

# INSTRUCTION MANUAL

**L-612A**

**Belt & Disc Linisher Sander (240V)  
150 x 1220mm (W x L) Belt**



**L109**

# **HARE & FORBES**

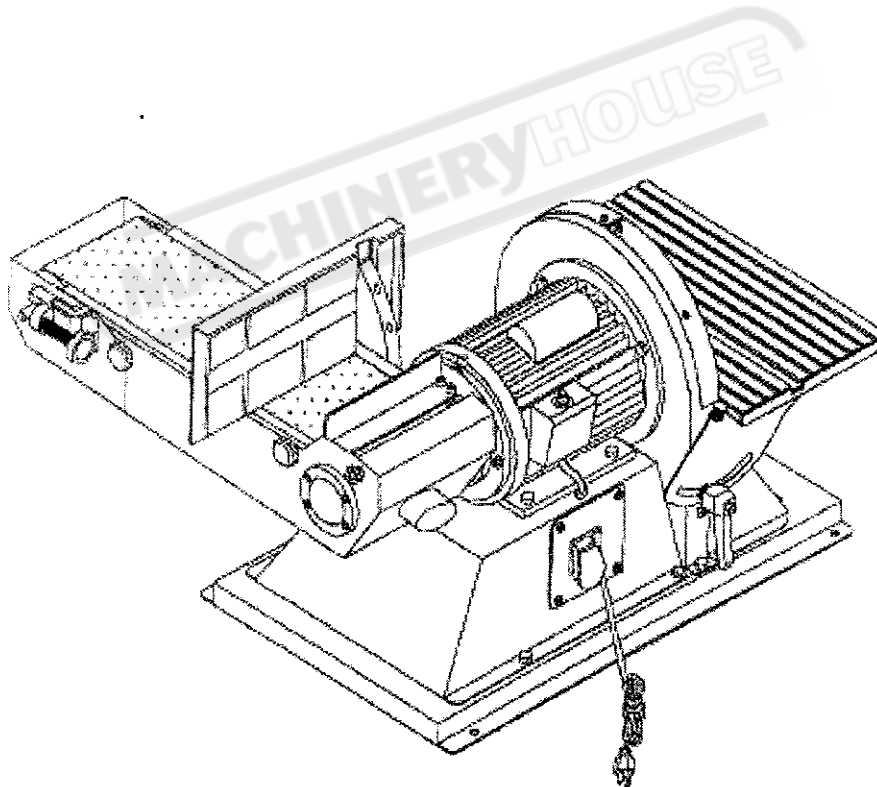
## **MACHINERYHOUSE**

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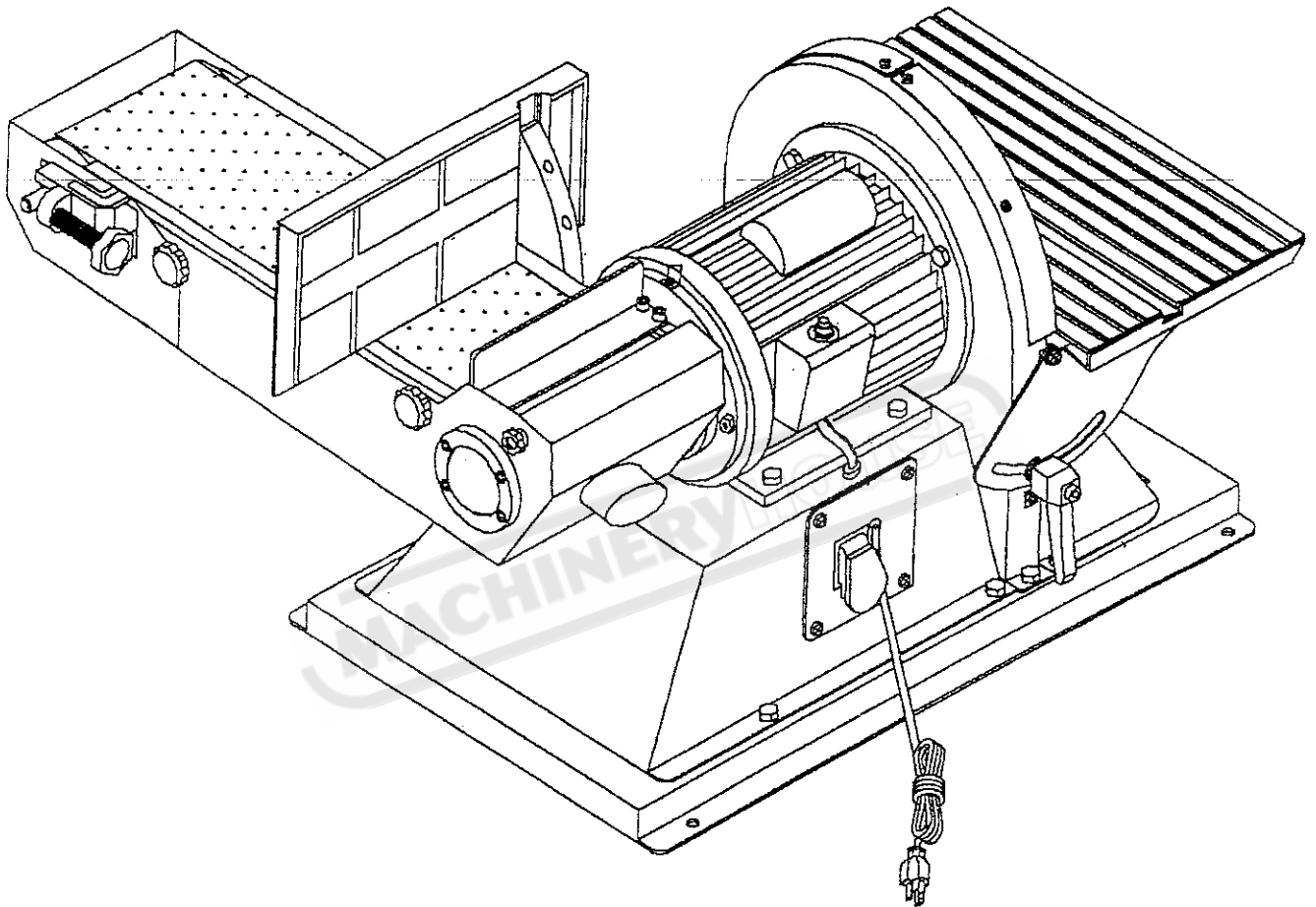
### L109 L-612A BELT DISC SANDER

22-07-2003



# OPERATING MANUAL & PARTS LIST

## 6" x 48" BELT/12" DISC SANDER



### **! WARNING :**

The operator must read and understand this manual before operating the disc sander or commencing any servicing. Care should be taken to follow all safety rules and warning instructions.

**READ THIS MANUAL CAREFULLY BEFORE ASSEMBLY, TESTING & OPERATING**

# IMPORTANT SAFETY RULES

Woodworking can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and 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.

Safety equipment such as guards, push sticks, hold-downs, featherboards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop. If a procedure feels dangerous, don't try it. Figure out an alternative procedure that feels safer. REMEMBER: Your personal safety is your responsibility.

## WARNING : FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS PERSONAL INJURY

1. **FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING THE TOOL.** Learn the tool's application and limitations as well as the specific hazards peculiar to it.
2. **KEEP GUARDS IN PLACE** and in working order.
3. **ALWAYS WEAR EYE PROTECTION.**
4. **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter lug must be attached to a known ground. Never remove the third prong.
5. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on".
6. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
7. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well-lighted.
8. **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
9. **MAKE WORKSHOP CHILDPROOF** - with padlocks, master switches, or by removing starter keys.
10. **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.
11. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.
12. **WEAR PROPER APPAREL.** No loose clothing, gloves, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
13. **ALWAYS USE SAFETY GLASSES.** Wear safety glasses. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses. Also use face or dust mask if cutting operation is dusty.
14. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate tool.
15. **DON'T OVERREACH.** Keep proper footing and balance at all times.
16. **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
17. **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.
18. **USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by us may cause hazards or risk of injury to persons.
19. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.
20. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.
21. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function - check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
22. **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
23. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.
24. **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drugs, alcohol or any medication.
25. **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY** while motor is being mounted, connected or reconnected.
26. **WARNING :** The dust generated by certain woods and wood products can be injurious to your health. Always operate machinery in well ventilated areas and provide for proper dust removal. Use wood dust collection systems whenever possible.

# GENERAL SAFETY RULES FOR POWER TOOLS

**WARNING: When using electric tools the following basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.**

**PLEASE READ ALL THESE INSTRUCTIONS BEFORE ATTEMPTING TO OPERATE THIS PRODUCT.**

1. **KEEP GUARDS IN PLACE**, and in working order.
2. **REMOVE ADJUSTING KEYS AND WRENCHES**. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. **KEEP WORK AREA CLEAN**. Cluttered areas and benches invite accidents.
4. **DON'T USE IN DANGEROUS ENVIRONMENT**. Do not use power tools in damp or wet location, or expose them to rain. Do not operate them in an area with flammable liquids or gases. Keep work area well lighted.
5. **KEEP CHILDREN AWAY**. All visitors should be kept at a safe distance from work area.
6. **MAKE WORKSHOP CHILD PROOF**. Lock access of your workshop. When not in use, tools should be stored in a dry locked up place, out of reach of children.
7. **DON'T FORCE TOOL**. It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOL**. Don't force tool or attachment to do a job for which it was not designed.
9. **USE PROPER EXTENSION CORD**. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersize cord will cause a drop in line voltage resulting in loss of power and overheating.
10. **WEAR PROPER APPAREL**. Do not wear loose clothing, gloves, neckties, rings, bracelet, or others jewellery which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair. Roll long sleeves above elbows.
11. **ALWAYS USE SAFETY GOGGLES**. Everyday glasses only have impact resistant lenses, they are NOT safety glasses. Also use face or dust mask if cutting operation is dusty.
12. **SECURE WORK**. Use clamps or a vice to hold work when practical. It is safer than using your hand and it frees both hands to operate tool.
13. **DON'T OVERREACH**. Keep proper footing and balance at all times.
14. **MAINTAIN TOOL WITH CARE**. Keep tool sharp and clean for best and safest performance. Follow instructions for lubrication and changing accessories.
15. **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters and the like.
16. **USE RECOMMENDED ACCESSORIES**. Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
17. **NEVER STAND ON TOOL**. Serious injury could occur if the tool is tipped or if cutting tool is unintentionally contacted.
18. **CHECK DAMAGED PARTS**. Should any part of the tool be missing, damaged or any electrical component fails to perform properly, turn off the power and remove plug from power supply. Properly repair or replace damaged, missing and/or failed parts before resuming operation.
19. **DIRECTION OF FEED**. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
20. **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF**. Don't leave tool until it comes to a complete stop.
21. **DO NOT ABUSE THE CORD**. Do not use cord to disconnect during operation. Never yank the cord to disconnect it from the socket.
22. **ALWAYS KEEP ALERT**. Do not let familiarity gained from frequent use of your tool cause a careless mistake. Always remember that a careless fraction of a second is sufficient to inflict severe injury.
23. **THINK SAFETY**. Safety is a combination of common sense and alertness whenever the tool is in operation.

# IMPORTANT SAFETY RULES FOR BELT DISC SANDER

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## WARNING:

Basic precautions should always be followed when using your disc sander. To reduce the risk of injury, electrical shock or fire, comply with the safety rules listed below:

1. **WARNING:** Do not operate your machine until it is completely assembled and installed according to the instructions.
2. **CAUTION:** The machine is designed to sand wood or wood-like products only. Sanding or grinding other materials could result in fire, injury or damage to product.
3. **THIS MACHINE** is intended for indoor use only.
4. **IF YOU ARE NOT** thoroughly familiar with the operation of Abrasive Finishing Machines, obtain advice from your supervisor, instructor or other qualified person.
5. **IF THERE IS ANY TENDENCY** for the machine to tip over or move during certain operations such as when sanding long or heavy boards, the machine must be securely fastened to a supporting surface.
6. **ALWAYS** hold the work firmly on the table when sanding on the disc.
7. **ALWAYS** sand on downward side of disc when using the disc portion of the machine, so that the work is held securely on the table. Sanding on the upward side of the disc could cause the workpiece to fly up which could be hazardous.
8. **NEVER** wear gloves or hold the work with a rag when sanding.
9. **SAND** with the grain of the wood.
10. **DO NOT** sand pieces of material that are too small to be safely supported.
11. **AVOID** awkward hand positions where a sudden slip could cause a hand to move into the disc.
12. **WHEN** sanding a large workpiece, provide additional support at table height.
13. **DO NOT** sand with the workpiece unsupported. Support the workpiece with the backstop or table. The only exception is curved work performed on the outlet-sanding drum.
14. **ALWAYS** remove scrap pieces and other objects from the table, backstop before turning the machine "ON"
15. **NEVER** perform layout, assembly or set-up work on the table while the sander is operating.
16. Always turn the machine "OFF" and disconnect the cord from the power source before installing or removing accessories.
17. **NEVER** leave the machine work area when the power is "ON" or before the machine has come to a complete stop.

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## SAVE THESE INSTRUCTIONS

# ADDITIONAL SAFETY RULES FOR 6" x 48" BELT/12" DISC SANDER

1. **WARNING.** Do not operate your machine until it is completely assembled and installed according to the instructions.
2. **IF YOU ARE NOT** thoroughly familiar with the operation of Abrasive Finishing Machines, obtain advice from your supervisor, instructor or other qualified person.
3. **CAUTION:** This machine is designed to sand wood or wood-like products only. Sanding or grinding other materials could result in fire, injury or damage to product.
4. **ALWAYS** wear eye protection.
5. **THIS MACHINE** is intended for indoor use only.
6. **IMPORTANT:** Mount and use this machine on horizontal surfaces only. Use when mounted on non-horizontal surfaces might result in motor damage.
7. **IF THERE IS ANY TENDENCY** for the machine to tip over or move during certain operations such as when sanding long or heavy boards, the machine must be securely fastened to a supporting surface.
8. **MAKE SURE** sanding belt runs in the proper direction. See directional arrow on back side of belt.
9. **MAKE SURE** the sanding belt is tracking correctly in order that it does not run off the pulleys.
10. **MAKE SURE** the sanding belt is not torn or loose.
11. **HOLD** the work firmly when sanding.
12. **ALWAYS** use the backstop when the Belt Sander is in the horizontal position.
13. **ALWAYS** hold the work firmly on the table when sanding on the disc.
14. **ALWAYS** sand on downward side of disc when using the disc portion of the machine, so that the work is held securely on the table. Sanding on the upward side of the disc could cause the workpiece to fly up which could be hazardous.
15. **ALWAYS** maintain minimum clearance of 1/16" or less between the table or backstop and the sanding belt or disc.
16. **NEVER** wear gloves or hold the work with a rag when sanding.
17. **SAND** with the grain of the wood.
18. **DO NOT** sand pieces of material that are too small to be safely supported.
19. **AVOID** awkward hand positions where a sudden slip could cause a hand to move into the sanding belt or disc.
20. **WHEN** sanding a large workpiece, provide additional support at table height.
21. **DO NOT** sand with the workpiece unsupported. Support the workpiece with the backstop or table. The only exception is curved work performed on the outer sanding drum.
22. **ALWAYS** remove scrap pieces and other objects from the table, backstop or belt before turning the machine "ON."
23. **NEVER** perform layout, assembly or set-up work on the table while the sander is operating.
24. **ALWAYS** turn the machine "OFF" and disconnect the cord from the power source before installing or removing accessories.
25. **NEVER** leave the machine work area when the power is "ON" or before the machine has come to a complete stop.

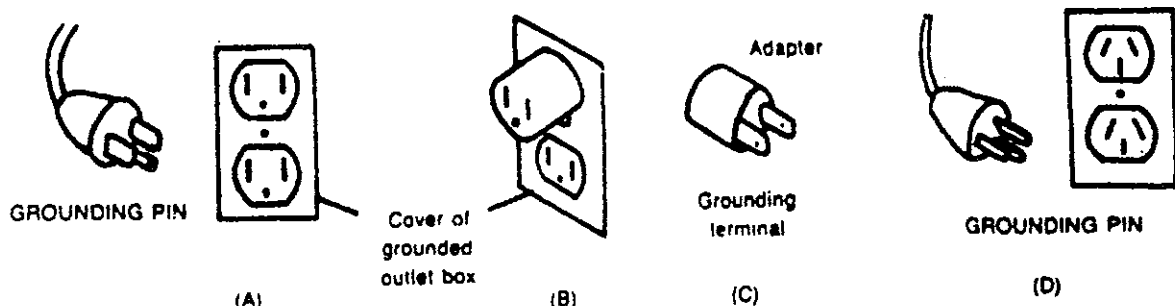
## GROUNDING

1. In the event of a malfunction or breakdown, grounding provides a path of least resistance for the electric current, to reduce the risk of electric shock. This machine is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
2. Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.
3. Improper connection of the equipment grounding conductor can result in the risk of electric shock. The conductor with the green outer insulation (with or without a yellow stripe), is the equipment grounding conductor. If repair or replacement of the electrical cord is necessary, do not connect the equipment grounding conductor to a live terminal.
4. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if there is doubt as to whether the machine is properly grounded.
5. Using only three-wire extension cords that have three-prong grounding plugs and three pole receptacles that accept the tool's plug.
6. Repair or replace damaged or worn cord immediately.
7. Your unit is for use on less than 150 volts and it has a plug that looks Fig. "A"
8. This machine is intended for use on a circuit that has an outlet that looks like the one in illustration (A). The machine has a grounding plug that looks like the plug in illustration (A). A temporary adapter, which looks like the adapter in illustration (B) and (C), may be used to connect the plug to a two pole receptacle, as shown in illustration (B), if a properly grounded outlet is not available. The temporary adaptor should only be used until a properly grounded outlet can be installed by a qualified electrician. The green coloured rigid ear plug and the like extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

**NOTE:** The type of electrical plug and receptacle differs from country to country.

**CAUTION:** In Canada, only the grounding shown in figure (A) is acceptable. The extension cord should be a CSA certified S.J.T. type or something better.

**CAUTION:** In Australia, only the grounding shown in figure (D) is acceptable. The extension cord should be SSA certified.





# EXTENSION CORDS

## Extension Cords

(North American Only)  
**Recommended Minimum Gauge for Cord Extensions  
 for Portable Electric Tools**

Name Plate Amps.	Cord Length in Feet				
	120V	25	50	100	150
3-6		18	16	16	14
6-8		18	16	14	12
8-10		18	16	14	12
10-12		16	16	14	12
12-16		14	12	Not Recommended	

**WARNING :** Use of damaged cords can shock, burn or electrocute.

Replace damaged or worn cords immediately. The table shows the correct size to use, depending on cord length and nameplate amperage rating of tool. If in doubt, use the next heavier gauge. An undersized cord will cause a drop in line voltage, resulting in loss of power and over-heating. **NOTE:** The smaller the gauge number, the heavier the cord. Use only three-wire extension cords with three-hole receptacles, which accept the tool plug and have three-prong grounding-type plugs. Three-wire

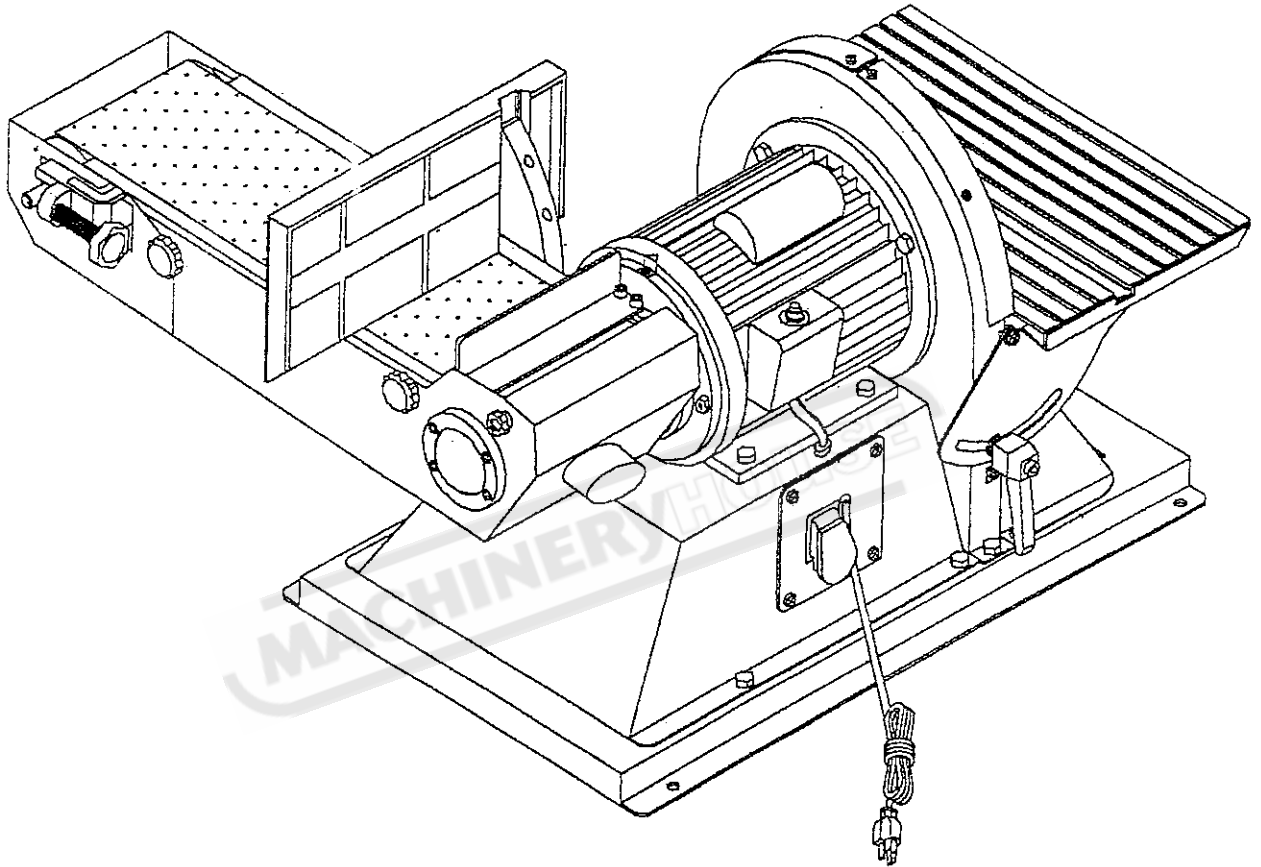
**WARNING :**

1. Make sure the sanding belt or disc is not torn or loose.
2. Avoid kickback by sanding in accordance with directional arrows. Sand on downward side of disc. Sanding on the upward side could cause the workpiece to fly up causing injury.
3. Always maintain a maximum clearance of 1.6mm between the table and the sanding belt or disc.
4. Always wear eye protection when operating the sander.
5. Work table is the surface on which the workpiece rests while performing a sanding operation.
6. Transporting / Carrying the machinery by holding the handle bar by one person.
7. Fixing the disc sander on the workbench by using 4 pcs 5/16" x 3/4" (M8x20) HEX. HD. screw.
8. The sanding belt is designed to rotate down towards the table while the disc rotates both up from the table and down towards the table.

## MACHINERY DATA

The 6"x 48" Belt /12" Disc Sander is shipped complete in one carton. Carefully unpack the machine and take all loose items away from the carton. If any parts are missing, do not attempt to operate your sander until the missing parts are obtained and installed correctly.

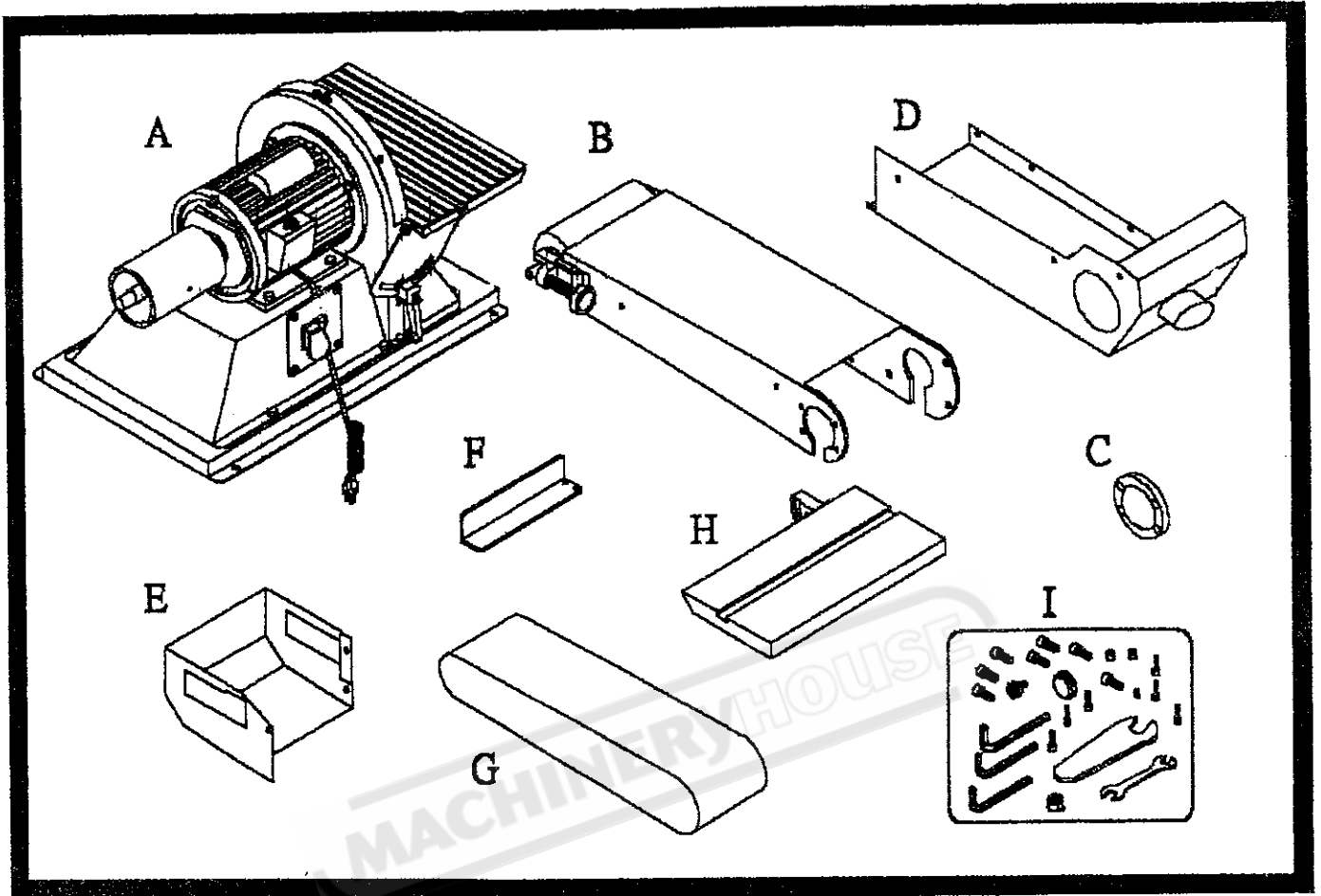
**WARNING: For your own safety, do not connect the sander to the power source until the machine is completely assembled and you have read and understood the entire owners manual.**



Motor-----	110V/220V/60HZ/1P
Belt speed-----	2470FPM
Disc speed-----	1720RPM
Disc-----	12"
Belt-----	6" x 48"
Double dust chute-----	1-1/2"
Table tilting-----	up 0-15 degree, down 0-45 degree
Belt tilting-----	0 to 90 degree
Overall dimensions-----	640x750x420mm
Packing-----	742x582x455mm
N.W.-----	58 KGS
G.W.-----	61 KGS
CUFT-----	6.9'

## UNPACKING CHECK LIST

**WARNING:** For your own safety, do not connect the sander to the power source until the machine is completely assembled and you have read and understood the entire owners manual.

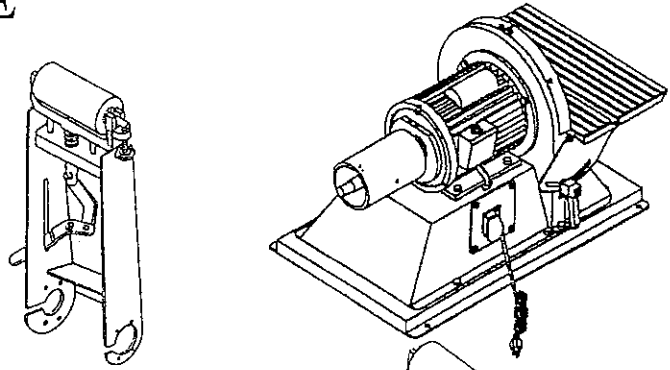


- A Main body (Motor, aluminum table and base)
- B Platen
- C. Ball bearing cover
- D. Platen cover
- E. Idler roller cover
- F. Platen table
- G. Sanding paper
- H. Cast iron table
- I. Screws, nuts, washer, opened end wrench

# ASSEMBLING PROCEDURE

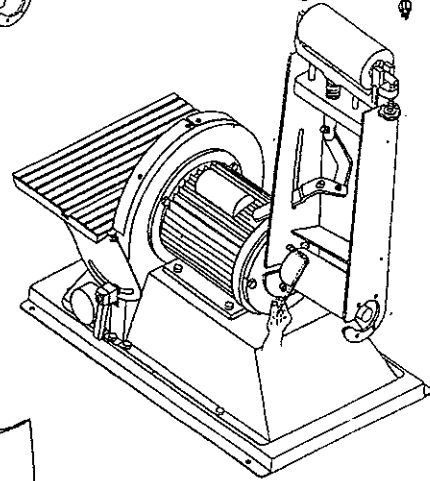
## Step 1

Take the main body, which have the motor, table, and base away from the carton and place it in the stable working bench.



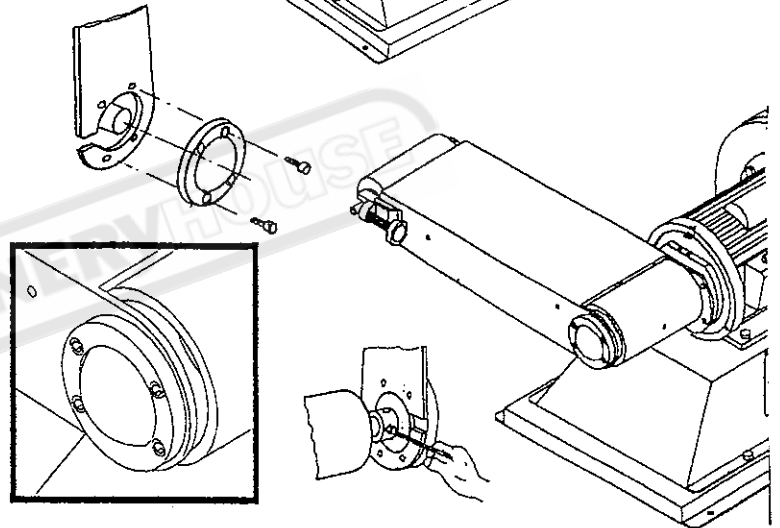
## Step 2

Place the platen into the drive roller area by screwing tightly with 4 pieces of M8 x 20L hex bolt.



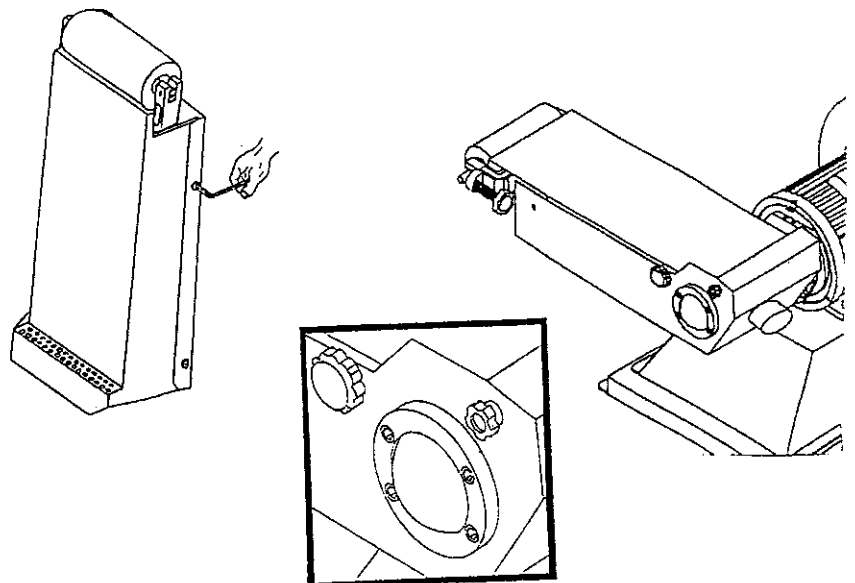
## Step 3

Place the ball bearing cover into the drive roller by screwing tightly with 4 pieces of M6 x 10L hex bolt. Then lock the set screw into the motor spindle by using the hexagon wrench.



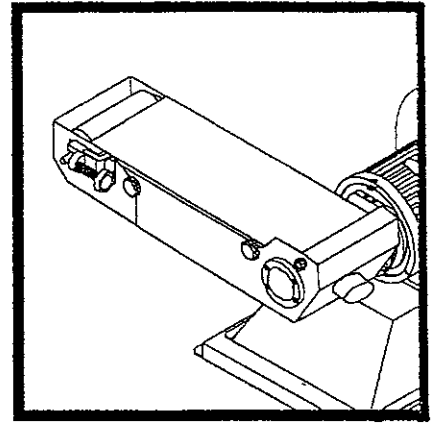
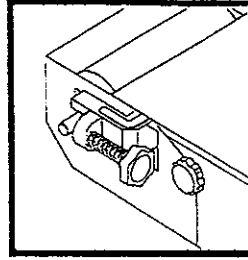
## Step 4

Put the platen cover under the platen. Then using the 2 pieces of M6 x 10L hex. head screw, 1 piece of M6 x 10L polygon knob and 1 piece of M6 x 10L pentagon bolt to lock the platen cover into the platen.

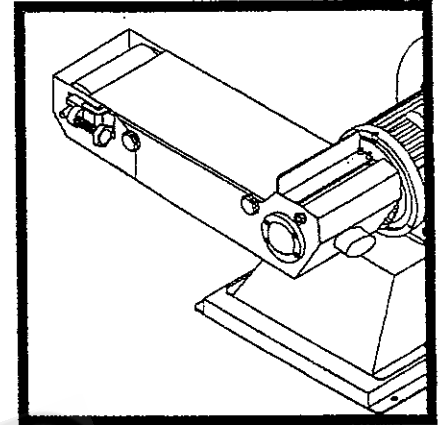
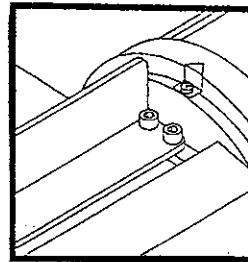


**Step 5**

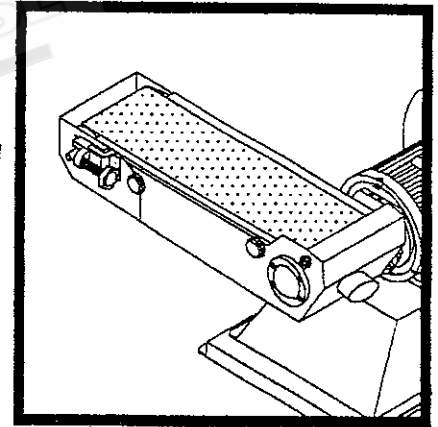
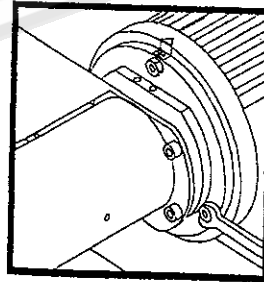
Lock the idler roller cover at the edge of platen by screwing 2 pieces of M6 x 10L hex. head screw and 1 piece of M6 x 10L polygon knob.

**Step 6**

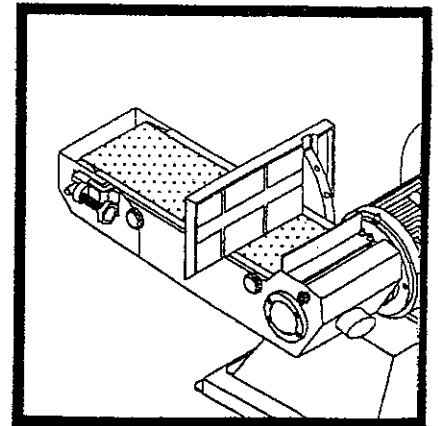
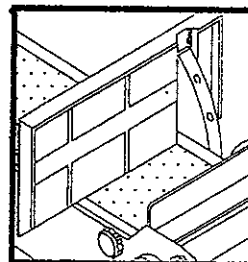
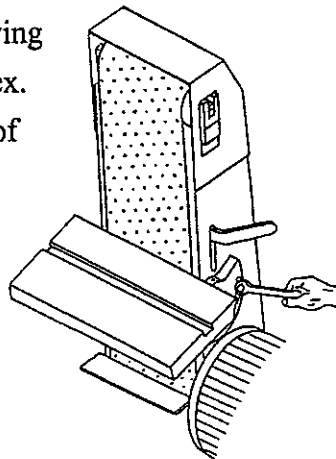
Place the platen table on the top of the platen by screwing tightly with 2 pieces of M6 x 16L hex. head screw.

**Step 7**

Push the handle bar into the loose position. Then place the sanding paper into the platen and push the handle bar back into the tight position.

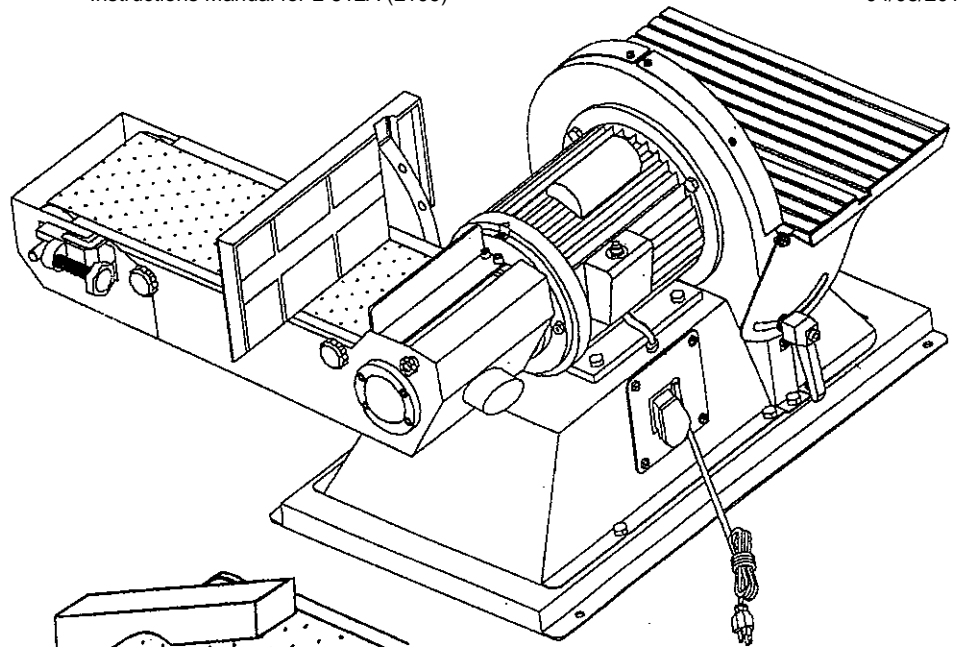
**Step 8**

Place the table at the vertical position of platen by screwing the 1 piece of M8 x 30L hex. head screw and one piece of M8 x 18 washers.



### Step 9

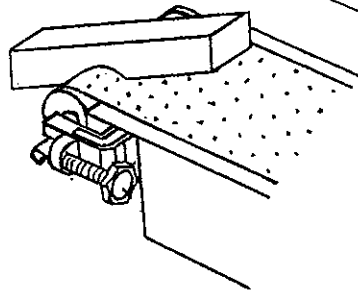
The assembly procedure is finished and the belt sander will look like the picture of as below.



## Operation Method

### 1. Curving Sanding:

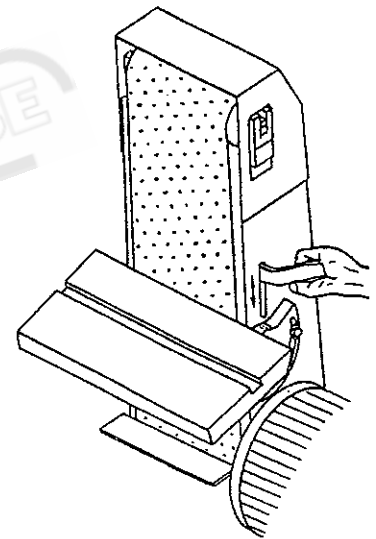
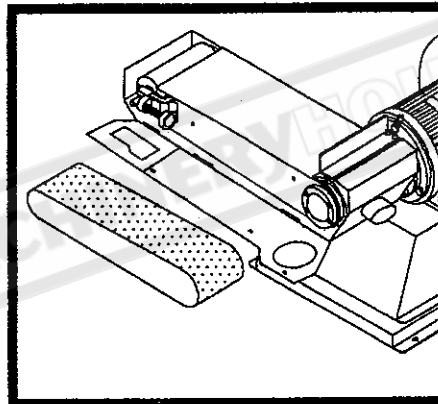
Take off the idler roller cover, then can start to do the curving sanding.



### 2. Replace the sanding paper:

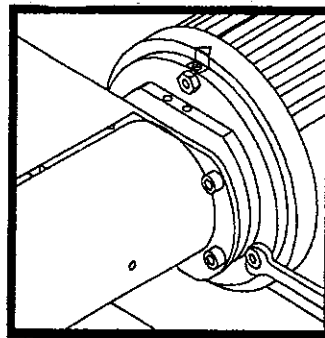
Loose the platen cover and the knob, push the handle bar into the loose position, then can start to change the sanding paper.

When finish the replace sanding paper, push back the handle into the tight position.



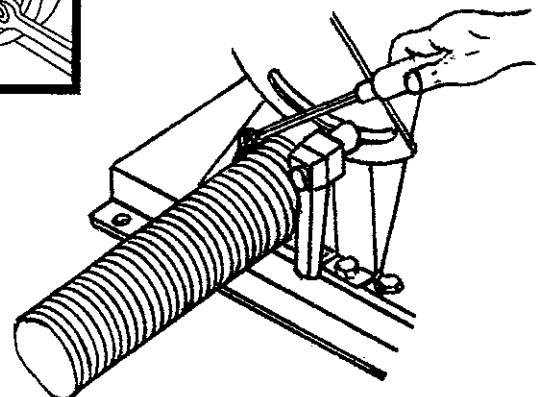
### 3. Change the platen position:

Adjusting the platen to any degree by loosening the 3 pieces of M8 nut.



### 4. Connect the hose:

Before start to operate this machinery, please connect the hose into the dust outlet.





**PART LIST**

NO	Description	Specification	Q'ty
1	Base		1
2	Motor base		1
3	Motor	1-1/2HP	1
4	Disc cover		1
5	Aluminum Disc	12"	1
6	Sanding paper	12"	1
7	Aluminum table		1
8	Left tilting turning		1
9	Right tilting turning		1
10	Dust hood cover	2-1/2"	1
11	Left safety guard		1
12	Right safety guard		1
13	Platen		1
14	Cast iron table of platen		1
15	Tilting turning of platen		1
16	Platen packing		1
17	Drive roller		1
18	Idler roller		1
19	Idler roller shaft		1
20	Ball bearing	6201ZZ	2
21	C-type ring	S-12	1
22	Idler roller bracket		1
23	Push spindle		1
24	Fixing spindle		1
25	Push fixing bracket		1
26	Ball bearing cover		1
27	Ball bearing		1
28	Platen table stop		1
29	Platen cover		1
30	Idler roller cover		1
31	Handle		1
32	Fixing plate		1
33	Graphite paper		1
34	Sanding paper	6" x 48"	1
35	Tilting turns spindle		1



36	Switch plate		1
37	Knob		2
38	Pointer		1
39	Round head screw	M4 x 8	7
40	Round head screw	M6 x 8	2
41	Washer	M6	4
42	Hex. head screw	M6 x 10	2
43	Hex. head screw	M6 x 12	6
44	Washer	1/4" x 13	6
45	Nut	M6	6
46	Tilting label sticker	-15 ~45 degree	1
47	Hex. head screw	M8 x 12	6
48	Spring washer	M8	6
49	Hex. head screw	M8 x 25	4
50	Washer	M8 x 18	5
51	Nut	M8	7
52	Hex. head screw	M8 x 16	2
53	Hex. bolt	M8 x 15	1
54	Hex. bolt	M8 x 18	3
55	Hex. bolt	M8 x 20	4
56	Hex. bolt	M8 x 25	1
57	Hex. bolt	M5 x 25	1
58	Hex. bolt	M6 x 25	2
59	Hex. bolt	M6 x 15	3
60	Hex. head screw	M8 x 30	1
61	Pan head screw	M6 x 20	4
62	Pointer		1
63	Set screw	6 x 10	4
64	Push back spring		1
65	Push back spring		1
66	Adjusting screw	M8 x 50	1
67	Nut	M6	2
68	Nut	M10	1
69	Hex. bolt	M6 x 10	4
70	Polygon knob	M6 x 10	2
71	Pentagon knob	M6 x 10	1
72	Knob	M6 x 22	1

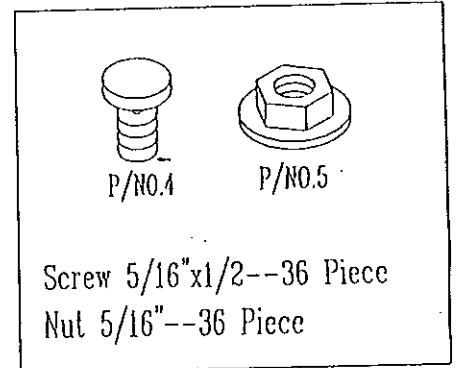
73	Miter gage		1
74	Pin	3/16" x 20	1
75	Round head screw	3/16" x 6	1
76	Pointer		1
77	Miter bar		1
78	90 degree sticker	0 ~ 90 degree	1
79	60 degree sticker	-15 ~ 45 degree	1
80	Power cord		1
81	Switch		1
82	Sprain release	6W-4S	3
83	Connector		1
84	Ball bear packing		1
85	Key	6 x 6 x 50	1
86	Pointer		1
87	Set Screw	M5 x 10	2
88	Open end wrench	22mm	1
89	Open end wrench	10-13mm	1
90	Hexagon wrench	M6	1
91	Hexagon wrench	M5	1
92	Hexagon wrench	M4	1
93	Round head screw	M5 x 8	4
94	Hex. bolt	M6 x 10	4
95	Temperature control switch		1
96	Washer	6.5 x 16 x 2	1
97	Hex. bolt	M6 x 30	1

### TOOL TABLE

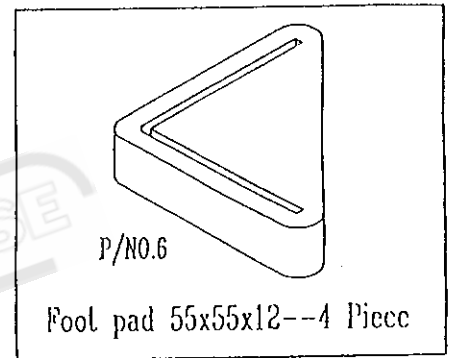
This sturdy 24" tall, universal tool stand measure 23-3/4" x 31-3/4" at the base and 14-1/4" x 22" at the top. Includes non-slip rubber feet. Capacity: 1000LB.

### PART LIST

NO	Description	Specification	Q'ty
1	Leg	618 x 702mm	4
2	Middle support (long)	670.7 x 44.5 x 1.6	2
3	Middle support (short)	465.7 x 44.5 x 1.6	2
4	Screw	5/16" x 1/2"	36
5	Nut	5/16"	36
6	Foot pad	55 x 55 x 12	4



Screw for middle support



Foot pad for legs

