

ES-137



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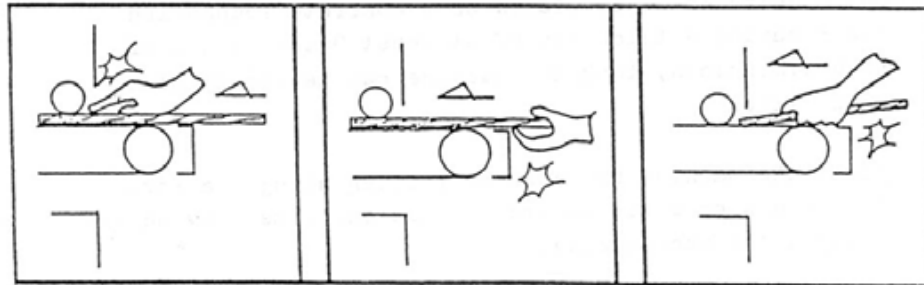
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GENERAL SAFETY RULES

There is a certain amount of hazard involved with the use of woodworking machinery. Using the machine with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, severe personal injury to the operator can occur.

1. Read the operation manual before operating this machine.
2. If you are not thoroughly familiar with the machine operation, obtain advice from a supervisor or other qualified person.
3. The machine should be disconnected from the power source before performing maintenance or adjustments to the internal mechanisms, or when making repairs.
4. After maintenance job is finished, check to see if there are any tools or objects left on the machine. Close all safety guards.
5. Before leaving the machine, make sure the work area is clean.
6. Check timber for loose knots, nails, or other items, which may cause a hazard or affect the machine's performance.
7. Learn the machine's applications and limitations, as well as the specific potential hazards peculiar to it. Keep the machine in top condition for best and safest performance.
8. Keep all guards in place and in working order.
9. Do not force the machine. It will do the job better and be safer working at the rate for which it was designed.
10. All children and visitors should be kept a safe distance from the working area.
11. The operator should keep proper footing and balance at all times.
12. Do not operate the machine while under the influence of drugs, alcohol, or any other medication.
13. Avoid awkward operations and hand positions where a sudden slip could cause your hand to move into the machine.
14. Never leave the machine until it comes to a complete stop, and never leave the machine running unattended.
15. The employer is responsible for selecting competent and qualified employees.
16. The employer must make sure that employees study and utilize this safety information.
17. Supervisors must alert personnel of any unsafe practices they observe.
18. All employees should be aware of first aid facilities and be encouraged to use them, regardless of the severity of the injury.
19. Fire prevention must be practiced and must be available to prevent loss of life, personal injury, and property damage.
20. Safety shoes should be worn to provide protection against rolling objects, falling objects, and sharp edges in the workplace.
21. Eye protection should be worn and such devices should be carefully selected, fitted and used. Compulsory wearing of glasses with impact resistant lenses and side shields is a good safety policy. All eye protection should conform to ANSI 87 standards.
22. Wear hearing protection when operating the machine.
23. Do not wear rings, necklaces or jewelry around moving machinery.
24. Do not wear loose fitting clothes. Clothing should be comfortable, but long sleeves, neckties, etc. should not be worn.
25. Do not wear gloves or other hand covering articles around moving machinery.
26. Cover long hair with a hair net or cap.

27. Protective guards and shields must be in place at all times unless they must be removed for specific service or maintenance. They should be immediately replaced when service or maintenance is completed.
28. Make sure that operator clearly knows how to stop the machine before starting work.
29. Never clean or remove chips while the machine is running.
30. Maintain the machine in good operating condition. Report unusual conditions or machine malfunctions immediately.
31. Do not alter or remove guards or warning labels.
32. Keep the immediate area clean. Do not allow the floor to become slippery, or covered with dust or obstacles. Dust that accumulates in the work area is a hazard that can cause you to fall or slip against the machine or its controls.
33. Employees should be required to report to their supervisors any hazardous condition of the machine or in the immediate area.
34. Be careful with your hands on the following spots when operating the sander.



SHIPPING & RECEIVING INSTRUCTIONS

This machine has been carefully inspected and tested before packing. It was delivered in good condition and was shipped in one wooden pallet.

When receiving this machine, inspect the wooden pallet and check to see if there is any damage. Then check the machine model and all items as according to the packing list.

If there is any damage on the machine or any missing parts, report it to your local distributor or the machine manufacturer immediately.

UNPACKING & CHECKING CONTENTS

The machine has been well packed at the manufacturer's factory and shipped in good condition. The machine is shipped in one wooden pallet.

Upon receiving the machine, carefully unpack it and check all items as according to the packing list.

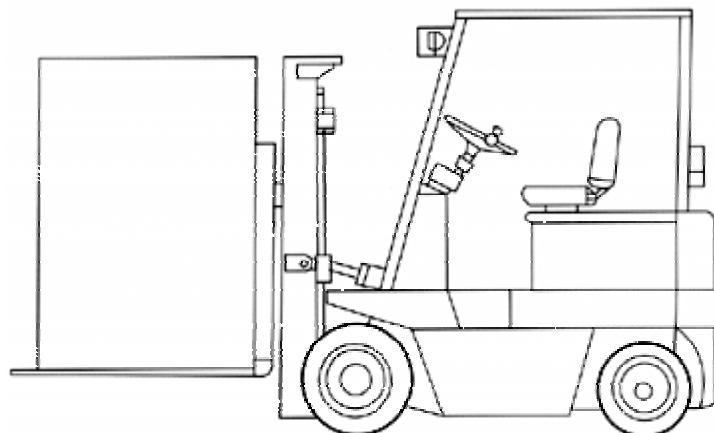
If you find any part is missed or damaged, contact your local distributor or the manufacturer of the machine immediately. Do not attempt to operate the machine until the missing parts are obtained and are installed correctly.

CLEANING THE MACHINE

The machine is coated with rust preventative oil before shipment. When the machine has been moved to the proper work site, wipe the oil from the machine using a soft cloth soaked in kerosene. Do not use gasoline, lacquer thinner, or any other volatile solvent, as these may damage the paint surface of the machine.

LIFTING THE MACHINE

The machine should be moved to the work site with a forklift. Make sure that the forklift'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.



ADJUST MACHINE LEVELING

Once the machine has been located at the work site, then the machine installation job must be performed. The machine should be placed on the ground. It is not necessary to bolt the machine to the floor. The machine comes furnished with 4 or 6 steel pads, which should be placed under the leveling screws before proper leveling adjustment can take place. Place a precision level gauge on the conveyor table to check leveling. Take measurements at the front, rear, right, and left side of the conveyor table. Machine leveling can be adjusted by turning the leveling screws located at each corner of the base until proper leveling is obtained.

SPECIFICATIONS

Model	ES-137/1	ES-137/3
Phase	One	Three
Max. Working Width	36.5"	
Max. Working Height	6"	
Main Spindle Motor	10 HP	15 HP
Feed Motor	1 HP	
Table Hoist Motor	1/3 HP	¼ HP
Two Feed Speed	15 & 30 FPM	
Size of Sanding Belt	37" x 60"	
Packing Size: L x W x H	45" x 56" x 72"	
Dust Hood Diameter	4"	
Gross Weight	2300 lbs	2314 lbs

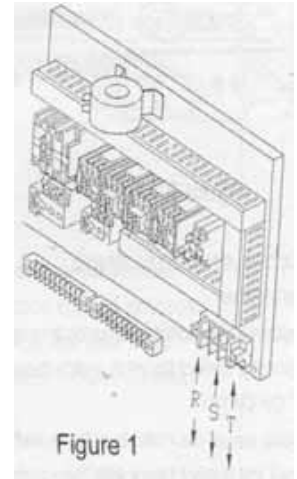
ELECTRICAL SAFETY RULES

1. Do not alter or bypass any protective interlock.
2. Before starting the machine, read and observe all warning labels and markings such as nameplates and identification plates.
3. Only personnel who are properly trained and have adequate knowledge and skill should undertake all electrical/electronic troubleshooting and repair.
4. Use extra precautions in damp areas to prevent yourself from accidental grounding.
5. Make sure your body and your tools are clear of electrical grounding.
6. The control panel doors should be opened only when it is necessary to check the electrical equipment or electrical wiring.
7. Before applying power to any equipment, establish without a doubt that all persons are clear.
8. Be alert and be sure you can work with no outside distractions.
9. Avoid wearing metal frame glasses or wearing a metallic necklace or chain, and never work on electrical equipment while wearing rings, watches, or bracelets.
10. When replacing conductors, make sure they conform to the manufacturer's specifications, including proper color-coding.
11. Do not alter the electrical circuits. If machine damage is caused by an unauthorized alteration, the user is responsible, not the manufacturer.
12. Always assume the electrical power is ON and treat circuit as live. This caution develops a habit that may prevent an accident.
13. Give capacitors time to discharge. Otherwise, it should be done manually with care.
14. Use proper test equipment to make certain you have an open circuit. Test equipment must be checked and calibrated at regular intervals.
15. Open the control panel doors only when it is necessary to check the electrical equipment or wiring. After closing the door, make sure the disconnecting handle mechanism is its proper position.
16. All covers on junction boxes must be closed before leaving any job.

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 pre-wired voltage of the machine is indicated on the electrical indication plate. The power source connection points are located inside the control box and are marked “R-S-T” for three phase and “R-S” for single phase. The ground wire connection point is marked “E”. See Figure 1.

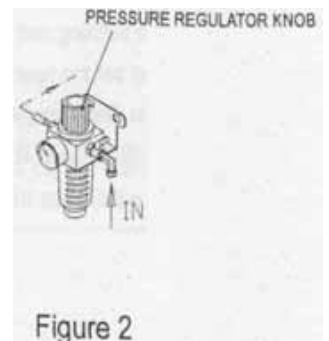
Once the wiring is completed, turn the machine on, press the conveyor table raising switch and see if the table moves the same direction indicated on the switch. If it does not, turn the machine off and switch the “R” and “T” power source wires.



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

AIR CIRCUIT CONNECTION

The air circuit connector is on the Filter/Regulator unit located on the back side of the 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 adjustment 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 recommended working pressure is 4-5 kg/cm².



DUST HOOD CONNECTION

Connect your dust collection system to the machine’s dust hood (located on top) with a 4” diameter (light duty) or 5” diameter (heavy duty) flexible hose. Make sure the dust collector has sufficient capacity for the machine.

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

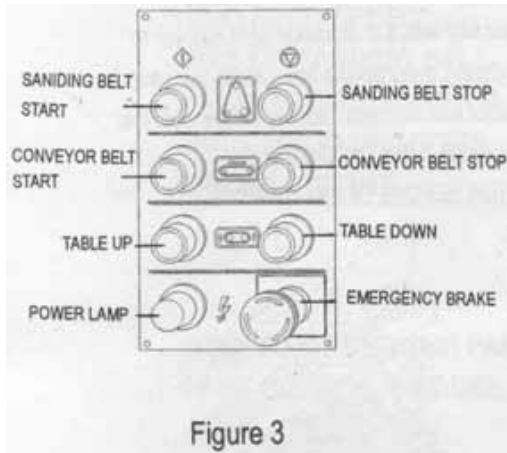
OPERATION

Before operating the sander, make sure that:

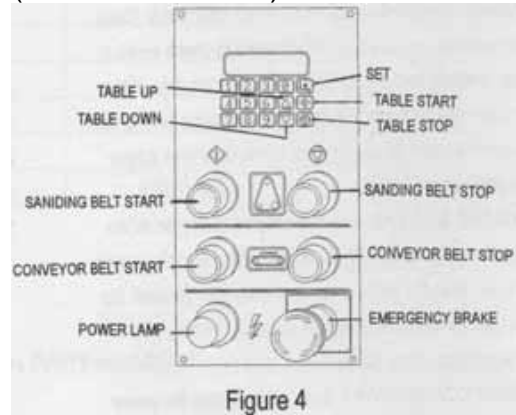
1. Dust collection system is turned on.
2. Sanding belt specification is correct.
3. Sanding belt is running in proper direction.
4. Sanding belt tension is correct.
5. All screws and handles are tightened securely.
6. Working air pressure is correct, normal working pressure is 4-5 kg/cm². Do not operate the 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.

CONTROL PANEL

ELECTRICAL CONTROL PANEL



DIGITAL CONTROL PANEL (OPTIONAL ITEM)



OPERATION OF DIGITAL PANEL

Calibration

1. Calibrate the digital readout by first measuring the thickness of your work piece.
2. Input the correct figure to match the work piece 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 x1, x2 or x4 with the switch on the rear of the control unit.
4. Turn on the power.

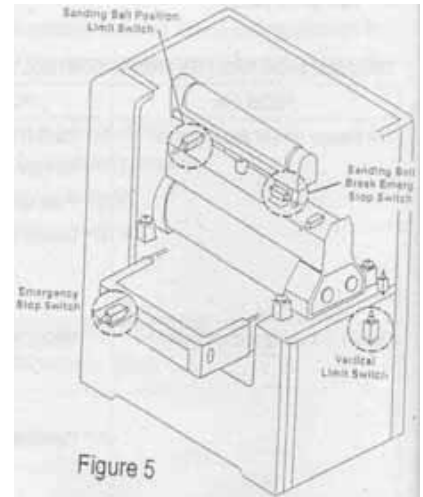
TROUBLESHOOTING FOR DIGITAL CONTROL PANEL

Problem	Possible Cause	Solution
The display fails to show figures	Electric pressure of the 220V or AC110V is abnormal	Re-input correct electric pressure
	Fuse is burned out	Replace 1A fuse
	Control unit is out of order	Unit must be repaired or replaced by authorized service personnel
Display shows abnormal figures	Wrong figures were input	Input the proper numbers in accordance with the actual dimensions
	Parameter is incorrect	Calculate 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 conjunction with the hoist motor's operation	Proximity switch is not functioning (a functioning proximity switch will cause the light on the induction switch to be illuminated or put out depending on movement of the table)	Change proximity switch
	Distance between induction unit and induction sheet is more than 1mm	Adjust distance between induction unit and induction sheet to less than 1mm
	Encoder not running in accordance with the table movement. Axle connector off or damaged.	Repair or replace encoder
	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	Replace encoder
Travel dimension incorrect	Control unit parameter is not in harmony with the table	Connect control unit parameter

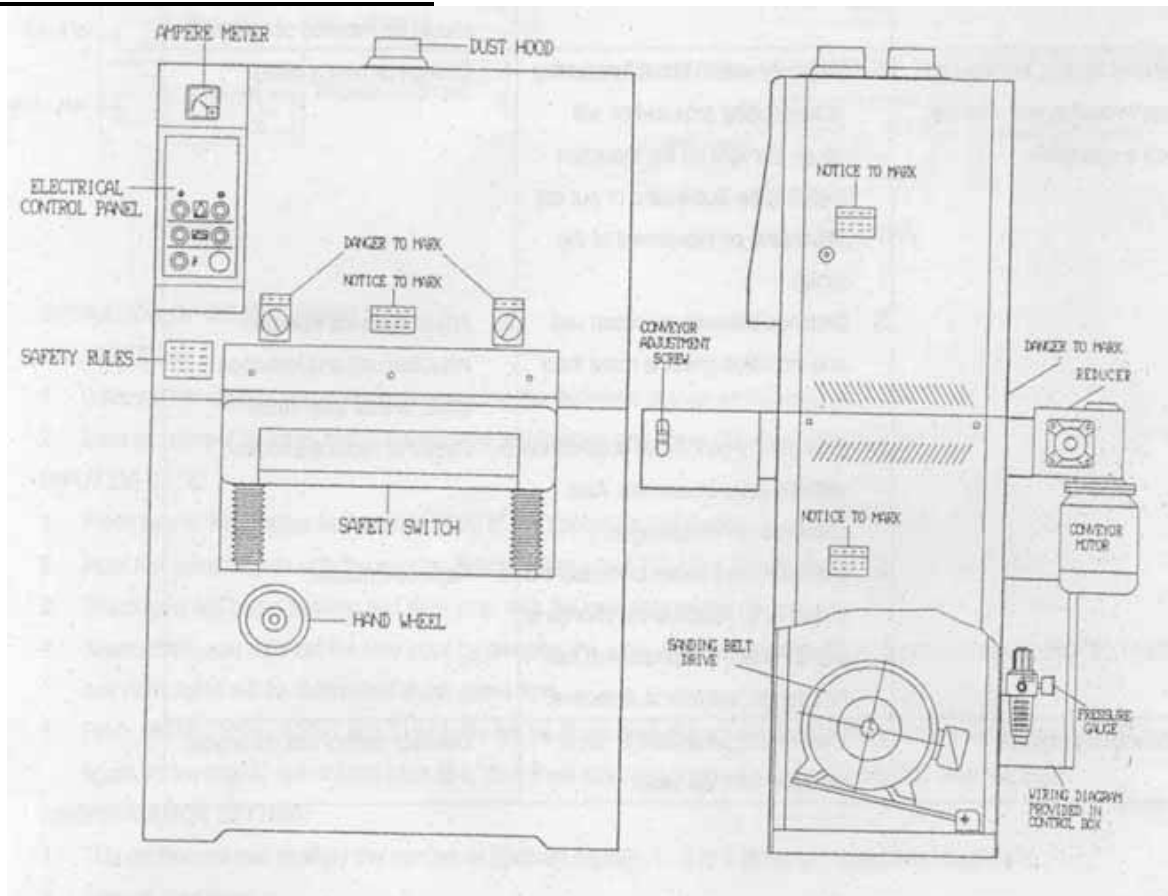
BRAKING SYSTEM

The sander will stop automatically if any of the following occur:

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



MAJOR PARTS OF THE MACHINE



ADJUSTMENTS

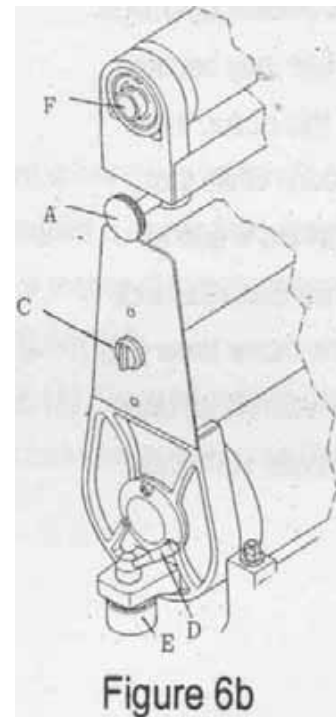
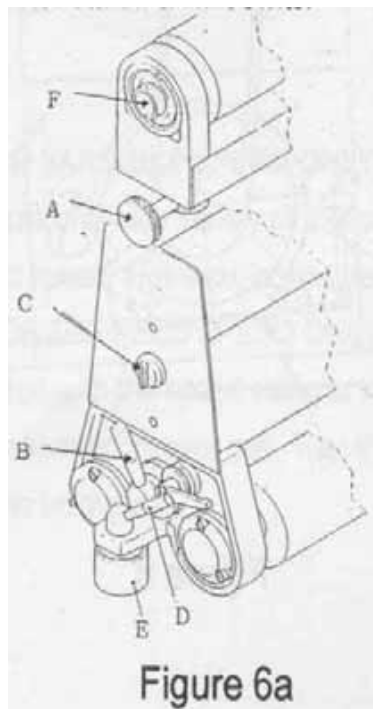
Sanding Belt Tension Adjustment

An air cylinder controls the tension of the sanding belt. Turn the tension air switch to tighten or loosen the sanding belt tension. When the machine is not in use, release the sanding belt tension to avoid sanding belt fatigue.

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 1 second, then the oscillation time to the left is 1 second.
2. If the oscillation time to the right is 1 second, but the oscillation time to the left is longer, then loosen the tracking adjustment lever (A), see Figure 6, and move it to the left until proper tracking is achieved. When satisfied, tighten the lever.
3. If the oscillation time to left is 1 second, but the oscillation time to the right side is longer, then loosen the tracking adjustment lever and move it to the right until proper tracking is achieved. Tighten adjustment lever.



Changing Sanding Belt

1. Disconnect machine from power source.
2. Shut "OFF" the air tension switch (C), Figure 6.
3. Remove the pad lock lever (D) by turning it counter-clockwise.
4. Remove the pad block (E).
5. Remove old belt by sliding it out the end.
6. Insert new belt by starting first on the top tension roller (F), then the contact roller. Center the belt while avoiding contact with limit switch fingers that are located on each side of the belt.

CAUTION: 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 LOCATED ON EACH SIDE OF THE BELT.

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 and limit 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.

NOTE: MACHINE WILL NOT START IF A LIMIT SWITCH IS DEPRESSED.

Sanding Platen Position Adjustment (For the Roller with Platen Only)

The sanding platen is constructed of graphite cloth and carpet. 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 (B) Figure 6B. Turn it clockwise to lower the platen, counter-clockwise to raise it. Each revolution of the knob is 0.2mm.

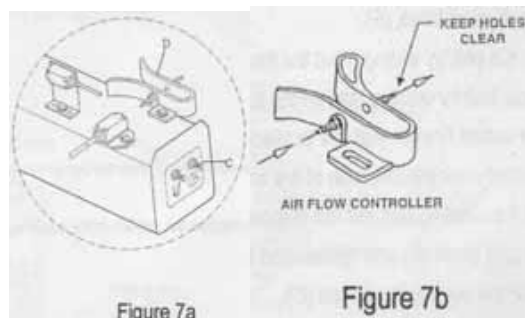
NOTE: THE PLATEN SHOULD ALWAYS BE KEPT CLEAN. AFTER SANDING IF THE WORK PIECE HAS STRAIGHT NOTCHES ACROSS IT, THE GRAPHITE CLOTH AND CARPET HAVE WORN OUT AND SHOULD BE REPLACED IMMEDIATELY.

Sanding Belt Oscillation Speed Adjustment

The air cylinder controls the sanding belt oscillation. Oscillation speed can be adjusted by means of the speed controller (C) on the cylinder, Figure 7. 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 flow controller (D) should be checked frequently. If it becomes blocked with dust, it may cause the sanding belt to run out of its normal track and the machine will shut off.

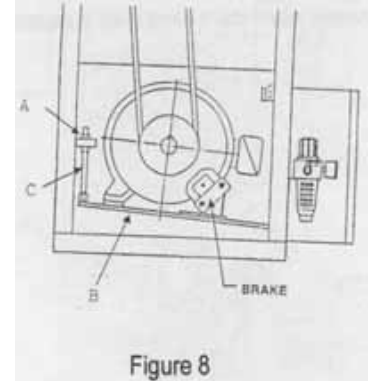
In the event of blockage, this hole should be cleaned.



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 follows in Figure 8:

Slightly loosen the lock nut (A) that tightens the motor base (B), and turn the adjustment screw (C) until correct tension is achieved. Retighten the lock nut (A).

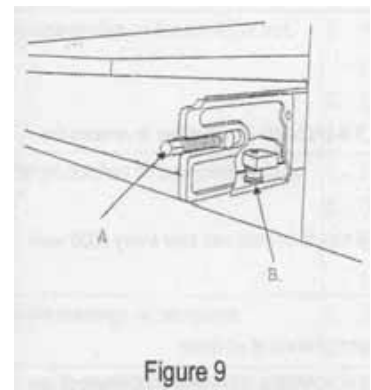


Conveyor Belt Tracking Adjustment

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 tight or too loose, adjust this first before you adjust the tracking. Then proceed as follows:

1. Remove front brake cover by removing the four screws.
2. Adjust tracking with the adjustment rod (A) located at right and left front sides of the conveyor table. See Figure 9, cut-away view.
3. If the conveyor belt is moving to the right side, turn the right rod clockwise. This will return the tracking to the left. (Each turn of the screw adjusts approximately 30°.)
4. If the conveyor belt is moving to the left side, turn the left rod clockwise. This will return the tracking to the right. (Each turn of the screw adjusts approximately 30°.)
5. Positioning wheel (B) have been provided on the right and left sides of the conveyor belt to limit the belt tracking. When adjusting the tracking, the belt should be moved until its edge just touches the positioning wheels.
6. After the machine has been running 3-5 minutes recheck the conveyor belt tracking and readjust if necessary.
7. When satisfied, replace the brake cover.

NOTE: CONVEYOR BELT TRACKING SHOULD BE ADJUSTED WHILE THE MACHINE IS RUNNING.

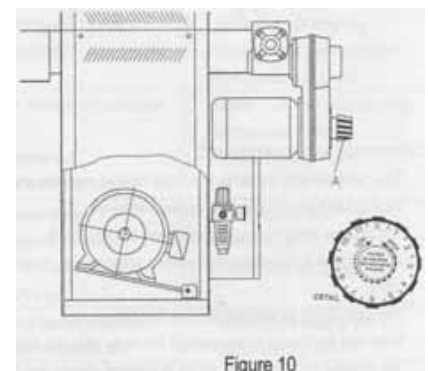


Feed Speed (For Variable Speed Only)

The feed speed adjustment 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 hardwoods require a lower feed speed. However, correct feed speed selection is largely a matter of experience.

CAUTION: CHANGE THE FEED SPEED ONLY WHILE THE MACHINE IS RUNNING.

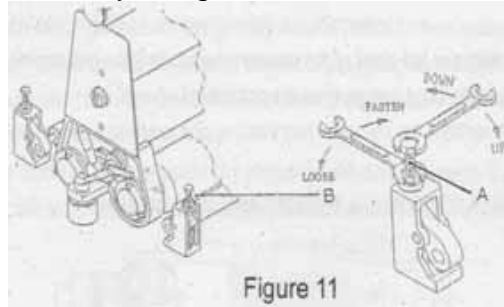
Adjust the feed speed with the speed selector knob of the worm gear reducer, (A) Figure 10, and the speed adjustment valve of the hydraulically driven conveyor belt. Turn the feed speed selector knob clockwise to decrease the conveyor belt speed, counter-clockwise to increase it.



Pressure Roller Adjustment

The front and rear pressure rollers have been factory adjusted. However, if further adjustment is ever required, 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 the 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 (A) then turn the adjustment knob (B) as shown in Figure 11.
5. When parallelism is satisfactory, retighten the fix nut.



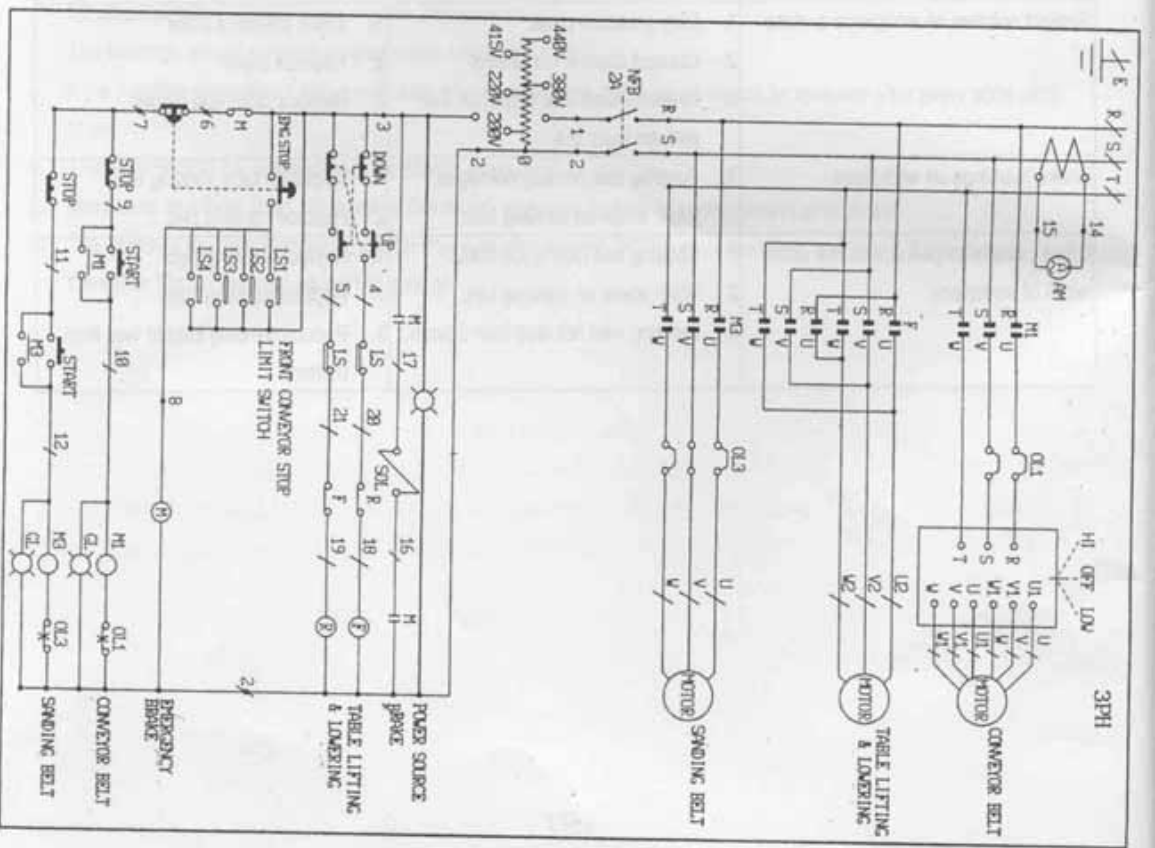
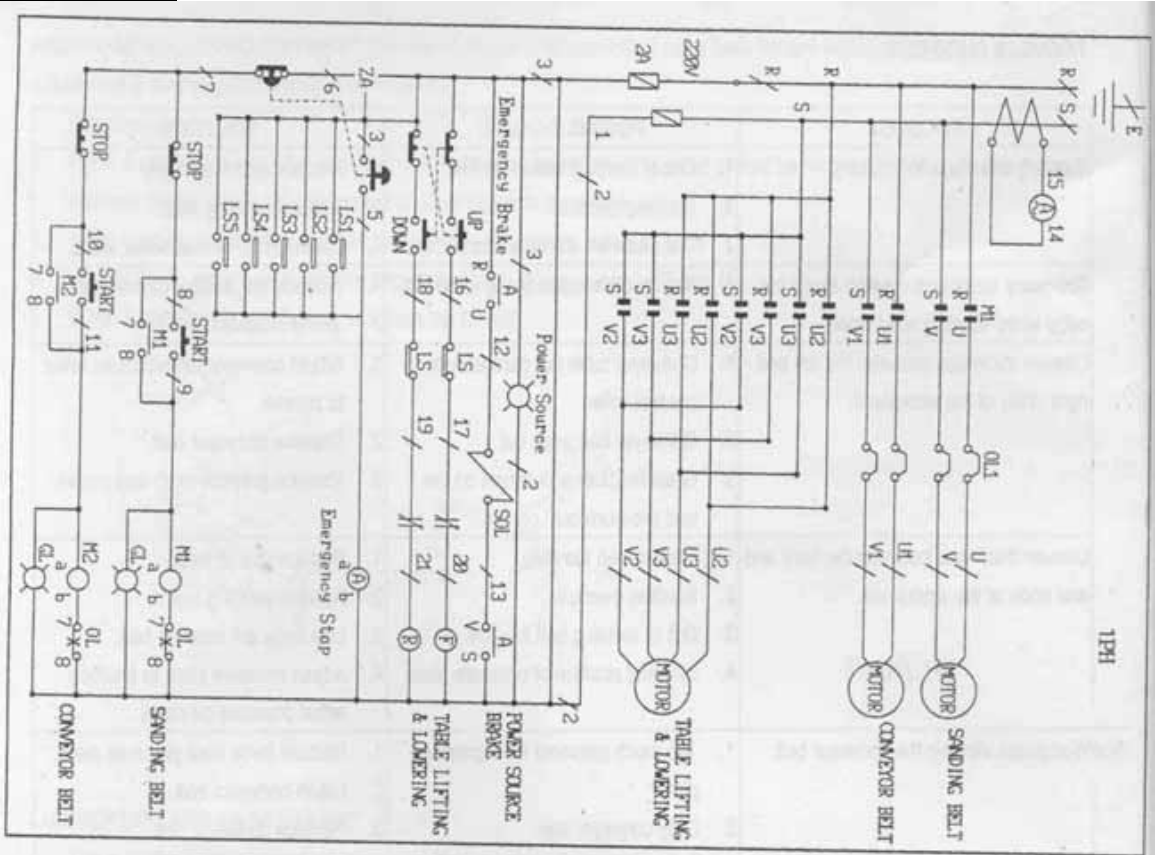
LUBRICATION & MAINTENANCE

1. The machine interior should be thoroughly cleaned every day after work. It is important to remember to remove the sanding belt before 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 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.

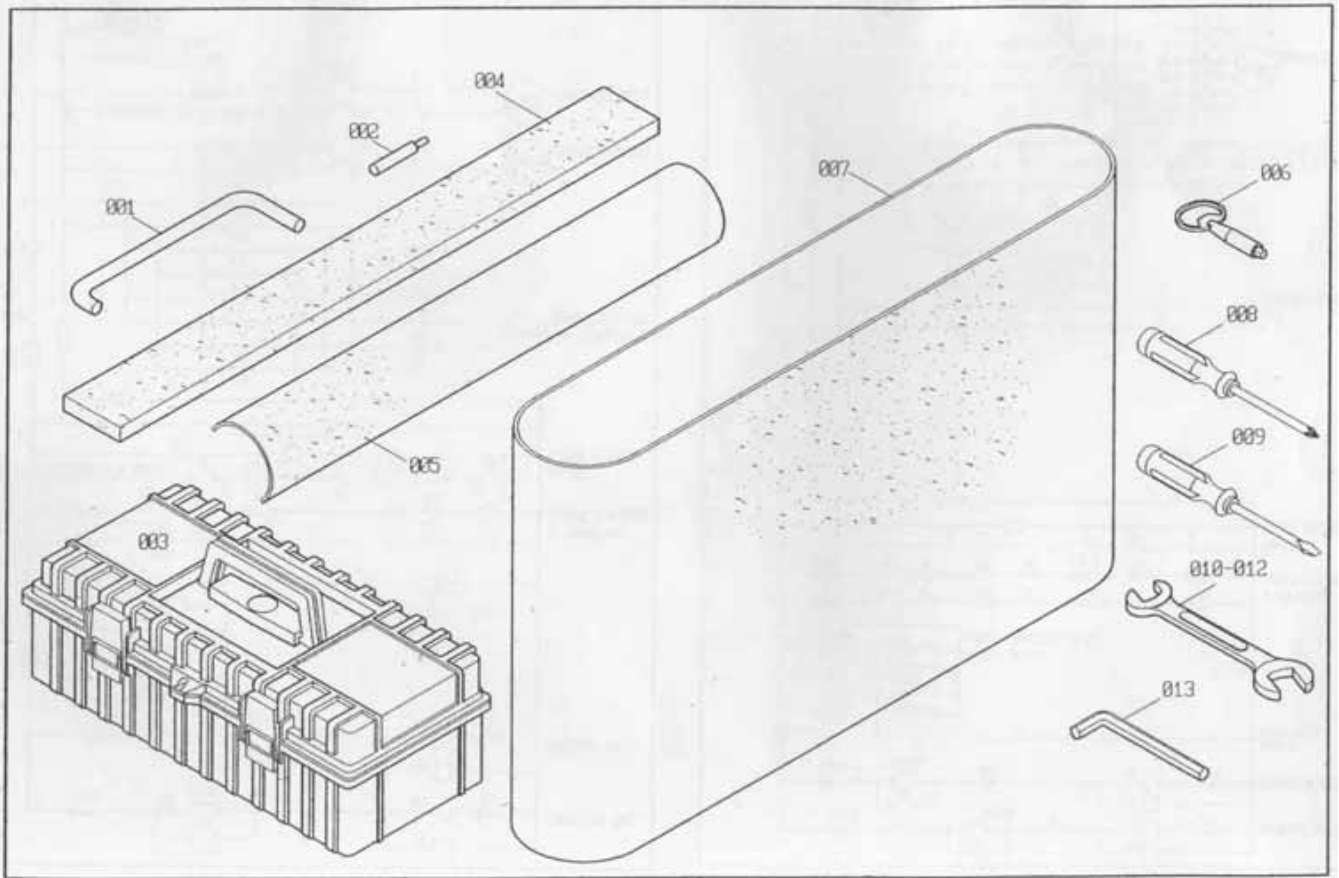
TROUBLESHOOTING

Problem	Possible Cause	Solution
Sanding belt clogs too quickly	Grit of sanding belt is too fine	Replace with larger grit
	Sanding overload	Reduce sanding load
	Too much oil, dirt on wood surface	Clean wood, or use better stock
Too many roundings created along the edge while sanding solid wood	Too much material being removed	Reduce the amount of material being removed
Uneven thickness between the left and right sides of the work piece	Conveyor table not parallel with contact roller	Adjust conveyor table/contact roller to parallel
	Conveyor belt worn out	Replace conveyor belt
	Graphite cloth and carpet on the pad are worn out	Replace graphite cloth and carpet
Uneven thickness between the front and rear ends of the work piece	Feed speed too fast	Reduce rate of feed
	Sanding overload	Reduce sanding load
	Grit of sanding belt too fine	Use large grit sanding belt
	Unequal position of pressure plate	Adjust pressure plate to produce equal pressure on stock
Work piece slips on the conveyor belt	Too much pressure from pressure plate	Reduce force from pressure plate
	Dirty conveyor belt	Clean conveyor belt
	Conveyor belt is worn out	Replace conveyor belt
Straight notches on work piece surface	Dirty pressure plate	Clean pressure plate
	Contact drum is scratched	Replace drum
	Graphite cloth and carpet on the pad are worn out	Replace cloth and carpet
Snake markings on work piece	Sanding belt partially damaged	Repair/replace sanding belt
	Worn areas on sanding belt	Replace sanding belt
Sanding load not less than 0.0mm	Sanding belt joint is too thick	Replace sanding belt
	Worn areas on sanding belt	Replace sanding belt
	Sanding load not less than 0.0mm	Reduce sanding load to less than 0.0mm

WIRING DIAGRAM

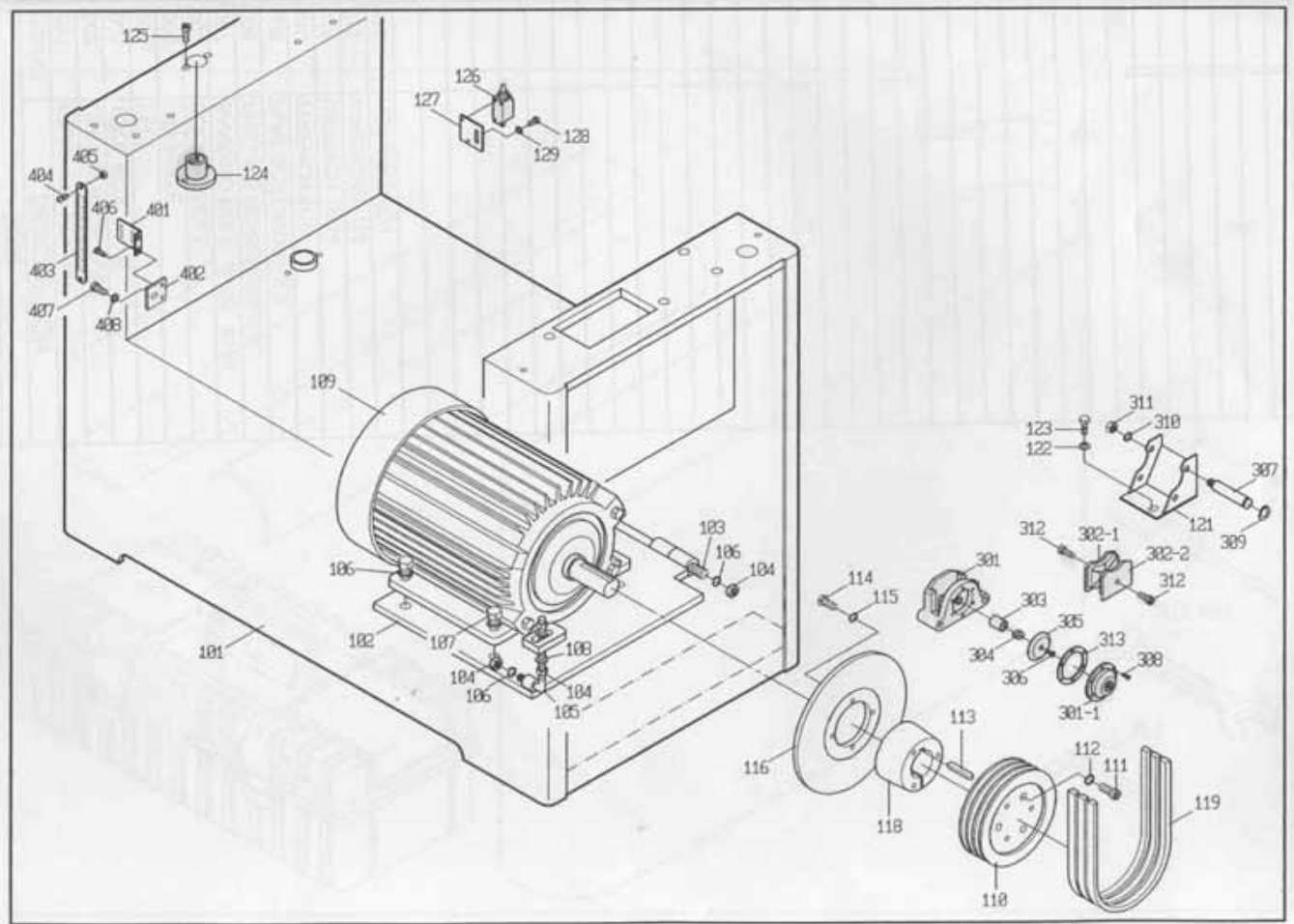


PARTS LIST
Parts 0000



Item No	Description	Part No
001	Graphite Holder	0000-001
002	Limit Switch Tube	0000-002
003	Tool Box	0000-003
004	Felt	FELT37
005	Graphite	X-GRAPHITE
006	Door Handle	0000-006
007	Sanding Belt	
008	Phillips Screwdriver	0000-008
009	Flat Screwdriver	0000-009
010	Wrench 8/10	0000-010
011	Wrench 12/14	0000-011
012	Wrench 17/19	0000-012
013	Hex Wrench	0000-013

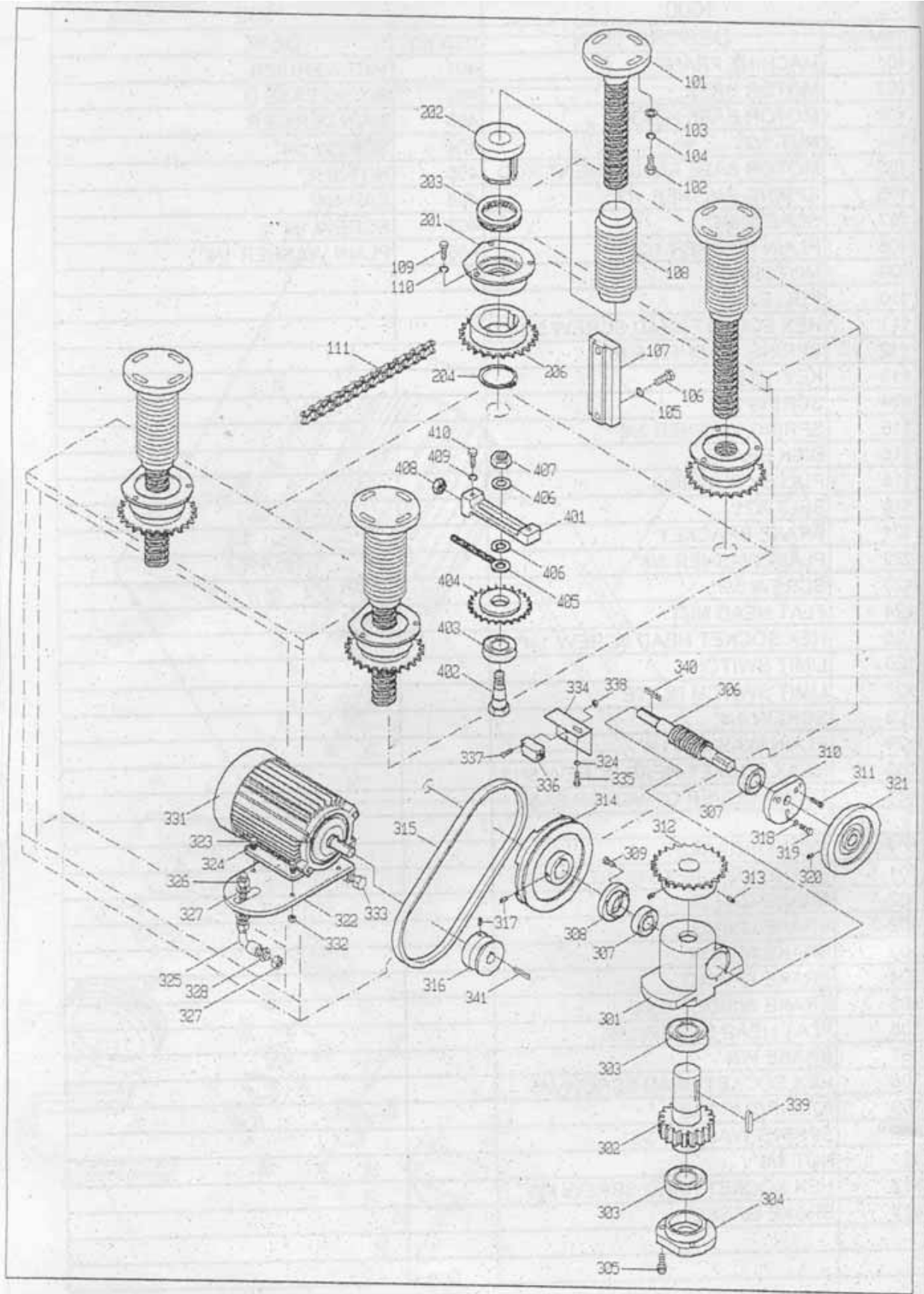
Parts 1000



Item No	Description	Part No
101	Machine Frame	1000-101
102	Motor Base	1000-102
103	Motor Base Hinge	1000-103
104	Nut 1/2"	1000-104
105	Motor Base Adjustment Rod	1000-105
106	Spring Washer 1/2"	1000-106
107	Screw 3/8"	1000-107
108	Plain Washer 1/2"	1000-108
109	Motor 1 Phase	1000-109-1
	Motor 3 Phase	1000-109-3
110	Pulley	1000-110
111	Hex Socket Head Screw 5/16"	1000-111
112	Spring Washer 5/16"	1000-112
113	Key 10M/M	1000-113
114	Screw 3/8"	1000-114
115	Spring Washer 3/8"	1000-115
116	Disk Brake	1000-116
118	Pulley Bushing	1000-118
119	Belt A71	1000-119

121	Brake Bracket	1000-121
122	Plain Washer 3/8"	1000-122
123	Screw 3/8"	1000-123
124	Flat Head Nut	1000-124
125	Hex Socket Head Screw 1/4"	1000-125
126	Limit Switch	1000-126
127	Limit Switch Plate	1000-127
128	Screw 1/4"	1000-128
129	Plain Washer 1/4"	1000-129
130	Hex Socket Head Screw 5/16"	1000-130
131	Fixing Cover of Motor Base	1000-131
301	Brake Bracket	1000-301
301-1	Brake Bracket Front Guard	1000-301-1
302-1	Brake Lining	1000-302-1
302-2	Brake Lining	1000-302-2
303	Brake Arbor	1000-303
304	Brake Spring	1000-304
305	Brake Inside Piece	1000-305
306	Flat Head Screw M6	1000-306
307	Brake Pin	1000-307
308	Hex Socket Head Screw M5	1000-308
309	"C" Circlip S12	1000-309
310	Spring Washer 3/8"	1000-310
311	Nut 3/8"	1000-311
312	Hex Socket Head Screw M6	1000-312
313	Brake Gasket	1000-313
401	Vice Vernier	1000-401
402	Fixing Base of Vice Vernier	1000-402
403	Main Vernier	1000-403
404	Screw 1/4"	1000-404
405	Nut 5/16"	1000-405
406	Cap 1/4"	1000-406
407	Screw 1/4"	1000-407
408	Plain Washer 1/4"	1000-408

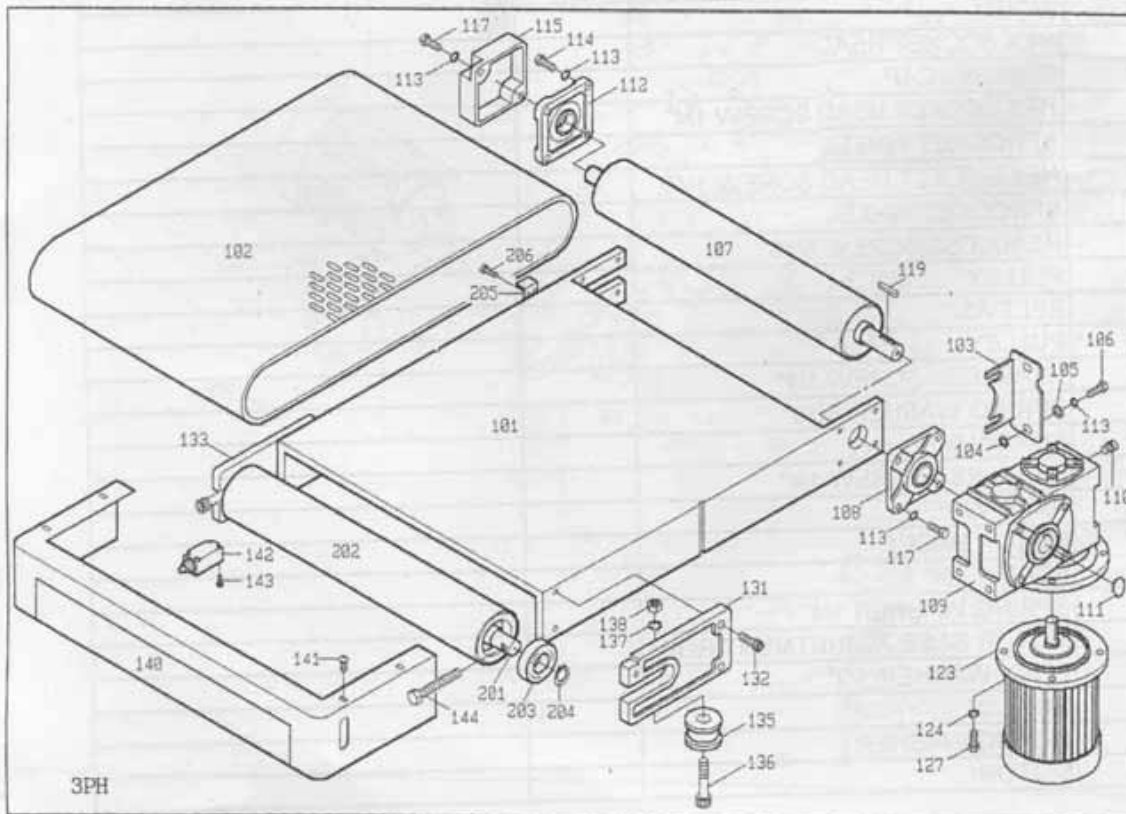
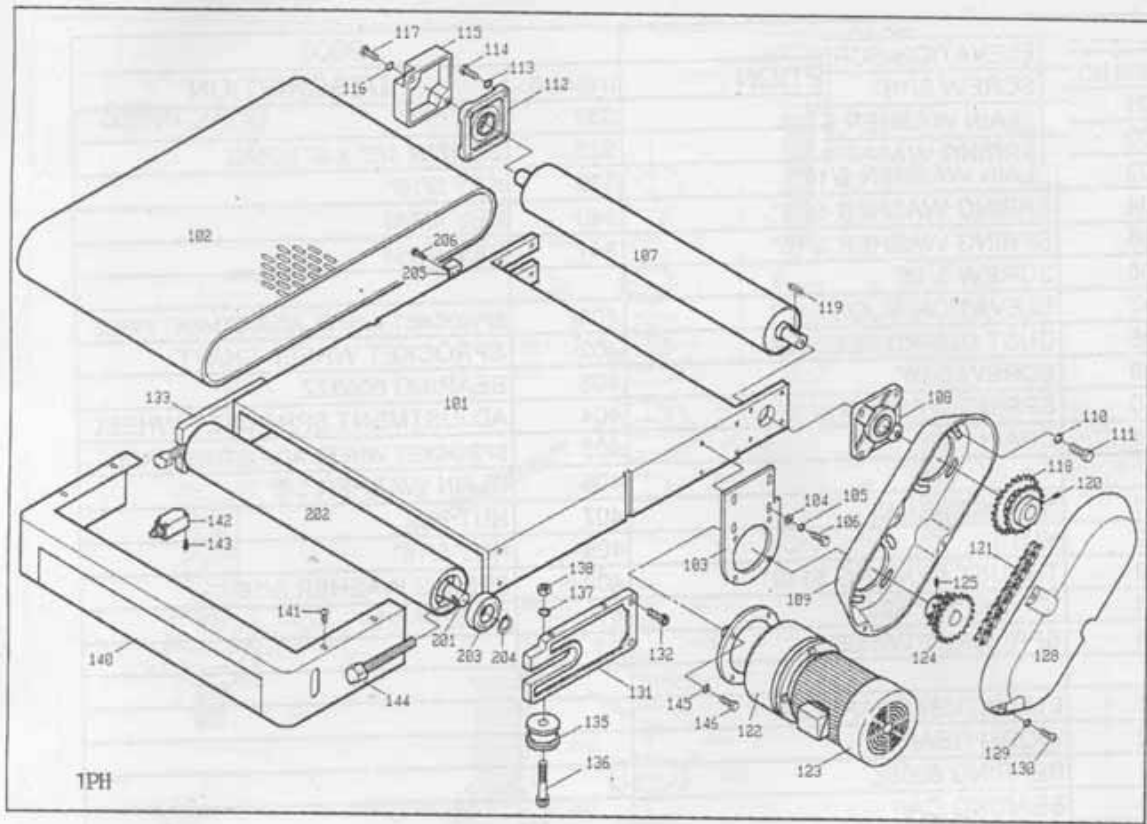
Parts 2000



Item No	Description	Part No
101	Elevation Screw	2000-101
102	Screw 5/16"	2000-102
103	Plain Washer 5/16"	2000-103
104	Spring Washer 5/16"	2000-104
105	Spring Washer 5/16"	2000-105
106	Screw 5/16"	2000-106
107	Elevation Slide	2000-107
108	Dust Guard Below	2000-108
109	Screw 5/16"	2000-109
110	Spring Washer 5/16"	2000-110
111	Chain	2000-111
201	Nut Housing	2000-201
202	Nut	2000-202
203	Thrust Bearing 51107	BE-51107
204	"C" Circlip S35	2000-204
206	Sprocket Wheel	2000-206
301	Elevation Gear Box	2000-301
302	Worm Gear	2000-302
303	Bearing 6005Z	BE-6005Z
304	Bearing Cap	2000-304
305	Hex Socket Head Screw 1/4"	2000-305
306	Worm	2000-306
307	Bearing 6002Z	BE-6002Z
308	Bearing Cap	2000-308
309	Hex Socket Head Screw 1/4"	2000-309
310	Bearing Cap	2000-310
311	Hex Socket Head Screw 1/4"	2000-311
312	Sprocket Wheel	2000-312
313	Headless Screw 5/16"	2000-313
314	Pulley	2000-314
315	Belt A37	2000-315
316	Pulley	2000-316
317	Headless Screw 1/4"	2000-317
318	Spring Washer 5/16"	2000-318
319	Screw 5/16"	2000-319
320	Headless Screw 1/4"	2000-320
321	Hand Wheel	2000-321
322	Motor Base	2000-322
323	Screw 1/4"	2000-323
324	Spring Washer 1/4"	2000-324
325	Motor Base Adjustment Rod	2000-325
326	Plain Washer 1/2"	2000-326
327	Nut 1/2"	2000-327
328	Spring Washer	2000-328

331	Motor 1 Phase	2000-331-1
	Motor 3 Phase	2000-331-3
332	Nut ¼"	2000-332
333	Screw ½" x 4" Long	2000-333
339	Key 5/16"	2000-339
340	Key 4M/M	2000-340
341	Key 4M/M	2000-341
401	Sprocket Wheel Adjustment Piece	2000-401
402	Sprocket Wheel Shaft	2000-402
403	Bearing 6003ZZ	BE-6003ZZ
404	Adjustment Sprocket Wheel	2000-404
405	Sprocket Wheel Adjustment Rod	2000-405
406	Plain Washer 3/8"	2000-406
407	Nut 3/8"	2000-407
408	Nut 5/16"	2000-408
409	Spring Washer 5/16"	2000-409
410	Screw 5/16"	2000-410

Parts 3000

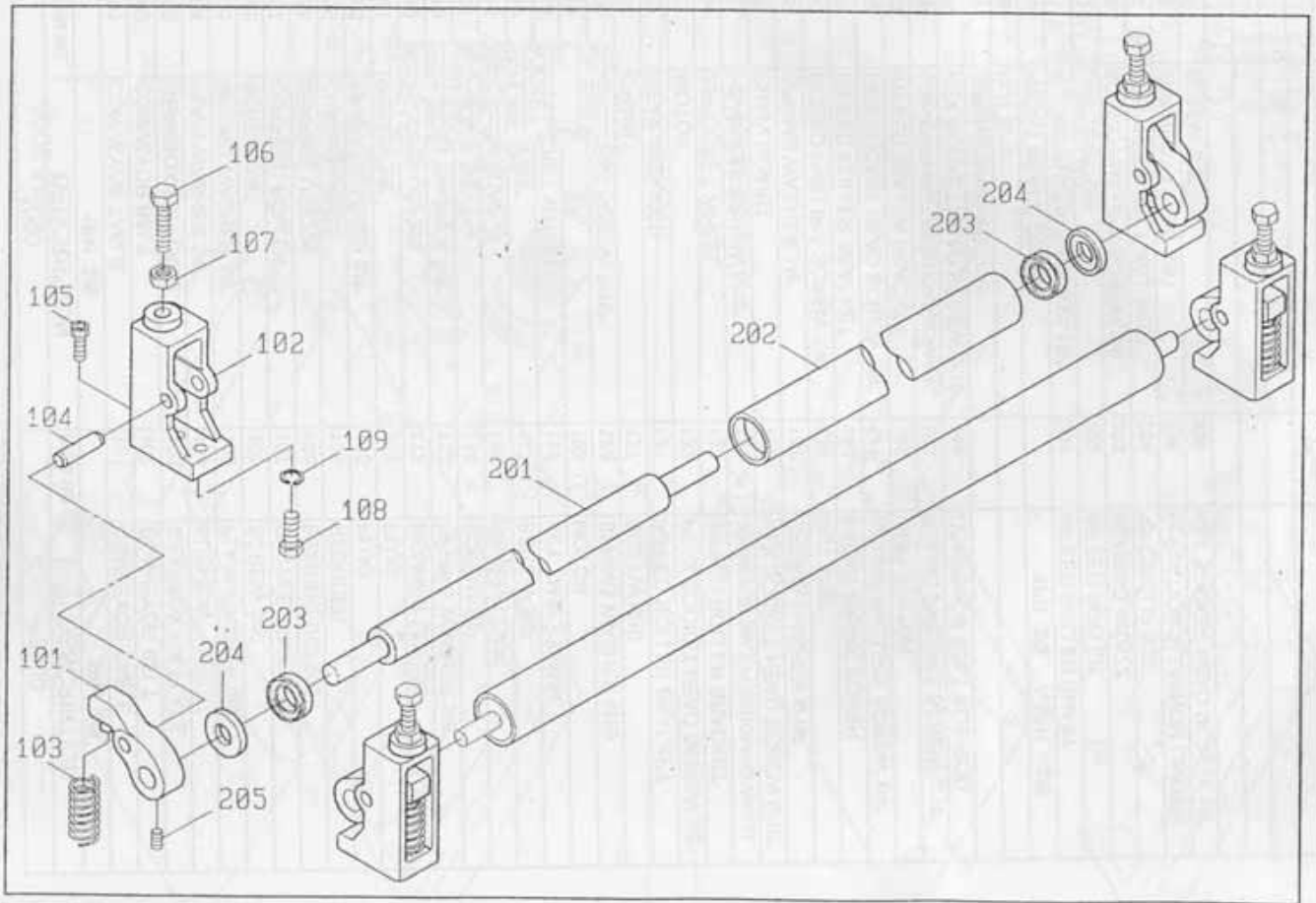


Item No	Description	Part No
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101	Conveyor Table	3000-101
102	Conveyor Belt	3000-102
103	Gear Box Fix Plate	3000-103
104	Plain Washer 3/8"	3000-104-1
	Cushion	3000-104-3
105	Spring Washer 3/8"	3000-105-1
	Plain Washer 3/8"	3000-105-3
106	Screw 3/8"	3000-106
107	Outfeed Roller	3000-107
108	Bearing UCF206	BE-UCF206
109	Chain Guard	3000-109-1
	Reducer	3000-109-3
110	Spring Washer 3/8"	3000-110-1
	Plug	3000-110-3
111	Screw 3/8"	3000-111-1
	Plug	3000-111-3
112	Bearing UCF205	BE-UCF205
113	Spring Washer 3/8"	3000-113
114	Screw 3/8"	3000-114
115	Bearing Cap	3000-115
117	Screw 3/8"	3000-117
118	Sprocket Wheel	3000-118
119	Key 7M/M x 75 M/M	3000-119
120	Headless Screw 5/16"	3000-120
121	Chain	3000-121
122	Gear Reducer	3000-122
123	Motor 1 Phase	3000-123-1
	Motor 3 Phase	3000-123-3
124	Sprocket Wheel	3000-124-1
	Spring Washer M10	3000-124-3
125	Headless Screw 5/16"	3000-125
127	Screw M10	3000-127
128	Chain Guard	3000-128
129	Spring Washer 1/4"	3000-129
130	Round Phillips Screw 1/4"	3000-130
131	Infeed Roller Bracket	3000-131
132	Hex Socket Head Screw 3/8"	3000-132
133	Infeed Roller Bracket	3000-133
135	Conveyor Belt Positioning Wheel	3000-135
136	Hex Socket Head Screw 5/16"	3000-136
137	Spring Washer 5/16"	3000-137
138	Nut 5/16"	3000-138
140	Front Brake Cover	3000-140
141	Round Phillips Screw 1/4"	3000-141
142	Limit Switch	3000-142
143	Round Phillips Screw 1/4"	3000-143

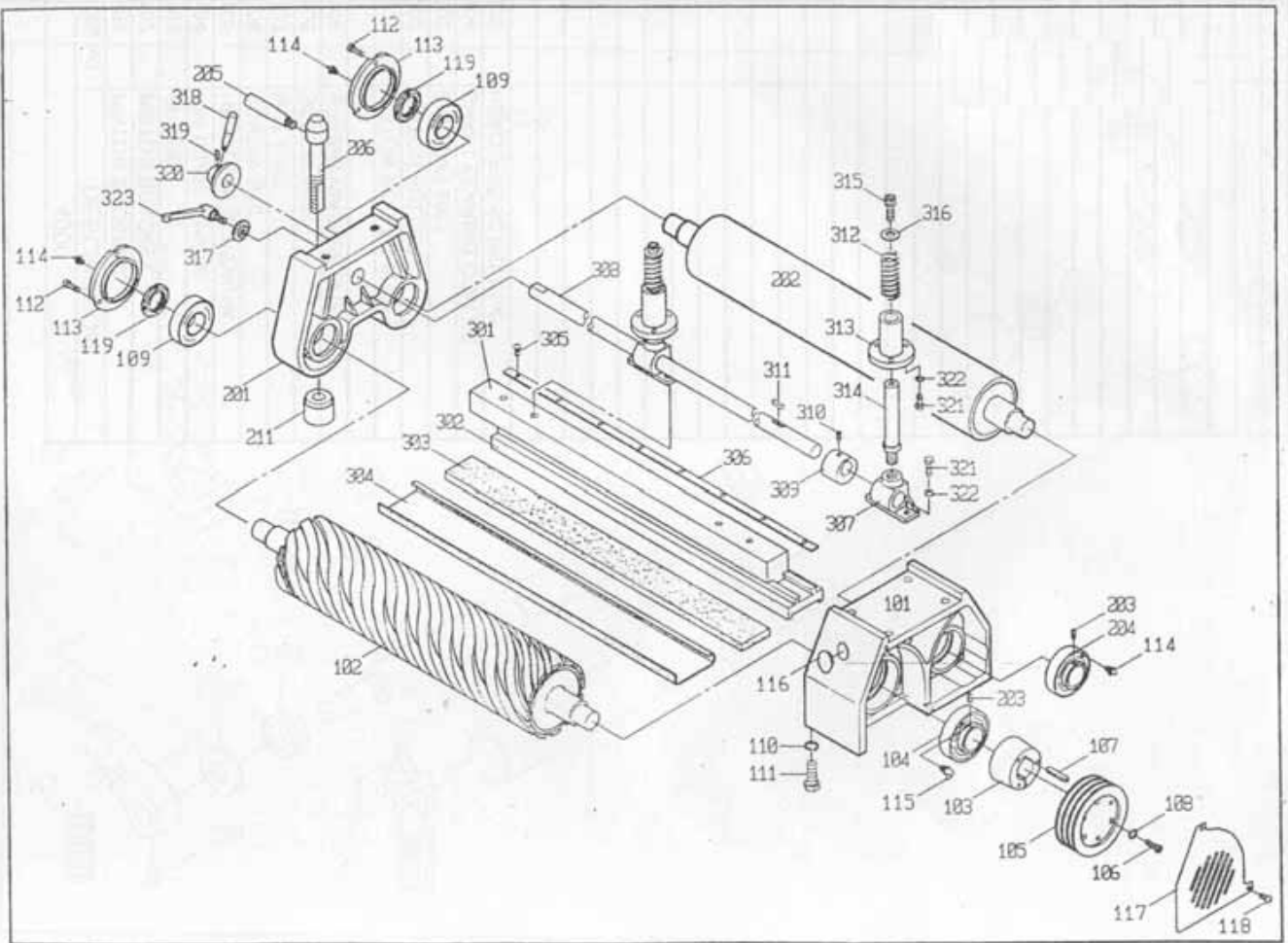
144	Conveyor Belt Adjustable Rod	3000-144
145	Spring Washer 3/8"	3000-145
146	Screw 3/8"	3000-146
201	Infeed Roller Shaft	3000-201
202	Infeed Roller	3000-202
203	Bearing 6206ZZ	BE-6206ZZ
204	"C" Circlip S30	3000-204
205	Elevation Aluminum Limiter	3000-205
206	Hex Socket Head Screw 1/4"	3000-206

Parts 4000



Item No	Description	Part No
101	Piston Slide Rail	4000-101
102	Piston Bracket	4000-102
103	Spring	4000-103
104	Pin 10 M/M x 35 M/M	4000-104
105	Headless Screw 1/4"	4000-105
106	Screw 5/16"	4000-106
107	Nut 5/16"	4000-107
108	Screw 5/16"	4000-108
109	Spring Washer 5/16"	4000-109
201	Piston Roller Shaft	4000-201
202	Piston Roller	4000-202
203	Bearing 6001	BE-6001
204	Shaft Bearing Collar	4000-204
205	Headless Screw 1/4"	4000-205

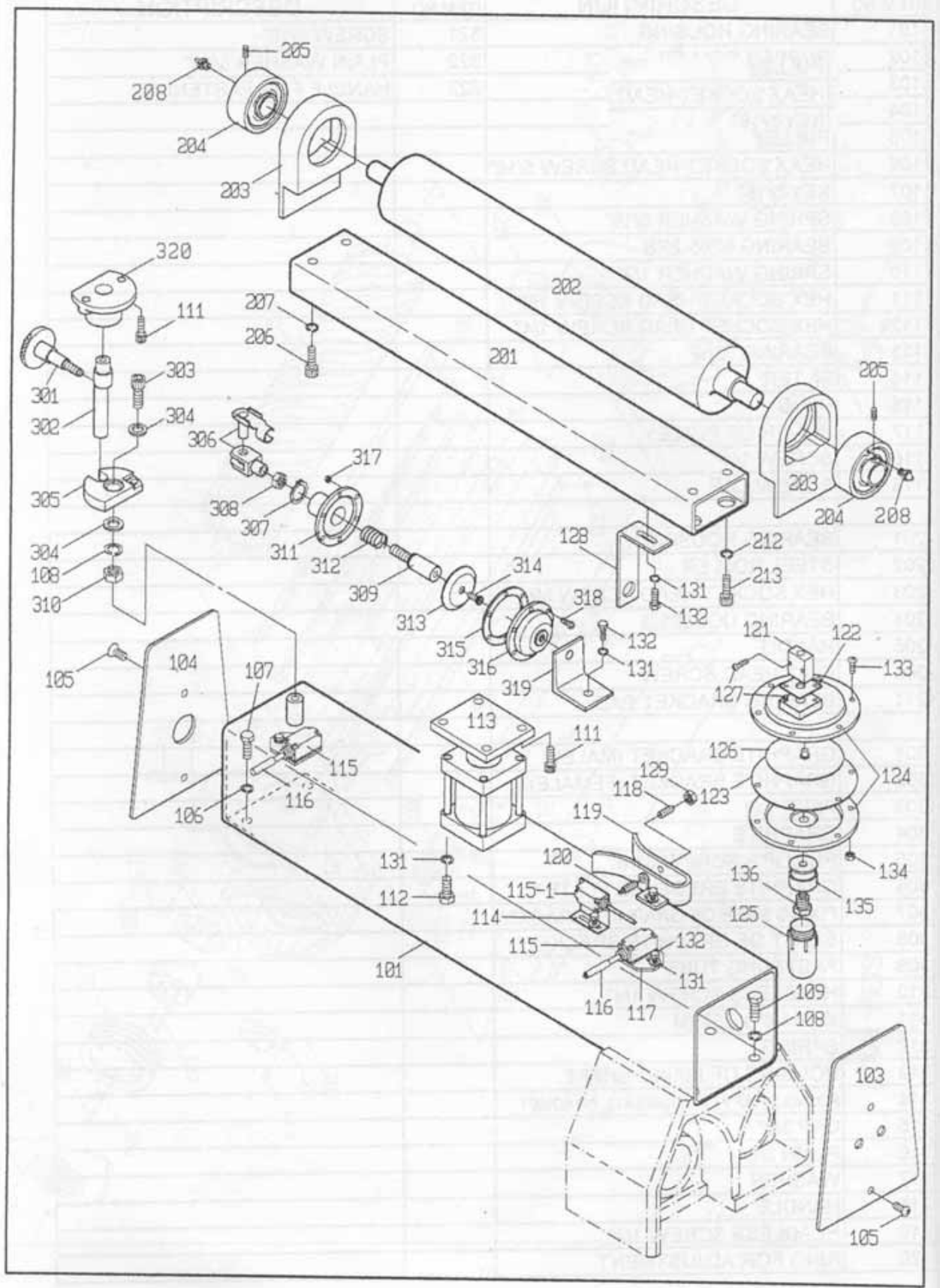
Parts 5000



Item No	Description	Part No
101	Bearing Housing	5000-101
102	Rubber Roller	5000-102
103	Fastening Tube	5000-103
104	Bearing UCC206	BE-UCC206
105	Pulley	5000-105
106	Hex Socket Head Screw 5/16"	5000-106
107	Key 5/16"	5000-107
108	Spring Washer 5/16"	5000-108
109	Bearing 6205-2RS	BE-6205-2RS
110	Spring Washer 1/2"	5000-110
111	Hex Socket Head Screw 1/2"	5000-111
112	Hex Socket Head Screw 1/4"	5000-112
113	Bearing Cap	5000-113
114	Filter	5000-114
116	Plug	5000-116
117	Cover of Pulley	5000-117
118	Screw 1/4"	5000-118
119	Screw Cap	5000-119

201	Bearing Housing	5000-201
202	Steel Roller	5000-202
203	Hex Socket Head Screw M6	5000-203
204	Bearing UCC205	BE-UCC205
205	Handle	5000-205
206	Flat Head Screw	5000-206
211	Bearing Bracket Pad	5000-211
301	Graphite Bracket (Male)	5000-301
302	Graphite Bracket (Female)	5000-302
303	Felt	Felt37
304	Graphite	X-GRAPHITE
305	Phillips Screw 3/16"	5000-305
306	Graphite Pressure Plate	5000-306
307	Fixing Base of Graphite Bracket	5000-307
308	Shaft of Graphite Bracket	5000-308
309	Fastening Tube	5000-309
310	Headless Screw 1/4"	5000-310
311	Key 1/4" x 25M/M	5000-311
312	Spring	5000-312
313	Housing of Fixing Shaft	5000-313
314	Fixing Shaft of Graphite Bracket	5000-314
315	Cap 3/8"	5000-315
316	Plain 3/8"	5000-316
317	Washer	5000-317
318	Handle	5000-318
319	Headless Screw 1/4"	5000-319
320	Ring for Adjustment	5000-320
321	Screw 5/16"	5000-321
322	Plain Washer 5/16	5000-322
323	Handle for Fastening	5000-323

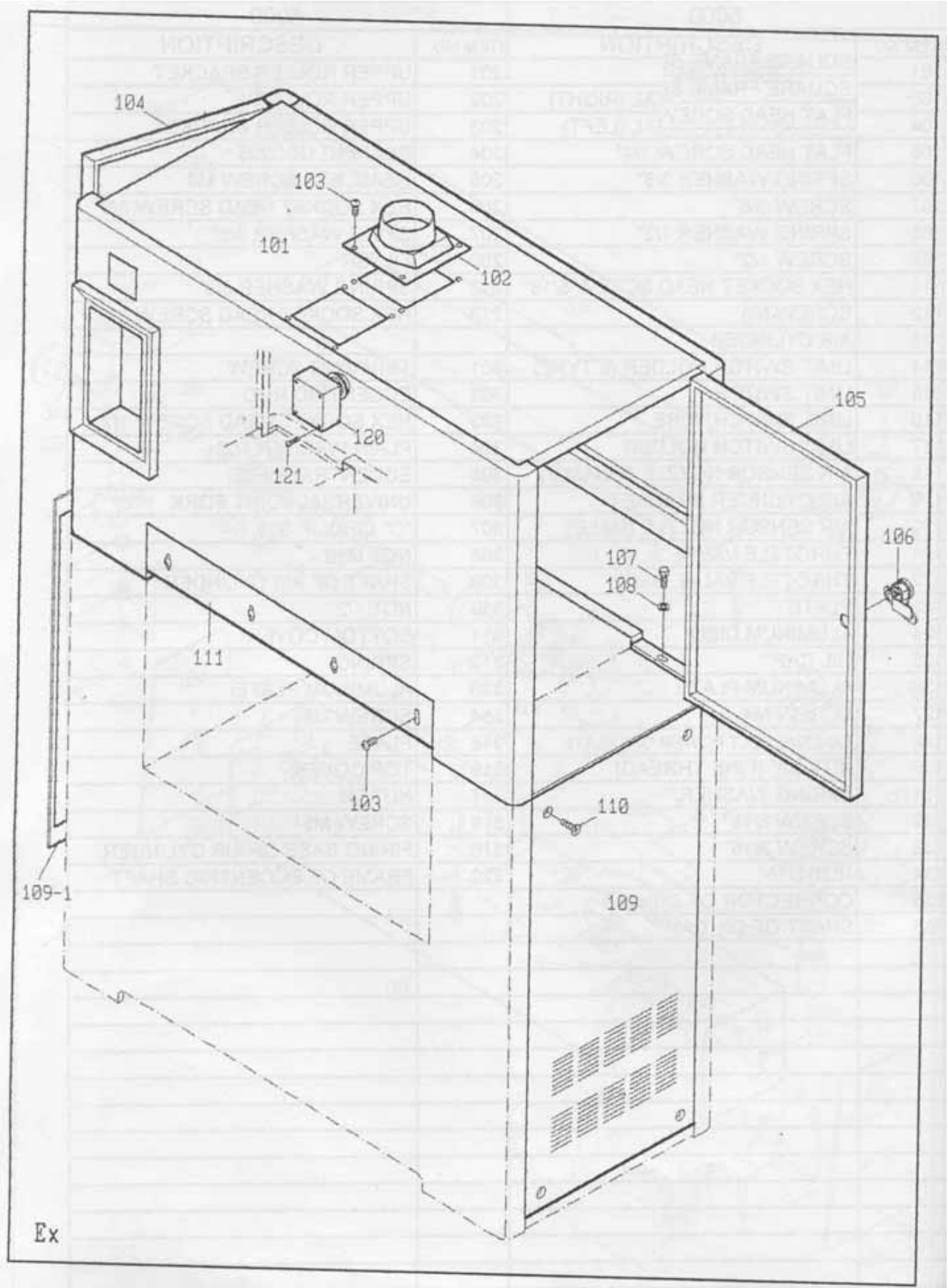
Parts 6000



Item No	Description	Part No
101	Square Frame	6000-101
103	Square Frame Seal (Right)	6000-103
104	Square Frame Seal (Left)	6000-104
105	Flat Head Screw ¼"	6000-105
106	Spring Washer 3/8"	6000-106
107	Screw 3/8"	6000-107
108	Spring Washer ½"	6000-108
109	Screw ½"	6000-109
111	Hex Socket Head Screw 5/16"	6000-111
112	Screw M8	6000-112
113	Air Cylinder	6000-113
114	Limit Switch Holder (L Type)	6000-114
115	Limit Switch	6000-115
116	Limit Switch Tube	6000-116
117	Limit Switch Holder	6000-117
118	Air Sensor Nozzle (Female)	6000-118
119	Air Cylinder Bracket	6000-119
120	Air Sensor Nozzle (Male)	6000-120
121	Throttle Valve	6000-121
122	Throttle Valve Base	6000-122
123	Plate	6000-123
124	Aluminum Disc	6000-124
125	Oil Cap	6000-125
126	Aluminum Plate	6000-126
127	Screw M4	6000-127
128	Sanding Belt Power Off Plate	6000-128
129	Nut 3/8" (Fine Thread)	6000-129
131	Spring Washer	6000-131
132	Screw 5/16"	6000-132
133	Screw 3/16"	6000-133
134	Nut 3/16"	6000-134
135	Connector of Oil Cap	6000-135
136	Shaft of Oil Cap	6000-136
201	Upper Roller Bracket	6000-201
202	Upper Roller	6000-02
203	Upper Roller Bracket	6000-203
204	Bearing UCC205	BE-UCC205
205	Headless Screw M6	6000-205
206	Hex Socket Head Screw 3/8"	6000-206
207	Spring Washer 3/8"	6000-207
208	Filter	6000-208
212	Spring Washer 3/8"	6000-212
213	Hex Socket Head Screw 3/8"	6000-213
301	Trimming Screw	6000-301
302	Eccentric Rod	6000-302

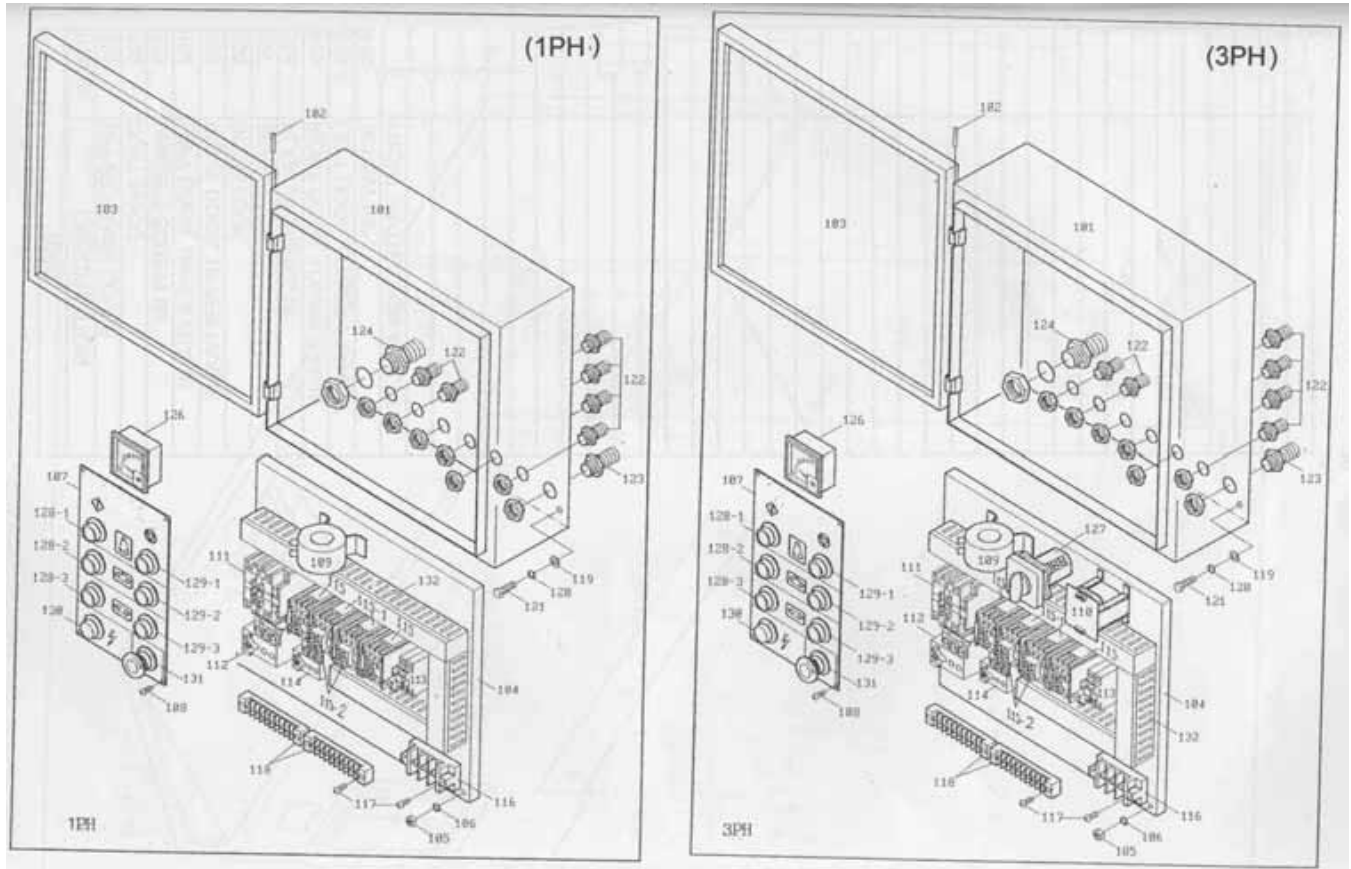
303	Hex Socket Head Screw ½"	6000-303
304	Plain Washer ½"	6000-304
305	Eccentric Piece	6000-305
306	Universal Joint Fork	6000-306
307	"C" Circlip S15	6000-307
308	Nut M10	6000-308
309	Shaft of Air Cylinder	6000-309
310	Nut ½"	6000-310
311	Bottom cover	6000-311
312	Spring	6000-312
313	Aluminum Plate	6000-313
314	Screw M6	6000-314
315	Plate	6000-315
316	Top Cover	6000-316
317	Nut M5	6000-317
318	Screw M5	6000-318
319	Firing Base of Air Cylinder	6000-319
320	Frame of Eccentric Shaft	6000-320

Parts 7000



Item No	Description	Part No
101	Upper Frame Cover	7000-101
102	Dust Hood	7000-102
103	Phillips Screw M6	7000-103
104	Felt Door, Upper Frame	7000-104
105	Right Door, Upper Frame	7000-105
106	Door Lock	7000-106
107	Screw 5/16"	7000-107
108	Plain Washer 5/16"	7000-108
109	Right Door, Lower Frame	7000-109
109-1	Left Door, Lower Frame	7000-109-1
110	Screw 1/4"	7000-110
111	Front Protection Plate	7000-111

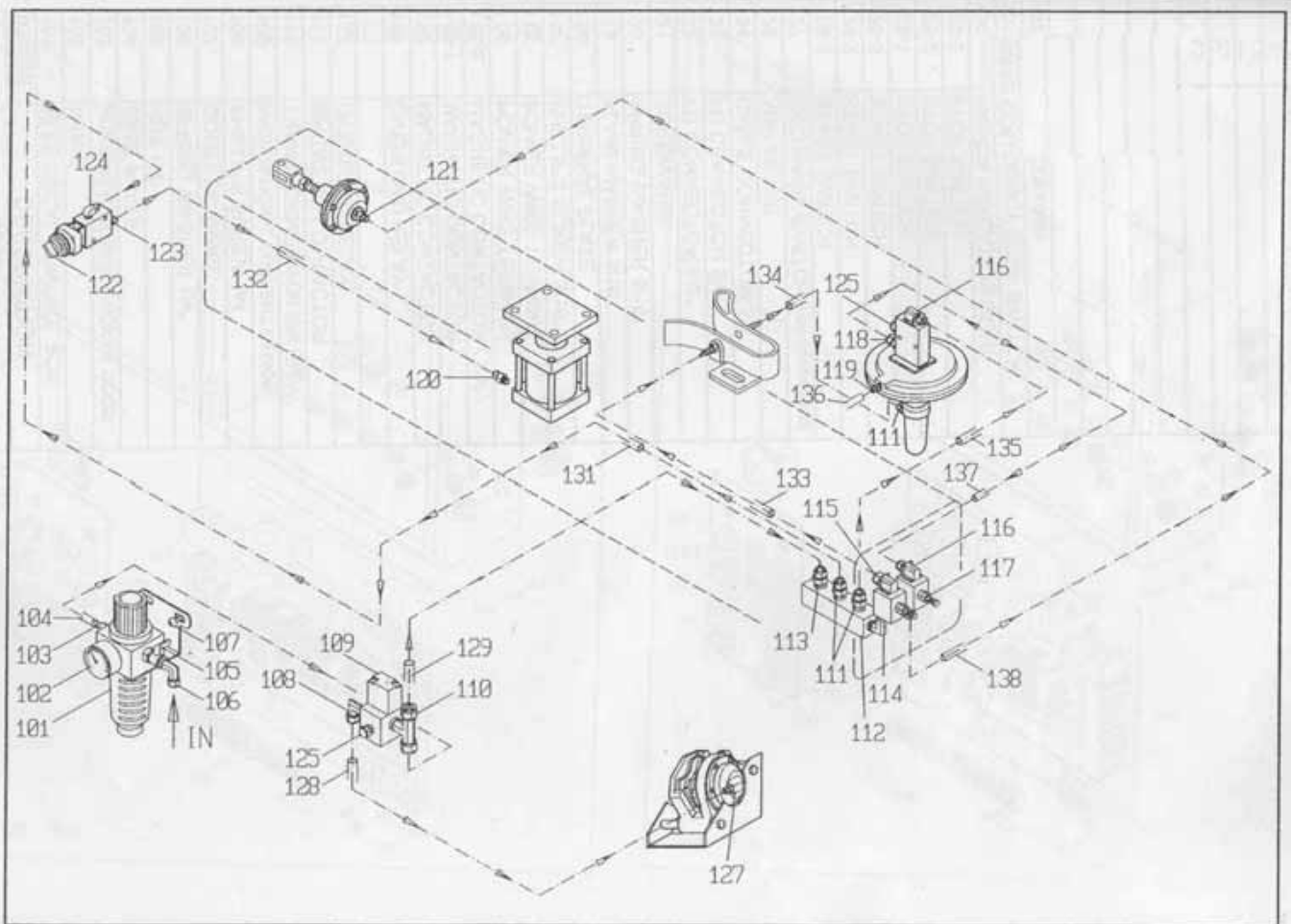
Parts 8000



Item No	Description	Part No
101	Electrical Control Box	8000-101
102	Hinge	8000-102
103	Electrical Control Box of Door	8000-103
104	Base Plate	8000-104
105	Nut 1/4"	8000-105
106	Spring Washer 1/4"	8000-106
107	Control Panel	8000-107
108	Phillips Screw M4	8000-108
109	Proportional Current Device	8000-109
110	Transformer (For 3PH Only)	8000-110
111	Magnetic Contactor	8000-111
112	Overload Relay	8000-112
114	Overload Relay	8000-114
115	Magnetic Contactor	8000-115
115-1	Magnetic Contactor	8000-115-1
115-2	Magnetic Contactor (TOP)	8000-115-2
116	Power Wire Terminal	8000-116
117	Phillips Screw 3/16"	8000-117
118	Terminal Plate	8000-118
119	Plain Washer 5/16"	8000-119
120	Spring Washer 5/16"	8000-120

121	Screw 5/16"	8000-121
122	PU connector 1/2"	8000-122
123	PU connector 3/4"	8000-123
124	Cable Connector 1"	8000-124
126	Amp Meter	8000-126
127	Exchange Switch (for 3PH)	8000-127
128-1	Start Switch	8000-128-1
128-2	Start Switch	8000-128-2
128-3	Start Switch	8000-128-3
129-1	Stop Switch	8000-129-1
129-2	Stop Switch	8000-129-2
129-3	Stop Switch	8000-129-3
130	Power Indication Light	8000-130
131	Emergency Stop Switch	8000-131
132	Wire Column	8000-132

Parts 9000



Item No	Description	Part No
101	Filter Cup	9000-101
102	Pressure Regulator	9000-102
103	Bronze Connector	9000-103
104	Flexible Hose	9000-104
105	Air Switch	9000-105
106	Elbow	9000-106
107	Screw 3/16"	9000-107
108	Elbow	9000-108
109	Solenoid Valve	9000-109
110	T-Joint	9000-110
111	Plastic Connector	9000-111
112	Multiple Hole Connector	9000-112
113	Plastic Connector	9000-113
114	Bronze Elbow	9000-114
115	Plastic Connector	9000-115
116	Plastic Connector	9000-116
117	Throttle Valve	9000-117
118	Plastic Connector	9000-118
119	Bronze Connector	9000-119

120	Plastic Connector	9000-120
121	Plastic Connector	9000-121
122	Air Switch	9000-122
123	Plastic Connector	9000-123
124	Plastic Connector	9000-124
125	Buffer	9000-125
126	Multiple Hole Connector	9000-126
127	Plastic Connector	9000-127
128	Flexible Hose	9000-128
129	Flexible Hose	9000-129
130	Flexible Hose	9000-130
131	Flexible Hose	9000-131
132	Flexible Hose	9000-132
133	Flexible Hose	9000-133
134	Flexible Hose	9000-134
135	Flexible Hose	9000-135
136	Flexible Hose	9000-136
137	Flexible Hose	9000-137
138	Flexible Hose	9000-138