# Operations Manual





# **SR SERIES**

Widebelt Sander

Please ensure you have your serial number available when contacting us for parts or service.

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# **GENERAL SAFETY RULES**

- 1. Read the operation manual carefully before operating.
- 2. Learn the applications and limitations as well as specific potential hazards pertinent to the machine.
- 3. Keep all guards in place and in working order. If a guard must be removed to perform a specific job,

replace the guard as soon as the job is finished.

- 4. Remove all adjusting keys and tools before starting the machine. Form the habit of checking the machine for tools or adjusting keys before starting.
- 5. Keep the work area clean. Do not allow dust or wood pieces to accumulate around the machine.
- 6. Leave enough space around the machine for infeed and removal work pieces safely.
- 7. Keep children at all time. All visitors should be kept a safe distance from the working area.
- 8. Never force the machine. If will do the job better and be safer working at the rate for which it was designed.
- 9. Do not wear loose clothing or jewelry while operating the machine.
- 10. Keep proper footing and balance at all times. Get another person to help you when working with long or unwieldy work pieces.
- 11. Always disconnect the machine from the power source before any service or maintenance work.

#### **ADDITIONAL SAFETY RULES FOR WIDE BELT SANDER**

- 1. Once the panels have been placed on the conveyor table, they will enter the sander automatically. Remove hands immediately to prevent injury.
- 2. Always keep the sanding belt clean and ensure it is adequately abrasive for the job.
- 3. Make sure that all switches are in the "OFF" position before connecting the sander to the power source.
- Fully understand the machine functions before operation.
   Make sure everything is OK before operation.
- 5. Always disconnect the machine power before any servicing or maintenance work.
- 6. Make sure the sanding belt tension is correct before starting the machine.
- 7. Keep guards in place and working order.
- 8. Never place hands near the contact drum.
- 9. Make sure the work piece is free from nails and other foreign objects.
- During operation, pay close attention to the sanding load by checking the Amp meter. Prevent sanding overloads that may cause damage or breakage of the sanding belt or machine.

Sanding belt overloads can be corrected as follows:

- a. Reduce the conveyor belt feed speed.
- b. Use a coarse sanding belt.
- c. Raise the contact drum or pad to a higher position.
- 11. Keep the interior of the machine clean to ensure normal performance. Remove the sanding belt before cleaning and replace after the machine has been cleaned.

# **IDENTIFICATION BEFORE OPERATION**

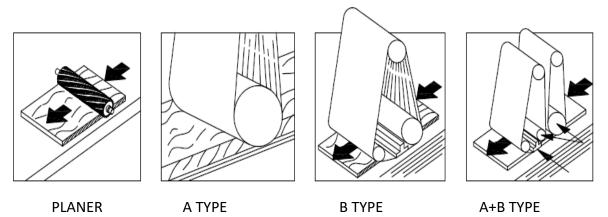
- 1. The dust collector must be running before the machine is started.
- 2. Ensure the sanding belt is mounted to the correct direction.
- 3. Ensure the sanding belt tension is correct.
- 4. Ensure that all screws and handles are tightened securely.
- 5. Ensure the sanding belt specification is correct.
- 6. Ensure the working air pressure is correct.
  - (1) The total working air pressure for this machine is between  $5^{6}$ kg/cm<sup>2</sup>.
  - (2) The sanding belt tension pressure is between 2.5~3.5kg/cm<sup>2</sup>.
  - Do not operate the machine until the correct pressure is reached.
- 7. Ensure the sanding belt is running in the correct track.
- 8. Ensure the conveyor belt is running in the correct track.
- 9. Ensure the thickness is set correctly.
- 10. Ensure the feed speed is set correctly.
- 11. Ensure the electric control is correct.
  - (1) Main motor soft start time is 8~15 seconds.
  - (2) All limit and emergency switches are working effectively.

# **MODEL IDENTIFICATION**

The standard equipment should be dependent on the machine furnished.

MODEL	APPLICATION
PSD	SOLID WOOD 、 JOINTED PANELS 、 CALIBATINGETC
SD	SOLID WOOD 、 JOINTED PANELS 、 CALIBATINGETC
SV	VENEER  MDF  PARQUET  PLYWOODETC
SP	LACQURED VUV-COATING FINE SANDINGETC

HEAD CONFIGURATION :

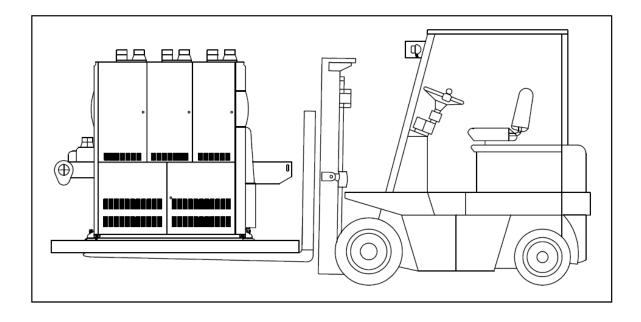


SINGLE HEAD CONFIGURATION - CHOICE OF A TYPE OR B TYPE TWO HEADS CONFIGURATION - CHIOICE OF P+A TYPE OR A+A TYPE OR A+B TYPE THREE HEADS CONFIGURATION - CHOICE OF P+A+A TYPE OR P+A+B TYPE OR A+A+A TYPE OR A+A+B TYPE OR A+B+B TYPE

SANDING WIDTH RANGE FROM 600mm TO 1300 mm. OTHER SANDING WIDTH IS AVAILABLE BY REQUEST.

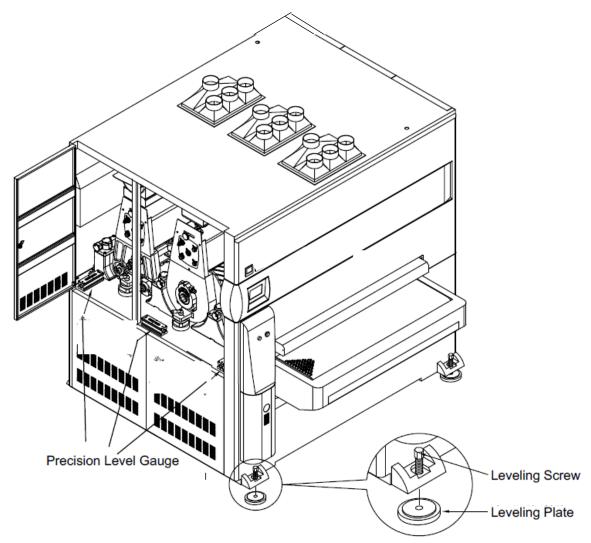
# **STEP 1 • MOVING THE MACHINE**

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

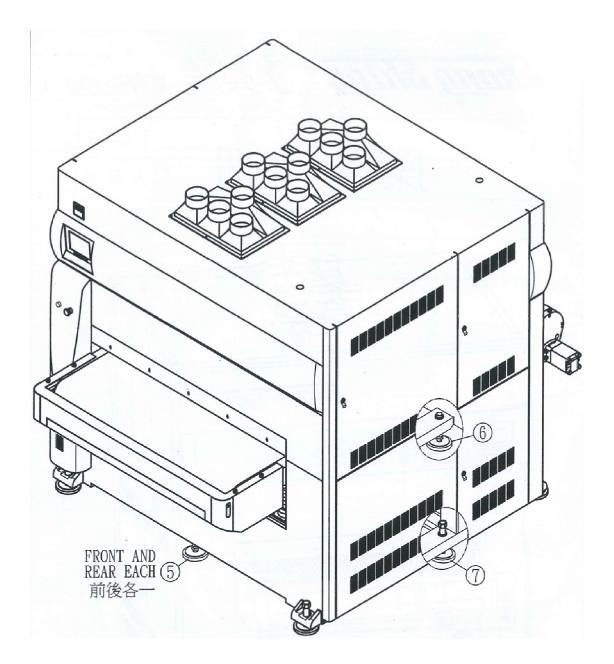


#### **STEP 2 · MACHINE INSTALLATION**

Once the machine has been moved to the work site, the machine installation must be performed. The machine should be placed on the ground but not necessary to bolt the machine to the floor. The machine comes furnished with 4 or 6 steel leveling plates 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. There are three labels show you where to take a measurement. Machine leveling can be adjusted by turning the leveling screws located at each comer of the base until proper leveling is obtained.



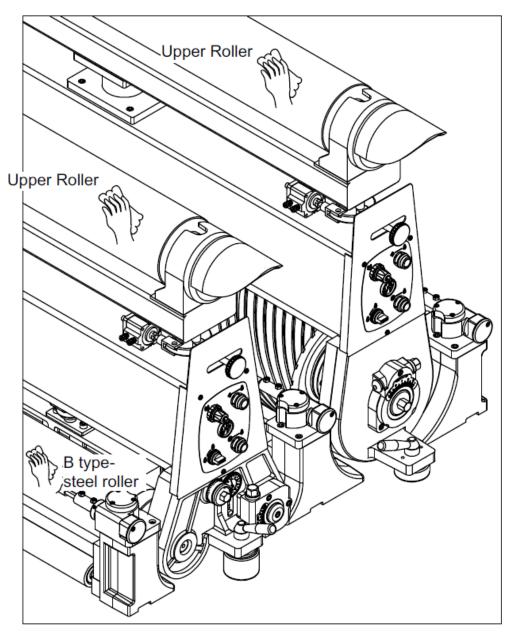
## **STEP 2 · MACHINE INSTALLATION**



# **STEP 3 · CLEANING THE MACHINE**

Anti-corrosive oil is applied to the machine before shipment.

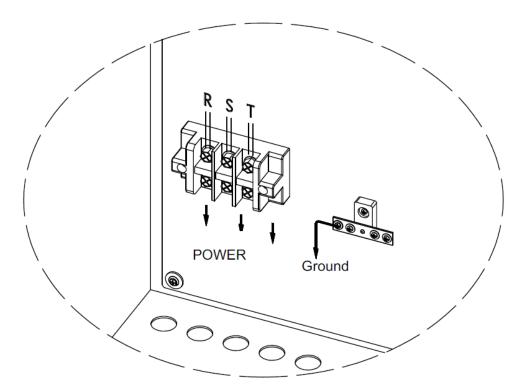
After unpacking, it is necessary to clean the anti-corrosive oil from the machine thoroughly. DO NOT MOVE ANY COMPONENT OF THE MACHINE UNTIL THE ANTI-CORROSIVE OIL HAS BEEN REMOVED. Use a cloth soaked in kerosene to remove the anti-corrosive oil from **UPPER STEEL ROLLER** and **B TYPE STEEL ROLLER** of the machine. Do not use lacquer thinner or any volatile solvents, as they can damage the rubber roller and surface of the machine.



\*Some features are optional item.

# **STEP 4 • POWER WIRE CONNECTION**

- 1. Before connecting the machine power wires to your power supply make sure the voltage, hertz, phase and amperage are compatible there is one manufacture number tag which mark the information of the power and horse power stick on the right of the machine.
- 2. The prewired voltage of the machine is indicated on the electrical indication plate.
- 3. The power source connection points are located inside the electrical control box and are marked as "R. S. T.". The ground wire connection point is marks as "E".
- 4. Once the power wires are connected, checking if the wires are connected to the correct points. This may be done by making sure the conveyor table moves in the same direction as indicated by the switch when activated.
- 5. Turn the machine on, and press the conveyor table lowering switch for 7 seconds. The table should move down. If it does not turn the machine off and exchange any two of the three power source wires.



#### **STEP 5 · CONVEYOR BELT HYDRAULIC DRIVING SYSTEM**

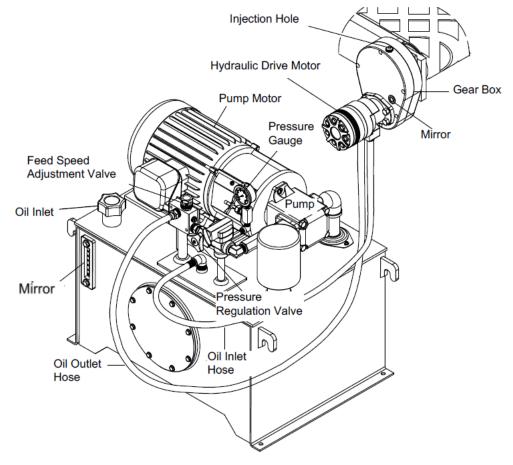
The hydraulic driving system for the conveyor belt should be filled with circulating oil ISO-R68 either 140 liters. The ends of the two hydraulic hoses are connected to the oil outlet and inlet port.

The other ends are connected to the outlet and inlet ports of the hydraulic motor. Once all hoses are

securely connected, the hydraulic pump motor can be connected to the power source wires. The power source wires of the motor are located at the bottom right of the back of the machine.

- If the power phase wires are incorrectly connected, then the conveyor belt will not start. In this event, it is necessary to change the phase connection points of the power source wires.
- 2. If the conveyor belt is running but in the wrong direction, exchanging the connection positions of the hydraulic hoses.
- 3. The maximum allow operating pressure is 50kg. In the case of over-pressure, lower the table may reduce the pressure.

\*This system is optional equipment.



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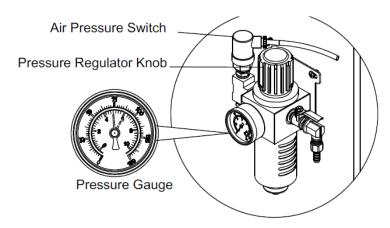
# **STEP • 6 AIR CIRCUIT CONNECTION**

The air circuit connector is on the filter/regulator unit which is located below the control panel.Connect the air source (size: 5/16") connector to the air supply with the flexible hose. The working pressure of the machine can be adjusted from the pressure regulator :

1. Set the pressure by lifting the adjustment knob and rotating it clockwise for increased pressure,

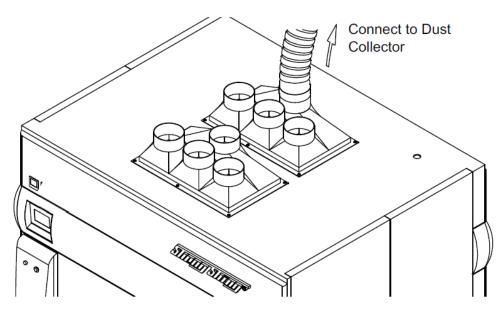
Push the knob down to lock it in place once the correct pressure had been set.

2. The normal working air pressure should be set in between 5~6kg/cm<sup>2</sup>. All horse will automatically have stopped when the air pressure is under 4 kg/cm<sup>2</sup>.

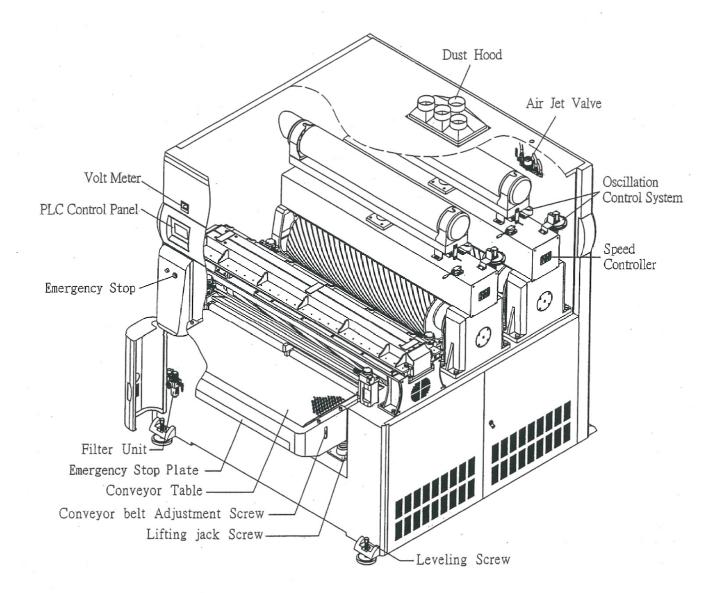


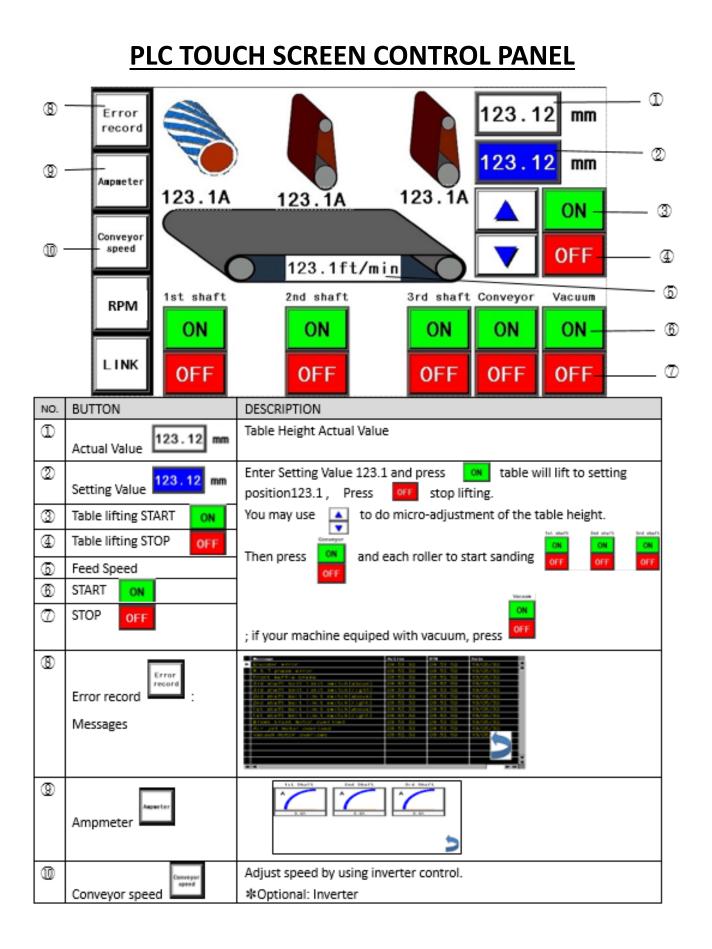
# **STEP 7 • DUST COLLECTION EQUIPMENT**

Each sanding head is provided with a dust hood with an outlet diameter of 5". Connect each dust hood to the dust collector with a flexible hose. Make sure the dust collector has a sufficient capacity for the machine or the dust may cause bad sanding performance.

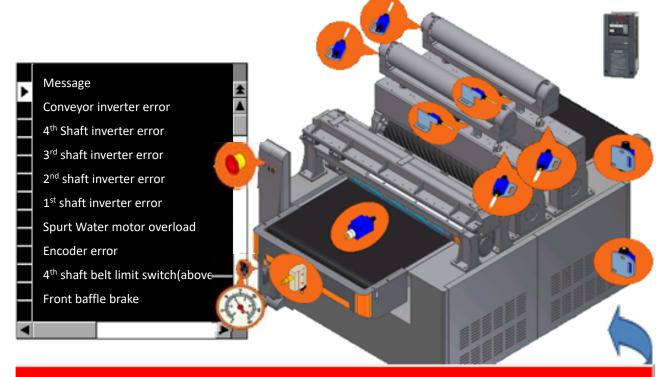


## **MAJOR PART OF THE MACHINE**





#### ERROR MESSAGE SCREEN DISPLAY:

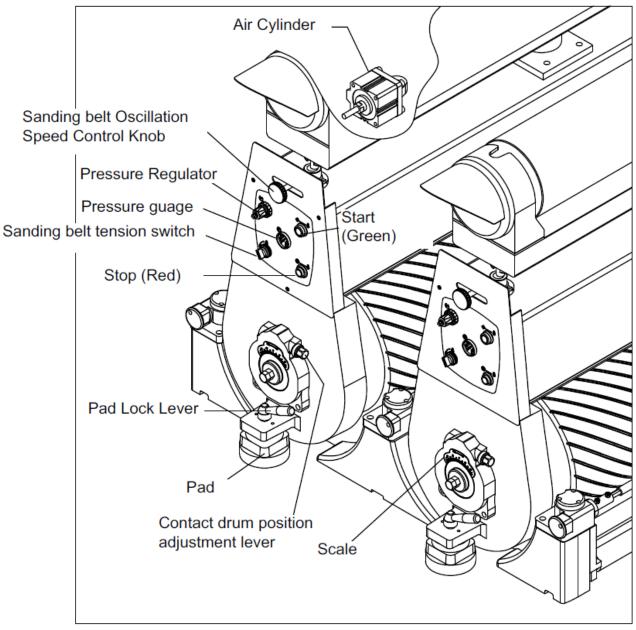


#### Up limit switch Down limit sw

#### ERROR MESSAGE LIST:

1st shaft motor overload	1st shaft belt limit switch(above)
2nd shaft motor overload	1st shaft belt limit switch(right)
3rd shaft motor overload	1st shaft belt limit switch(left)
4th shaft motor overload	2nd shaft belt limit switch(above)
Conveyor motor overload	2nd shaft belt limit switch(right)
Vacuum motor overload	2nd shaft belt limit switch(left)
Brown brush motor overload	3rd shaft belt limit switch(above)
Air jet motor overload	3rd shaft belt limit switch(right)
Spurt Water motor overload	3rd shaft belt limit switch(left)
Conveyor inverter error	4th shaft belt limit switch(above)
Emergency	4th shaft belt limit switch(right)
Feeding limit switch	4th shaft belt limit switch(left)
Up limit switch	Front baffle brake
Down limit switch	Encoder error
Low air pressure	R.S.T phase error

# **SANDING HEAD CONSTRUCTION**

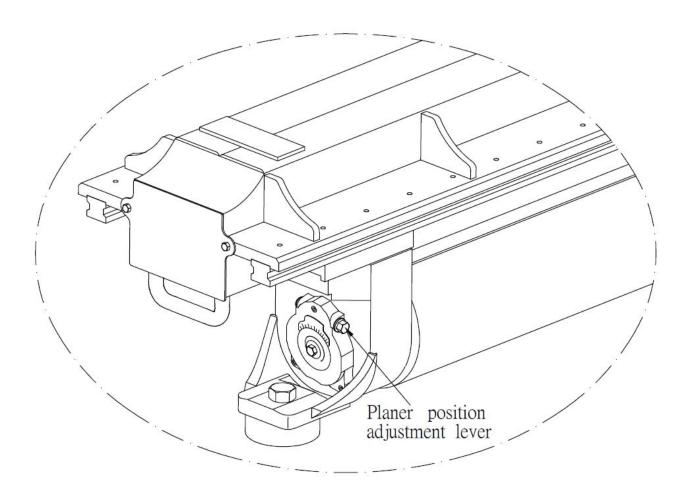


\*Some features are optional item.

# **CUTTERHEAD POSITION ADJUSTMENT**

- 1. The sanding load can be varied by adjusting the cutterhead position.
- 2. The correct sanding load depends on the variety of wood which to be sanded.
- 3. Adjusted the cutterhead position with the planer position adjustment lever.
- 4. To raise the cutterhead, move the lever up. Move the lever down to lower planer.
- The degree of the adjustment of the cutterhead is displayed on the scale.
   Each gradation is 0.1 mm.

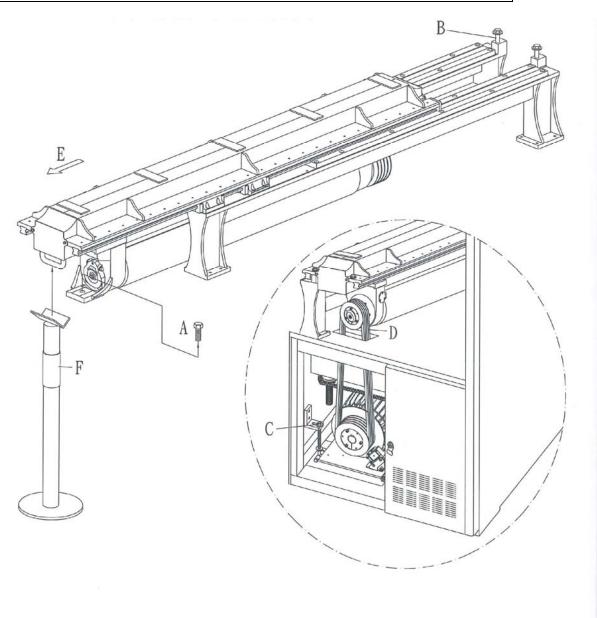
WARNING: DO NOT PULL OUT THE CUTTERHEAD WHILE ADJUST ITS' POSITION.



# **PULL OUT THE CUTTERHEAD**

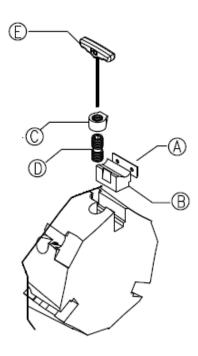
- 1. Tum off the power and unloose the LOCK LEVER (A).
- 2. Loose but don't take out the two fixing screw from the cutterhead base(B).
- 3. Loose nut (C) and belt (D).
- 4. Pull out the cutterhead with the direction (E) and install with safety support bracket (F). Then replace the tips.

WARNING : DO NOT ADJUST CUTTERHEAD POSITION WHEN IT' S TAKING APART.



## **OPERATION INSTRUCTION OF CUTTERHEAD WITH TIPS**

- 1. There are two sides of the tip can be used.
- 2. Clean wedge(B) & blade(A) and combined with each other.
- 3. Once blowing the slot with air flow, put wedge(B) & blade(A) into the slot.
- 4. Hold nut (C) and drive the screw (D) into the slot at same time.
- 5. Adjust blade(A) to middle position with down-force.

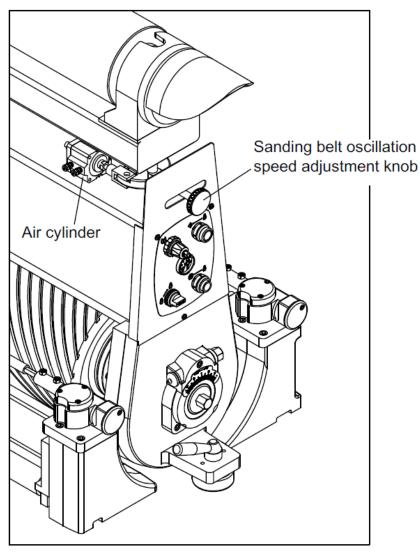


ltem	Part	Description
$\mathbb{A}$	blade	30x12x1.5/35⁺
	_	30x12x2.5/35⁺
B	Wedge	HD-30E
Ô	Nut	M10x15D
D	Screw	M10x24L
Ē	T allen key	5mm

# SANDING BELT TRACKING ADJUSTMENT

If the sanding belt is running out of the normal track, the machine will stop automatically. When replacing the sanding belt, it may oscillate too far to the right or left. If this is the case, it is necessary to adjust the sanding belt tracking.

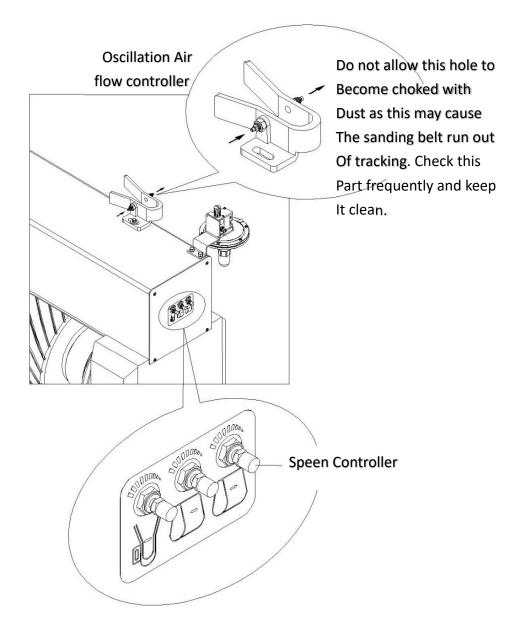
- 1. The sanding belt oscillates to the right and left should be equal. For example, if the time of the oscillation to the right is 1 second then the oscillation time to the left should also be 1 second.
- 2. If the oscillation time on the right and left is not equal, tum the adjustment knob and adjust to shorten the oscillation on the right side.
- 3. Retighten the adjustment knob after adjustment.
- 4. Note the sanding belt oscillation is controlled by air cylinder. If the machine is loses power or air pressure, the sanding belt will stop automatically.



Some features are optional item.

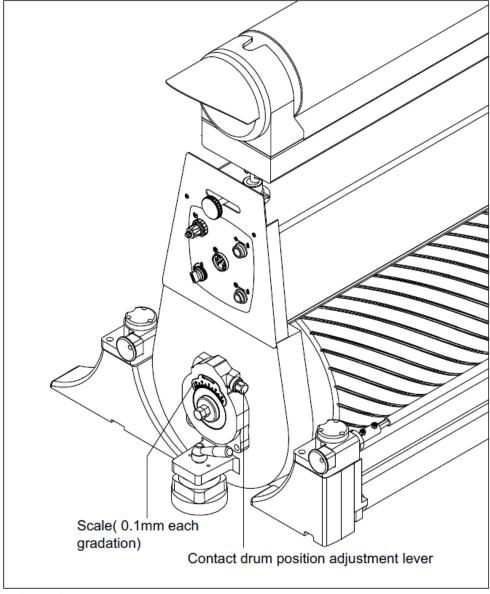
# **SANDING BELT OSCILLATION SPEED ADJUSTMENT**

- 1. The sanding belt oscillation is controlled by the air cylinder.
- 2. The sanding belt oscillation speed is adjusted by the speed controller on the air cylinder.
- 3. Turn the speed controller clockwise to decrease and counter-clockwise to increase the oscillation speed.
- 4. Loose fixing nut on adjustment knob before adjustment. Tighten the fixing nut after adjustment.



# **CONTACT DRUM POSITION ADJUSTMENT**

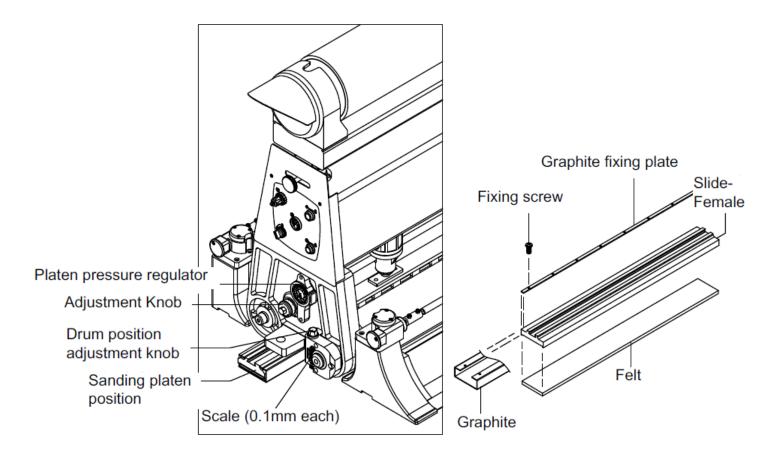
- 1. The sanding load can be varied by adjusting the contact drum position.
- 2. The correct sanding load depends on the variety of wood and grit of sanding belt.
- 3. Adjust the contact drum position with the contact drum position adjustment lever.
- To raise the contact drum, move the lever up (clockwise from the right).
   Move the lever down to lower the contact drum.
- 4. The degree of adjustment of the contact drum is displayed on the scale. Each gradation is 0.1 mm.



\*Some features are optional item.

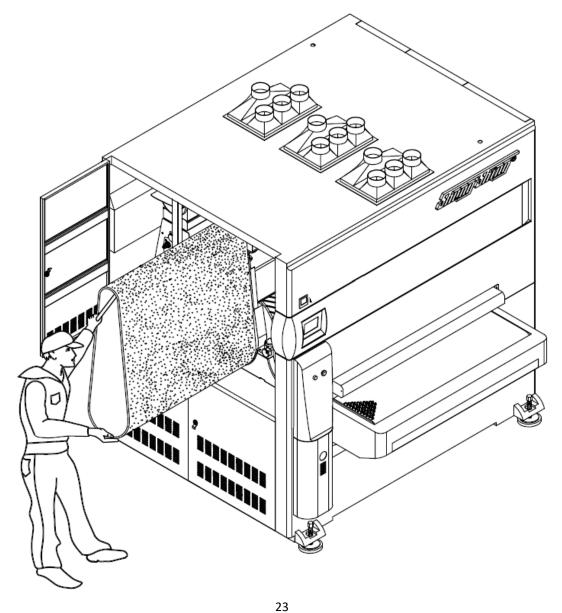
# SANDING PLATEN POSITION ADJUSTMENT

- 1. The sanding platen is applied for polishing or fine finishing operations, with about sanding capacity is about 0.1 mm. It is not suitable for heavy sanding operation.
- 2. The sanding platen position is determined by the variety of wood to be sanded.
- 3. Adjust the sanding platen position with the sanding platen position adjustment knob.
- 4. Turn the knob counter-clockwise to raise and clockwise to lower the sanding platen.
- 5. Each revolution of the knob moves the sanding platen 0.2mm.
- 6. The sanding platen is constructed of graphite cloth and felt. It should always keep clean to prevent the dust. If the work piece has straight notches across it after sanding, it means the graphite cloth and felt have worn out and should be replaced immediately.



# **REPLACING THE SANDING BELT**

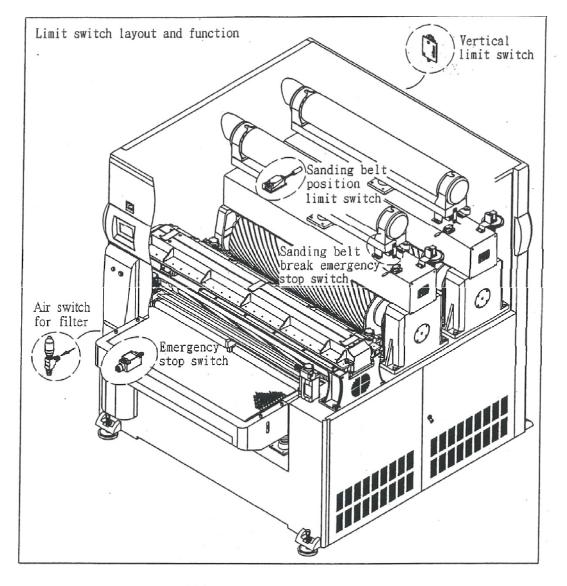
- 1. Turn off the machine power.
- 2. Release the sanding belt tension by turning the sanding belt tension switch to the left.
- 3. Turn the Pad Lock Lever anti-clockwise and make it loose. Then remove it and Pad.
- 4. Pull out the sanding belt.
- 5. Fit the new sanding belt in place. Make sure it is mounted in the correct direction. The sanding belt should be marked with arrows which should point in the running direction of the contact drum.
- 6. The sanding belt should be mounted at the center of the contact drum. If the sanding belt is positioned to far right or far left, the sander will not start.
- 7. Once the sanding belt has been properly mounted, replace the sanding head support pad



# **BRAKING SYSTEM**

The machine 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. Need to find out where the braking system was tripped and make necessary adjustment. Then the machine can be reset and started.
- (5) The air pressure is under 4kg.
- (6) If the sanding belt breaks, all motors will stop automatically, however, the conveyor table still can be raised and lowered.
- \* The conveyor table will going down automatically while the braking system is activated. Press ON table lift button to reset the position.



# **V-BELT TENSION ADJUSTMENT**

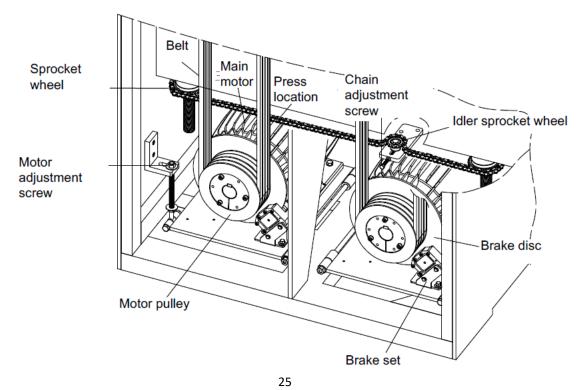
1. After extended use, the V-belt may slightly loose. Should this occur, there will be an unusual sound

While the motor is running. Adjust the V-belt tension when this happens.

- 2. Loosen the lock nut that tightens the motor base then turn the V-belt adjustment screw until correct tension is achieved.
- 3. Tighten the lock nut after V-belt tension has been adjusted.

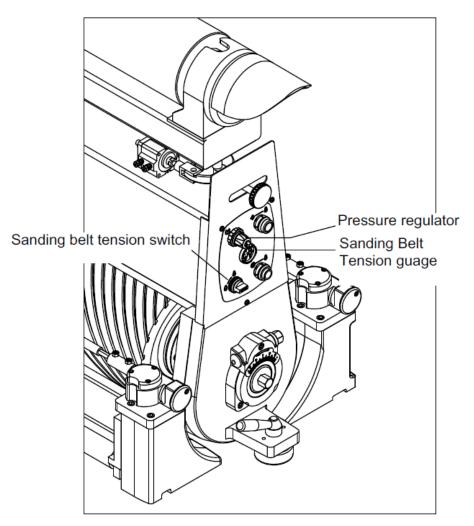
# LIFTING CHAIN ADJUSTMENT

- 1. Loose the nut of chain adjustment screw and turn the screw to adjust the chain. Press the chain by your finger, make sure the chain movement not excess 10mm.
- Once adjustment done, lock the nut in case to tighten the chain adjustment screw.
   \* Press the chain by your finger in between sprocket wheel and idler sprocket wheel.
   \* Only do chain adjustment when the motor is turn off the power.



# SANDING BELT TENSION ADJUSTMENT

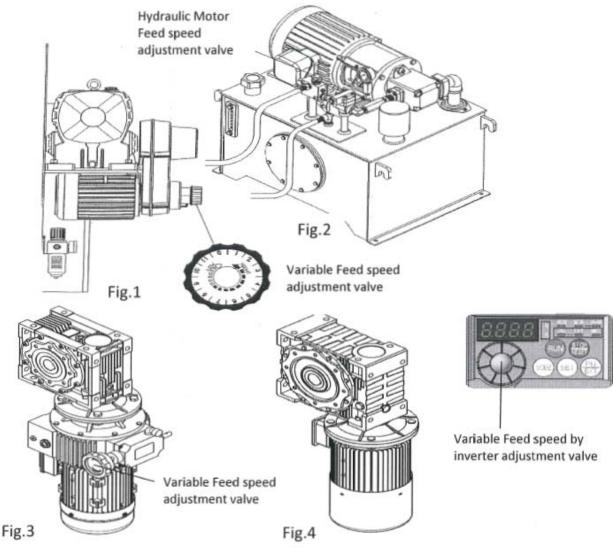
- 1. The sanding belt tension is controlled by air cylinder which is operated by a tension switch.
- 2. Turn the tension switch to the right to increase the sanding belt tension. Turn to the left to release the sanding belt tension.
- 3. The pressure of sanding belt tension can be adjusted by the pressure regulator. Turn the pressure regulator clockwise to increase the pressure and turn it counter-clockwise to decrease the pressure. The pressure can be read from the pressure gauge.
- 4. The reference pressure for sanding belt tension are as shown below:
  - a. Hard shore contact drum: 3~3.5kg/cm<sup>2</sup>
  - b. Soft shore contact drum: 2~2.5kg/cm<sup>2</sup>
  - c. Sanding platen: 2.5~3kg/cm<sup>2</sup>
- 5. When the machine is not in use for a long period time, it is suggested to release the sanding belt tension to prevent the belt from moisture damage.



\* This is an optional equipment.

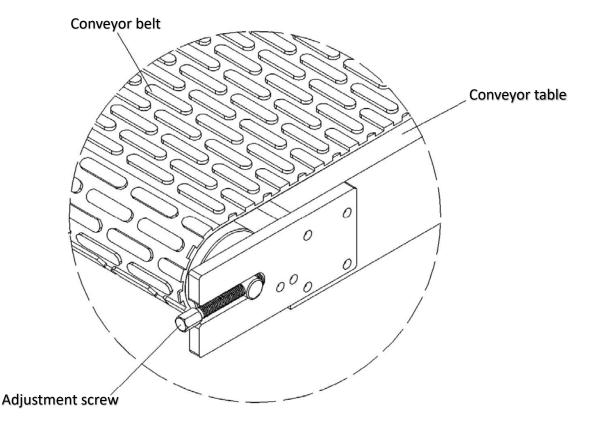
# FEED SPEED ADJUSTMENT

- 1. The feed speed on this machine is infinitely variable to meet the sanding requirements of a wide variety of materials.
- 2. In general, soft wood requires a higher feed speed and hard wood requires a lower feed speed.
- 3. The feed speed may be adjusted:
  - (Fig.1) By using the feed speed adjustment valve of the worm gear reducer.
  - (Fig.2) By the feed speed adjustment valve of the hydraulic driven system.
  - (Fig.3) By using the feed speed adjustment valve of the worm gear reducer.
  - (Fig.4) By using inverter feed speed adjustment valve.
- 4. Turn clockwise of the adjustment point to decrease the conveyor belt speed and turn the counter-clockwise to increase the speed.
  - $\ast$  Do not change the feed speed while machine is not running.
  - \* The hydraulic system with a cooler is additionally optional item.



# **CONVEYOR BELT TRACKING ADJUSTMENT**

- 1. The conveyor belt should always run at the center of the contact drum. If the conveyor belt runs to either left or right, adjust the conveyor belt tracking.
- 2. Before adjusting the conveyor belt tracking, make sure if the conveyor belt tension is correct. If the tension is too tight or too loose, adjust the tension before adjusting the tracking.
- 3. The conveyor belt tracking adjustment is made by turning the screws which is located at the front underside of the conveyor table.
- 4. Turn the adjustment screw on the right side of the conveyor table clockwise to shift the conveyor tracking left.
- 5. Turn the adjustment screw on the left side of the conveyor table counter-clockwise to shift the conveyor tracking right.
- Only adjust the conveyor belt tracking while the machine is running. Each adjustment should be turns 30 degree of the screw. Let the machine run for 3 ~ 5 minutes to ensure that tracking is adjusted properly.
- There are two tracking wheels located at the right and left side of the infeed section.
   Each of them should just touch the edge of the conveyor belt while machine is running.

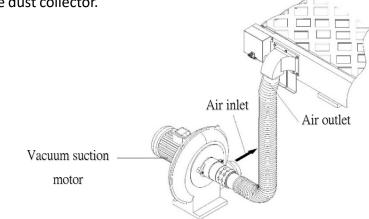


# VACUUM SYSTEM INSTALLATION

The power wires for the vacuum suction device are located at the left back side of the machine. The vacuum suction device has air inlet and outlet ports. Should the air flow direction be opposite to the direction indicated by the arrowheads, it will be necessary to change the power wires connection points.

There are two wind hood: one should be connected to the left back side of the machine and the other should be connected to the dust collector.

\* This is an optional equipment.



# **INVERTER**

The inverter provides variable speed control for the sanding belt. The frequency can be adjusted by turning the switch, however, the parameter has been set already before the machine delivery out.

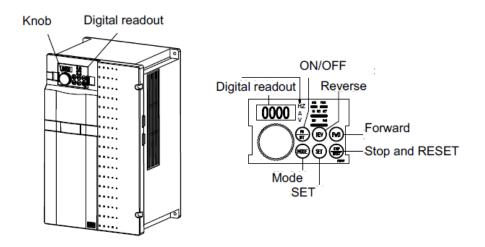
#### PLEASE DO NOT CHANGE THE PARAMETER.

Following is the frequency for you reference,

1.Lacquered sanding: use frequency in between 20HZ~60HZ; use sanding belt in grit #240~#800.

2.Solid wood fining sanding: use frequency in between 60HZ~80HZ; use sanding belt in grit #240~#320.3.Veneer sanding: use frequency in between 60HZ~80HZ; use sanding belt in grit #240~#320.

\* This is an optional equipment.

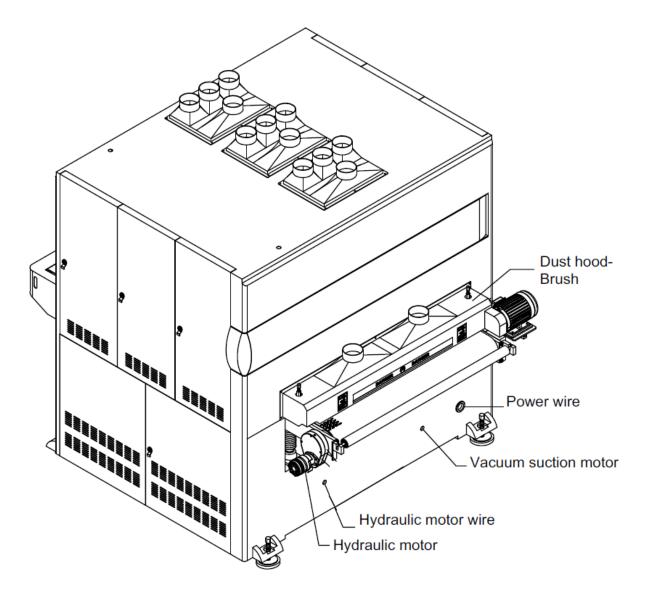


#### **CONNECTION OF VACUUM MOTOR AND HYDRAULIC MOTOR**

\* Note: The Motor of vacuum and the hydraulic are not the same, so please do not connect

the wrong holes.

\* The largest hole is power wires.



# LUBRICATION AND MAINTENANCE

- 1. The machine interior should be thoroughly cleaned every day after work. It is important to remove the sanding belt before cleaning the machine.
- 2. The bearing should be greased after every 150 working hours.
- 3. If the machine is equipped with hydraulic system, the hydraulic oil should be renewed after every 6000 working hours.
- 4. The water should be released from the filter cup regularly.
- 5. Make sure there is an adequate oil fill on the table jack screw at all times.
- 6. The oil <#140> of gear reducer should be renewed after the first 300 working hours and every 2500 working hours thereafter.

# **NOTE FOR ORDER PAKIS**

There is a manufacture plate stick in the front right side of the machine, the content in the plate including: model, serial number, date, horse power, kw, watt, frequency, voltage, phase, ampere, and the weight of the machine.

When order the parts, besides indicated the part description or drawing, please also mark the model and serial number in case we provide the proper size of the parts.



# **TROUBLE SHOOTING**

ERROR MESSAGE	PROBABLE CAUSE
	1. Grit of sanding belt is too fine.
	2. Sanding overload.
	3. Too much oil/dirt on wood surface.
Sanding belt clogs easily	4. Wood is too wet (humidity).
	5. Insufficient dust suction capacity.
	6. Sanding belt is humidity.
Too many circles created along the	Too much material is being removed.
edge while sanding solid wood	
	1. Conveyor table is not parallel to the contact roller in the
Uneven thickness between left and	left/right direction.
right sides of the work piece	2. Conveyor belt is worn out, using sanding belt grit #40 to
	sharpen.
	3. The graphite cloth and felt on the pad are worn out.
	1. Feed speed too fast.
	2. Sanding overload.
Uneven thickness between left and	3. Grit of sanding belt is too fine.
right sides of the work piece.	4. Unequal position of pressure plate.
	1. Pressure of the pressure plate is too tight or too loose.
	2. Too dirty on the conveyor belt.
Work piece slips while conveyor.	3. Conveyor belt is worn out, using sanding belt grit #40 to
	sharpen.
	4. Short panel.
	1. Too dirty on the conveyor belt or scratch.
Straight notches on wood surface	2. Contact drum is scratched.
	3. The graphite cloth and felt on the pad are worn out.
	1. Sanding belt is partially damaged.
	2. Sanding belt is worn out.
Snake shape on work piece	3. Bad quality of sanding belt.
	1. Sanding belt joint is too thick.
Cross-parallel stripes across the	2. Worn out on sanding belt.
entire width of the work piece	3. Sanding load is less than 0.03mm.