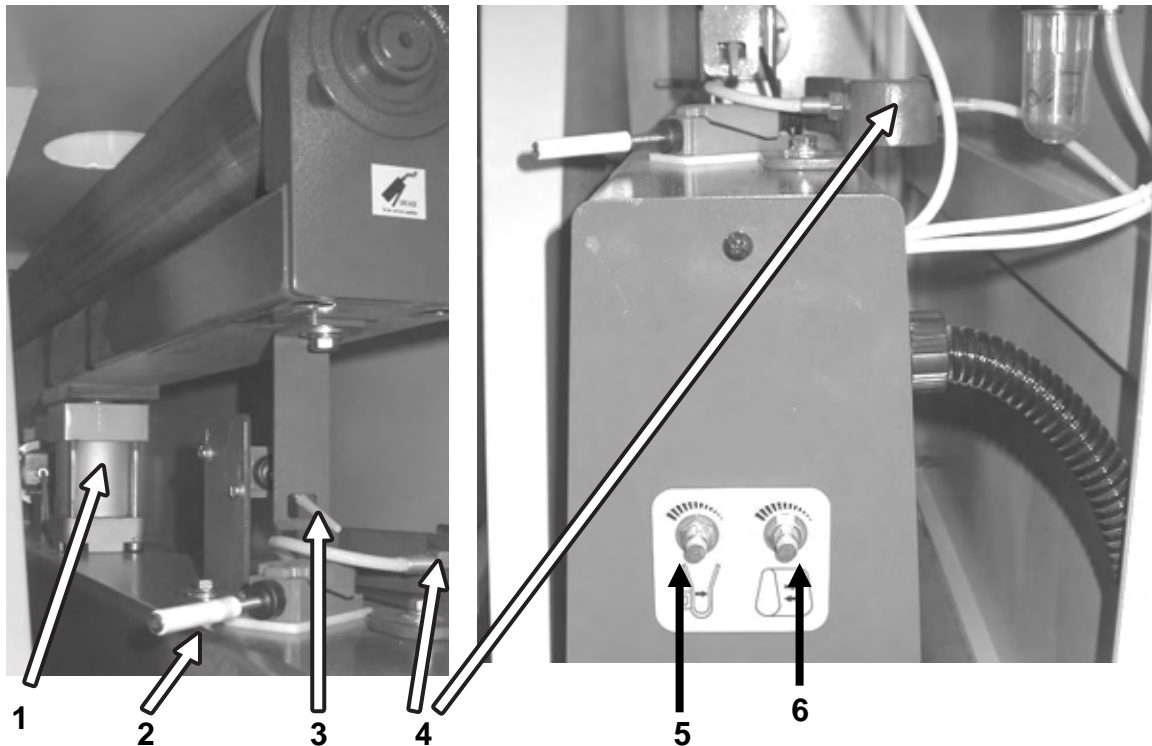
Conveyor drive



Air hole pin to be removed

### Sanding belt adjustments

### General description of sanding controls and actions



The sanding belt is tensioned by the central belt tension piston. The piston is activated by the sanding belt tension switch. This switch must be activated prior to starting the sander.

The sanding belt oscillates along the top and bottom rollers. This greatly enhances the performance of the sander and reduces the chances of lines and marks on the job.

To achieve this oscillation, the top roller pivots about a central air cylinder (1). This air cylinder also keeps pressure on the belt and keeps it tight to the rollers.

The pivoting is controlled by a non-contact air sensor (4). Should the sanding belt break, a micro switch (3) is activated and stops the machine. If the oscillation is excessive or the sanding belt runs off center, the sanding belt will hit one of the two ceramic rollers (2). The rollers are attached to micro switches that stop the machine. The sensitivity of the non-contact air sensor can be adjusted by rotating the control knob (5). This has been factory set and should not need adjustment. The speed of the belt oscillation can be increased or decreased by adjusting the control knob (6).

The sanding belt is centralized on the rollers by adjusting the sanding belt centralizing cam. This will have to be done for every belt, as each belt will run differently.



**Sanding belt tension switch**



**Sanding belt**

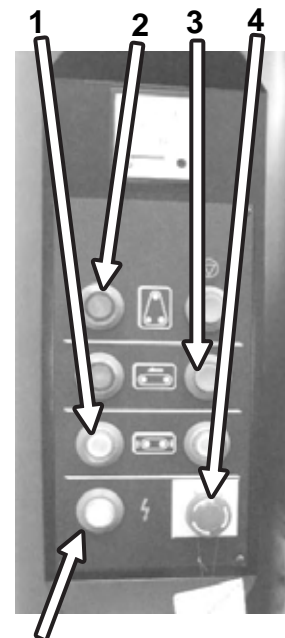
### **Electronic control panel**

The control panel is set on the front of the machine. It has a number of switches.

1. Bed up/down buttons.
2. Sanding belt start/stop buttons.
3. Conveyor start/stop buttons.
4. Emergency stop switch (**twist to release**).
5. Power indicator light.

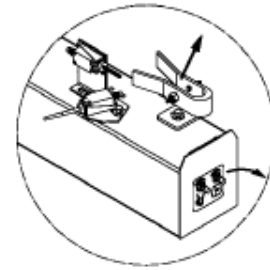
### **Sanding belt oscillation adjustment**

1. With no sanding belt fitted, restrict the airflow across the sensor (U) with a piece of wood or something similar.
2. The top roller should pivot, and when the obstruction is removed, the top roller should pivot back to the original position.
3. Check that the roller pivots a few times.



**5 Control panel**

4. With the sanding belt fitted, run the sanding head and note the time that it takes the sanding belt to oscillate in both directions. The time taken to oscillate in either direction should be the same.
5. If the oscillation to the right is longer than the time for the sanding belt to oscillate to the left, adjust the control knob (5) to the right.
6. The speed of oscillation is adjusted with control knob (6). The speed of oscillation will change the sanding results. Test the sanding results with a piece of scrap.
7. Turning the knob clockwise will reduce the oscillation speed.



## Running the Sander

### Running the machine after fitting a new sanding belt

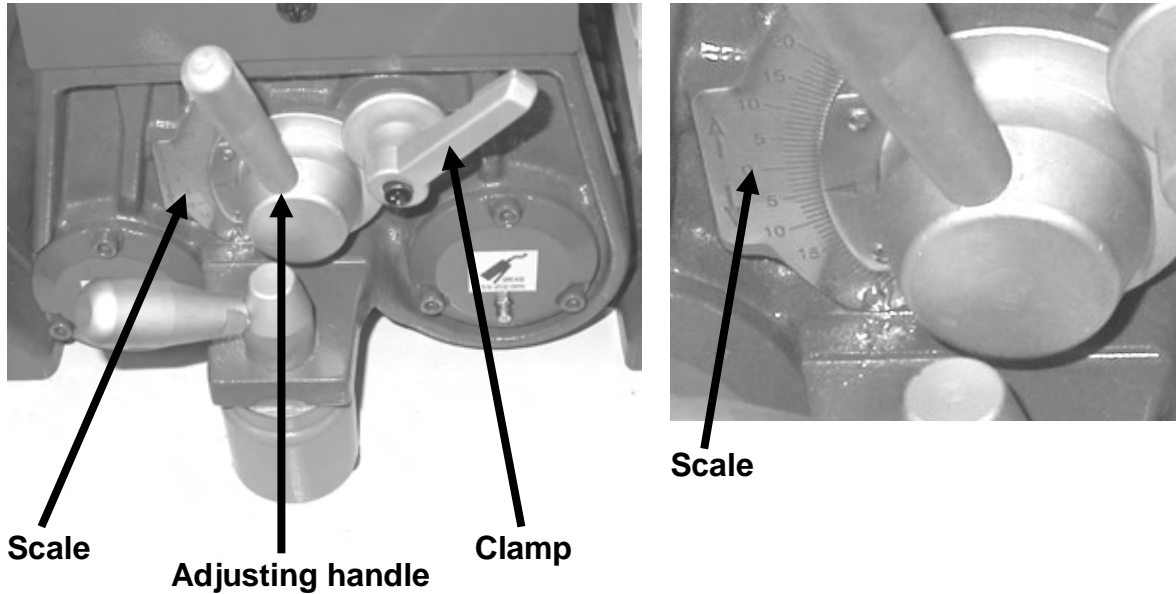
1. Fit the sanding belt as detailed earlier.
2. Check that the belt is not hitting the ceramic rollers and is positioned approximately central on the rollers.
3. Check that the emergency stop button is not engaged (**twist to release**).
4. Check that the bed is at least 1 inch down from the sanding belt.
5. Check that the sanding belt tension piston has been activated.
6. Press the sanding belt start button. The sanding belt will start to rotate.
7. Open the left-hand door and check that the sanding belt oscillations are central on the rollers. You will probably find that they are biased to one end.
8. Press the sanding belt stop button. After the belt has completely stopped, loosen the sanding belt centralizing cam and move either left or right depending on the error.
9. You may find that the sanding belt will have hit one of the ceramic rollers. This will mean that the sanding belt is not running central. Release the sanding belt tension piston and re-centralize the belt on the rollers. Then adjust the sanding belt centralizing cam and retest.

**Note.** As the name implies, this is a sanding machine and is not designed to cut large amounts of material from the job. It is far better to take several small slow cuts rather than one large cut. The sanding belt will last far longer, the surface finish will be better and the machine will not be damaged.

### Sanding platen position

The sander is supplied with a graphite platen system. The platen is used only when conducting fine finishing cuts (0.1mm or 0.004") and is not suitable for roughing cuts.





The scale is very fine and has a complete range of +2mm (0.08") –2mm (0.08"). Adjust the platen as follows.

1. Loosen the clamp.
2. Move the platen with the adjusting handle to the required setting.
3. Re-clamp.

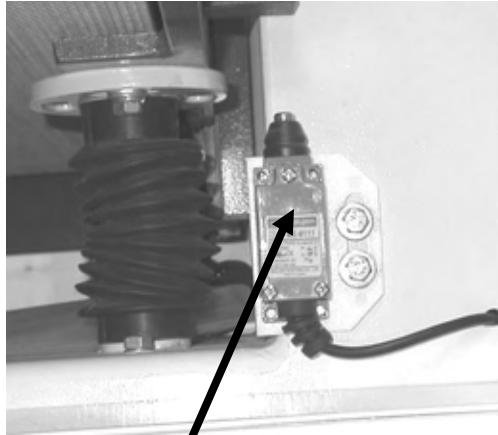
**Note.** When not using the sander for finishing cuts, move the platen to the maximum negative position.

### Testing the machine

**Note.** Remove all tools and other materials from the machine prior to testing it.

1. Plug in the electrical supply.
2. Switch on the sanding machine momentarily. Check that the sanding belt is running true and balanced on the rollers.
3. If the belt is not running true, adjust the belt (detailed later in the manual).
4. If the belt is running true and balanced on the rollers, switch on the machine and allow the machine to run for a few minutes.
5. While the machine is running, check for rattles and vibration. If rattles or vibration are detected, investigate the cause and tighten the relevant parts.

## Check that all the safety switches are functioning



**Bed lower limit switch**



**Bed safety switch**



**Bed upper limit switch**

1. Lower the bed until it hits the lower limit switch. The bed travel must stop once the switch is activated.
2. With the sanding belt and the drive belt running, activate the bed safety switch. The sanding belt and the drive belt must stop once the safety switch has been activated.
3. Raise the bed until it hits the bed upper limit switch. The bed travel must stop once the switch is activated.
4. With the sanding belt and the drive belt running, press the emergency stop button. The machine must stop.
5. With the sanding belt running, press the sanding belt stop button. The sanding belt must stop.
6. With the drive belt running, press the drive belt stop button. The drive belt must stop.



**Emergency stop**

### Sanding.

Sanding is a finishing process, and no more than 0.008" should be removed with each pass. Larger cuts will result in jamming, poor surface finish, burn marks, excessive sandpaper wear, excessive motor loading, and so on.

Wearing the correct safety equipment, start sanding as follows.

1. Switch on the dust collector.
2. Set the bed to a height that will just miss the thickest part of the job.
3. Raise the table with each pass until the job is sanded over the complete surface.

# Maintenance and Troubleshooting

**Note,** When conducting maintenance, disconnect the machine from the electricity and the air supply.

## General

Keep your machine clean. At the end of each day, clean the machine. Wood contains moisture, and if sawdust is not removed, it will cause rust.

In general, we recommend that you only use a Teflon-based lubricant. Regular oil attracts dust and dirt. Teflon lubricant tends to dry and has fewer tendencies to accumulate dirt and sawdust.

## Weekly

1. Check that all nuts and bolts are tight.
2. Check the sanding belt for damage and wear.
3. Check cables for wear, damage or cuts.
4. Empty the water trap.
5. Remove any excessive dust and check the dust extraction system for blockages.
6. Grease all the bearings.

## Monthly

1. All the above.
2. Cover the table adjustment screws with grease. Ensure that the rubber covers are replaced once greasing has been completed.
3. Grease the table lifting chain.

After the first 100 hours of operation, replace the oil in the conveyor drive gearbox. Repeat the oil change every 2,500 hours. Recommended oil is 90-wt gear oil.

## Drive belt

The drive belts should last for a long time (depending on the usage) but need to be inspected regularly for cracks, cuts and general wear. If damage is found, replace the belts.

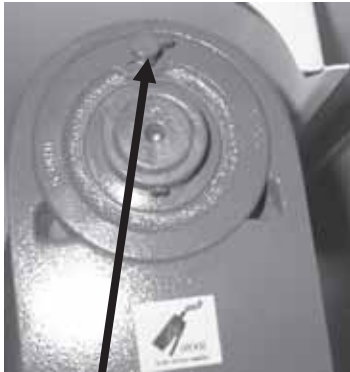
The belts come factory set, but they should be checked for tension after about 8 hours of use. The belts could need to be re-tensioned, as they will have bedded into the “V” grooves.

**Note.** The sanding head motor has multiple belts. They are matched, so if one belt requires replacement, you must **replace all** the belts with a matched set. If **all** the belts are not replaced, this will cause vibration and could put excessive strain on the motor and bearings. Not replacing all the belts will also cause the belts to wear out very quickly, as they are not all the same length and will slip.

## Bearing lubrication

The bearings need to be greased. There are several grease points, as shown in the photographs below. It is recommended that the machine be greased after every 40

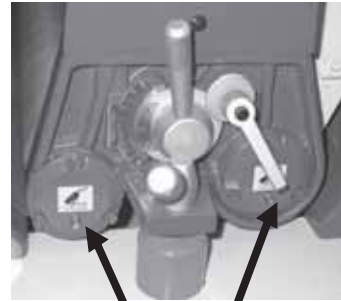
hours of operation. Greasing the bearings will flush out any sawdust that has gotten pasted into the seals. After greasing, wipe off any excess. A grease gun extender is supplied to ease access to the bearings.



**Grease nipple**



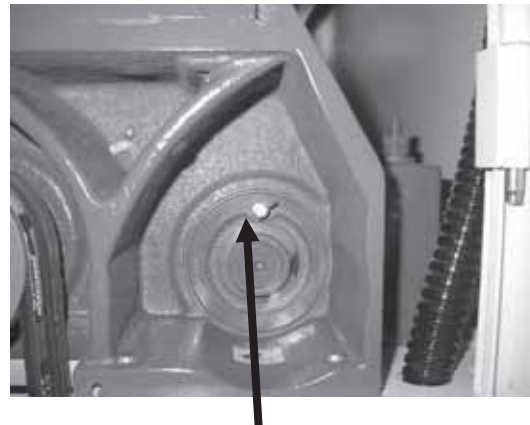
**Grease nipple**



**Grease nipple**



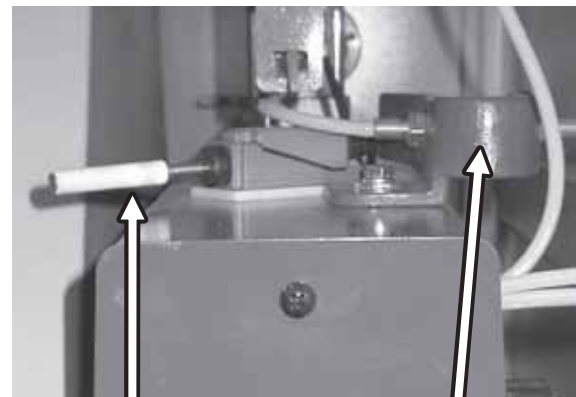
**Grease nipple with cover removed**



**Grease nipple**

**Sanding belt non-contact air sensor.**

There are holes in the sensor for the air to escape through. The holes should be checked regularly, and if they block, they must be cleaned. If the holes block, the belt will not track correctly on the rollers.



**Ceramic rollers**

**Air sensor**

**Ceramic rollers** The ceramic rollers must be checked regularly for wear, cracks and general damage. Two spares are supplied.

### **Platen graphite pad**

The sanding belt runs on a graphite pad that is backed by a felt pad. The graphite will wear out eventually. A spare graphite pad is supplied with the sander.

Replace the graphite or the felt pad as follows.

1. Remove the clamp and screw as detailed earlier.
2. Using the extraction tool, pull the platen out from the sander.

3. To replace the graphite pad, remove the fixing screws, remove the old graphite pad, replace the graphite pad and replace the screws.



**Platen**

**Extraction tool**

**Fixing screws**



**Graphite pad**

**Felt pad**

4. To replace the felt pad, remove the old felt pad. Using a small amount of contact adhesive, attach the new felt pad to the platen.
5. Replace the platen into the sanding machine.

**Note.** Ensure that the graphite pad is facing the correct way with the screws to the left-hand side.

### **Pressure roller adjustment**

There are two pressure rollers: one on the in-feed side and the other on the out-feed side of the sanding rollers. The pressure rollers come factory set but may need to be adjusted during the life of the machine.

Adjust the rollers as follows.

1. Place a panel on the bed of the sander so that it is under both the in-feed and out-feed rollers.
2. Set the bed of the sander vertically so that one of the pressure rollers just touches the panel.



**Pressure roller adjusting screws**

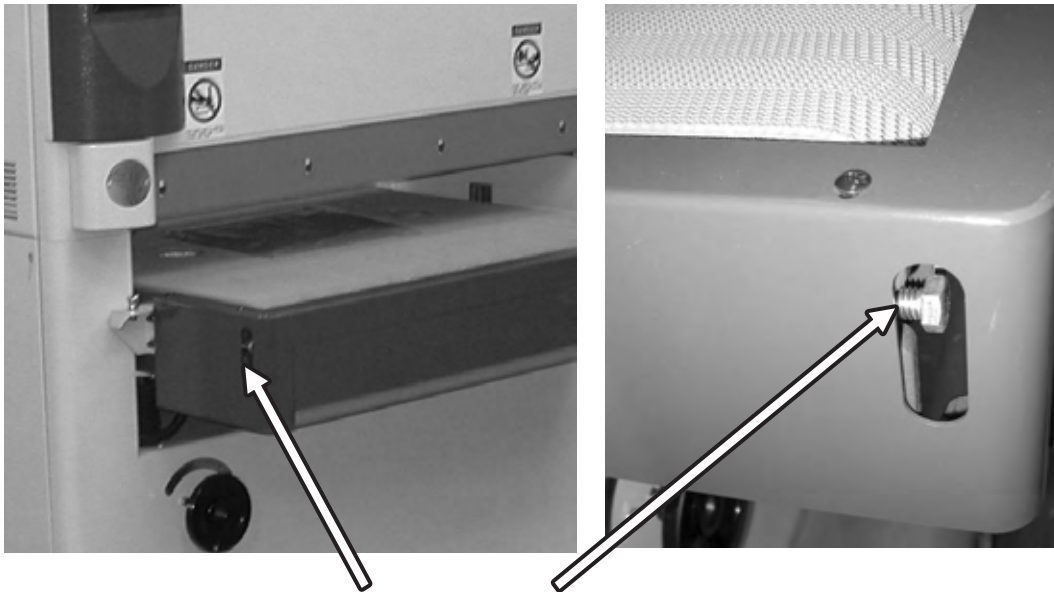
3. Loosen the lock nuts and adjust the pressure rollers so that they are both just touching the panel. This must be completed at the extremities of the rollers to ensure that they are parallel.
4. With the rollers parallel, adjust the rollers to the required setting and lock the lock nuts.

**Note.** When adjusting the height of the pressure rollers, after ensuring that they are parallel, adjust each screw the same amount or the rollers will not be parallel.

**Note.** Adjusting the pressure rollers must be done with the sanding belt stationary.

**Note.** The amount of pressure that you set the pressure rollers to exert on the job will vary depending on such variables as the depth of cut, hardness of the wood and other factors. Experimentation will be required to achieve the correct setting. It is suggested that setting the pressure rollers to 0.020" to 0.030" is a good starting point. Never set the pressure rollers level or higher than the sanding rollers, as this may result in injury.

### **Adjusting the conveyor belt**



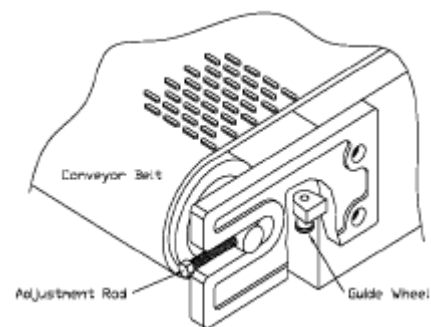
**Conveyor belt adjusting bolt**

The conveyor belt comes factory set but may need to be adjusted at some time.

The conveyor belt must run centrally on the rollers and must be tensioned to prevent slippage. If the belt is not running centrally, check that the tension is correct before adjusting the tracking. Adjust as follows.

### **Conveyor tracking adjustment**

1. You may find it easier to remove the steel cover to expose the two guide wheels. To achieve this, remove the fixing screws.



2. Turn the conveyor on.
3. If the conveyor is running to the right, turn the right-hand adjusting screw clockwise. Only make very small adjustments and wait for the conveyor to settle before making additional adjustments. It is better to take your time and not rush the adjustments.
4. If the conveyor is running to the left, turn the left-hand adjusting screw clockwise.
5. Once the conveyor is running centrally, stop the conveyor and replace the steel cover.

### Conveyor tensioning

To increase the tension on the conveyor belt, turn the adjusting bolts clockwise. To reduce the tension on the conveyor belt, turn the adjusting bolts counter-clockwise.

**Note.** Adjust both adjusting bolts exactly the same amount, or the tracking will be affected.

### Motor drive belt adjustment



Lock nut

Break

Sanding head drive motor



Adjusting nut

Lock nut

Conveyor vertical drive motor

### Sanding head drive motor belt adjustment

The sanding head drive motor has a break that is activated when the power is removed from the motor. The break is air activated and should not need any regular servicing.

The drive belts will need to be adjusted from time to time. To adjust, loosen the lock nut and turn the adjusting nut (under bracket) until the correct tension is achieved. Do not forget to re-tighten the lock nut after the adjusting has been completed.

**Note.** Never access the motor with the power connected to the sander.

## **Conveyor vertical adjustment motor adjustment**

The drive belts will need to be adjusted from time to time. To adjust, loosen the lock nut and turn the adjusting nut (on top of bracket) until the correct tension is achieved. Do not forget to re-tighten the lock nut after the adjusting has been completed.

**Note.** Never access the motor with the power connected to the sander.

## **Motor brake**

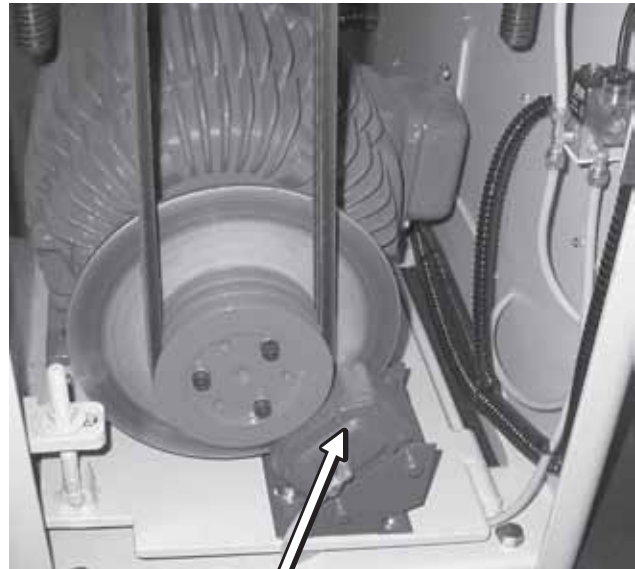
The break pads will wear out after an extended period of use.

Replace the disc pads as follows.

**Note.** Remove the power to the machine prior to conducting any maintenance or repairs.

**Note.** Disconnect the air supply prior to break pad replacement.

1. Remove the access panel to expose the sanding drum motor.
2. Check the thickness of the disc pads. The pad is constructed from a metal backing plate and breaking material. The breaking material must be a minimum of 1/8" thick. If either of the pads is thinner than 1/8", both pads must be replaced.
3. Remove the nuts from the two mounting bolts and the two snap rings on the pins behind the bracket.
4. Pull the pins out.
5. Remove the air line and remove the caliper.
6. Disassemble the caliper and remove the disc pads.
7. Clean and degrease the disc. Check the disc for cracks and general wear. If the disc is damaged or worn excessively, have it resurfaced prior to fitting the new break pads.
8. Assemble the new pads and reassemble the caliper to the sander. Ensure that the air is reconnected to the caliper.
9. Test the breaking system by pressing the emergency stop button; the sanding drum must stop rotating quickly and smoothly.



**Brake caliper**



# Troubleshooting

<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
Display fails to come on.	Breaker tripped.	Reset breaker.
	Power switched off.	Switch power on.
	Display faulty.	Replace display.
Display shows incorrect figures.	Incorrect figures input into computer.	Input correct figures.
	Computer corrupted.	Turn power off then on.
	Display faulty.	Replace display.
Sanding belt clogs.	Sanding grit too fine.	Change the belt to a coarser grit.
	Depth of cut too big.	Reduce depth of cut.
	Oil or dirt on sanding surface.	Clean wood or discard.
	Poor dust collection.	Check for dust collection blockage.
Sanding belt slows down during a cut.	Feeding the wood too fast.	Slow down the feed rate.
	Dull sanding belt.	Replace the sanding belt.
	Low voltage.	Check the incoming voltage to the machine.
	Excessive depth of cut.	Reduce depth of cut.
Glazed sanding belt.	Stock is wet.	Dry the stock or replace stock with dry stock.
	High resin content of stock.	Replace stock with low-resin stock.
Grit comes off the sanding belt easily.	Poor quality sanding belt.	Replace sanding belt with good-quality sanding belt.
	Sanding belt stored in an incorrect environment (damp).	Discard belt.
	Sanding belt creased or folded.	Discard sanding belt.
Sanding belt breaks.	Belt assembled to machine with arrows in the wrong direction.	Replace belt.

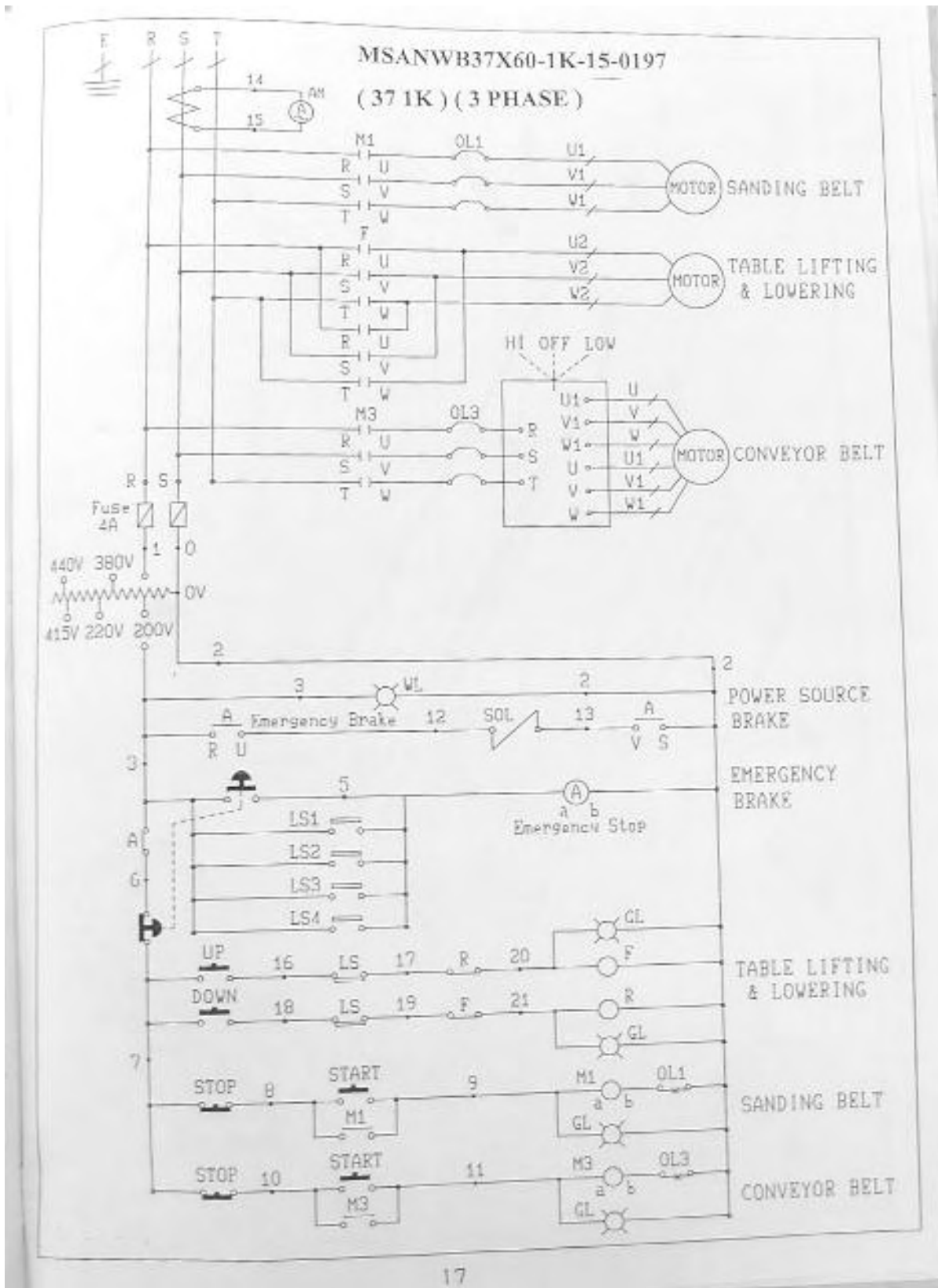
Burn marks on the job.	Sanding belt is too fine for the job.	Replace the sanding belt with coarser grit sanding belt.
	Sanding belt clogged.	Clean belt with belt cleaning stick or replace the sanding belt.
Deep sanding marks or grooves in job.	Sanding belt too coarse.	Replace sanding belt with finer grit.
	Clogged sanding belt.	Clean or replace sanding belt.
Job has rounded start and/or finish edges.	Excessive depth of cut.	Reduce depth of cut.
Sanded job not parallel.	Table not parallel to sanding head.	Adjust the table to sanding head.
Job dented or scratched.	Dirty pressure rollers.	Clean pressure rollers.
Job has glazed marks or scratches snaking along the job.	Glazed sanding belt.	Clean or replace sanding belt.
Poor sanding results.	Worn sanding belt.	Replace sanding belt.
	Clogged sanding belt.	Clean sanding belt and check dust extraction for blockages.
Sander will not start.	No power supplied to machine.	Check that the electrical power cord is plugged into the power outlet.
		Check that the electrical supply is on (reset the breaker).
		With the power disconnected from the machine, check that the wiring to the plug is correct. Check that the rubber insulation is stripped enough and is not causing a bad connection. Check that all the screws are tight.
		Check the supply voltage is correct.

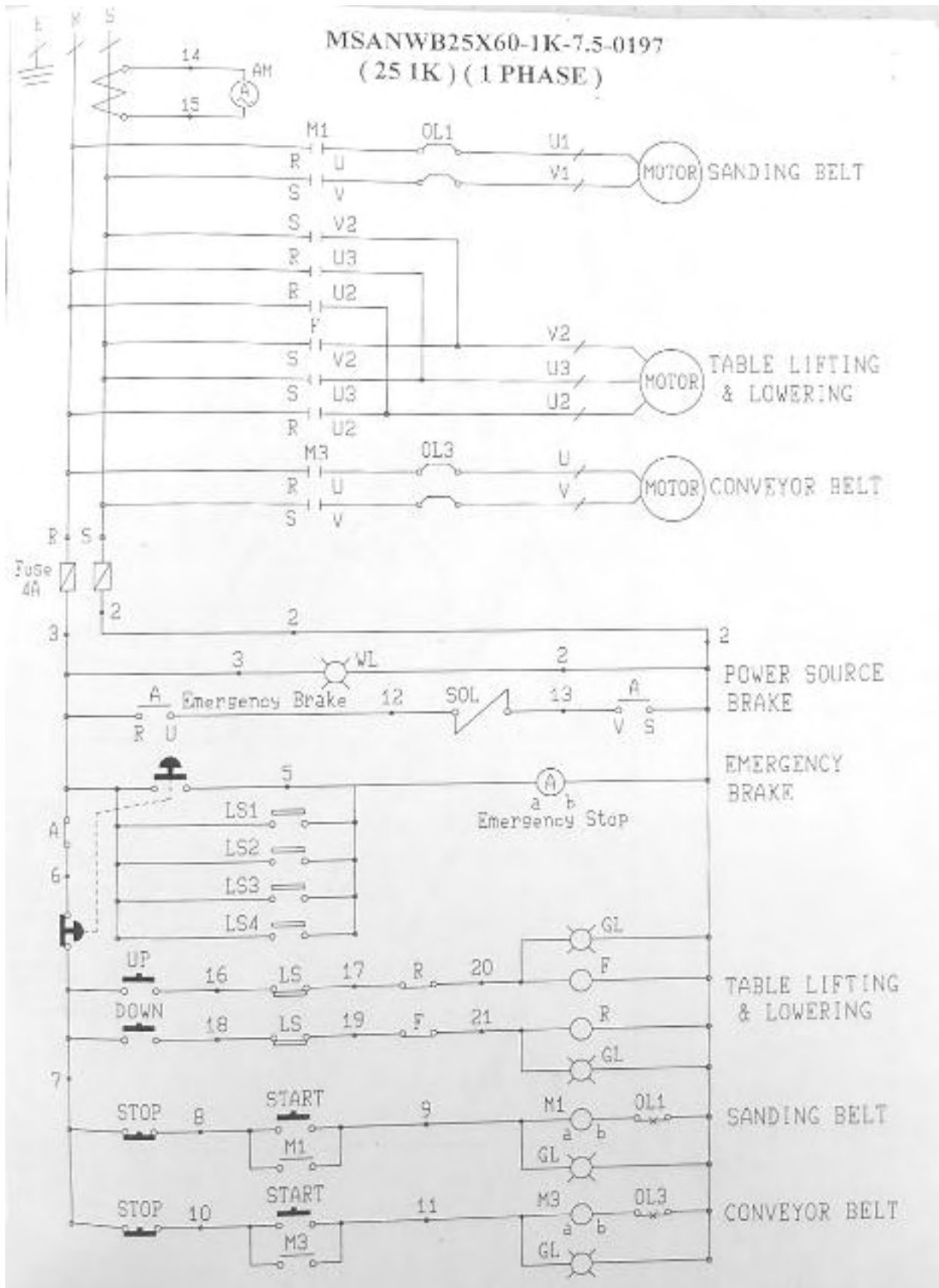
Sander will not stop.	This is a very rare occurrence, as the machine is designed to fail-safe. If it should occur and you cannot fix the fault, seek professional assistance. The machine must be disconnected from the power and never run until the fault has been rectified.	Switch faulty. Replace the switch.
Motor tries to start but will not turn.	Machine jammed.	With the power disconnected from the machine, try to turn the sanding belt by hand. If the sanding belt will not turn, check the reason for the jamming.
	Motor faulty.	Replace the motor.
	Motor break locked on.	Release break.
Motor overheats.	The motor is designed to run hot, but should it overheat, it has an internal thermal overload protector that will shut it down until the motor has cooled. It will then reset automatically. If the motor shuts down consistently, check for the reason.	Wait until motor has cooled and restart.
	Dull sanding belt.	Replace sanding belt.
	Motor cooling fins clogged.	Clean cooling fins.
	Over-feeding the job.	Slow feed rate.
	Excessive ambient temperature.	Cool area.
	Motor overloaded.	Reduce load on motor (reduce depth of cut or feed speed).
Squeaking noise.	Check the bearings.	Re-lubricate or replace bearing.

Machine vibrates.	Machine not level on the floor.	Re-level the machine, ensuring that it has no movement.
	Broken, damaged or defective sanding belt.	Replace the sanding belt.
	Loose fixing bolts.	Check all the fixing bolts and tighten if found loose.
Respective noise.	Damaged V belt(s).	Replace V belt(s).
	Motor fan hitting the cowl.	Tighten the fan or the cowl.
	Part loose.	Tighten loose part.
	Conveyor belt worn.	Replace conveyor belt.
Job slips when sanding.	Greasy or dirty conveyor belt.	Clean conveyor belt.
	Excessive depth of cut.	Reduce depth of cut.
	Conveyor belt worn.	Replace conveyor belt.
	Pressure roller not exerting correct pressure on job.	Adjust pressure rollers.
Conveyor belt not running in center.	Conveyor belt not tracked.	Adjust conveyor belt.
	Conveyor belt worn out.	Replace conveyor belt.
Conveyor belt slipping.	Incorrect pressure on conveyor belt.	Retention conveyor belt.
	Depth of cut too big.	Reduce depth of cut.
	Conveyor belt dirty.	Clean conveyor belt.
	Conveyor belt contaminated with sawdust.	Clean conveyor belt and check dust extraction for blockages.
Sanding belt hits ceramic switch.	Tracking out of adjustment.	Re-track the sanding belt.
Sanding belt will not track correctly.	Blocked tracking sensor.	Clear sensor blockage.
	Oscillation control valve not adjusted correctly (closed)	Adjust oscillation control valve.

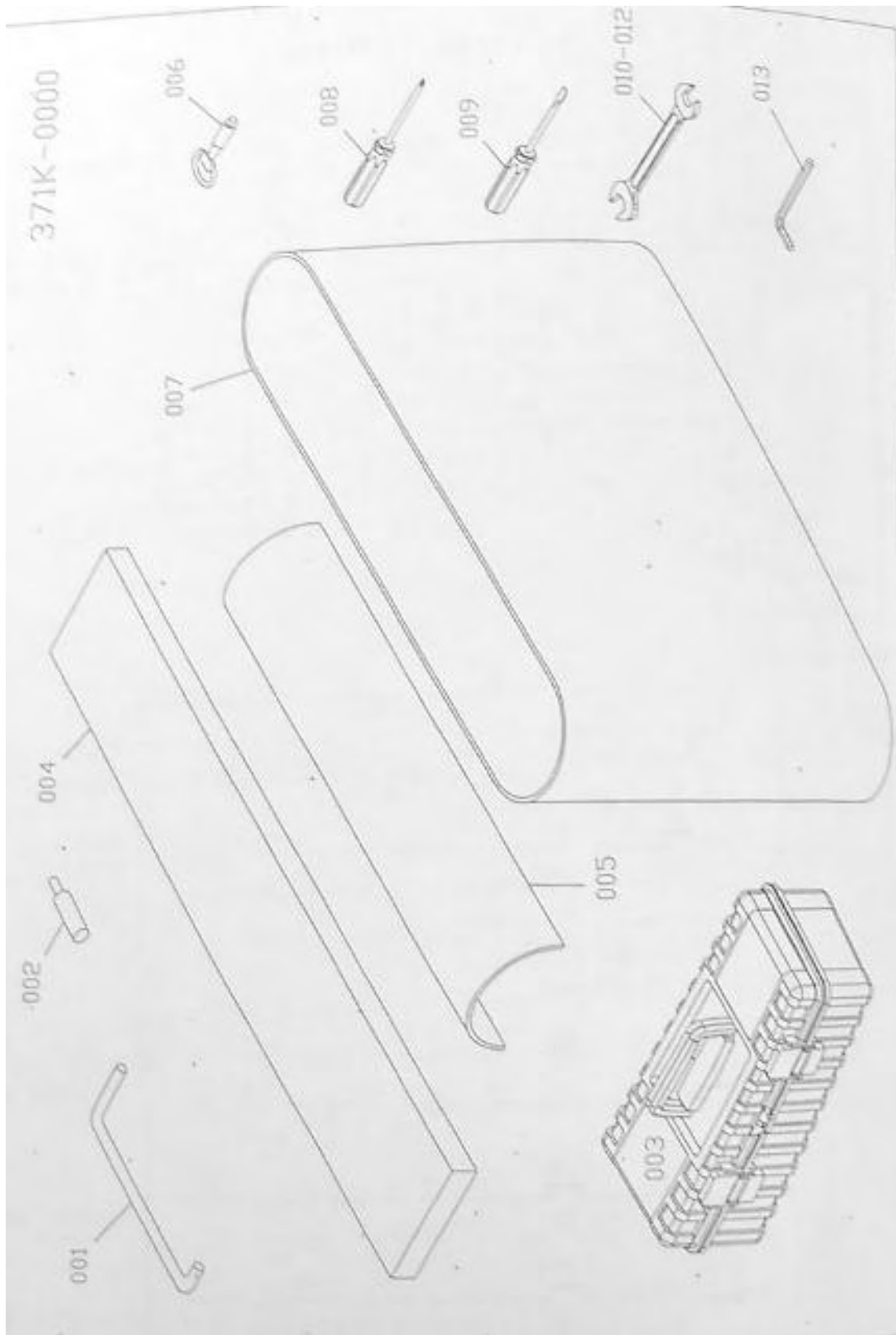
	Belt not centralized on top roller.	Adjust sanding belt adjuster.
Sanding belt slips on rollers.	Tension cylinder not exerting sufficient pressure.	Check for air leaks. Low air pressure.
Sanding belt will not start.	No tension on the sanding belt.	No air pressure.
	Limit switch engaged.	Adjust sanding belt.
	Emergency stop button engaged.	Reset emergency stop button.

# Electrical Drawing





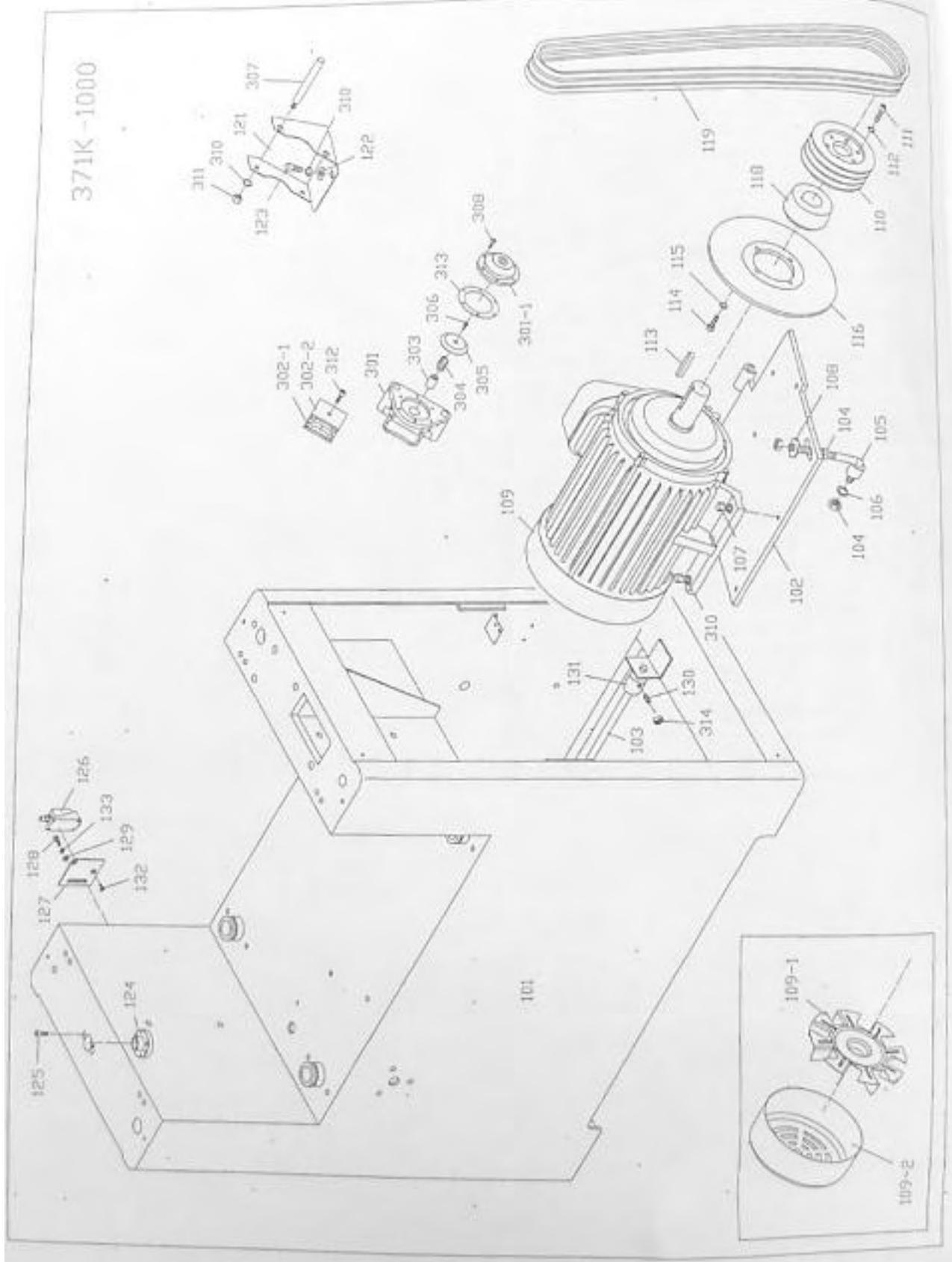
# Exploded View Drawings





0000	
ITEM NO	DESCRIPTION
001	GRAPHITE HOLDER
002	LIMIT SWITCH TUBE
003	TOOL BOX
004	FELT
005	GRAPHITE
006	KEY
007-1	SANDING BELT #100
007-2	SANDING BELT #180
008	PHILLIP'S SCREWDRIVER
009	FLAT SCREW DRIVER
010	WRENCH 8 X 10
011	WRENCH 12 X 14
012	WRENCH 17 X 19
013	HEX WRENCH

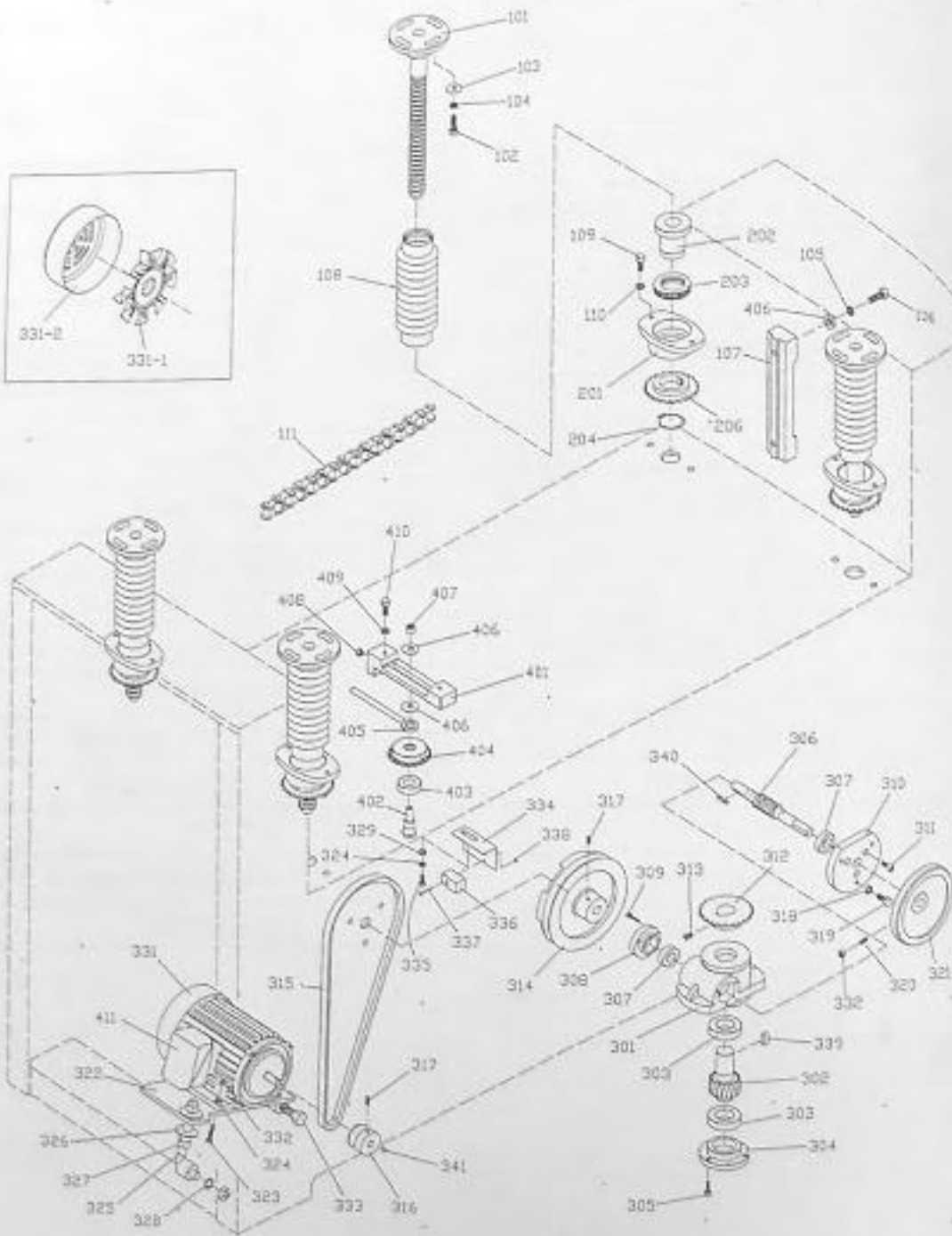
371K-1000



1000	
ITEM NO	DESCRIPTION
101	MACHINE FRAME
102	MOTOR BASE
103	MOTOR BASE HINGE
104	NUT 1/2"
105	MOTOR BASE ADJUSTMENT ROD
106	SPRING WASHER 1/2"
107	SCREW
108	PLAIN WASHER 1/2"
109	MOTOR
109-1	FAN
109-2	FAN COVER
110	PULLEY
111	HEX SOCKET HEAD SCREW 5/16" X 1 1/4"
112	SPRING WASHER 5/16"
113	KEY
114	SCREW 5/16" X 1"
115	SPRING WASHER 5/16"
116	DISC BRAKE
118	PULLEY BUSHING
119	BELT
121	BRAKE BRACKET
122	PLAIN WASHER 3/8"
123	SCREW 3/8" X 3/4"
124	FLAT HEAD NUT
125	HEX SOCKET HEAD SCREW 1/4"X3/4"

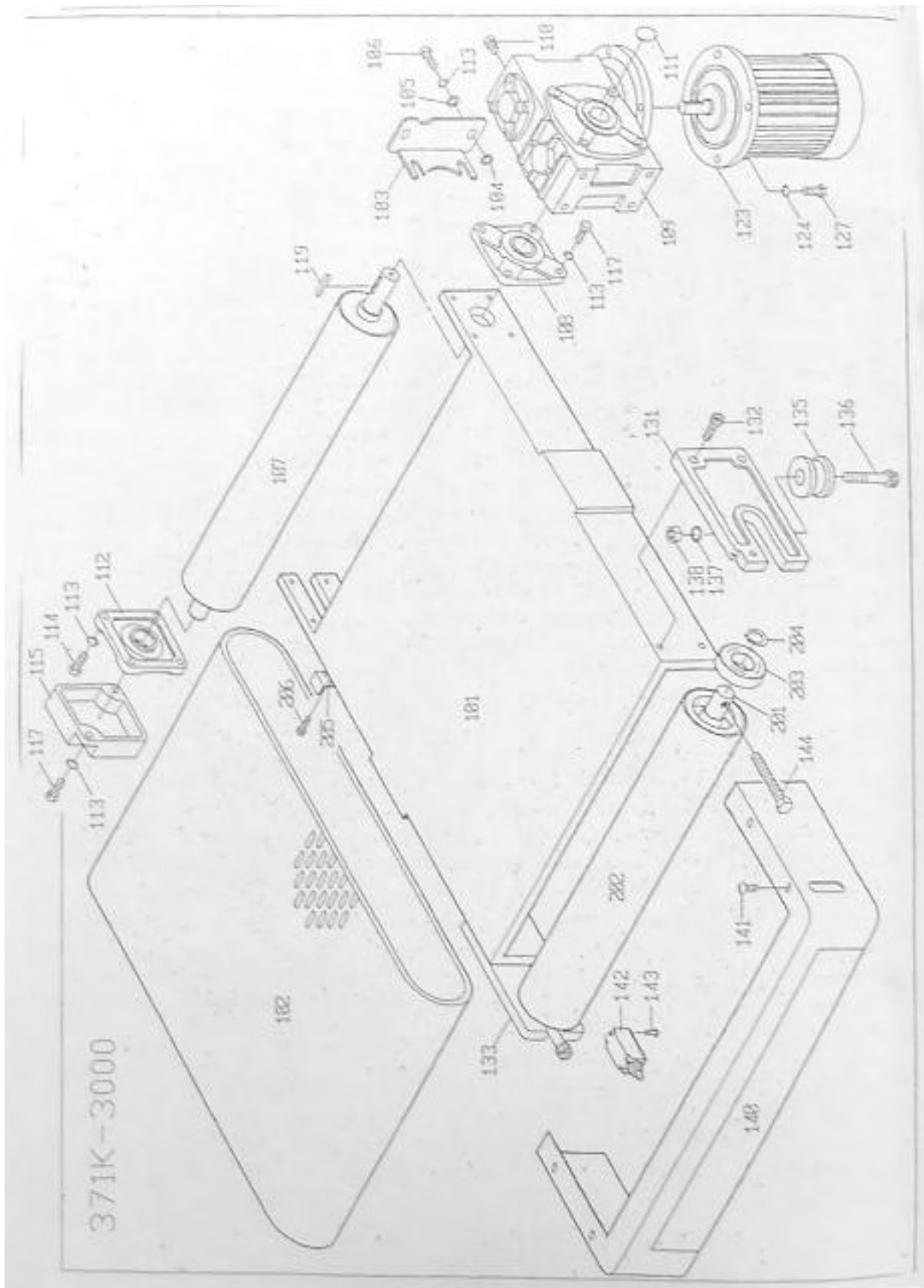
1000	
ITEM NO	DESCRIPTION
126	LIMIT SWITCH
127	LIMIT SWITCH PLATE
128	SCREW 1/4" X 1/2"
129	PLAIN WASHER 1/4"
132	FLAT HEAD SCREW
133	SPRING WASHER
301	BRAKE BRACKET
301-1	BRACK BRACKET FRONT GUARD
302-1	BRAKE LINING
302-2	BRAKE LINING
303	BRAKE ARBOR
304	BRAKE SPRING
305	BRAKE INSIDE PIECE
306	FLAT HEAD SCREW 1/4" X 1/2"
307	BRAKE PIN
308	HEX SOCKET HEAD SCREW
310	SPRING WASHER 3/8"
311	NUT 3/8"
312	HEX SOCKET HEAD SCREW 1/4" X 5/8"
313	BRAKE GASKET

371K-2000

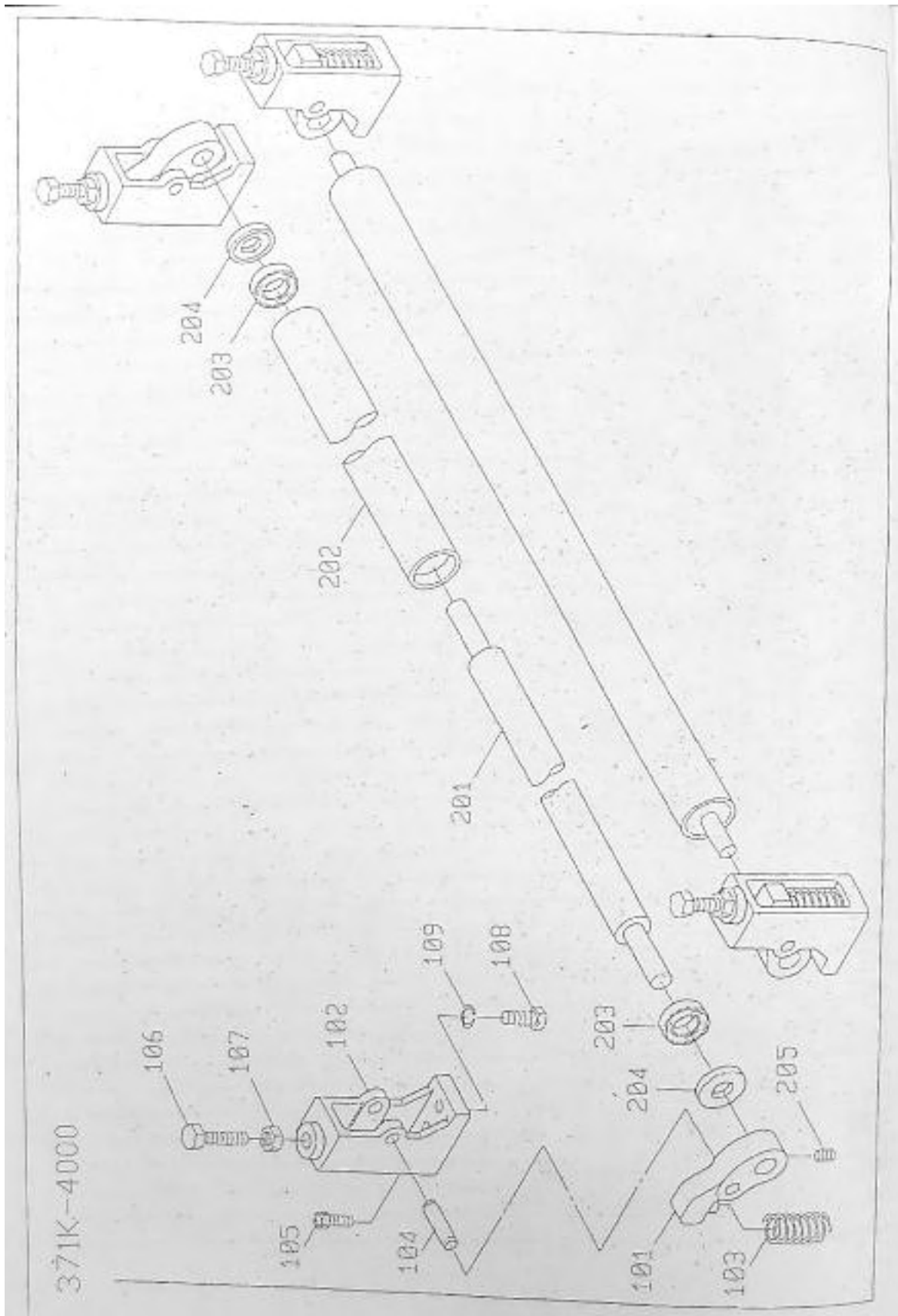


2000	
ITEM NO	DESCRIPTION
100	ELEVATION SCREW
102	SCREW 5/16" X 1"
103	PLAIN WASHER 5/16"
104	SPRING WASHER 5/16"
105	SPRING WASHER 3/8"
106	SCREW 3/8" X 1"
107	ELEVATION SLIDE
108	DUST GUARD BELLOW
109	SCREW 5/16" X 3/4"
110	SPRING WASHER 5/16"
111	CHAIN
201	NUT HOUSING
202	NUT
203	THRUST BEARING 51107
204	"C" CIRCLIP S 35
206	SPROCKET WHEEL
301	ELEVATION GEAR BOX
302	WORM GEAR
303	BEARING 6005Z
304	BEARING CAP
305	HEX SOCKET HEAD SCREW 1/4" X 3/4"
306	WORM SHAFT
307	BEARING 6002Z
308	BEARING CAP
309	HEX SOCKET HEAD SCREW
310	BEARING CAP
311	HEX SOCKET HEAD SCREW 1/4" X 5/8"
312	SPROCKET WHEEL
313	HEADLESS SCREW 5/16" X 1/2"
311	HEX SOCKET HEAD SCREW 1/4" X 5/8"
312	SPROCKET WHEEL
313	HEADLESS SCREW 5/16" X 1/2"
314	PULLEY
315	BELT
316	PULLEY

2000	
ITEM NO	DESCRIPTION
317	HEADLESS SCREW 1/4" X 1/2"
318	SPRING WASHER 5/16"
319	SCREW 5/16" X 3/4"
320	HEADLESS SCREW 1/4" X 1/2"
321	HAND WHEEL
322	MOTOR BASE
323	SCREW 1/4" X 1"
324	SPRING WASHER 1/4"
325	MOTOR BASE ADJUSTMENT ROD
326	PLAIN WASHER 1/2"
327	NUT 1/2"
328	SPRING WASHER 1/2"
331	MOTOR
332	NUT 1/4"
333	SCREW 1/2" X 4 1/2" LONG
334	PROXIMITY SWITCH FIXING PLATE
335	SCEW 1/4" X 1/2"
336	PROXIMITY SWITCH
337	ROUND PHILLIPS SCEW M3 X 35MM
338	NUT M3
339	KEY 5/16" X 20MM
340	KEY
341	KEY
401	SPROCKET WHEEL ADJUSTMENT PIECE
402	SPROCKET WHEEL SHAFT
403	BEARING 6003ZZ
404	ADJUSTMENT SPROCKET WHEEL
405	SPROCKET WHEEL ADJUSTMENT ROD
406	PLAIN WASHER 3/8"
407	NUT 3/8"
408	NUT 5/16"
409	SPRING WASHER 5/16"
410	SCREW 5/16" X 3/4"



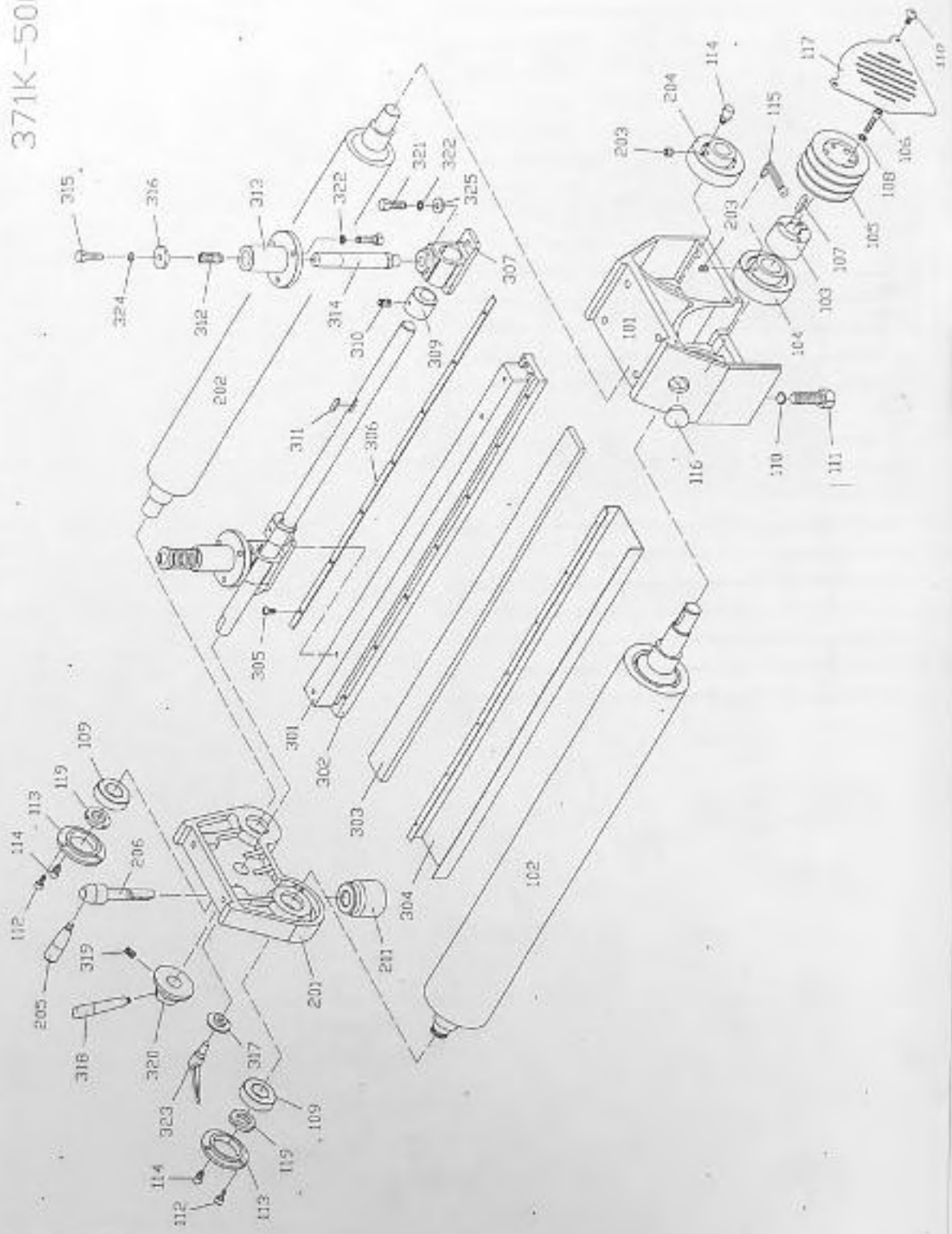




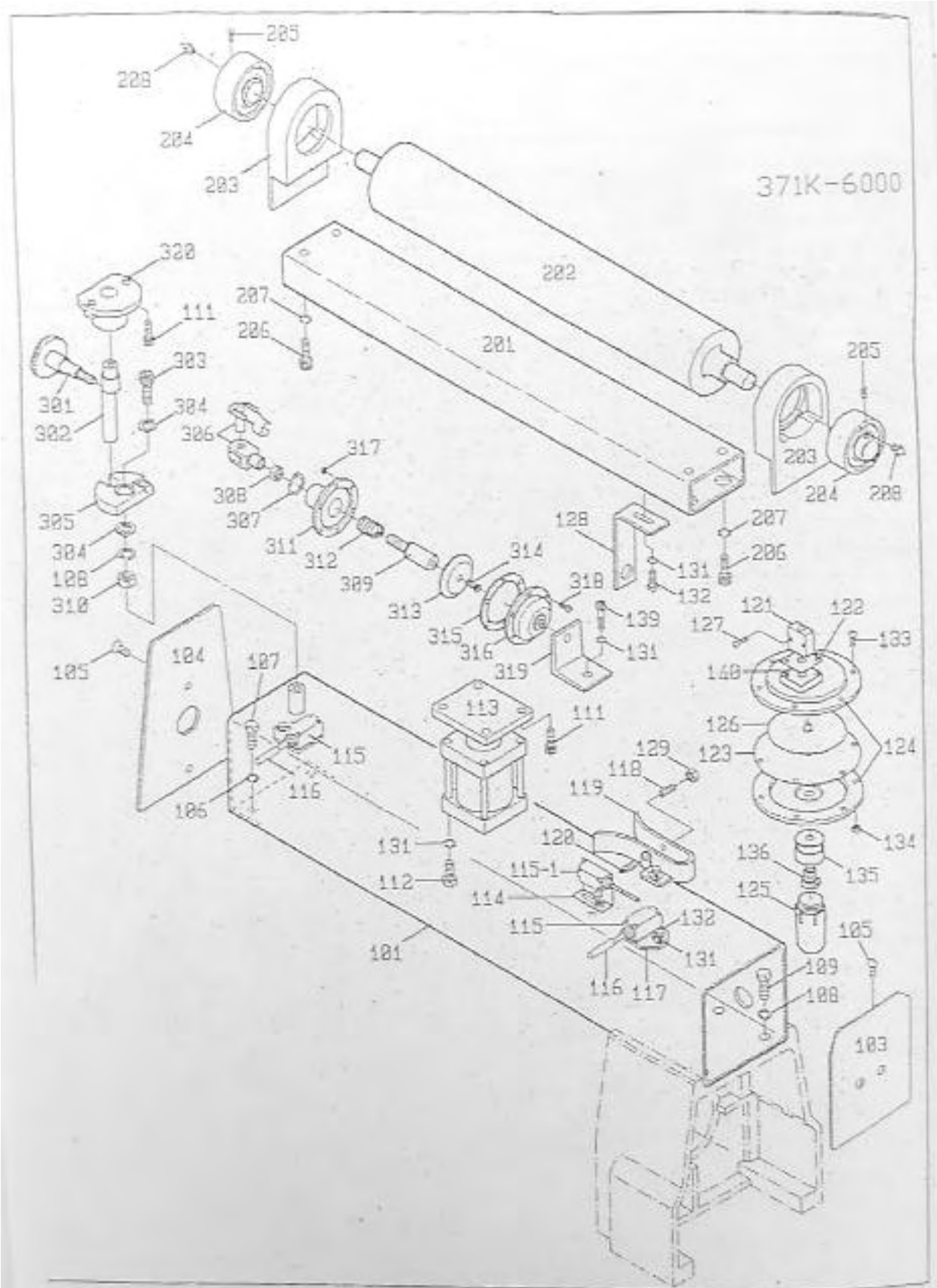


4000	
ITEM NO	DESCRIPTION
101	PISTON SLIDERAIL
102	PISTON BRACKET
103	SPRING
104	PIN 10M/M X 35M/M
105	HEADLESS SCREW 1/4"
106	SCREW 5/16"
107	NUT 5/16"
108	SCREW 5/16"
109	SPRING WASHER 5/16"
201	PISTON ROLLER SHAFT
202	PISTON ROLLER
203	BEARING 6001
204	SHAFT BEARING COLLER
205	HEADLESS SCREW 1/4"

371K-5000

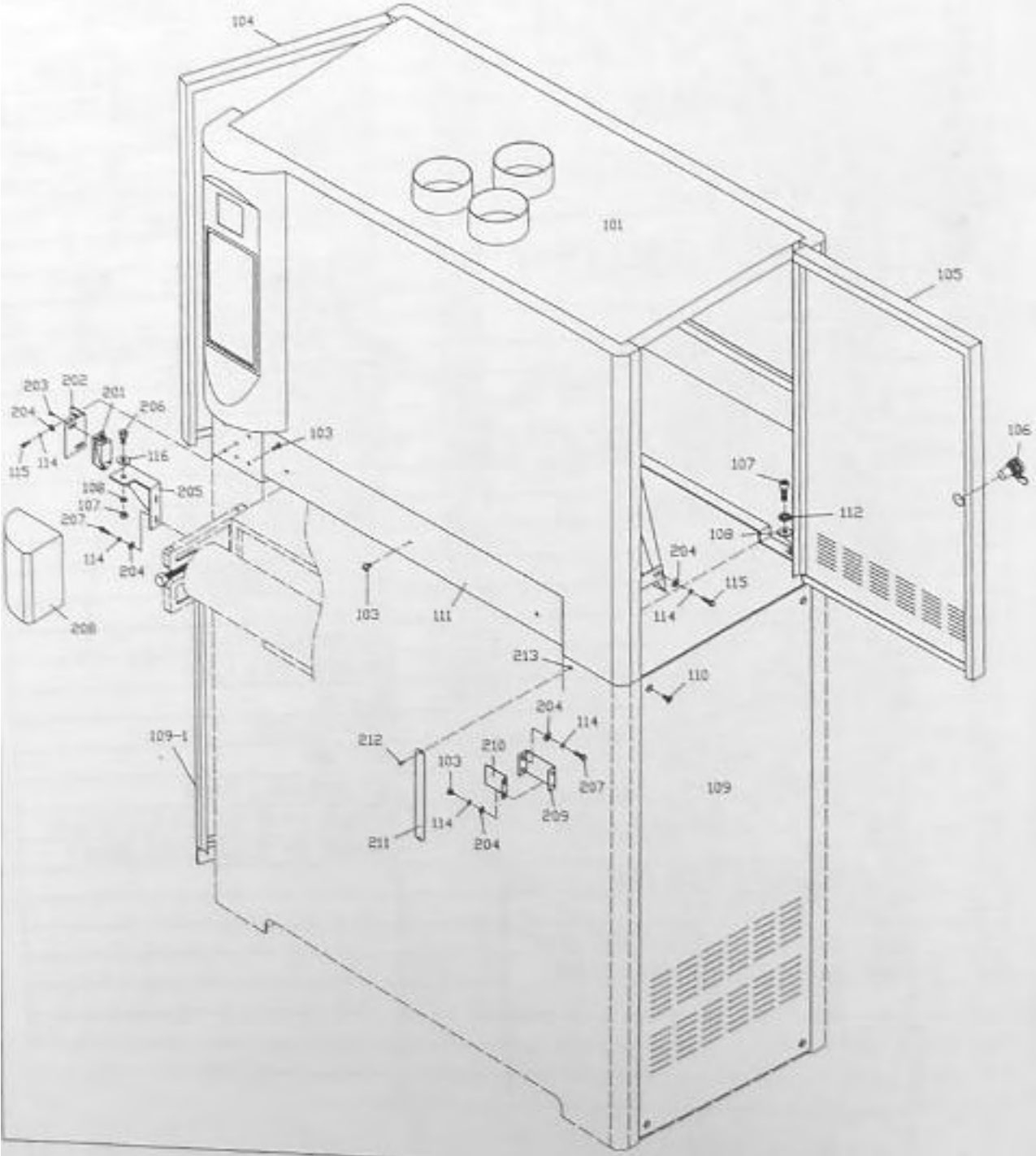




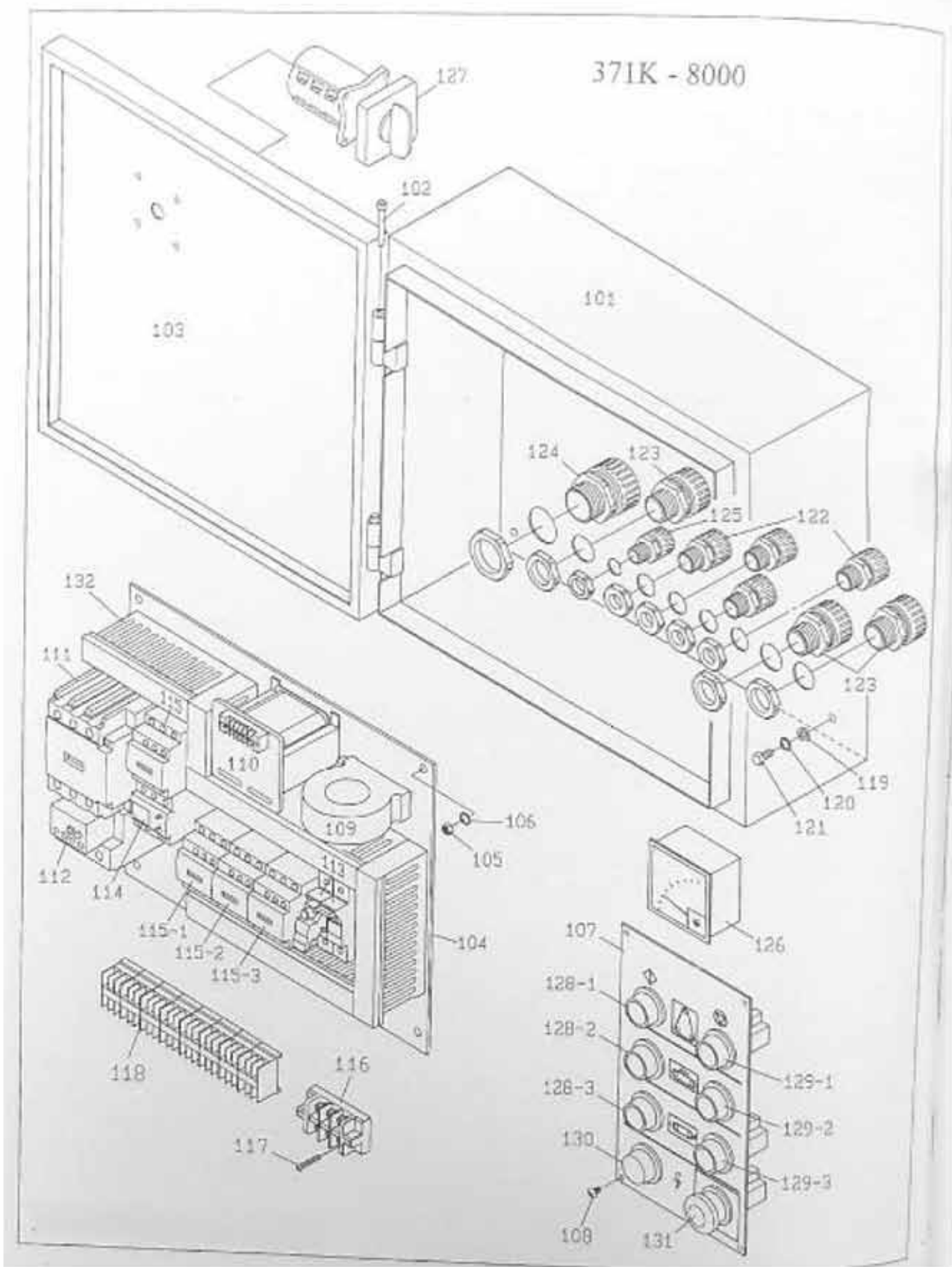


6000	
ITEM NO	DESCRIPTION
101	SQUARE FRAME
103	SQUARE FRAME SEAL (RIGHT)
104	SQUARE FRAME SEAL (LEFT)
105	FLAT HEAD SCREW 1/4" X 3/4"
106	SPRING WASHER 3/8"
107	SCREW 3/8" X 1"
108	SPRING WASHER 1/2"
109	SCREW 1/2" X 1"
111	HEX SOCKET HEAD SCREW 5/16" X 3/4"
112	SCREW M8 X 20MM
113	AIR CYLINDER
114	LIMIT SWITCH HOLDER (L TYPE)
115	LIMIT SWITCH
116	LIMIT SWITCH TUBE
117	LIMIT SWITCH HOLDER
118	AIR SENSOR NOZZLE (FEMALE)
119	AIR CYLINDER BRACKET
120	AIR SENSOR NOZZLE (MALE)
121	THROTTLE VALVE
122	THROTTLE VALVE BASE
123	PLATE
124	ALUMINUM DISC
125	OIL CAP
126	ALUMINUM PLATE
127	SCREW M4 X 20MM
128	SANDING BELT POWER OFF PLATE
129	NUT 3/8" (FINE THREAD)
131	SPRING WASHER 5/16"
132	SCREW 5/16" X 3/4"
133	SCREW 3/16" X 3/4"
134	NUT 3/16"
135	CONNECTOR OF OIL CAP
136	SHAFT OF OIL CAP
139	HEX SOCKET HEAD SCREW 5/16" X 2 1/2"

6000	
ITEM NO	DESCRIPTION
140	FLAT HEAD SCREW M5 X 12MM
201	UPPER ROLLER BRACKET
202	UPPER ROLLER
203	UPPER ROLLER BRACKET
204	BEARING UCC205
205	HEADLESS SCREW M6 X 6MM
206	HEX SOCKET HEAD SCREW 3/8" X 3/4"
207	SPRING WASHER 3/8"
208	FILTER
212	HEX SOCKET HEAD SCREW 3/8" X 3/4"
213	SPRING WASHING 3/8"
301	TRIMMING SCREW
302	ECCENTRIC ROD
303	HEX SOCKET HEAD SCREW 1/2" X 3 1/2"
304	PLAIN WASHER 1/2"
305	ECCENTRIC PIECE
306	UNIVERSAL JOINT FORK
307	"C" CIRCLIP S15
308	NUT M10
309	SHAFT OF AIR CYLINDER
310	NUT 1/2"
311	BOTTOM COVER
312	SPRING
313	ALUMINUM PLATE
314	SCREW M6 X 12MM
315	PLATE
316	TOP COVER
317	NUT M5
318	SCREW M5 X 15MM
319	FIRING BASE OF AIR CYLINDER
320	FRAME OF ECCENTRIC SHAFT

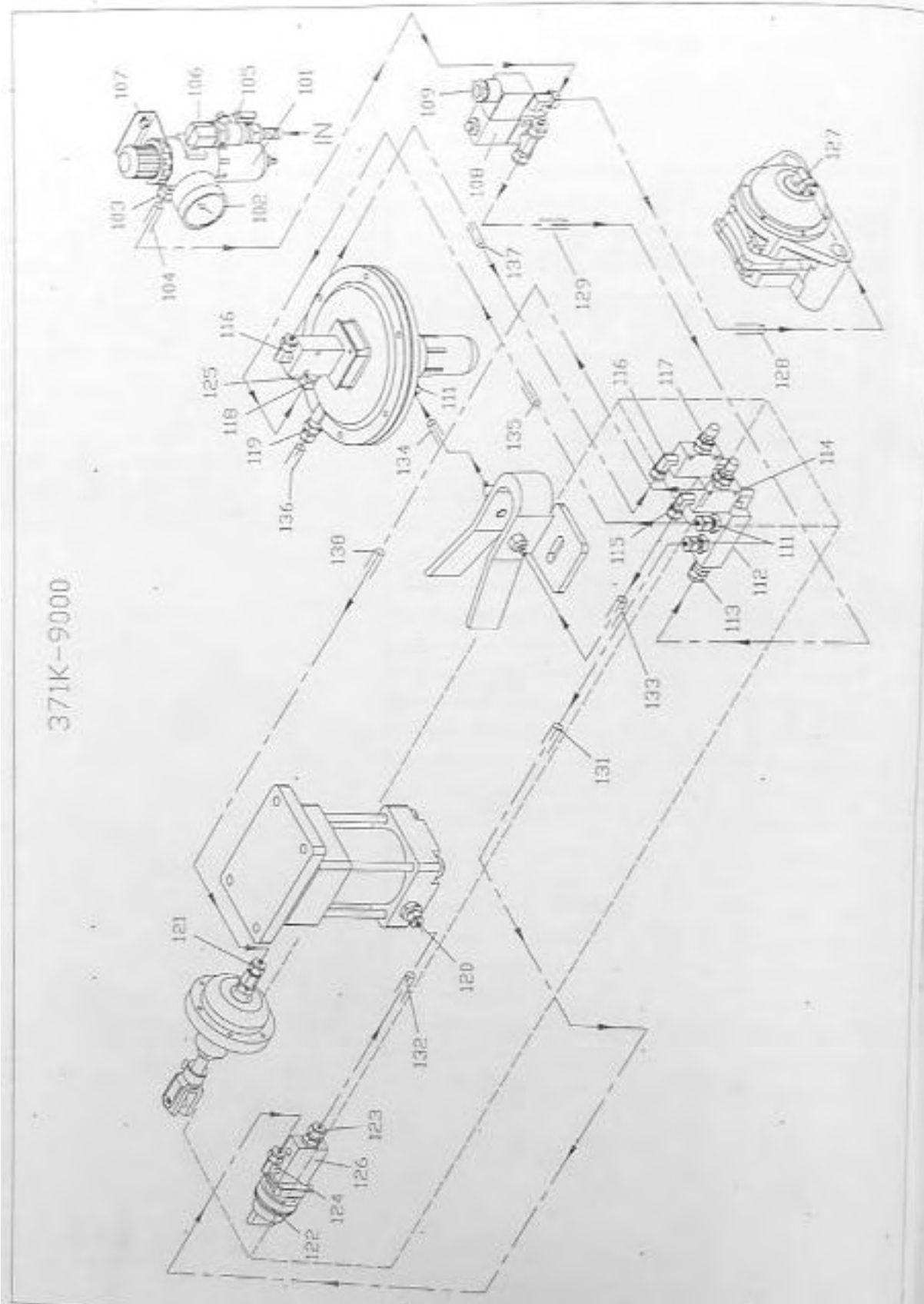


7000	
ITEM NO	DESCRIPTION
101	UPPER FRAME COVER
103	PHILLIP'S SCREW
104	LEFT DOOR, UPPER FRAME
105	RIGHT DOOR, UPPER FRAME
106	DOOR LOCK
107	SCREW
108	PLAIN WASHER 5/16"
109	RIGHT DOOR, LOWER FRAME
109-1	LEFT DOOR, LOWER FRAME
110	SCREW 1/4" X 1/2"
111	FRONT PROTECTION PLATE

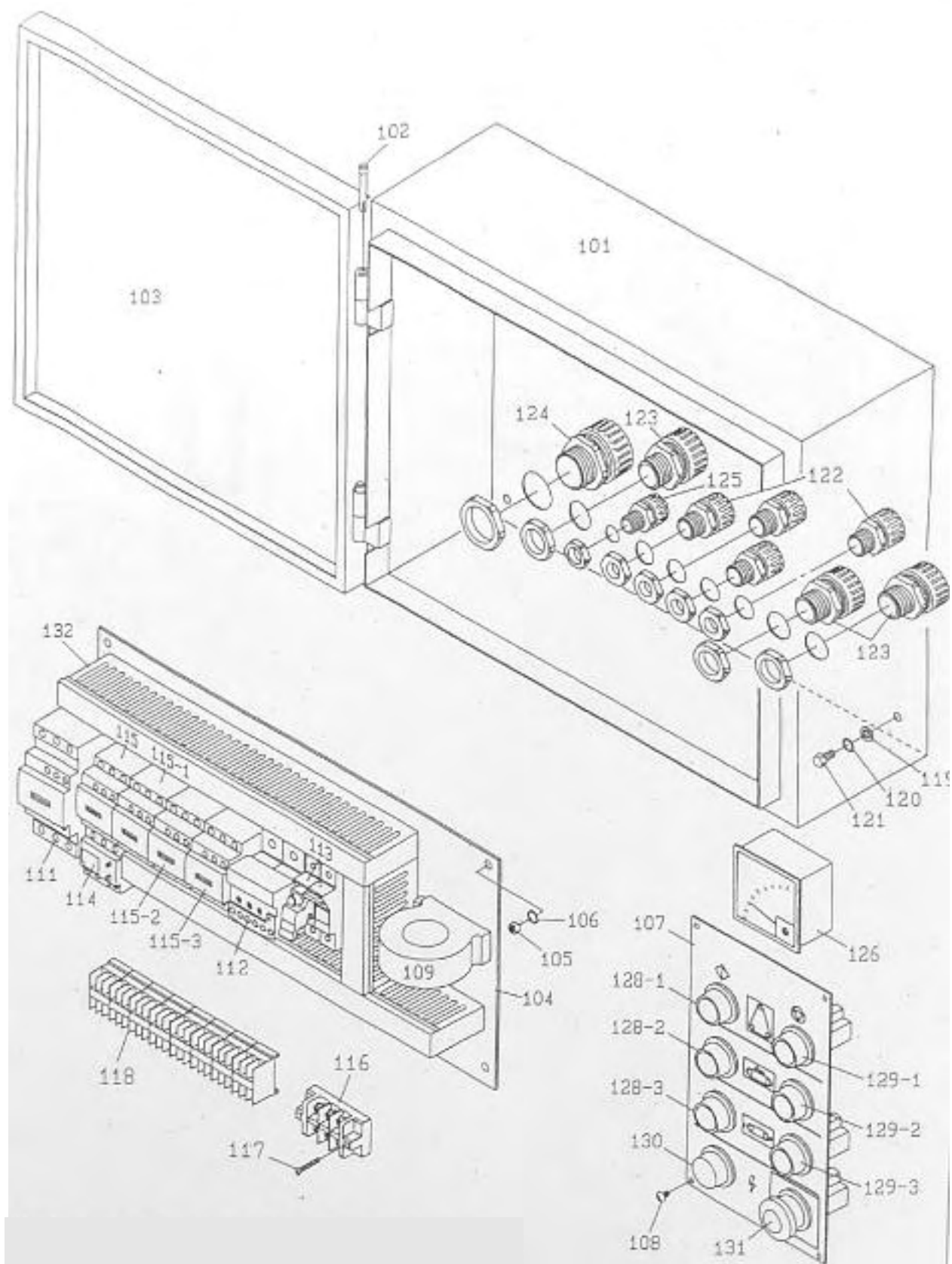














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