5360 25” Double Head Wide Belt Sander

Owner’s Manual

Oliver Machinery **M-5360 12/2017**

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Warranty

Oliver makes every effort possible to assure that its equipment meets the highest possible standards of quality and durability. All products sold by Oliver are warranted to the original customer to be free from defects for a period of 2 (two) years on all parts, excluding electronics and motors, which are warranted for 1 year. Oliver's obligation under this warranty shall be exclusively limited to repairing or replacing (at Oliver's option) products which are determined by Oliver to be defective upon delivery F.O.B. (return freight paid by customer) to Oliver, and on inspection by Oliver. This warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, unauthorized repairs, alterations, lack of maintenance, acts of nature, or items that would normally be consumed or require replacement due to normal wear. In no event shall Oliver be liable for death, personal or property injury, or damages arising from the use of its products.

Warning

Read this manual thoroughly before operating the machine. Oliver Machinery disclaims any liability for machines that have been altered or abused. Oliver Machinery reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

For More Information

Oliver Machinery is always adding new Industrial Woodworking products to the line. For complete, up-to-date product information, check with your local Oliver Machinery distributor, or visit www.olivermachinery.net

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GENERAL SAFETY RULES

READ THE MANUAL: Read,understand and follow the safety and operating instructions found in this manual. Know the limitations and hazards associated with the Wide Belt Sander.

WORK AREA: Keep the floor around the machine clean and free of scrap material, sawdust, oil or grease to minimize the danger of tripping or slipping, Mark off the machine area, make sure it is well lighted, and includes a proper exhaust system to minimize dust.

ELECTRICAL GROUNDING: Your machine must be electrically grounding. If a cord and plug are used,make sure lug connects to a suitable ground. Follow the grounding procedure indicated by the National Electrical Code. Keep power tools in dry areas free from moisture.

PROTECTION: Take every precaution to protect yourself, others around you, and the machine itself from improper use.

CARELESS ACTS: Give the work you are doing your complete, undivided attention. Horseplay, looking around,and talking to someone are careless acts that can result in serious injury. All children and visitors should be kept a saft distance from your work area.

CHECK DAMAGED PARTS: Before continuing use of the machine, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and safely and perform its intended function. Check for alignment of moving parts, binding of moving part, breakage of parts mounting and any other conditions that could effect its operation. A guard or other part that is damaged should be properly repaired or replaced before machine operation continues.

GENERAL SAFETY RULES

DO NOT OVER-REACH: Maintain a balanced distance and keep your body under control at all times. Do not over-reach or use excessive force to perform any machine operation.

EYES: Always wear approved safety goggles, glasses or a face shield when operating the sander. There are no exception to this rule.

DRESS CODES: This machine can cause injury by catching loose clothing, jewelry, hair and gloves. Do not wear anything loose such as clothing, neckties, jewelry or gloves that can get caught in moving parts. Confine long hair, avoid wearing rings and watches, and keep sleeves above the elbow while operating this machine.

HOUSEKEEPING: Before turning on machine,remove all extra equipment such as keys,wrenches,scrap and cleaning rags away from the sander. Keep the area around the machine clean and free of sawdust to minimize danger of slipping.

POWER ON: Before connecting power to the sander, make sure the start switch is in the "OFF" position.

POWER OFF: Make sure the sander is unplugged or electrically disconnected and locked out before performing maintenance,checking belts or service work.

STEP 4. AIR CIRCUIT CONNECTION

The air circuit connector is on the Filter/Regulator unit located on the back side of sander. Connect your air supply to the 5/16" air source connector with a flexible hose. The working pressure of the machine can be adjusted from the pressure regulator. Set the pressure by lifting the adjusment knob and rotate it clockwise to increase pressure, counter - clockwise to decrease pressure. When the correct pressure is set, push the knob down to lock it in place. **See Figure 2**. The recommeded working pressure is 4-5 kg/cm²

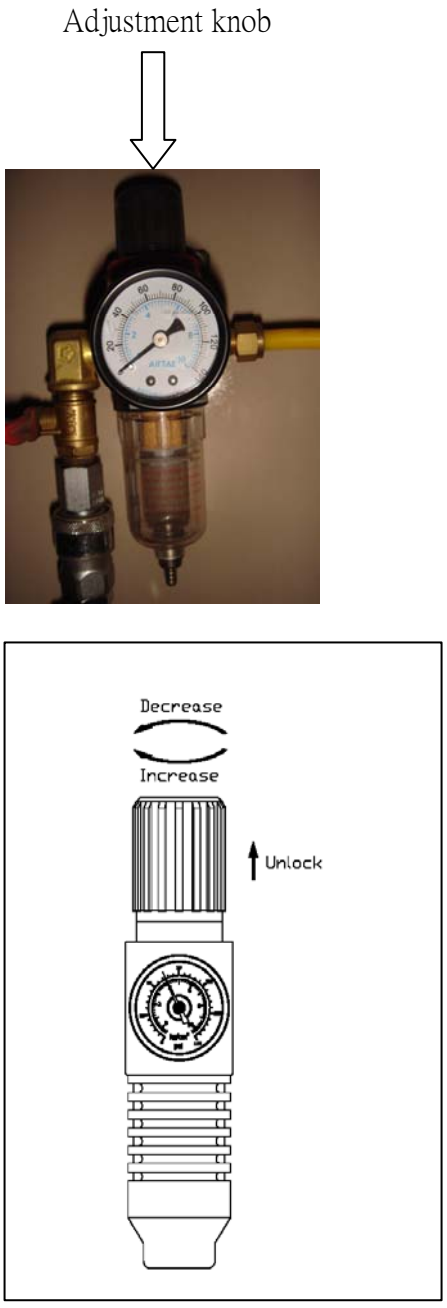


Figure 2

STEP 5. DUST HOOD CONNECTION

Connect your dust collection system to the machine 's dust hood (located on top) with a 4" diameter. Make sure the dust collector has sufficient capacity for the machine. **See Figure 3**

NOTICE:
ALWAYS TURN ON THE DUST COLLECTOR BEFORE OPERATING THE SANDER.

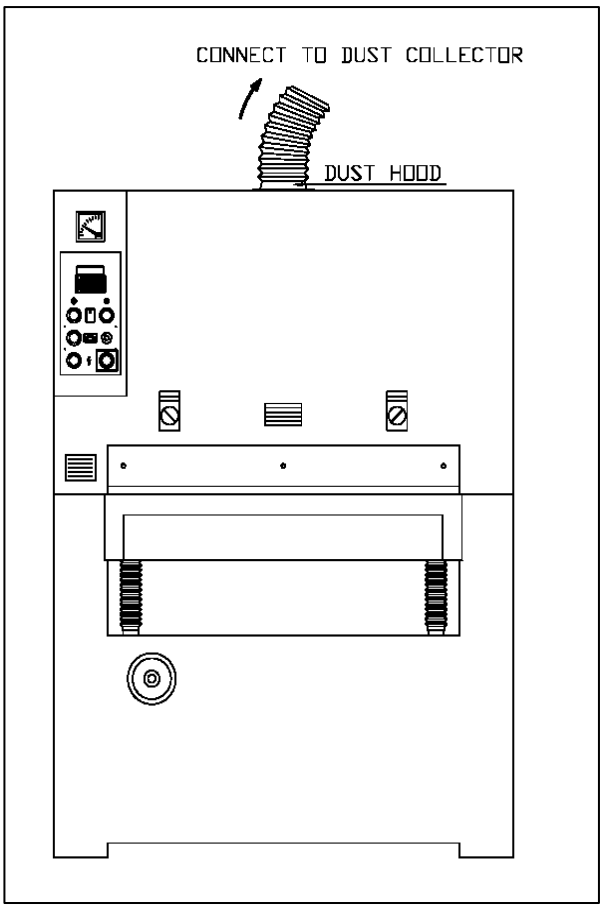


Figure 3

SPECIFIC SAFETY RULES

READ THE MANUAL:Do not operate the wide belt sander until you read,understand and are able to follow the safety instructions found in this manual. Know what the wide belt sander can safely do, and what it can not do. Safety rules and caution decals are placed on the machines as reminders of good safety practices.

HAND SAFETY: Keep hands clear while feeding parts onto the conveyor table. The part will be forced down as it begins to feed into the machine, causing a pinching action between the part and the table. Use caution ! Hands should be clear of the stock and the table to avoid pinching.

PROTECT YOURSELF: Protected yourself at all times when operating the wide belt sander.Avoid eye injury by wearing approved safety shields, goggles or glasses at all times. Wear protected footwear. Steel toed shoes are recommended because heavy parts can fall off the conveyor table onto feet.

KEEP GUARDS IN PLACE: Do not operate the sander with guards off. Keep the guards in place at all times when the machine is running. If removed for maintenance purposes or any other reason, use extreme caution and replace the guards upon completion of the task and before using the machine again. Injure can result from exposure to the machine's internal moving parts.

NEVER REACH : Never reach into a running machine. Turn off electrical power and stop machine before attempting to retrieve parts from within the machine. Contact with internal moving parts can result in loss or injury to fingers, hands and arms.

DO NOT LEAVE UNATTENDED: The operator of the sander is responsible for shutting the machine down when it is not in use. CAUTION: The abrasive belt will coast to a stop in normal conditions, and will only break to a stop when the emergency devices are pressed! IT IS DANGEROUS TO LEAVE A MACHINE.

SPECIFIC SAFETY RULES

UNATTENDED. Person not familiar with the sander's operation could injure themselves or others.
OPERATION POSITION: Stand to one side of the conveyor table and make sure no one else is standing in line with the table while feeding into the machine. The wide belts sander operates at a high speed and should a part slip it will exit the machine at a high rate of speed and may result in injuries to anyone standing directly in front of the infeed. (Keep conveyor belt clean and check pin-roll adjustments)

WORKING MATERIAL: Do not attempt to sand working piece shorter than 9" (289mm) long without butting a board of equal thickness behind it to help stock through the machine. Boards less than 9" long can not be held secure enough for safe operation of this machine.

MAINTAIN TOOLS: Keep all tools sharp and clean for the best and safest performance and follow instructions for lubricating and changing accessories. Never stand on the machine. Serious injury could occur if the sander is tipped or if the sanding belt is accidentally contacted.

DISCONNECT POWER: Make sure sander is unplugged before performing maintenance or adjustments.

IF YOU ARE NOT thoroughly familiar with the operation of wide belt sander obtain device from your supervisor or other qualified person.

DRUGS,ALCOHOL, MEDICATION: Do not operate tool while under the influence of drugs, alcohol or any medication.

WARNING: The dust generated by certain woods and wood products can be dangerous to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

BEFORE OPERATION

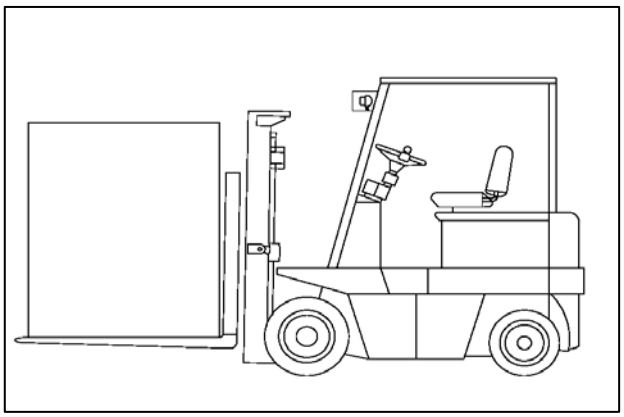
Before operating sander, make sure that :

1. Dust collection system is turned on.
2. Sanding belt specification is correct
3. Sanding belt is running in proper direction
4. Sanding belt tension is correct
5. All screws and handels are tightened securely.
6. Working air pressure is correct, normal working pressure is 4-5 kg/cm^2
   Do not operate sander until normal pressure is reached.
7. Sanding belt is tracking correctly
8. Conveyor belt is tracking correctly
9. Thickness is correctly set
10. Feed speed is correctly set

INSTALLATION-

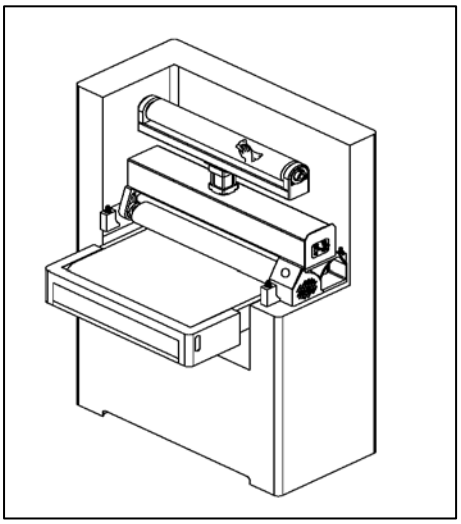
STEP 1. MOVING THE MACHINE

The machine should be moved to the work site with a fork lift. Make sure that the fork lift's loading capacity is adequate for the machine's weight. The forks must protrude from the far side of the machine bottom when moving. Pay careful attention to the machine balance while it is being moved, and make sure it does not strike the floor when being placed at the work site.



STEP 2. CLEANING THE MACHINE

Anti-corrosive oil is applied to the machine before shipment. After unpacking , using a cloth soaked in kerosene to clean the anti-corrosive oil from the machine. Do not use lacquer thinner or any volatile solvents, as they can damage the surface of the machine.

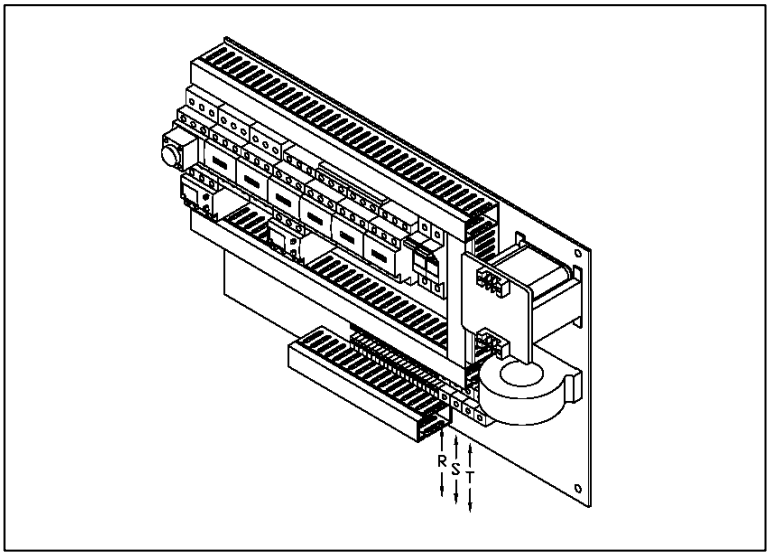


STEP 3. POWER WIRE CONNECTIONS

Before connecting the power wires of the machine to the power supply, make sure the voltage, hertz,phase and amperage are compatible. The prewired voltage of the machine is indicated on the electrical indication plate.
The power source connection points are located inside the control box and and are marked R.S.T. for 3-phase and R.S. for 1-phase. The ground wire connection point is marked "E". See Figure 1 .
Once the wiring is completed, turn the machine on, press the conveyor table raising switch and see if the table moves the same direction indicated on the switch, if it does not, turn the machine off and switch any two of the three power source wires.

WARNING !!

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



INSTALL SANDING BELT

1. Disconnect machine from power source
2. Shut "OFF" the air tension switch (C).
3. Remove the pad lock lever (D) by turning it counterclockwise.
4. Remove the pad block (E)
5. Remove the old belt by sliding it out the end

(See Figure 4)

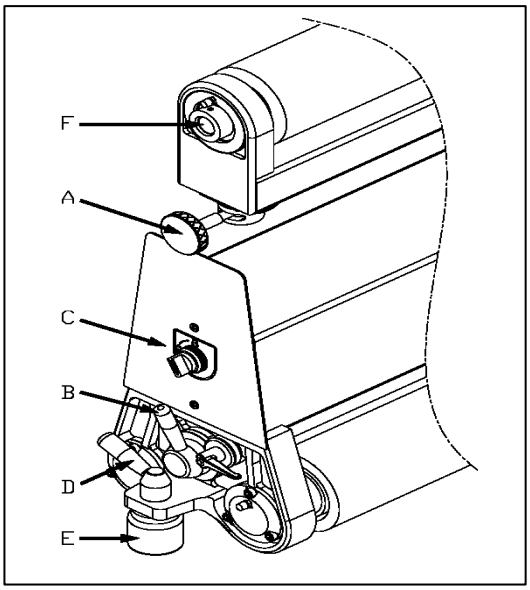


Figure 4 - PLATEN TYPE

INSTALL SANDING BELT

6. Insert new belt by starting first on the upper roller (F), then the lower roller. Center the belt while avoiding contact with limit switch fingers that are located on each side of the belt.

NOTICE !!

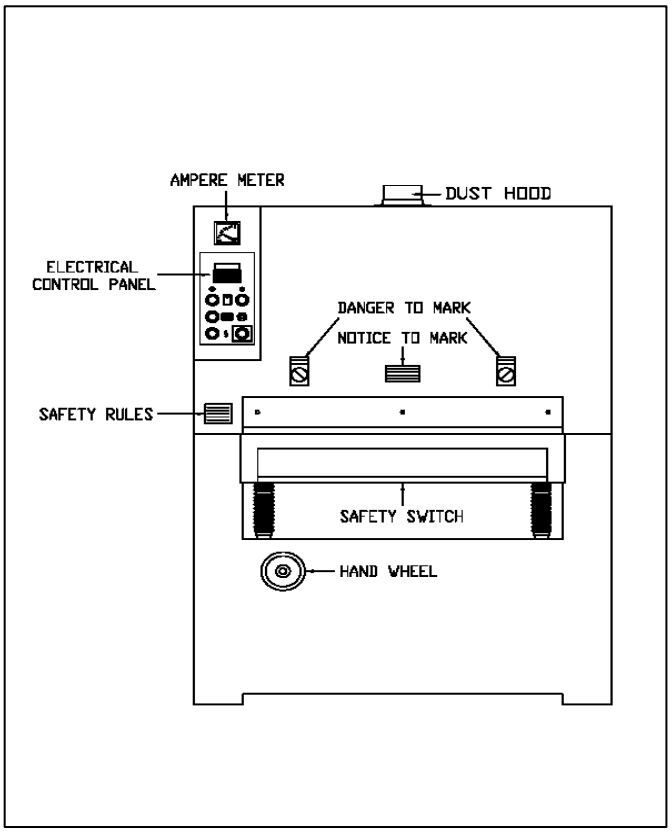
Make sure the direction of the arrows on the inside of the belt matches the rotation of the machine. Check that the edges of the sanding belt are not chipped or torn.

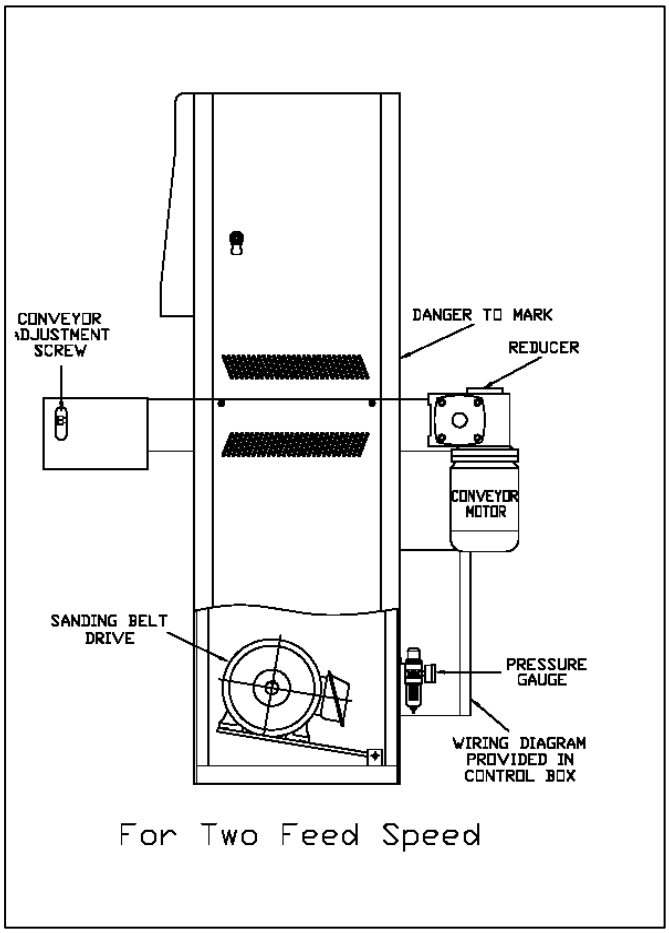
7. Replace pad block (E) and tighten pad lock lever (D).
8. Turn "ON" the air tension switch (C)
9. Make sure there is clearance between the belt edges andlimit switch fingers on either side. If there is not, make the appropriate belt corrections according to the procedure above (with the air tension turned off) as necessary.

NOTICE !!

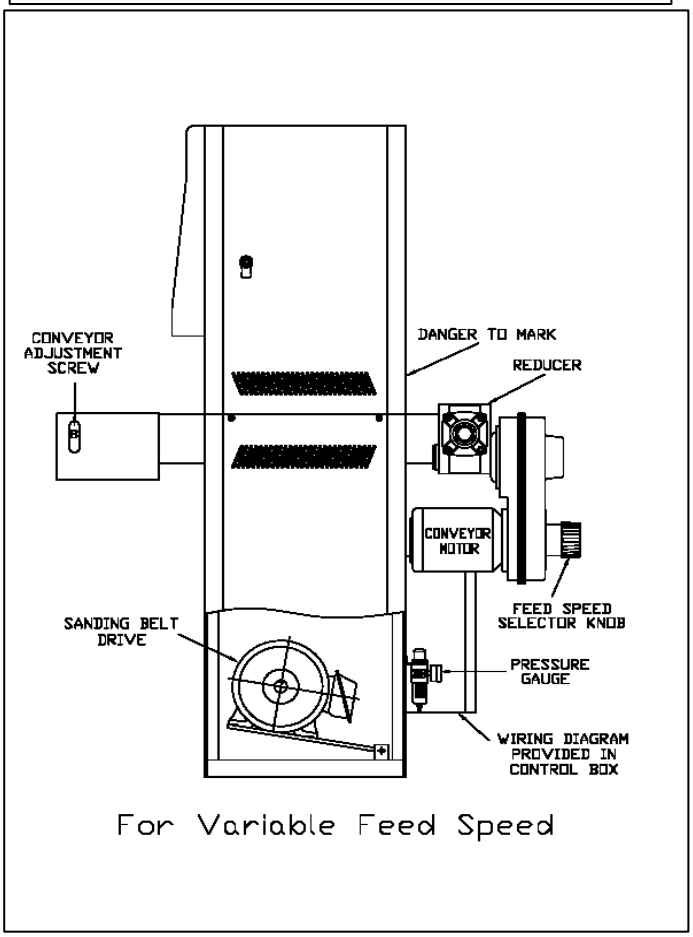
Machine will not start if a limit switch is depressed.

MAJOR PARTS OF THE MACHINE --





For Two Feed Speed



For Variable Feed Speed

BRAKE SYSTEM

The sander will stop automatically if any of the follow occur -

1. No air supply to the machine
2. No sanding belt mounted
3. Inproper belt tension
4. Sanding belt runs out of track
5. If the sanding belt breaks, all movement will be stopped, through the conveyor table can still be raised or lowered.
6. Once the machine has stopped, the operator should find where the braking sustem was tripped, and make the necessary adjustments. The machine can then be reset and restarted.

See Figure 5. for the location of limit switches.

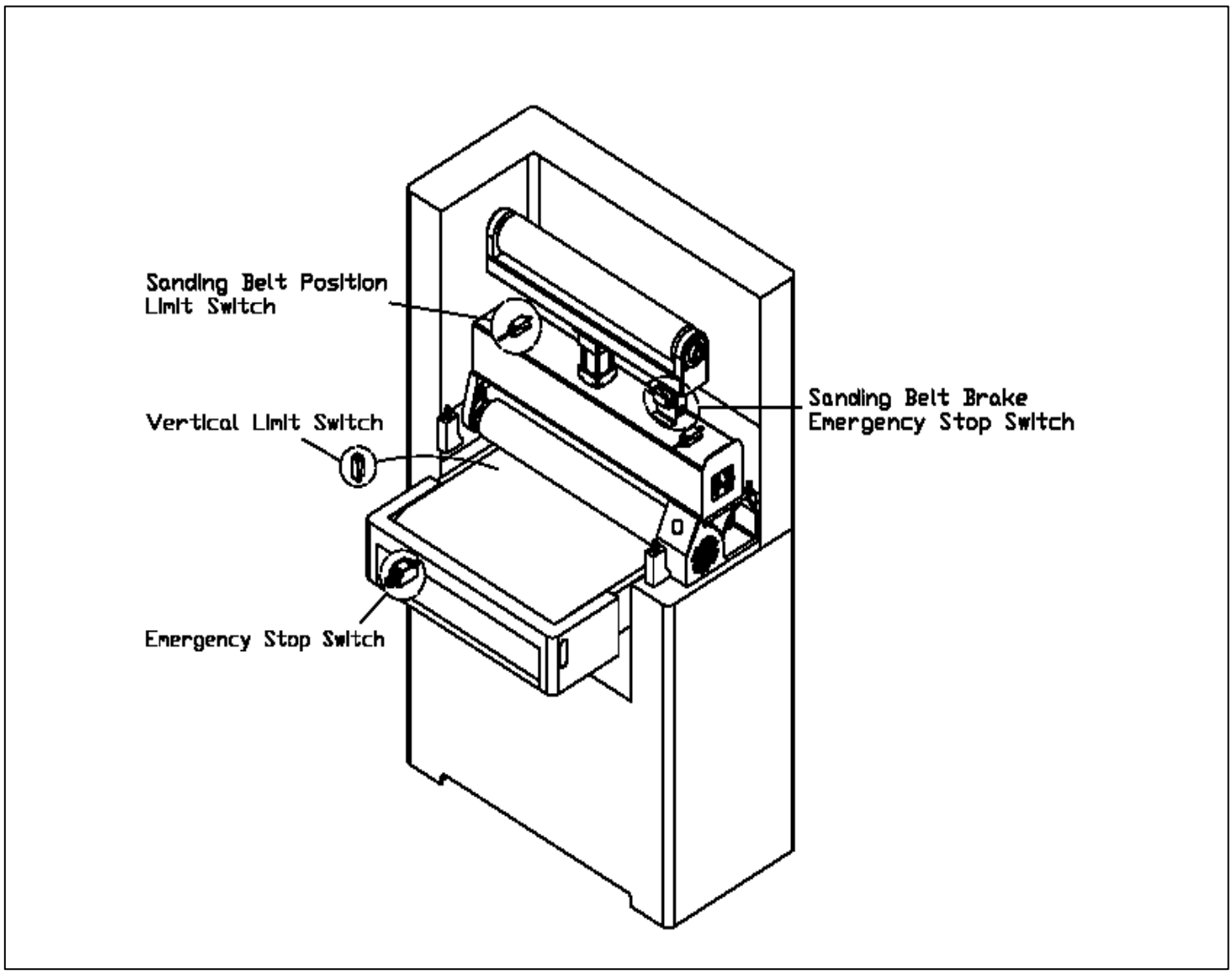


Figure 5

CONTROL PANEL FEATURES

Figure 6

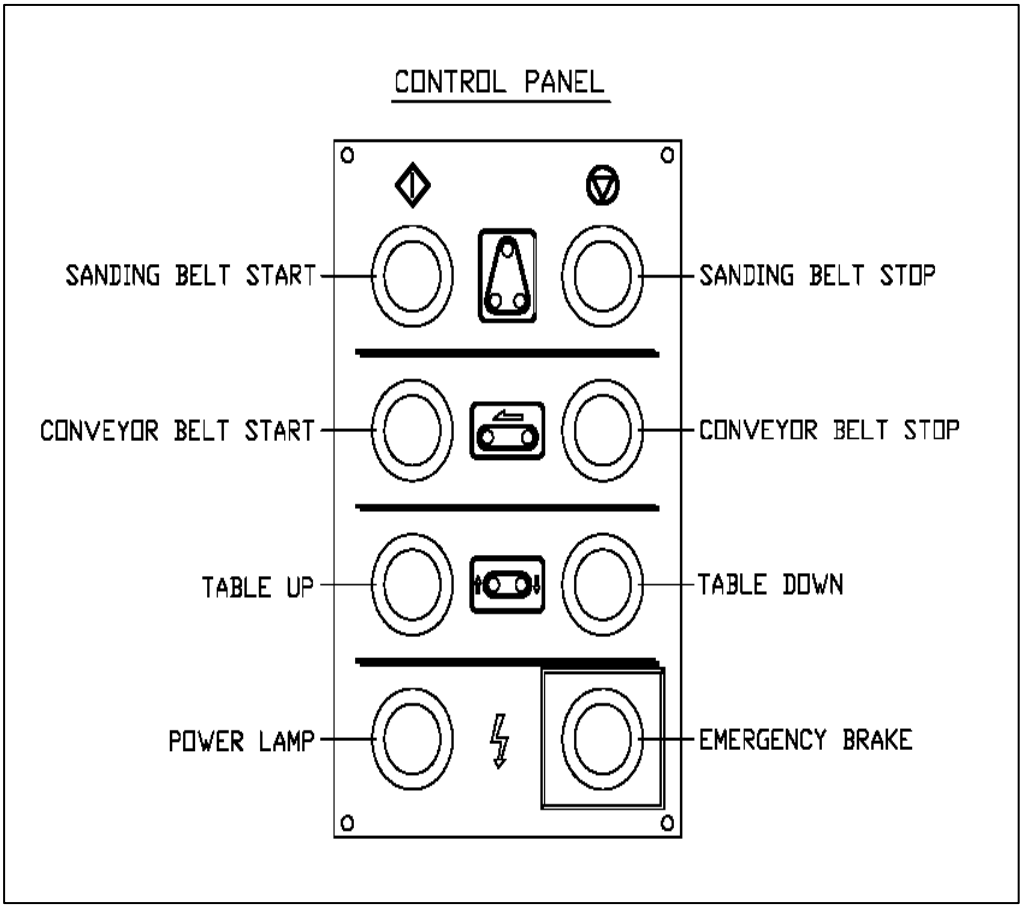
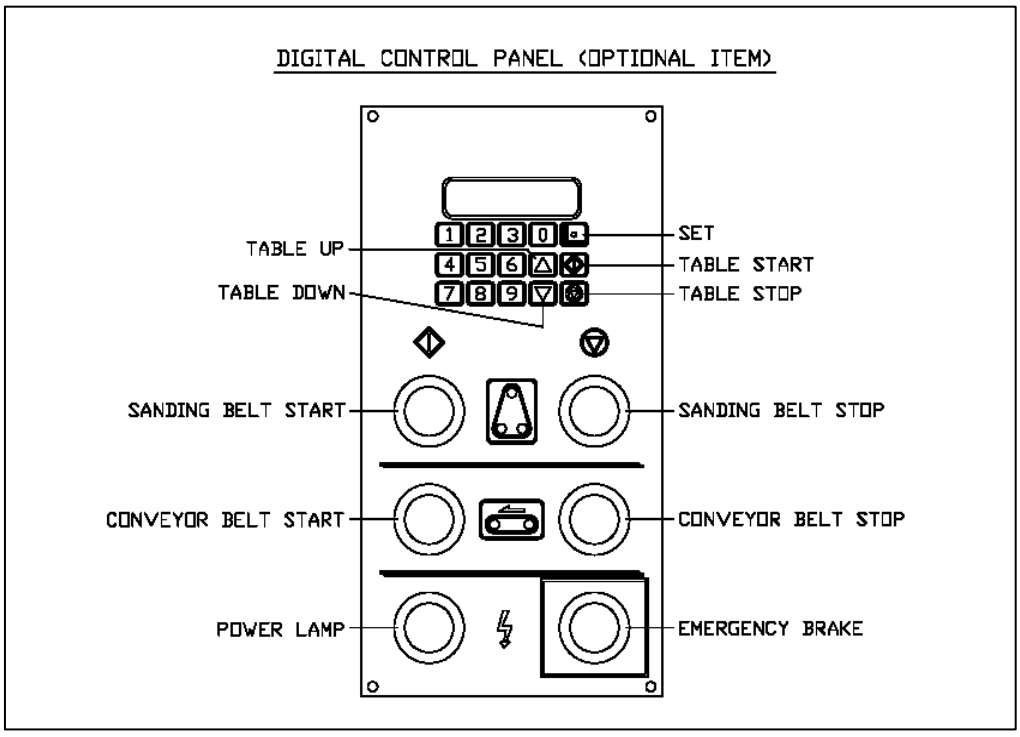


Figure 7



OPERATION OF DIGITAL PANEL

CALIBRATION:

1. Calibrate the digital readout by first measuring the thickness of your workpiece.
2. Input the correct figure to match the workpiece thickness and press "SET" for 2-5 seconds.

INPUT OF DATA:

1. Press any of the number buttons and "000.0" will appear on the display.
2. Input the correct figure with the number buttons, then press "SET" for 2-3 seconds.
3. The display will begin flashing and then stop, with the new data on the display.
4. Alternatively, you may set the new input by pressing the + or- buttons until the proper figure is reached. NOTE: The INPUT and RUN lights will be illuminated at the same time.
5. Press "START"(The INPUT and RUN lights will be illuminated at the same time). The control unit will begin to run and the figure on the display will change back to 0,then it will start to increase up to the figures that were inputted.

MAGNIFICATION SETTING:

1. This control unit can multiply the number of Encoder signals, 1,2 or 4 times to increase the resolution.
2. Turn off the power.
3. Select the function of x 1, x2 or x4 with the switch on the rear of the control unit.
4. Turn on the power.

TABLE MOVEMENT

Table height can be adjusted manually or with the digital key pad. See Figure 7

MANUAL TABLE MOVEMENT:

Turn the handwheel located under the front of the infeed table for manual table positioning.

MOTORIZED TABLE MOVEMENT:

Press the TABLE UP or TABLE DOWN key once for motorized table poitioning in 0.005" (0.1mm) increments.

NUMERICAL KEY PAD:

Enter the position of sand depth.

METRIC OR STANDARD KEY:

Press and hold the SET button for 3 seconds to calibrate display at the current board thickness; or press and hold key for 10 seconds to toggle the display between metric and standard measurement.

TABLE START:

Moves table to a preset sanding depth

TABLE STOP:

Stops table movement immediately

DIGITAL DISPLAY:

Show final table sanding depth.

TROUBLE SHOOTING FOR DIGITAL PANEL:

PROBLEM		POSSIBLE CAUSE		SOLUTION
The display fails to show figures		1.Electric pressure of the 220V or AC110V is abnormal 2. Fuse is burned out 3. Control unit is out of order		1.Re-input correct electric pressure 2.Replace 1A fuse 3.Unit must be repaired or replaced by authorized service personnel
Display shows abnormal figures		1. Wrong figures were input 2. Parameter is incorrect		1. Input the proper numbers in accordance with the actual dimensions 2. Caculate correct parameter and input it *If the above steps are ineffective, turn the power off and then on. If it is still not working properly, it should be repaired or replaced.
Display shows figures, but they do not change in conjunctions with the hoist motor's operation.		1. Proximity switch is not functioning (a functioning prox-switch will cause the light on the induction switch to be illuminated or put out depending on movement of the table) 2. Distance between induction unit and induction sheet is more than 1mm. 3. Encoder not running in accordance with the table movement. Axle connector off or damaged. 4. Use Watt-hour meter to measure if phase A.B. matches the change of DC12V and 0V. If phase A.B. has no change, encoder is defective.		1. Change proximity switch 2. Adjust distance between induction unit and induction sheet to less than 1 mm 3. Repair or replace Encoder 4. Replace Encoder
Travel dimension incorrect		1. Control unit parameter is not in harmony with the table		1. Connect control unit parameter

ADJUSTMENT --

SANDING BELT TENSION

The tension of sanding belt is controlled by an air cylinder. Turn the tension air switch to tighted or loosen the sanding belt tension. When the machine is not in use, release the sanding belt tension to avoid sanding belt fatigure.

"A" - Tracking Adjustment Lever
"C" - Air Tension Switch

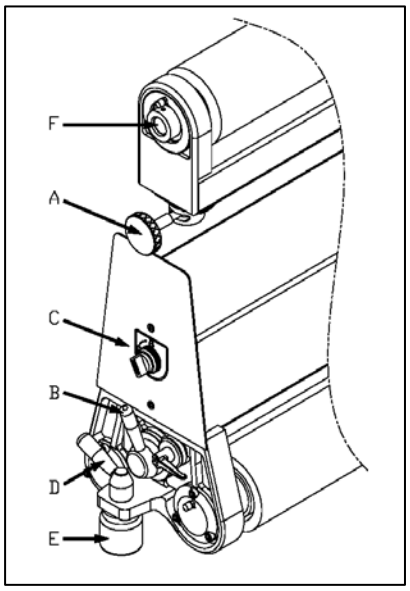
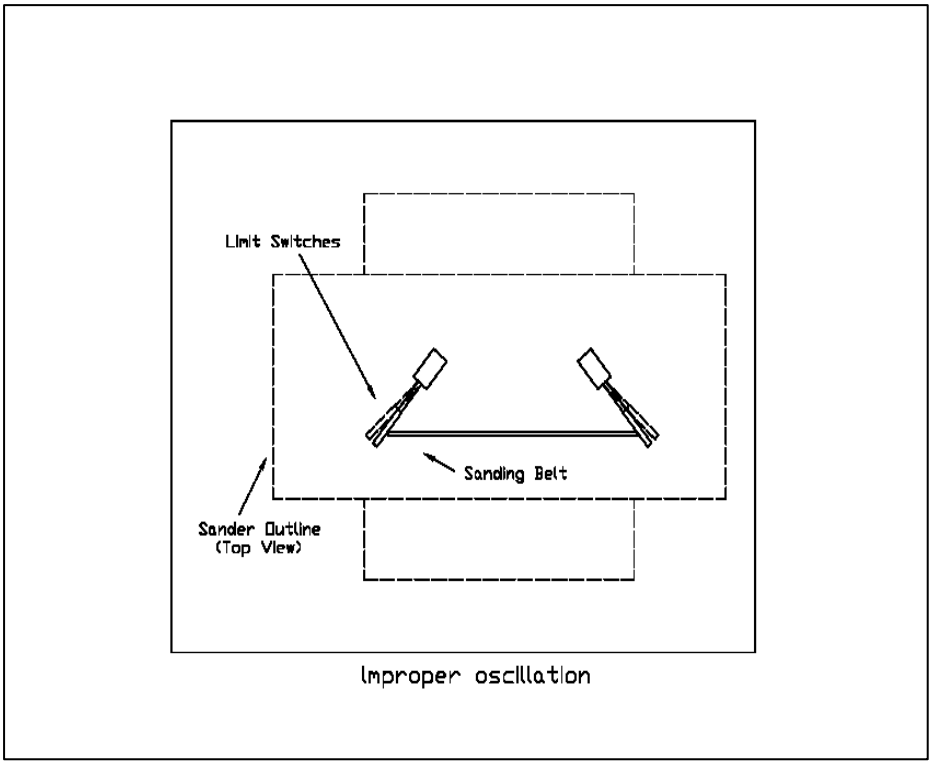


Figure 8

SANDING BELT TRACKING

If the sanding belt runs outside of the normal track, the machine will stop automatically. When replacing the sanding belt, there may be a length tolerance between the right and left sides of the belt which may result in the incorrect tracking of the sanding belt. If this occurs, it will be necessary to adjust the tracking:

1. The degree of sanding belt oscillation to the right side and to the left should be equal. For example, if the oscillation time to the right is one second ,then the oscillation time to the left is one second.
2. If the oscillation time to the right is one second, but the oscillation time to the left is longer , then loosen the tracking adjustment lever. See Figure 8 and move it to the left unit proper tracking is achieved. When satisfied,tighted the lever.
3. If the oscillation time to left is one second, but the oscillation time to the right is longer, then loosen the tracking adjustment lever and move it to the right until proper tracking is achieved. Tighten adjustment lever.



SANDING PLATEN POSITION

(FOR THE ROLLER WITH PLATEN ONLY)

The sanding platen is constructed of graphite cloth and felt.
It is applied for polishing or fine finishing operations with about 0.1mm sanding load. But it is not suitable for heavy sanding operations.
Positioning of the platen depends upon the type of wood being used.
Adjust the platen position with the platen adjustment knob, see Figure 9
Turn it clockwise to lower the platen, counter-clockwise to raise it. Each revolution of the knob is 0.2mm.

NOTICE !!

THE PLATEN SHOULD ALWAYS BE KEPT CLEAN.
AFTER SANDING IF THE WORKPIECE HAS STRAIGHT NOTCHES ACROSS IT, THE GRAPHITE CLOTH AND FELT HAVE WORN OUT AND SHOULD BE REPLACE IMMEDIATELY.

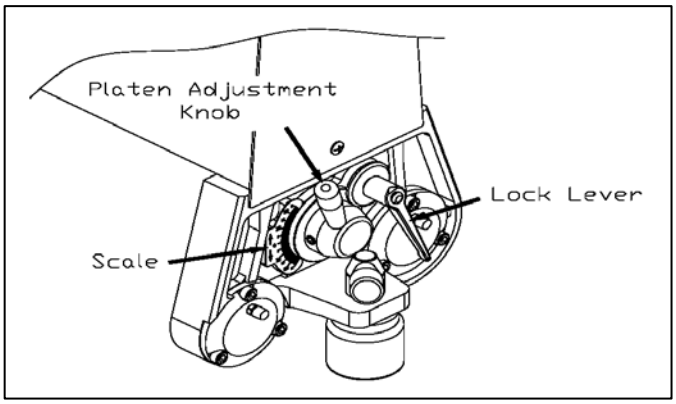
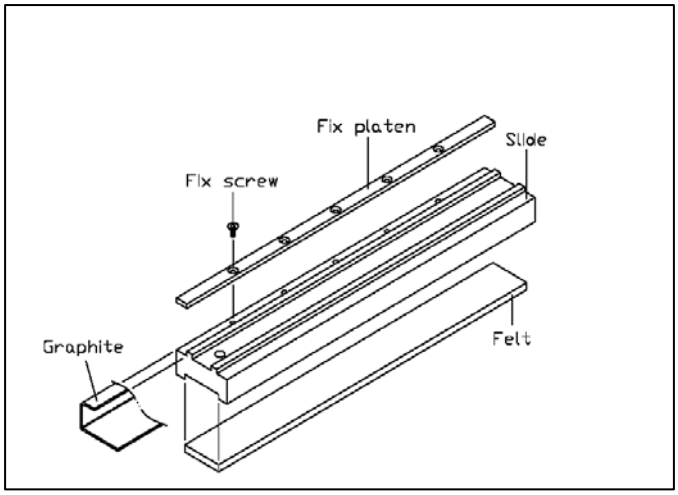


Figure 9



SANDING BELT OSCILLATION SPEED

The sanding belt oscillation is controlled by the air cylinder.
Oscillation speed can be adjusted by means of the speed controller on the cylinder, see Figure 10.

Loosen the fixing nut on the speed controller, then turn controller clockwise to decrease oscillation speed. Turn counter-clockwise to increase oscillation speed.
The hole in the air eye should be checked frequently. If it becomes blocked with dust, it may casue the sanding belts to run out of its normal track and the mahcine will shut off. In the event of blockage, this hole should be cleaned.

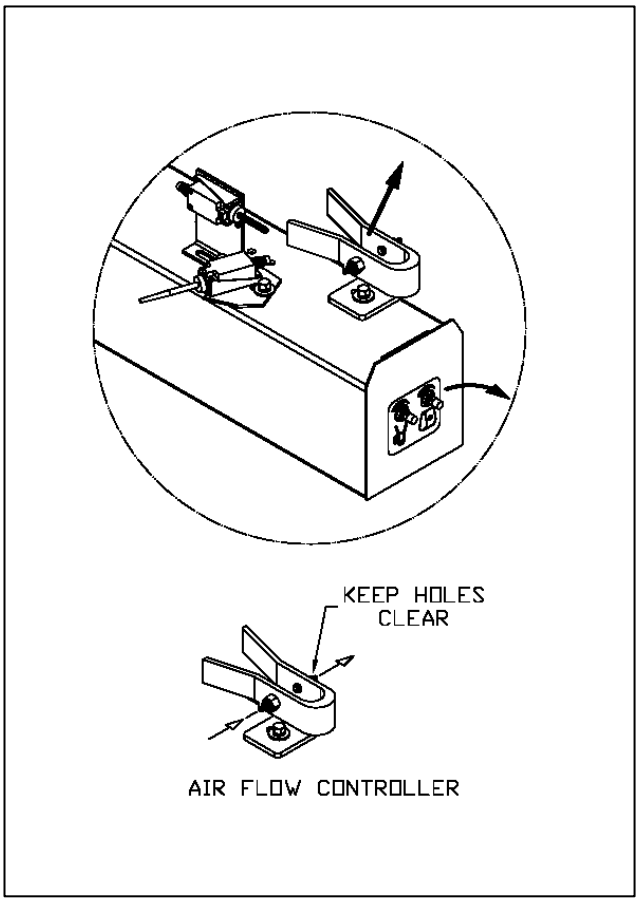


Figure 10

V-BELT TENSION ADJUSTMENT

After the machine has been in operation for a long time, the V-belt may become slightly loose. Should this occur, there will be an abnormal sound while the motor is running. Adjust the V-belt as follow.

Figure 11: Slightly loose the lock nut that tightens the motor base, and turn the adjustment screw until correct tension is achieved.

Re-tighted lock nut.

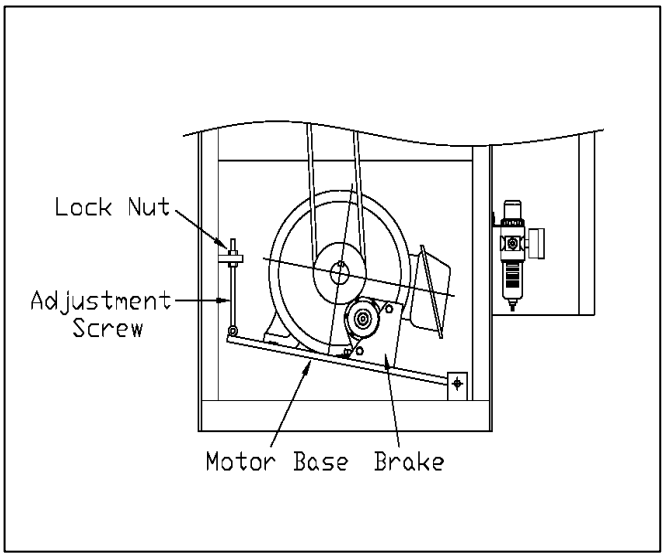


Figure 11

CONVEYOR BELT

The conveyor belt should always run at the center of the contact drum.If it approaches either to the left or right, adjustment is necessary. First check that the conveyor belt tension is correct. If the tension is too loose,adjust this first before you adjust the tracking.

See Figure 12

CONVEYOR BELT TENSION:

1. Disconnect the sander from the power source.
2. Remove front brake cover by removing the four screws.
3. Turn both adjustment rod clockwise equally to increase tension.

CONVEYOR BELT TRACKING:

1. Turn the conveyor belt "ON"
2. If the belt is tracking to the **right** side of the table, turn the **right** adjustment rod clockwise.
3. If the belt is tracking to the **left** side of the table, turn the **left** adjustment rod clockwise.

NOTICE !!

THE EDGE OF THE CONVEYOR BELT SHOULD JUST TOUCH THE GUIDE WHEELS.

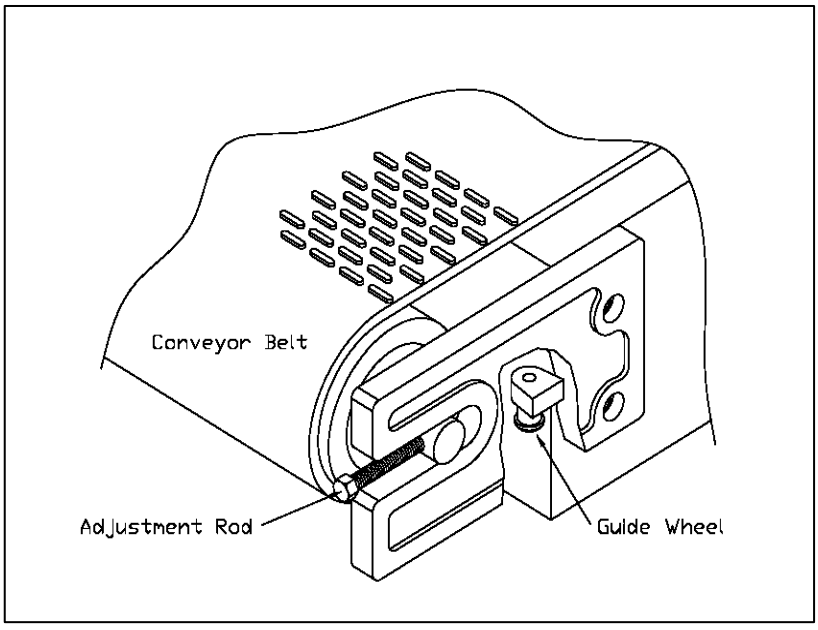


Figure 12

FEED SPEED

(FOR VARIABLE SPEED ONLY)

The feed speed adjustmnt is infinitely variable in order to meet the sanding requirements of a wide variety of materials. In general, soft woods require a higher feed speed, while hard woods require a lower feed speed. However, correct feed speed selection is largely a matter of experience.

CAUTION !!

CHANGE THE FEED SPEED ONLY WHILE THE MAHCINE IS RUNNING.

Adjust the feed speed with the speed selector knob of the worm gear reducer. Figure 13, and the speed adjustment valve of the hydraulically driven conveyor belt. Turn the feed speed selector knob clockwise to decrease the conveyor belt speed, counter-clockwise to increase it.

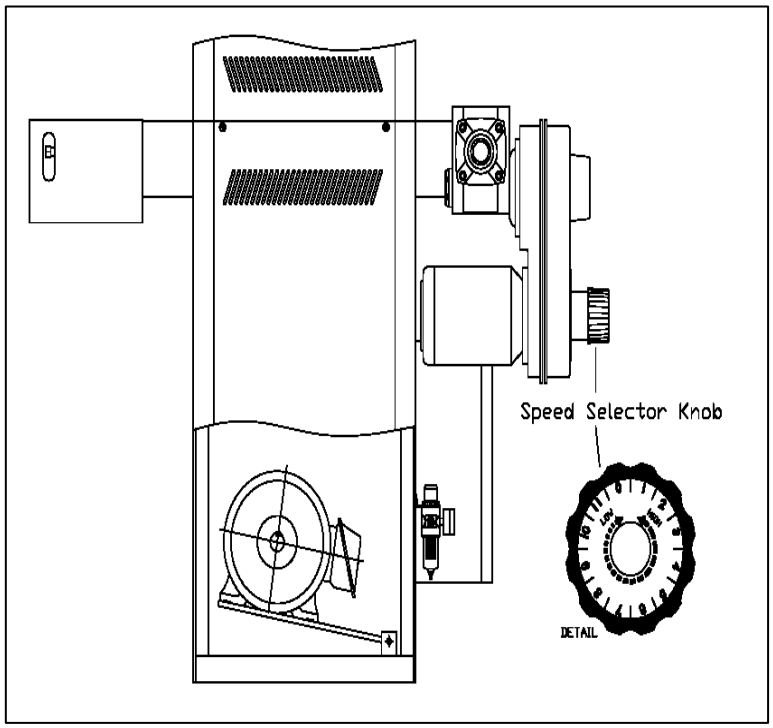
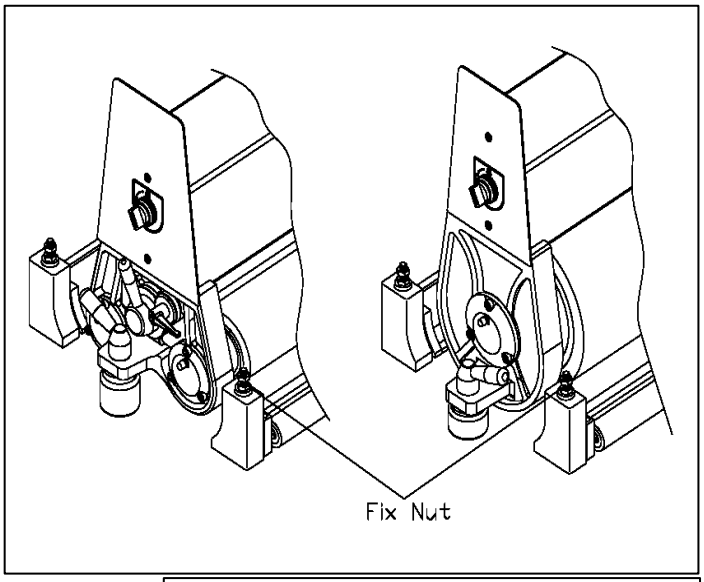


Figure 13

PRESSURE ROLLER

The front and rear pressure rollers have been factory adjusted. However, if further adjustment is ever require, proceed as follows:

1. Stop machine
2. Place a sanded panel on the conveyor belt and under the rollers. The panel should be long enough to contact both front and rear rollers. Raise the table until panel contacts the rollers.
3. Make sure the pressure at the right and left side of pressure rollers is even
4. Loosen the fix nut then turn the adjustment knob as shown in Figure 14.
5. When parallelism is satisfactory, retighten the fix nut.



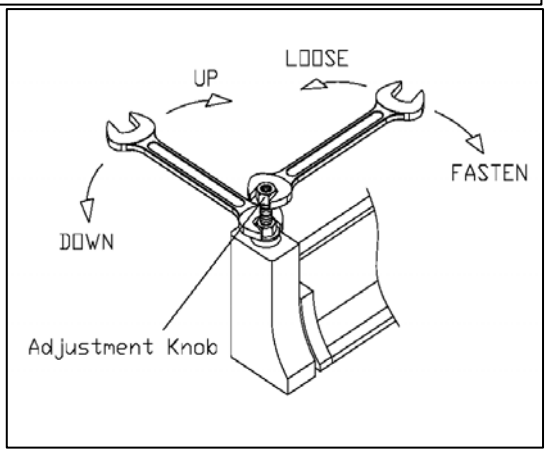


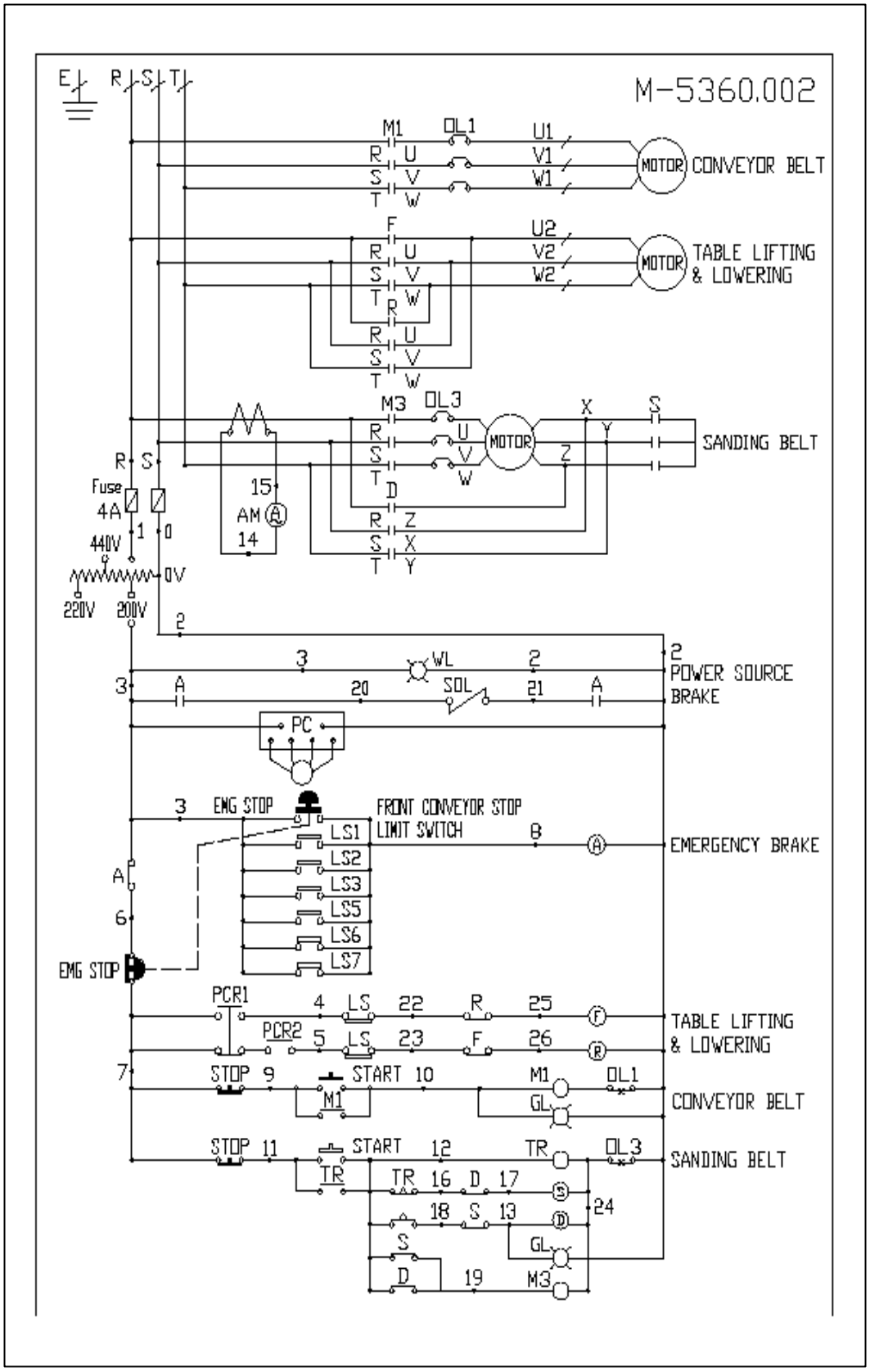
Figure 14

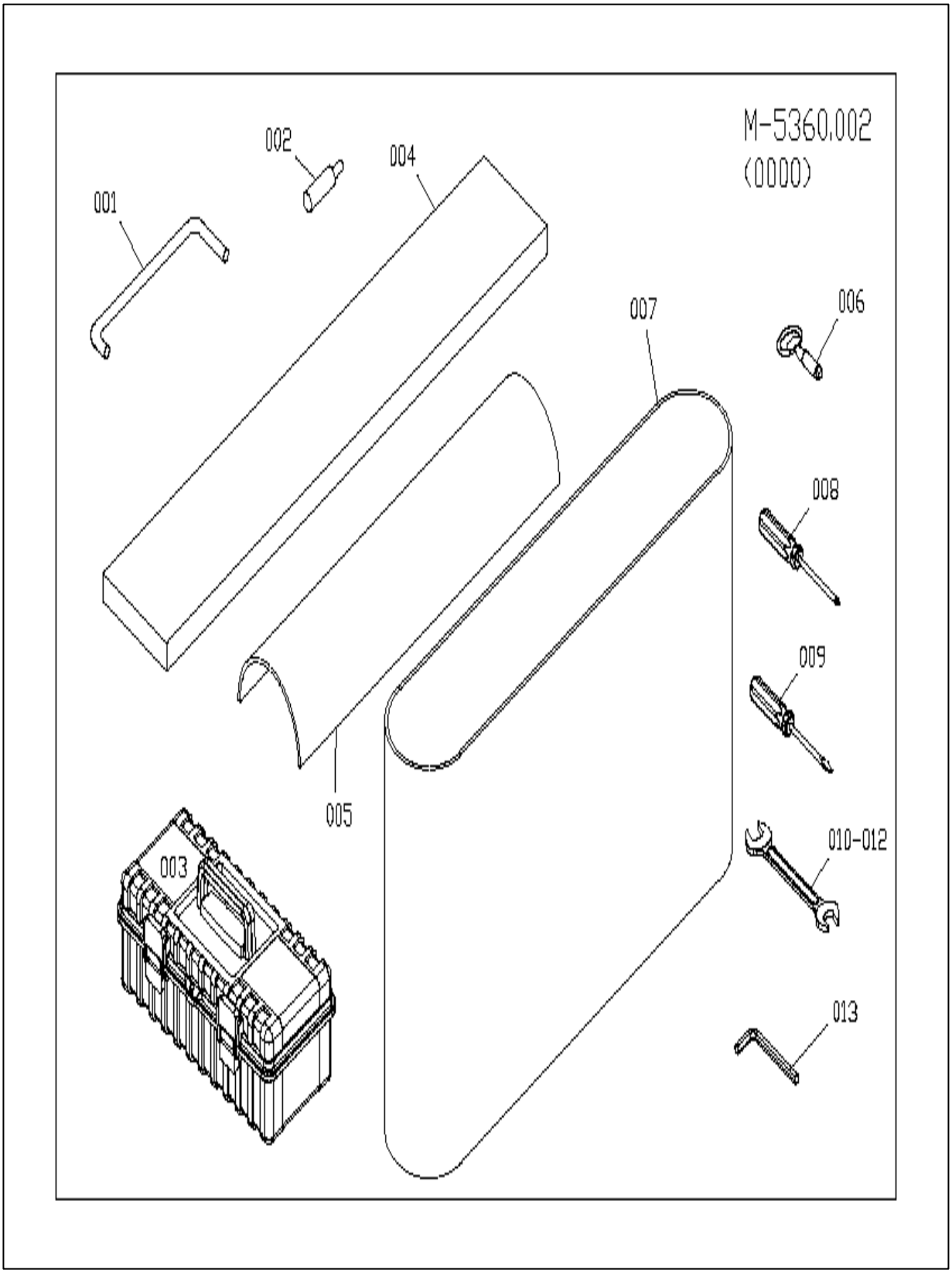
PROBLEM	POSSIBLE CAUSE	SOLUTION
Sanding belt clogs too quickly	1. Grit of sanding belt is too fine 2. Sanding overload 3. Too much oil, dirt on wood surface	1. Replace with larger grit 2. Reduce sanding load. 3. Clean wood, or use better work
Too many roundings created along the edge while sanding solid wood	1. Too much material being removed	1. Reduce the amount of material being removed
Uneven thickness between the left and right sides of the workpiece	1. Conveyor table not parellel with contact roller 2. Conveyor belt worn out 3. Graphite cloth and carpet on the pad are worn out	1. Adjust conveyor table / contact roller to parallel 2. Replace conveyor belt 3. Replace graphite cloth and carpet
Uneven thickness between the front and rear ends of the workpiece	1. Feed speed too fast 2. Sanding overload 3. Grit of sanding belt too fine 4. Unequal position of pressure plate	1. Reduce rate of feed 2. Reduce sanding load 3. Use large grit sanding belt 4. Adjust pressure plate to produce equal pressure on stock
Workpiece slips on the conveyor belt	1. Too much pressure from pressure plate 2. Dirty conveyor belt 3. Conveyor belt is worn out	1. Reduce force from pressure plate 2. Clean conveyor belt 3. Replace conveyor belt
Straight notches on workpiece surface	1. Dirty pressure plate 2. Contact drum is scratched 3. Graphite cloth and carpet on the pad are worn out	1. Clean pressure plate 2. Replace drum 3. Replace coth and carpet
Snake markings on workpiece	1. Sanding belt partially damaged 2. Worm area on sanding belt	1. Repair/replace sanding belt 2. Replace sanding belt
Cross-parallel stripes across the entire width of workpiece	1. Sanding belt joint is too thick 2.Worn areas on sanding belt 3. Sanding load not less than 0.0mm	1. Replace sanding belt 2. Replace sanding belt 3. Reduce sanding load to less than 0.0mm

LUBRICATION AND MAINTENANCE:

1. The machine interior should be thoroughly cleaned every day after work. It is important to remember to remove the sanding belt beofre cleaning and replace it afterwards.
2. The bearings should be greased after every 150 work hours.
3. If the machine is equipped with a hydraulic power system, the hydraulic oil should be renewed after after every 6000 work hours.
4. The water should be released from the filter cup regularly
5. Make sure that there is an adequate oil film on the table jack screws (support screws) at all times.
6. The oil inside the gear reducer should be changed after the first 300 hours of operation, and every 2500 hours of use thereafter. Recommended oil is #140 gear oil.

GENERAL ELECTRICAL DIAGRAM (M-5360.002 - THREE PHASE)

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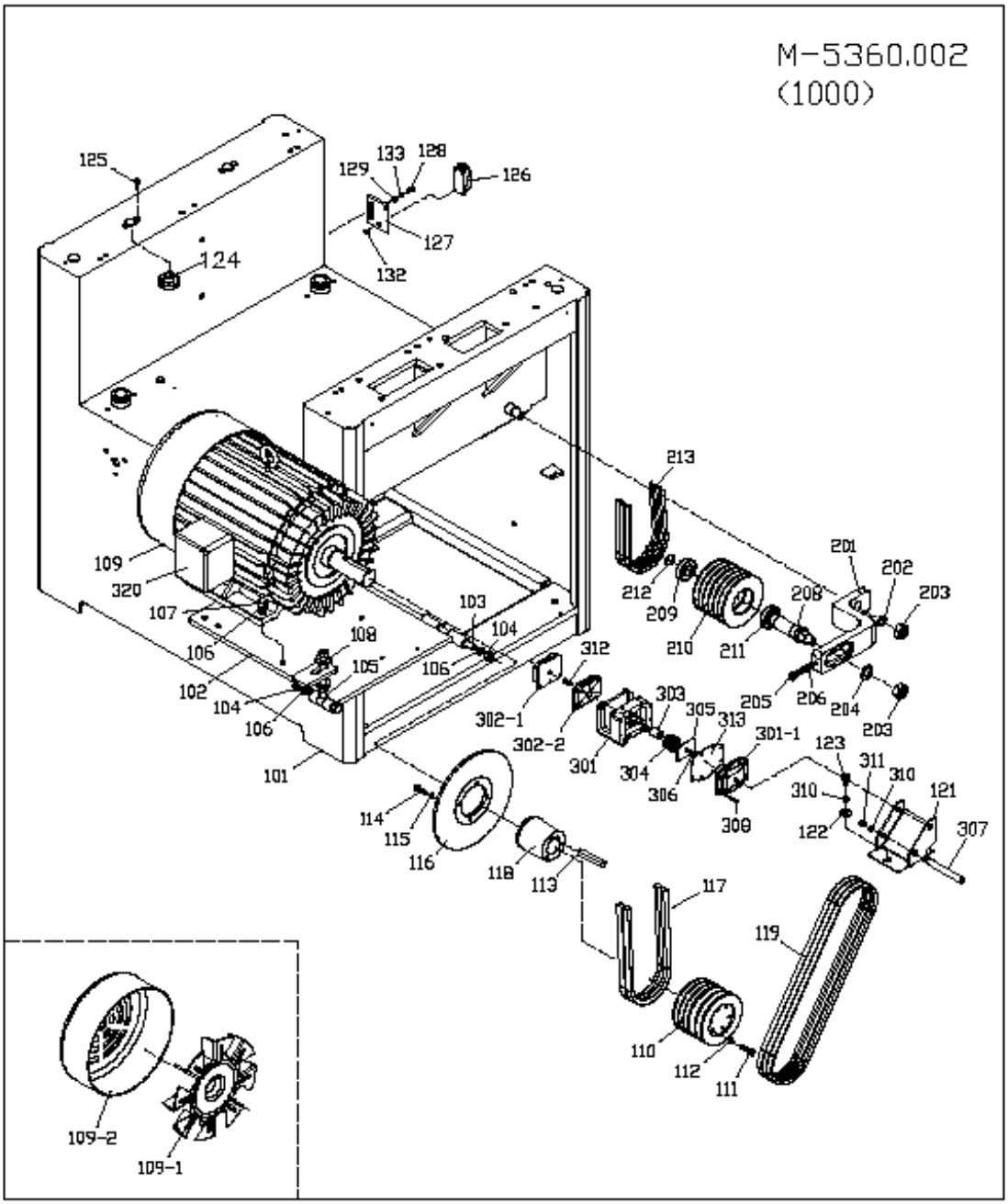
ITEM NO	DESCRIPTION
001	GRAPHITE HOLDER
002	LIMIT SWITCH TUBE
003	TOOL BOX
004	FELT
005	GRAPHITE
006	KEY
007-1	SANDING BELT #100
007-2	SANDING BELT #180
008	PHILLIP'S SCREWDRIVER
009	FLAT SCREW DRIVER
010	WRENCH 8 X 10
011	WRENCH 12 X 14
012	WRENCH 17 X 19
013	HEX WRENCH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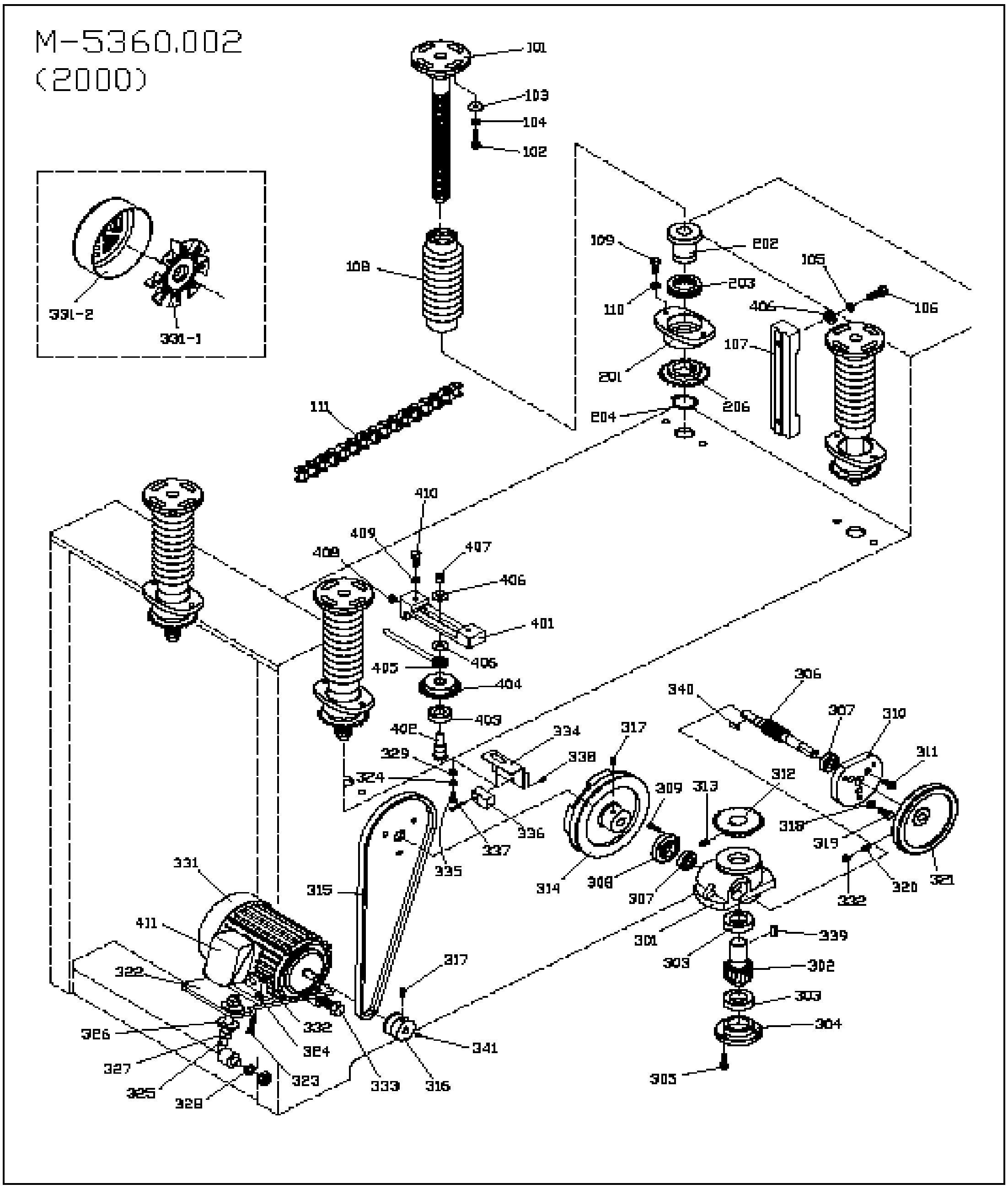
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	MACHINE FRAME	129	PLAIN WASHER 1/4"
102	MOTOR BASE	132	FLAT HEAD SCREW
103	MOTOR BASE HINGE	133	SPRING WASHER
104	NUT 1/2"	201	IDLE WHEEL ADJ. BRACKET
105	MOTOR BASE ADJUSTMENT ROD	202	SPRING WASHER 3/4"
106	SPRING WASHER 1/2"	203	NUT 3/4"
107	SCREW	204	PLAIN WASHER 3/4"
108	PLAIN WASHER 1/2"	205	SCREW 3/8" x 3 1/2"
109	MOTOR	206	NUT 3/8"
109-1	FAN	208	IDLE WHEEL SHAFT
109-2	FAN COVER	209	BEARING
110	PULLEY	210	PULLEY
111	HEX SOCKET HEAD SCREW 5/16" X 1 1/4"	211	BEARING 6006-2RS
112	SPRING WASHER 5/16"	212	"C" CIRCLIP S25
113	KEY	213	BELT A40
114	SCREW 5/16" X 1"	301	BRAKE BRACKET
115	SPRING WASHER 5/16"	301-1	BRAKE BRACKET FRONT GUARD
116	DISC BRAKE	302-1	BRAKE LINING
117	BELT B76	302-2	BRAKE LINING
118	PULLEY BUSHING	303	BRAKE ARBOR
119	BELT A50	304	BRAKE SPRING
121	BRAKE BRACKET	305	BRAKE INSIDE PIECE
122	PLAIN WASHER 3/8"	306	FLAT HEAD SCREW 1/4" X 1/2"
123	SCREW 3/8" X 3/4"	307	BRAKE PIN
124	FLAT HEAD NUT	308	HEX SOCKET HEAD SCREW
125	HEX SOCKET HEAD SCREW 1/4" X 3/4"	310	SPRING WASHER 3/8"
126	LIMIT SWITCH	311	NUT 3/8"
127	LIMIT SWITCH PLATE	312	HEX SOCKET HEAD SCREW 1/4" X 5/8"
128	SCREW 1/4" X 1/2"	313	BRAKE GASKET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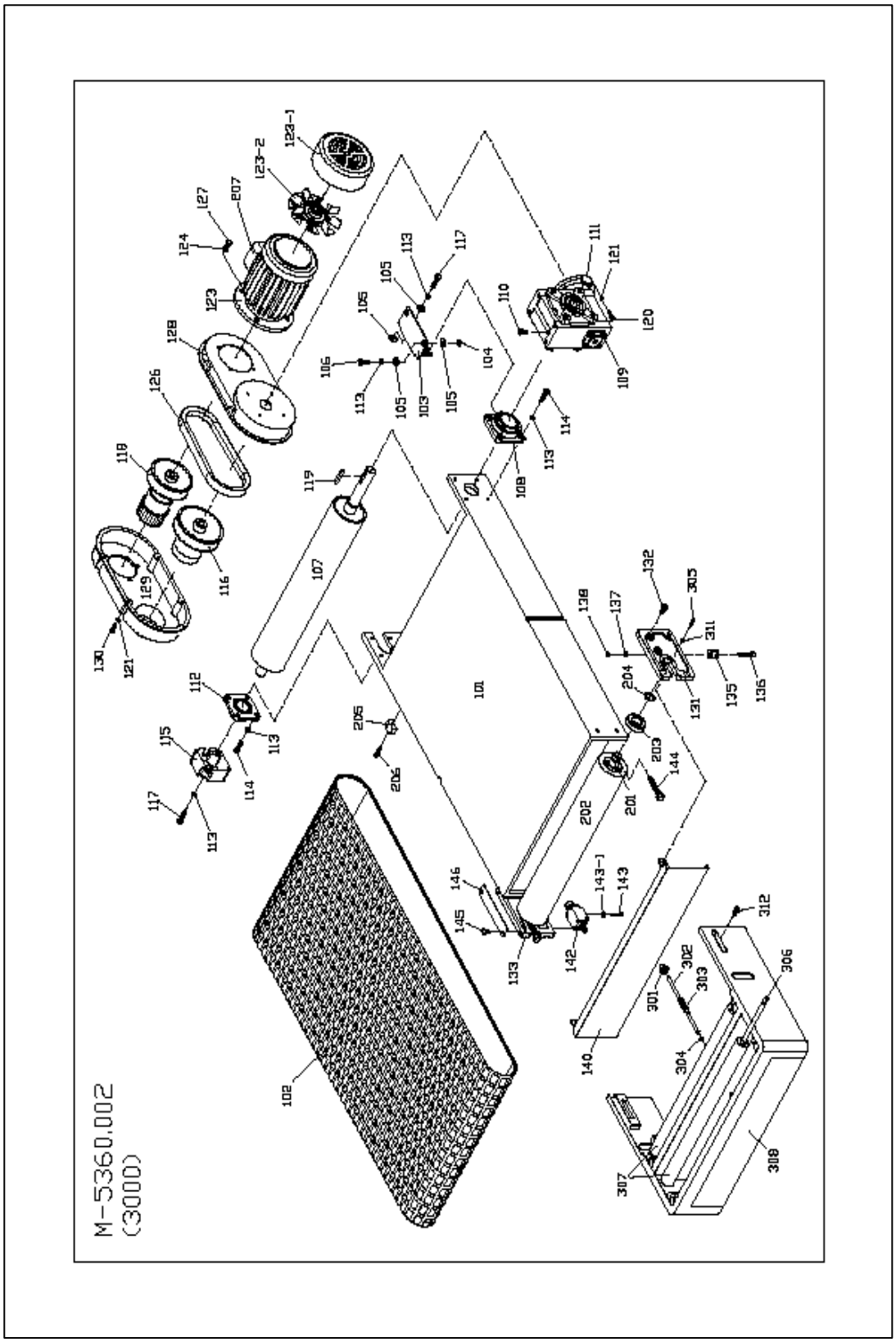
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	ELEVATION SCREW	317	HEADLESS SCREW 1/4" X 1/2"
102	SCREW 5/16" X 1"	318	SPRING WASHER 5/16"
103	PLAIN WASHER 5/16"	319	SCREW 5/16" X 3/4"
104	SPRING WASHER 5/16"	320	HEADLESS SCREW 1/4" X 1/2"
105	SPRING WASHER 3/8"	321	HAND WHEEL
106	SCREW 3/8/" X 1"	322	MOTOR BASE
107	ELEVATION SLIDE	323	SCREW 1/4" X 1"
108	DUST GUARD BELLOW	324	SPRING WASHER 1/4"
109	SCREW 5/16" X 3/4"	325	MOTOR BASE ADJUSTMENT ROD
110	SPRING WASHER 5/16"	326	PLAIN WASHER 1/2"
111	CHAIN	327	NUT 1/2"
		328	SPRING WASHER 1/2"
201	NUT HOUSING	331	MOTOR
202	NUT	332	NUT 1/4"
203	THRUST BEARING 51107	333	SCREW 1/2" X 4 1/2" LONG
204	"C" CIRCLIP S 35	334	PROXIMITY SWITCH FIXING PLATE
206	SPROCKET WHEEL	335	SCREW 1/4" X 1/2"
		336	PROXIMITY SWITCH
301	ELEVATION GEAR BOX	337	ROUND PHILLIP'S SCREW M3 X 35MM
302	WORM GEAR	338	NUT M3
303	BEARING 6005Z	339	KEY 5/16" X 20MM
304	BEARING CAP	340	KEY 4M/M
305	HEX SOCKET HEAD SCREW 1/4" X 3/4"	341	KEY 4M/M
306	WORM SHAFT		
307	BEARING 6002Z	401	SPROCKET WHEEL ADJUSTMENT PIECE
308	BEARING CAP	402	SPROCKET WHEEL SHAFT
309	HEX SOCKET HEAD SCREW 3/16"x3/4"	403	BEARING 6003ZZ
310	BEARING CAP	404	ADJUSTMENT SPROCKET WHEEL
311	HEX SOCKET HEAD SCREW 1/4" X 5/8"	405	SPROCKET WHEEL ADJUSTMENT ROD
312	SPROCKET WHEEL	406	PLAIN WASHER 3/8"
313	HEADLESS SCREW 5/16" X 1/2"	407	NUT 3/8"
314	PULLEY	408	NUT 5/16"
315	BELT A36	409	SPRING WASHER 5/16"
316	PULLEY	410	SCREW 5/16" X 3/4"


M-5360.002
(3000)

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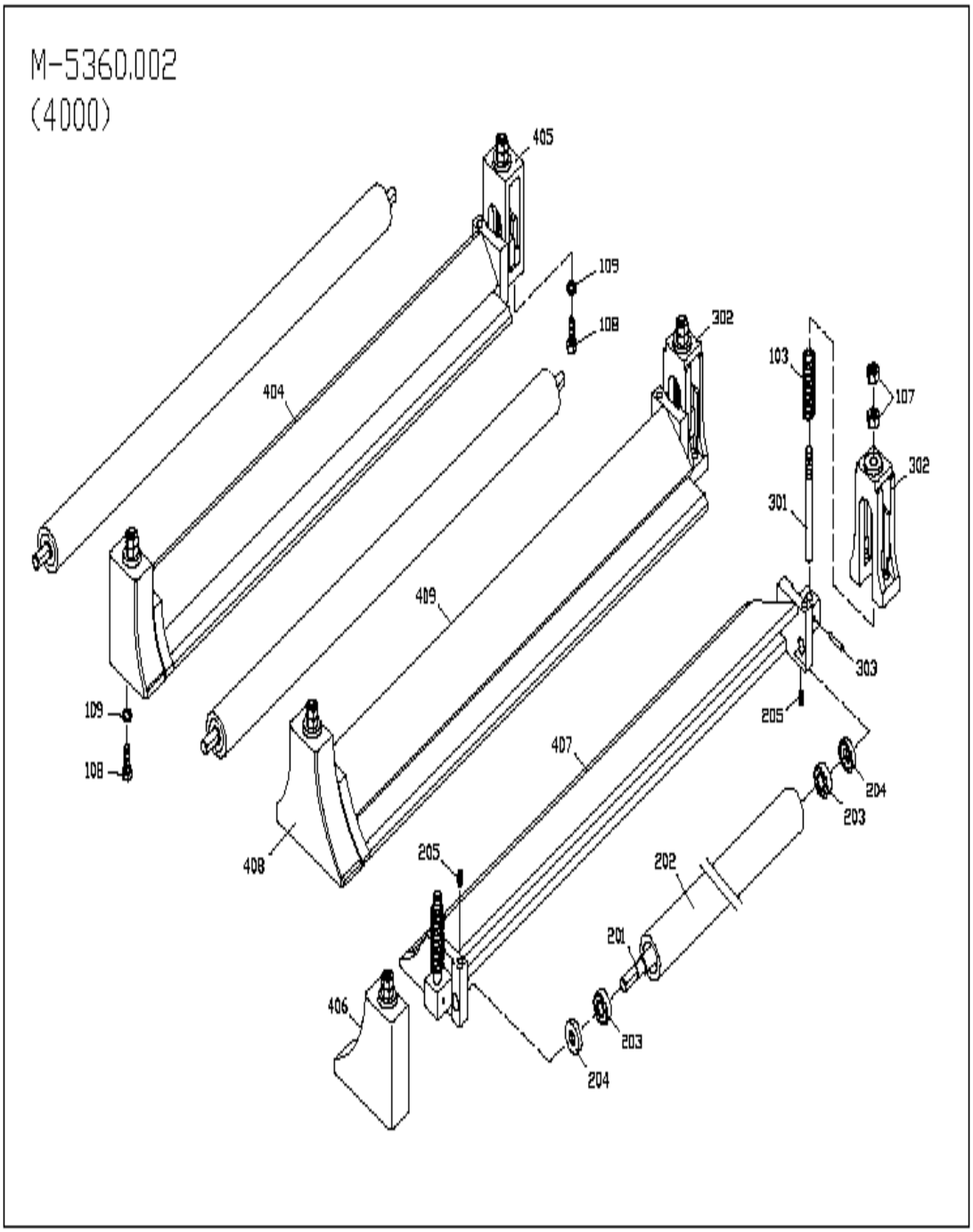
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	CONVEYOR TABLE	132	HEX SOCKET HEAD SCREW 3/8" X 3/4"
102	CONVEYOR BELT	133	INFEED ROLLER BRACKET
103	REDUCER FIX PLATE	135	CONVEYOR BELT POSITIONING WHEEL
104	CUSHION	136	HEX SOCKET HEAD SCREW 5/16" X 2"
105	SPRING WASHER 3/8"	137	SPRING WASHER 5/16"
106	SCREW 3/8" X 1"	138	NUT 5/16"
107	OUTFEED ROLLER	140	FRONT BRAKE COVER
108	BEARING	141	ROUND PHILLIP'S SCREW 1/4" X 1/2"
109	REDUCER	142	LIMIT SWITCH
110	PLUG	143	ROUND PHILLIP'S SCREW 3/16"x1 3/4"
111	PLUG	144	SCREW 1/2" X 3" LONG
112	BEARING	145	SCREW
113	SPRING WASHER 3/8"	146	PLATE
114	SCREW 3/8" X 1 1/4"		
115	BEARING CAP	201	INFEED ROLLER SHAFT
116	DRIVEN PULLEY	202	INFEED ROLLER
117	SCREW 3/8" X 1 1/2"	203	BEARING
118	DRIVING PULLEY	204	"C" CIRCLIP S30
119	KEY 7MM X 55MM	205	ELEVATION ALUMINUM LIMITER
120	SCREW M8 X 25MM	206	HEX SOCKET HEAD SCREW 1/4"x1 1/4"
121	SPRING WASHER 8MM		
123	MOTOR	301	CUSHION
124	LOCK WASHER	302	BRAKE SHAFT
126	TIMING BELT	303	SPRING
127	SCREW M10 X 25MM	304	CIRCLIP E7
128	VARIABLE SPEED UNIT BASE PLATE	305	CAP 3/8" x 3/4"
129	VARIABLE SPEED UNIT COVER	306	ROLLER SHAFT
130	HEADLESS SCREW M8 X 20MM	307	EXTENSION ROLLER
131	INFEED ROLLER BRACKET	308	EXTENSION ROLLER BRAKE COVER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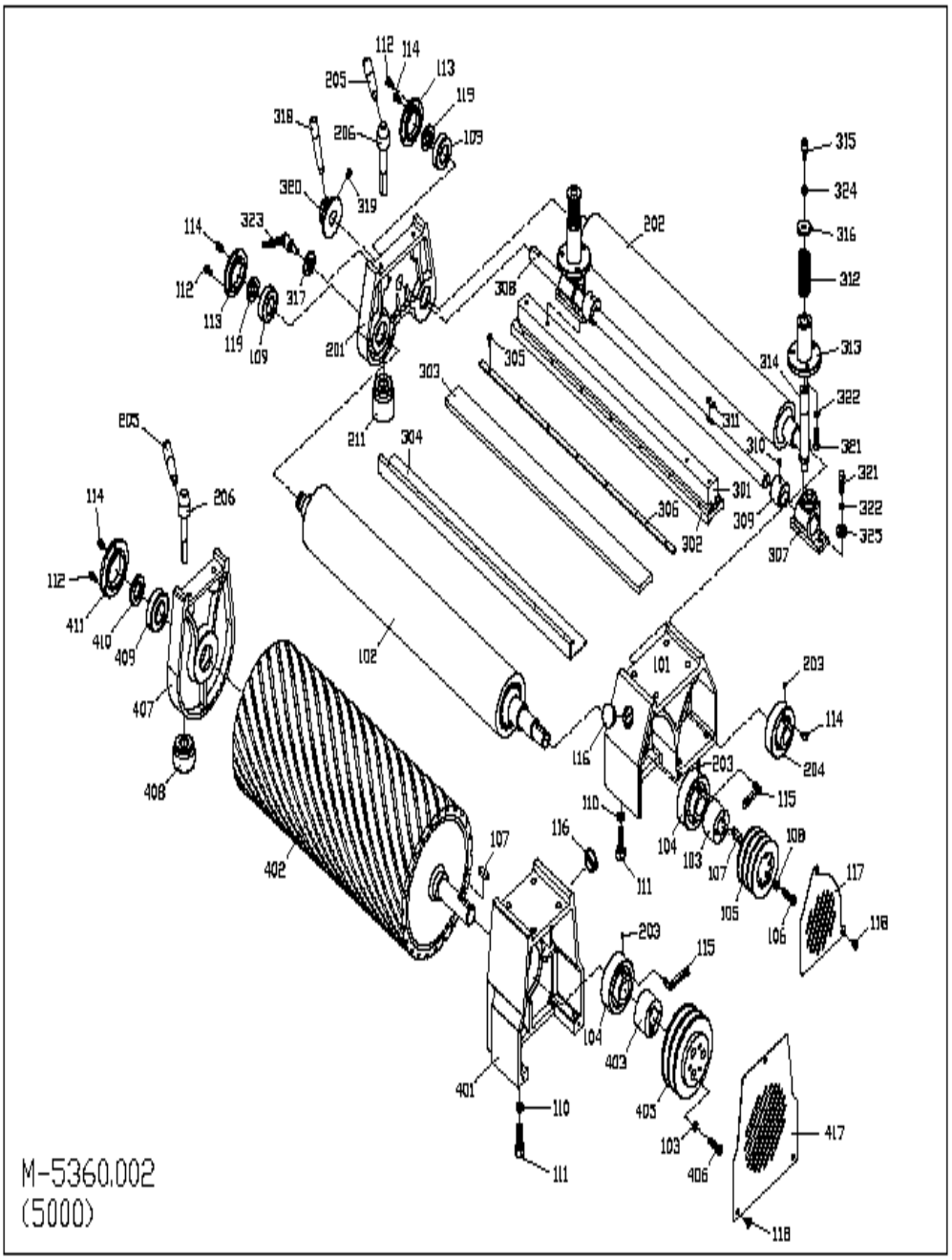
ITEM NO	DESCRIPTION
103	COMPRESSION SPRING
107	HEX NUT
108	SCREW
109	SPRING WASHER 5/16"
201	PISTON ROLLER SHAFT
202	PISTON ROLLER
203	BEARING 6001ZZ
204	SHAFT BEARING COLLAR
205	HEADLESS SCREW 1/4"-20x1/2"
301	PISTON ROLLER ADJ. ROD
302	PISTON BRACKET
303	PIN 3 X 24 MM
404	PRESSURE SHOES
405	PISTON BRACKET-S
406	PISTON BRACKET-L
407	PRESSURE SHOES
408	PISTON BRACKET-D
409	PRESSURE SHOES


M-5360.002
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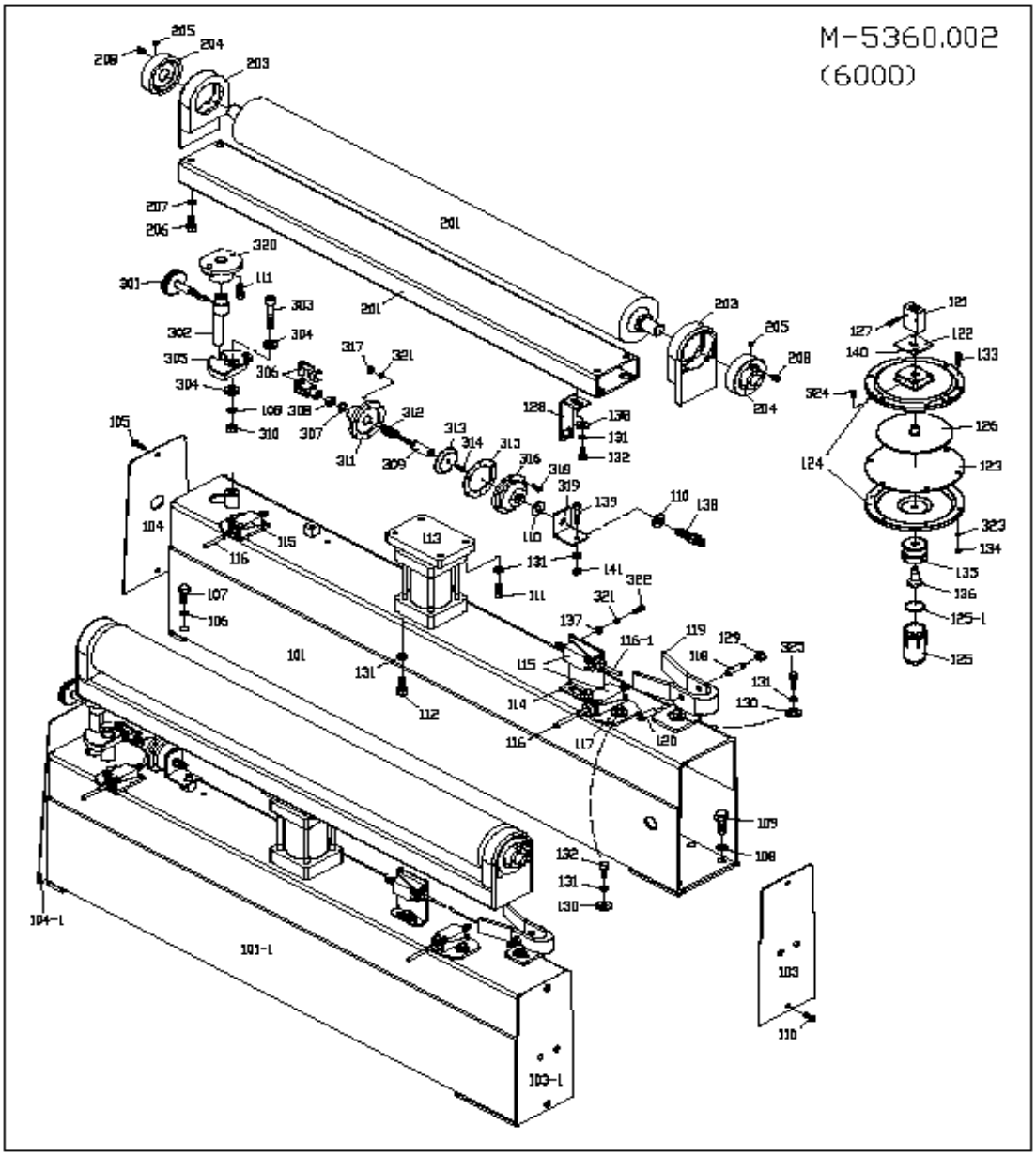
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	BEARING HOSUING	306	GRAPHITE PRESSURE PLATE
102	RUBBER ROLLER	307	FIXING BASE OF GRAPHITE BRACKET
103	FASTENING TUBE	308	SHAFT OF GRAPHITE BRACKET
104	BEARING UCC206	309	FASTENING TUBE
105	PULLEY	310	HEADLESS SCREW 1/4" X 3/8"
106	HEX SOCKET HEAD SCREW 5/16" X 1 1/4"	311	KEY 1/4" X 25MM
107	KEY 5/16"	312	SPRING
108	SPRING WASHER 5/16"	313	HOUSING OF FIXING SHAFT
109	BEARING 6205-2RS	314	FIXING SHAFT OF GRAPHITE BRACKET
110	SPRING WASHER 1/2"	315	CAP 3/8" X 3/4"
111	HEX SOCKET HEAD SCREW 1/2" X 1 1/2"	316	PLAIN 3/8"
112	HEX SOCKET HEAD SCREW 1/4" X 1/2"	317	WASHER
113	BEARING CAP	318	HANDLE
114/115	FILTER	319	HEADLESS SCREW 5/16" X 1/2"
116	PLUG	320	RING FOR ADJUSTMENT
117	COVER OF PULLEY	321	SCREW 5/16" X 1"
118	SCREW 1/4" x 1/2"	322	PLAIN WASHER 5/16"
119	SCREW CAP	323	HANDLE FOR FASTENING
201	BEARING HOUSING	401	BEARING HOUSING
202	STEEL ROLLER	402	RUBBER ROLLER
203	HEX SOCKET HEAD SCREW M6 X 6MM	403	FASTENING TUBE
204	BEARING UCC 205	404	BEARING UCC206
205	HANDLE	405	PULLEY
206	FLAT HEAD SCREW	406	CAP 5/16" x 1 1/4"
211	BEARING BRACKET PAD	407	BEARING HOUSING
		408	BEARING BRACKET PAD
301	GRAPHITE BRACKET (MALE)	409	BEARING 6206-2RS
302	GRAPHITE BRACKET (FEMALE)	410	SCREW CAP
303	FELT	411	BEARING CAP
304	GRAPHITE	417	COVER OF PULLEY
305	PHILLIP'S SCREW 3/16" X 1/2"		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(6000)

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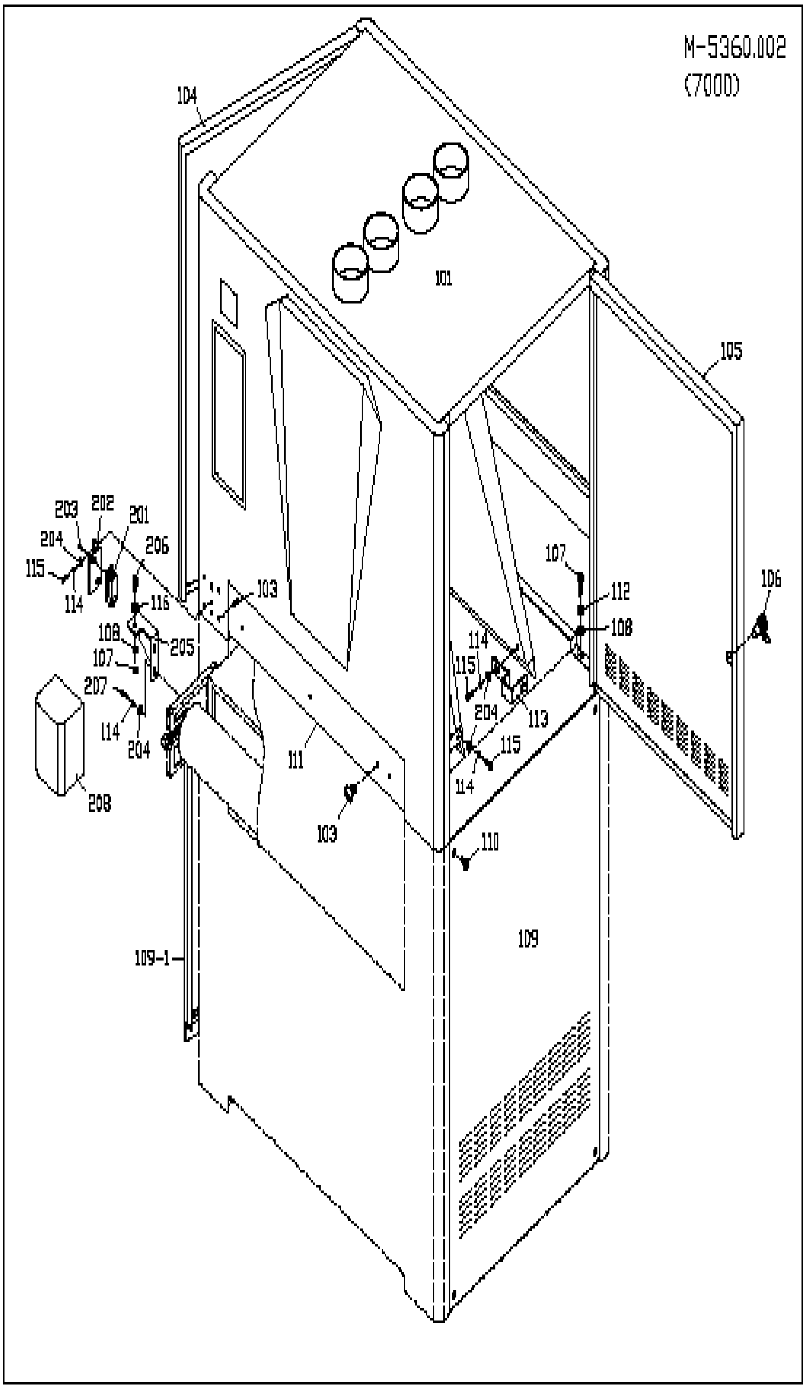
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	SQUARE FRAME	136	SHAFT OF OIL CAP
101-1	SQUARE FRAME		
103	SQUARE FRAME SEAL (RIGHT)	139	HEADLESS SCREW 5/16" X 2 1/2"
103-1	SQUARE FRAME SEAL (FRONT RIGHT)	140	HEADLESS SCREW M4 x 12MM
104	SQUARE FRAME SEAL (LEFT)		
104-1	SQUARE FRAME SEAL (FRONT LEFT)	201	UPPER ROLLER BRACKET
105	FLAT HEAD SCREW 1/4" X 3/4"	202	UPPER ROLLER
106	SPRING WASHER 3/8"	203	UPPER ROLLER BRACKET
107	SCREW 3/8" X 1"	204	BEARING UCC205
108	SPRING WASHER 1/2"	205	HEADLESS SCREW M6 X 6MM
109	SCREW 1/2" X 1"	206	HEX SOCKET HEAD SCREW 3/8" x 3/4"
111	HEX SOCKET HEAD SCREW 5/16" X 3/4"	207	SPRING WASHER 3/8"
112	SCREW M8 X 20MM	208	FILTER
113	AIR CYLINDER		
114	LIMIT SWITCH HOLDER (L TYPE)	301	TRIMMING SCREW
115	LIMIT SWITCH	302	ECCENTRIC ROD
116	LIMIT SWITCH TUBE	303	HEX SOCKET HEAD SCREW 1/2" X 3 1/2"
117	LIMIT SWITCH HOLDER	304	PLAIN WASHER 1/2"
118	AIR SENSOR NOZZLE (FEMALE)	305	ECCENTRIC PIECE
119	AIR CYLINDER BRACKET	306	UNIVERSAL JOINT FORK
120	AIR SENSOR NOZZLE (MALE)	307	"C" CIRCLIP S15
121	THROTTLE VALVE	308	NUT M10-1.25
122	THROTTLE VALVE BASE	309	SHAFT OF AIR CYLINDER
123	PLATE	310	NUT 1/2"
124	ALUMINUM DISC	311	BOTTOM COVER
125	OIL CAP	312	SPRING
126	ALUMINUM PLATE	313	ALUMINUM PLATE
127	SCREW M4 X 20MM	314	SCREW M6 X 12MM
128	SANDING BELT POWER OFF PLATE	315	PLATE
129	NUT 3/8"	316	TOP COVER
131	SPRING WASHER 5/16"	317	NUT M5
132	SCREW 5/16" X 3/4"	318	SCREW M5 x 15MM
133	SCREW 3/16" X 3/4"	319	FIRING BASE OF AIR CYLINDER
134	NUT 3/16"	320	FRAME OF ECCENTRIC SHAFT
135	CONNECTOR OF OIL CAP		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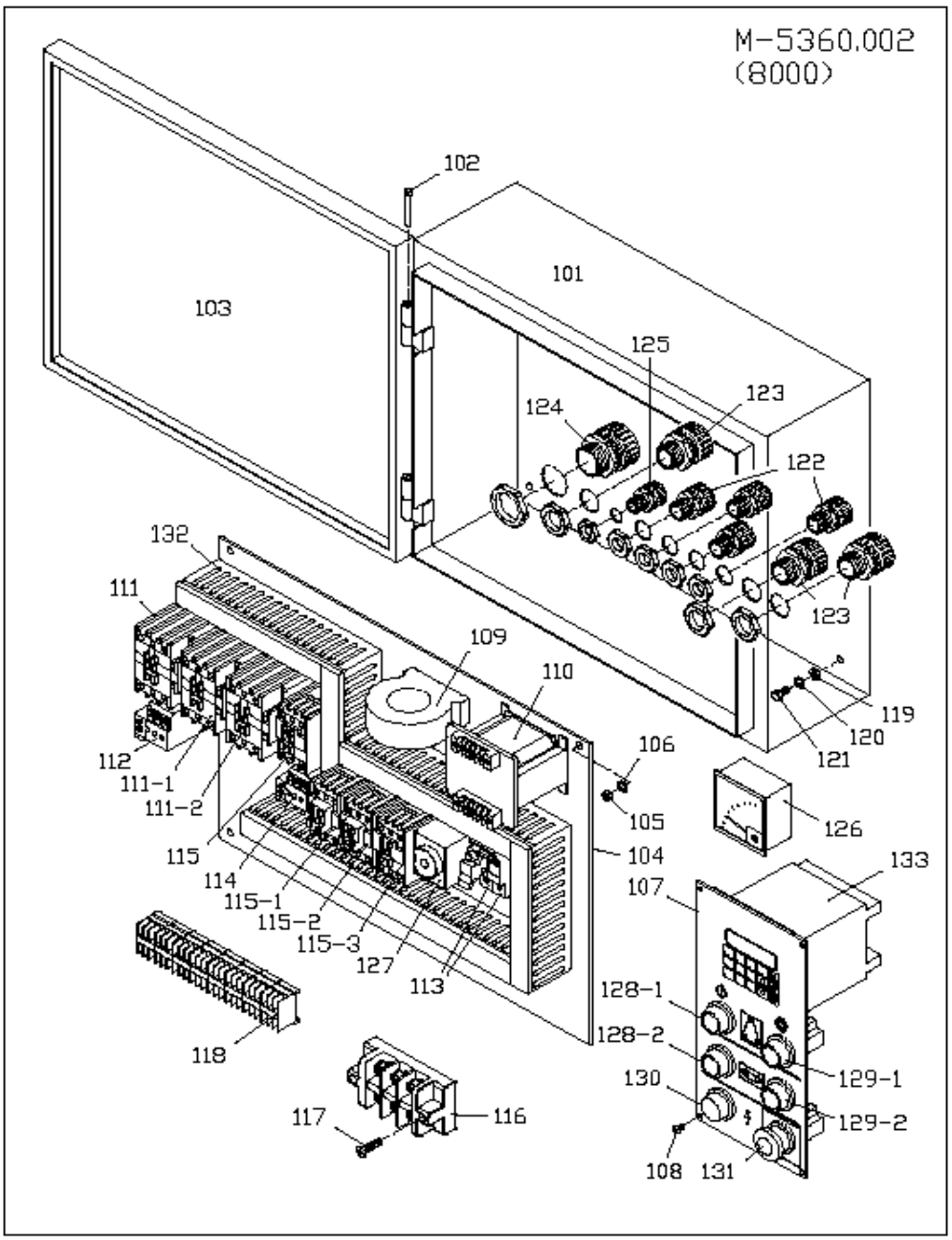
ITEM NO	DESCRIPTION
101	UPPER FRAME COVER
102	DUST HOOD
103	PHILLIP'S SCREW M6
104	LEFT DOOR, UPPER FRAME
105	RIGHT DOOR, UPPER FRAME
106	DOOR LOCK
107	SCREW 5/16"
108	PLAIN WASHER 5/16"
109	RIGHT DOOR, LOWER FRAME
109-1	LEFT DOOR, LOWER FRAME
110	SCREW 1/4"
111	FRONT PROTECTION PLATE
112	PLAIN WASHER 1/4"
114	SCREW CAP M4
115	ROUND PHILLIP'S SCREW M4
116	LIMIT SWITCH
117	POWER OFF PLATE
119	SPRING
120	EMERGENCY STOP SWITCH
121	SCREW M5
122	PIN

ELECTRICAL PARTS - M-5360.002 - THREE PHASE



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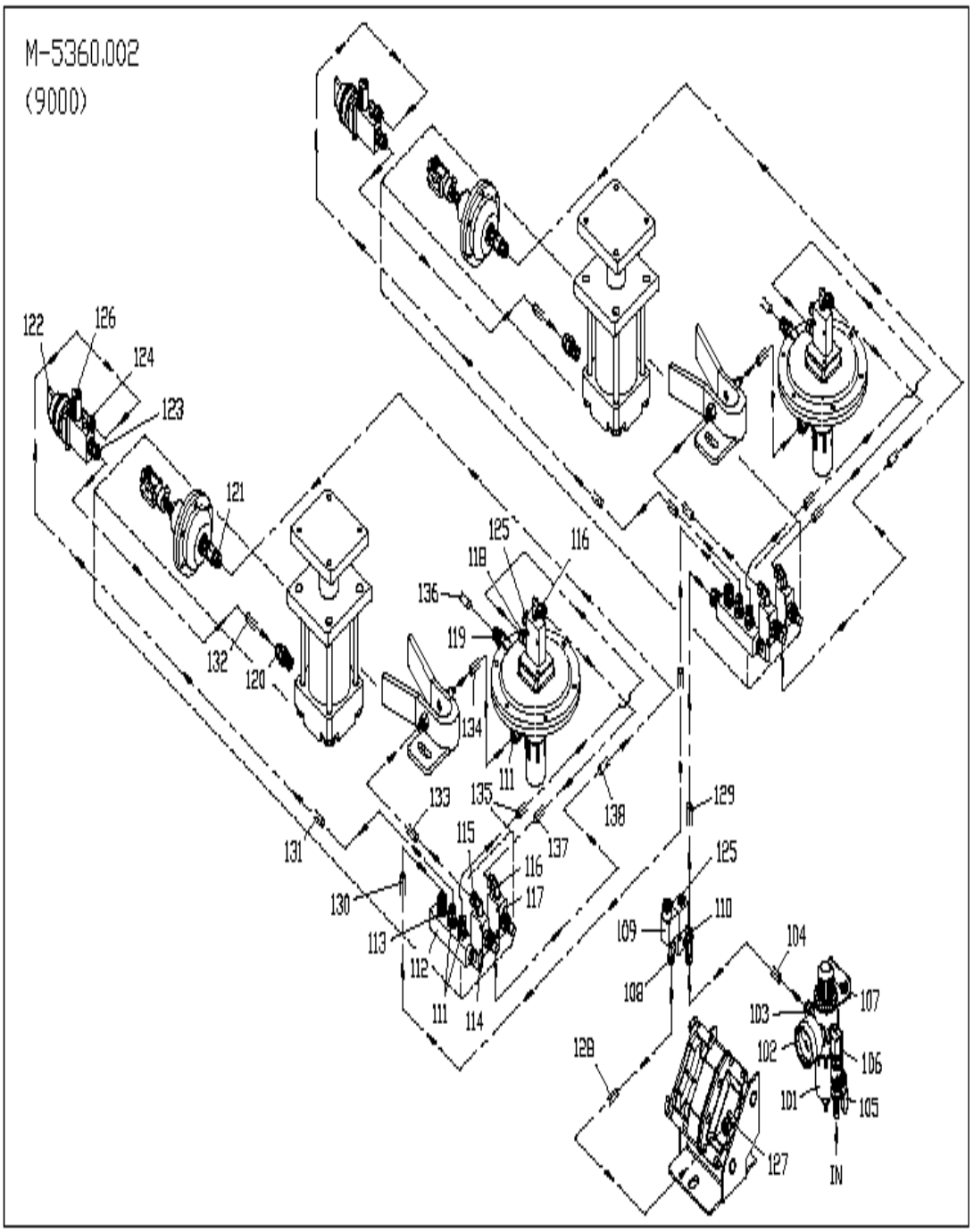
ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	ELECTRICAL CONTROL BOX	118	TERMINAL PLATE
102	HINGE	119	PLAIN WASHER 1/4"
103	ELECTRICAL CONTROL BOX OF DOOR	120	SPRING WASHER 1/4"
104	BASE PLATE	121	SCREW 1/4"
105	NUT 1/4"	122	PU CONNECTOR
106	SPRING WASHER 1/4"	123	PU CONNECTOR
107	CONTROL PANEL	124	CABLE CONNECTOR
108	PHILLIP'S SCREW M4	125	PU CONNECTOR
109	PROPORTIONAL CURRENT DEVICE	126	AMP METER
110	TRANSFORMER: 3PH ONLY	127	STAR DELTA TIMER
111	MAGNETIC CONTACTOR	128-1	START SWITCH
111-1	MAGNETIC CONTACTOR	128-2	START SWITCH
111-2	MAGNETIC CONTACTOR	129-1	STOP SWITCH
112	OVERLOAD RELAY	129-2	STOP SWITCH
113	FUSE	130	POWER INDICATION LIGHT
114	OVERLOAD RELAY	131	EMERGENCY STOP SWITCH
115	MAGNETIC CONTACTOR	132	WIRE COLUMN
115-1	MAGNETIC CONTACTOR	133	COMPUTER
115-2	MAGNETIC CONTACTOR		
115-3	MAGNETIC CONTACTOR		
116	POWER WIRE TERMINAL		
117	PHILLIP'S SCREW 3/16"		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ITEM NO	DESCRIPTION	ITEM NO	DESCRIPTION
101	FILTER CUP	120	CONNECTOR
102	PRESSURE REGULATOR	121	CONNECTOR
103	BRONZE CONNECTOR	122	AIR SWITCH
104	FLEXIBLE HOSE	123	CONNECTOR
105	AIR SWITCH	124	CONNECTOR
106	ELBOW	125	BUFFER
107	SCREW 3/16"	126	BUFFER
108	ELBOW	127	CONNECTOR
109	SOLENOID VALVE	128	FLEXIBLE HOSE
110	T-JOINT	129	FLEXIBLE HOSE
111	CONNECTOR	130	FLEXIBLE HOSE
112	MULTIPLE HOLE CONNECTOR	131	FLEXIBLE HOSE
113	CONNECTOR	132	FLEXIBLE HOSE
114	BRONZE ELBOW	133	FLEXIBLE HOSE
115	CONNECTOR	134	FLEXIBLE HOSE
116	CONNECTOR	135	FLEXIBLE HOSE
117	THROTTLE VALVE	136	FLEXIBLE HOSE
118	CONNECTOR	137	FLEXIBLE HOSE
119	BRONZE CONNECTOR	138	FLEXIBLE HOSE