



PS3 OWNER'S MANUAL

PROFILE SANDER



Thank you for investing in a Laguna Tools Profile Sander. This sander is one of a family of unique machines proudly offered by Laguna Tools. Every Laguna machine is engineered for years of dependable service. Please feel free to contact Laguna Tools if you have a question or suggestion. We appreciate working with you and your choice of a Laguna Tools machine for your shop.

Regards,
Torben Helshoj

President & Founder Laguna Tools

Dealer Machinery Warranty

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

*Machines sold for either commercial or industrial use have a one-year warranty. See lagunatools.com for complete warranty details.

This manual applies to the PS3 Profile Sander. Enter the model number and serial number below for quick reference when ordering accessories, supplies or parts. NOTE: The model and serial number plate can be found on the serial plate on the side of the stand.

Model: _____

Serial: _____

Laguna Tools

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1. Warnings:

The people who are responsible for this machine must take care that all operators who works with this machine have read this instruction book and understand how to operate the machine safely and in a correct way.

- 1- Read and understand the Operating Manual.
- 2- All workers must wear the appropriate clothes and personal protection, such as safety glasses.
- 3- Never wear loose-fitting clothes near the machine.
- 4- Workers with long hair must use hair net or cap.
- 5- Never use jewels and rings when operating the machine.
- 6- The machine must always be positioned on a strong, level surface. If the machine has casters then be sure they are locked before starting operating.
- 7- Check the electrical voltage, it must be 220 V +/- 5 %. if the power is more than the 5 % +/-, this can damage the electric/electronic components and is not covered by the warranty!!

✧ **Note:** When using the machine, please make sure you stand in front of machine, brush rotation is “down” rotation. Avoid standing in the wrong positions, which can be dangerous.

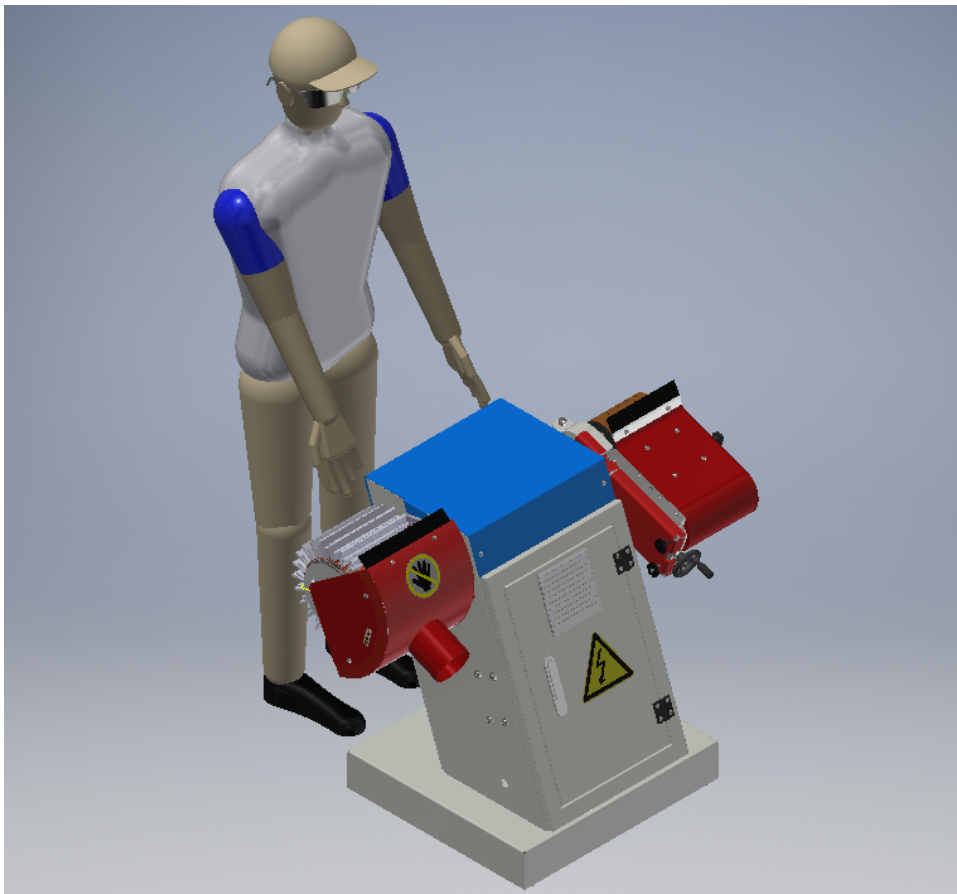


Figure 1:

2. Assembly:

1. Remove the Shipping Base, install the four leveling feet #50xM12x100 (packed inside the machine) into the four corners of the Machine Base. Level the machine using the leveling feet. **NOTE:** The shipping base can remain attached, if reinforced (side to side), to provide a higher operating option.

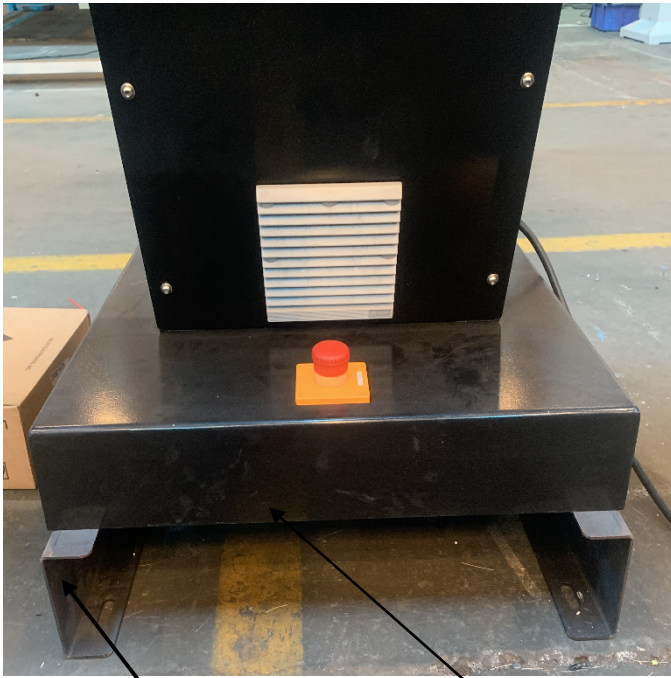


Figure 2:

Shipping Base



Figure 3:

Machine Base

Leveling Feet

2. Turn power source or breaker OFF. Connect the power cord (3-wires) to a Single-phase 208-220V plug (not included). Plug into appropriate receptacle and power source. Turn the power source (breaker or disconnect) ON and start the motors. Check the direction of rotation of the motors. Rotation should be “down” for each sanding station. (Have a certified technician change motor wiring if needed).

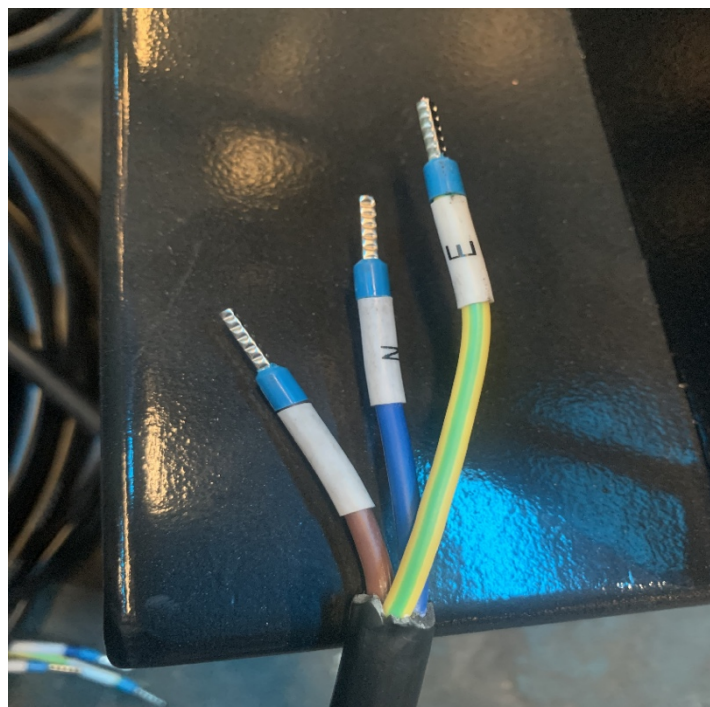


Figure 4:

3. Operation:

3.1. Checking before operation

1. Machine must be on a flat, sturdy surface.
2. Make sure machine is checked before use: Electric, mechanical, etc....

3.2. Start-up

1. Providing power.
2. Press "ON" on ON-OFF switch to start the brush sander. Press "OFF" to turn off.

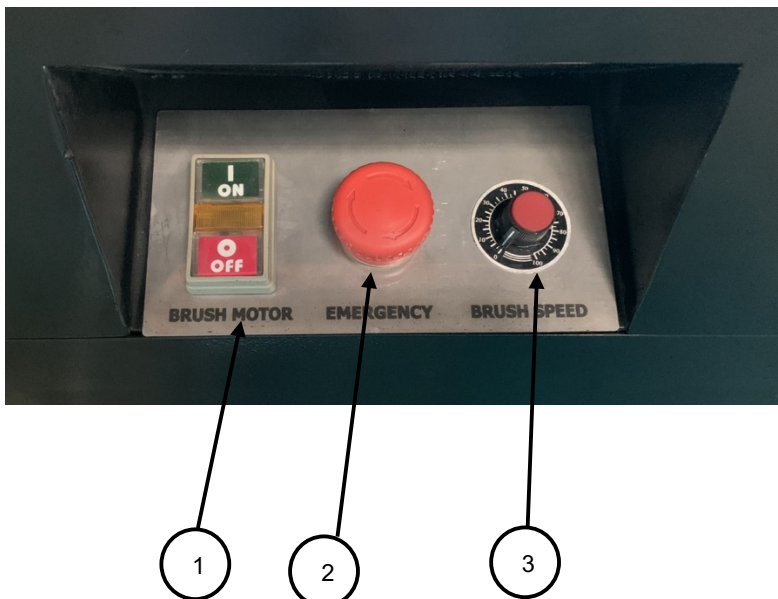


Figure 5:

1. ON-OFF switch of brush motor.
2. Emergency OFF (E-STOP).
3. Speed (RPM) control knob.
4. Emergency OFF (E-STOP) Foot Control.

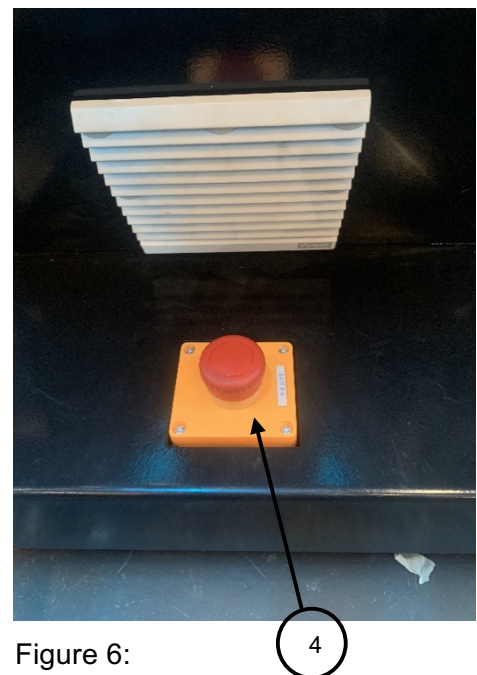


Figure 6:

Note: If there is a problem use one of the two emergency stop buttons on the machine to stop the machine. Turn the emergency stop button (2 and/or 4) clockwise to unlock and reset, after correcting the problem. Do NOT use the E-Stop for normal shut-down.

4. Information:

4.1. Technical specifications

Specifications	Value
Power	1.3 HP (1kW)
	208-220 Volt, Single Phase
Adjustable Brush Speed with Inverter	50-400 RPM
Brush length/working width (x 2)	15.8" (400 mm)
Brush head diameter	Ø 10.6" (270 mm)
Machine dimensions	58" x 25" x 33" (1470x630x840 mm)
Net weight	309 lbs. (140 kg)

5. Components of PS3:

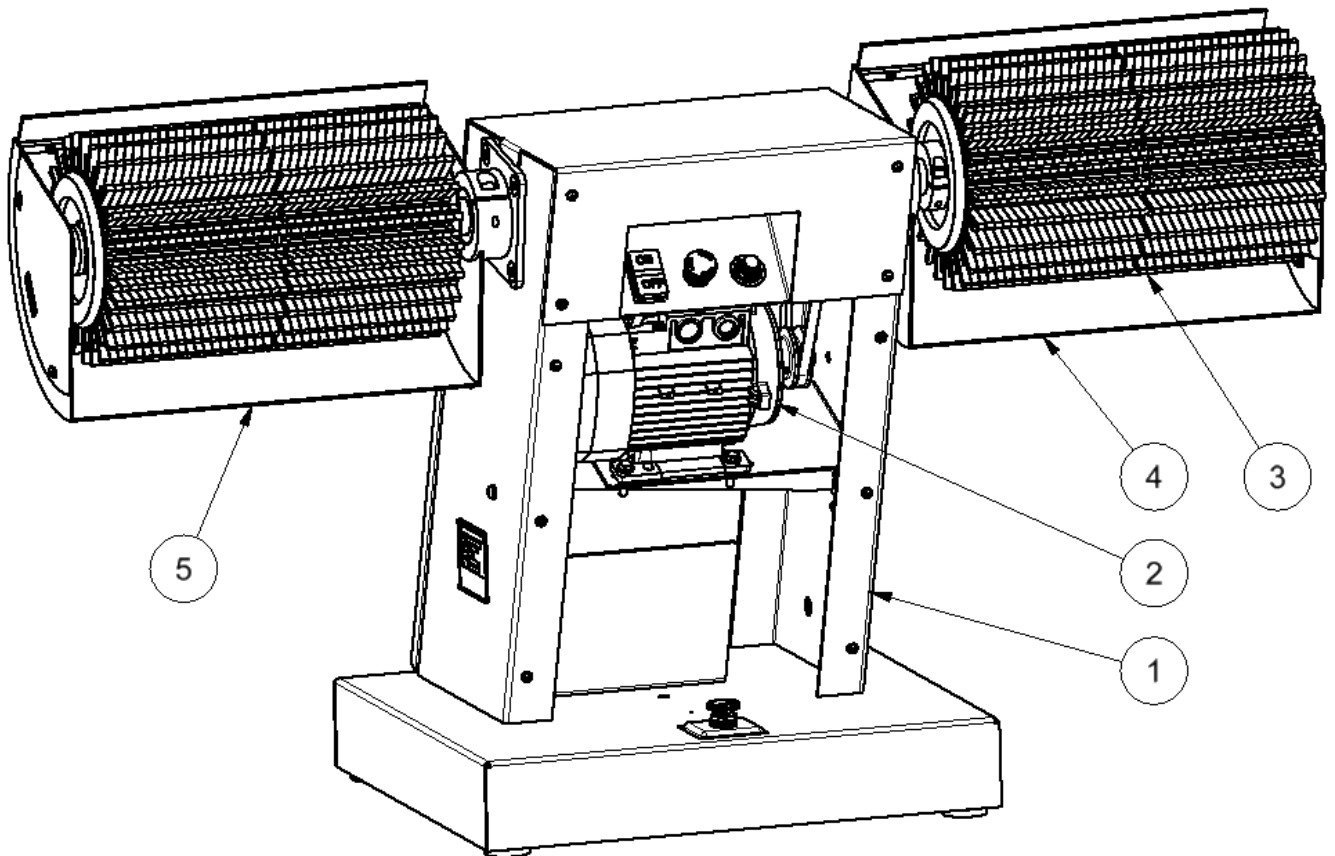
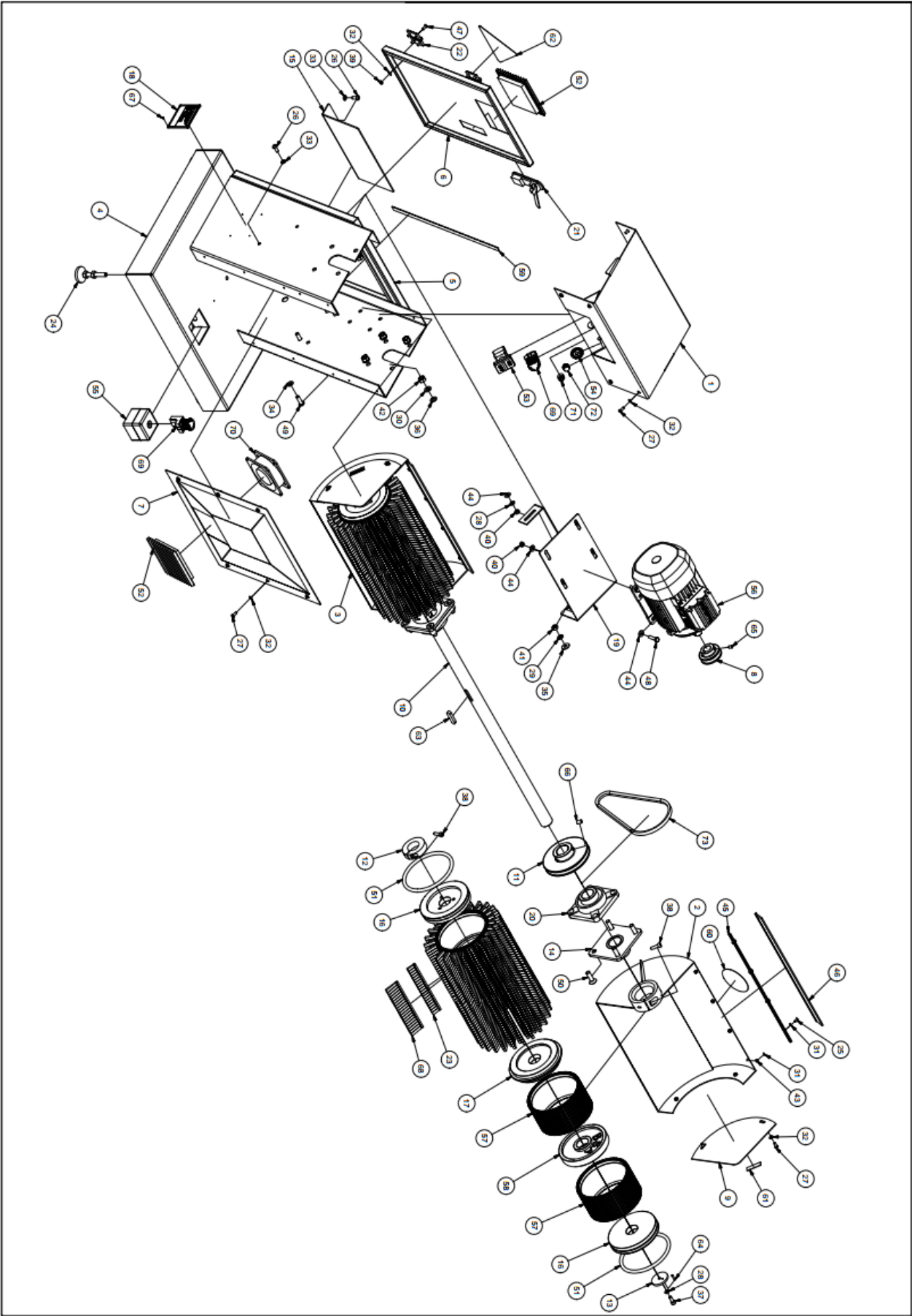


Figure 9:

- | | |
|------------------|------------------------|
| 1. Machine frame | 4. Dust cover (1 of 2) |
| 2. Brush Motor | 5. Dust cover (2 of 2) |
| 3. Brush head | |

6. EXPLODED DRAWING:

6.1. Exploded View

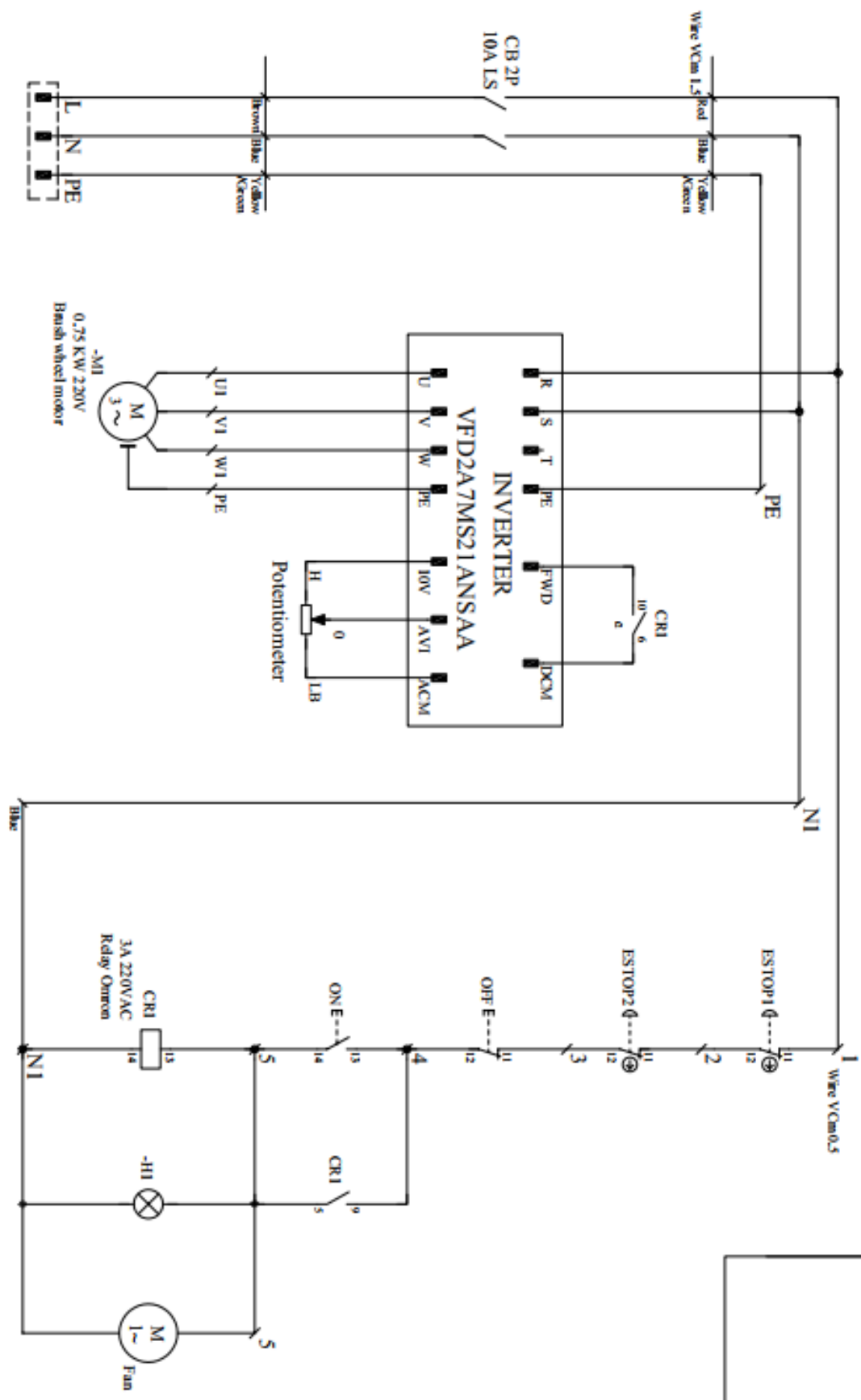


6.2. Parts list

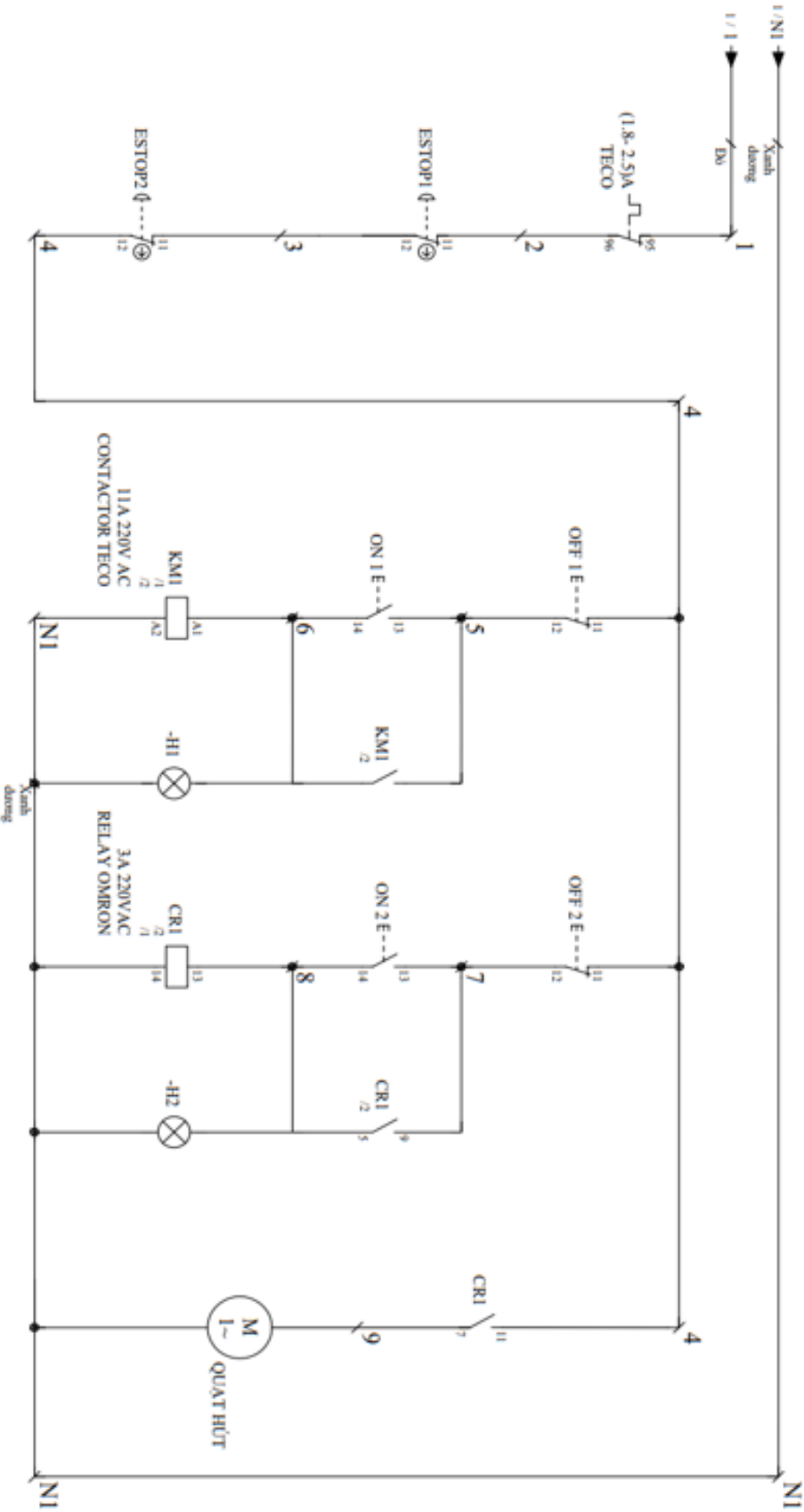
NO	CODE	NAME	QTY	NOTE
1	32211534	Top cover	1	
2	32211541	Dust cover (1)	1	
3	32211544	Dust cover (2)	1	
4	32211779	Machine frame	1	
5	42211479	Door frame	1	
6	42211480	Back door	1	
7	42211481	Front cover	1	
8	42211490	Motor pulley	1	
9	42211493	Dust cover lid	2	
10	42211535	Shaft	1	
11	42211536	Pulley	1	
12	42211539	Lock ring	2	
13	42211540	Washer	2	
14	42211542	Dust cover base	2	
15	42211599	Electric base	1	
16	42211650	Flanges #163x#40	4	
17	42211652	Flanges #163x#40	2	
18	42211805	Name plate PS3 0.5x80x100	1	
19	42211778	Motor base	1	
20	C000454	Ball bearing UCF 208	2	
21	C001214	Door lock	1	
22	C001334	Hinges 50x50	2	
23	C001793	Dust brush 30x200	96	
24	C001796	Leveling feet #50xM12x100	4	
25	C001806	Hexagon Socket Button Head Cap M5x10	8	
26	C001807	Hexagon Socket Button Head Cap M8x20	3	
27	C001808	Hexagon Socket Button Head Cap M6x15	16	
28	C001817	Spring Washer 8	7	
29	C001818	Spring Washer 10	4	
30	C001819	Spring Washer 12	8	
31	C001821	Washer 5x10	16	
32	C001822	Washer 6x12	20	
33	C001826	Washer 8x16	3	
34	C001830	Washer 10x21	4	
35	C001831	Washer 10x25	4	
36	C001833	Washer 12x25	8	
37	C001859	Head Cap Screw 8x20	2	
38	C001861	Head Cap Screw 8x30	4	
39	C001874	Hex Nut M6	4	
40	C001875	Hex Nut M8	5	
41	C001876	Hex Nut M10	4	
42	C001878	Hex Nut M12	8	
43	C001899	Hex Nut M5	8	
44	C001921	Washer 8x19	9	
45	C001924	Dust brush guide H25x472	2	
46	C001925	Black brush 40x472	2	
47	C001929	Hexagon Socket Flat Countersunk Head Cap M6x15 M6x15	8	
48	C001947	Head Cap Screw M8x35	4	
49	C002066	Hexagon Socket Button Head Cap M10x30	4	
50	C002136	Hexagon head cone sink M12x40	8	
51	C002233	O-ring #175x#155x10	4	
52	D000137	Dust filter 148.5x148.5x13.5	2	
53	D000194	Double button with lights #22	1	
54	D000756	Dial TOPVR	1	
55	D000967	Emergency stop button box	1	
56	D000970	Electric motor 0.75 kW 3 phase 6p	1	
57	N000254	POM wheel #180 W100	8	
58	N000255	PP cover Ø 163 ø 40 mm	4	
59	N000297	Eva foam 3x1000x1200	0.01	
60	VBB-MACHINHBTAY	Safety decal, hand shape	2	
61	VBB-MACHINHMTEN	Arrow decal	2	

62	VBB-MCANHBAON GUYHIEM	Warning decal	1	
63	VBL-CLV1208050	Key Way 12x8x50	1	
64	VBL-CO0420	Pipe latch #4x20	2	
65	VBL-LGC0812	Set Screw 8x12	2	
66	VBL-LGC1015	Set Screw 10x15	2	
67	VBL-LIVET2550	Staples 2.5x5 (live)	4	
68	VDC- NHAMCT460200	Dust brush 46x200	96	
69	VDI-CTK2201	Emergency button no lights #22mm	2	
70	VDI-QUAT	Fan 120x120 -AC 220V-240V-50/60Hz 0.14A	1	
71	VDT-BTB102	Rheostat B102-20/3	1	
72	VDT-NVBT1K	Rheostat knob 1K	1	
73	VTD-CRA030	V-Belt A30	1	

6.3. Circuit diagram



6.4. Control circuit diagram



7. Maintenance:

Preventive maintenance and routine maintenance are extremely essential to minimize disruption in manufacturing caused by equipment failures. Especially wood working machines used in dusty conditions.

The recommended maintenance schedule (below) specifies maintenance requirements to keep the machine in the best working condition. Maintenance should be performed as outlined.

I: *General checking: clean up, adjust, lubricating or replace.*

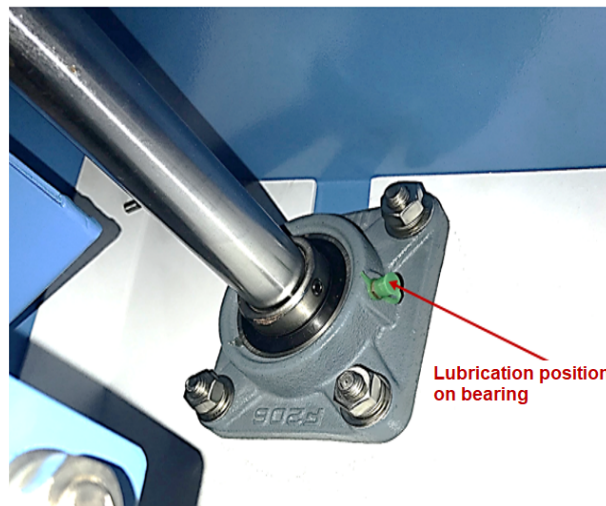
Maintenance points	Time									
	Daily	1 week	2 week	1 month	4 month	8 month	1 year	2 year	4 year	8 year
General clean-up	C									
Bearing				L			I	R	R	R

C: *Clean*

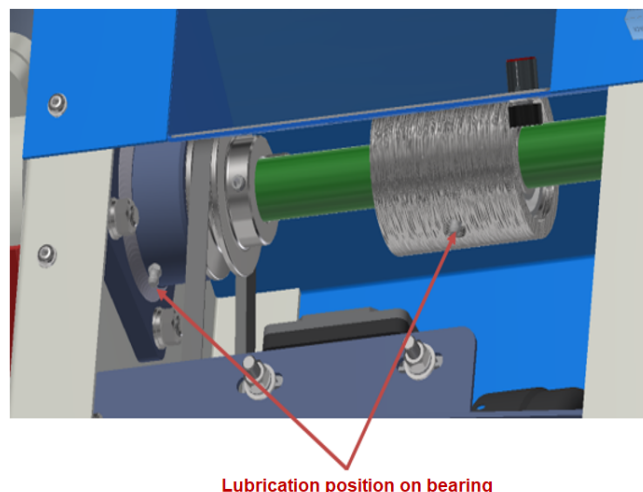
L: *Lubricate*

R: *Replace*

Working mode of machine: 1 shift (8 hours)/day; 6 days/week ; 4 weeks/month.



Figures 10-11:



8. How-To, Brush Sanding:

8.1 General information for brush sander

Use the entire width of the Brush sanding wheel.

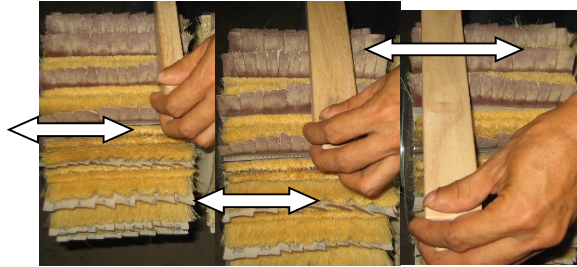


Figure 12:

Only sanding in the middle of the brush will wear the brush head quickly and unevenly.



Figure 13:

Keep the sanding abrasives and brushes in good condition, replace abrasives when dull.

Sanding with the abrasive worn-out will damage the support brush!

Sand as deep as the lowest part of the profile with sharp abrasives (Fig. 14)

Do not push stock excessively deep into abrasives (Fig. 15)!



Figure 14: Proper depth, with sharp abrasives



Figure 15: Excessive penetration with sharp abrasives

8.2 White Wood (raw) sanding

Sanding with the appropriate technique will speed up the process and offers the best possible sanded results. Following is a guide to develop a good technique. Practice will help develop the best technique.

Good Technique is a combination of speed (RPM) of the brush sander – pressure (depth of abrasive penetration) on the work piece – movement of the workpiece on the abrasive - the angle of the workpiece and abrasive grit.

If the workpiece can be sanded to 150-180 grit before brush sanding, then brush sanding can remove most if not all of the raised fibers and sharp edges.

To make the best surface it is important to sand **forward / backward** and **turn the wood 180 degrees**. This will be most effective at removing raised grain and fibers.

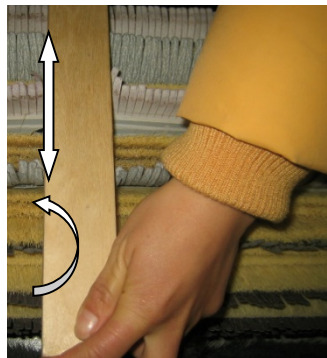


Figure 16:

Compared with a belt sander, which pushes fibers into the stock, the brush sander will “lift up” fibers, cut them off and reduce the amount of sealer or primer needed and make the surface ready for sealer sanding.

Remove sharp edges.

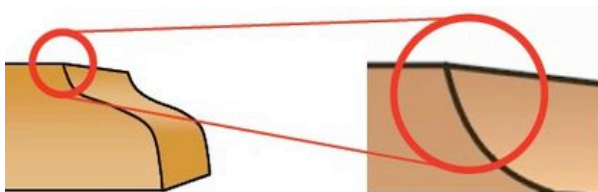


Figure 17: Before brush sanding

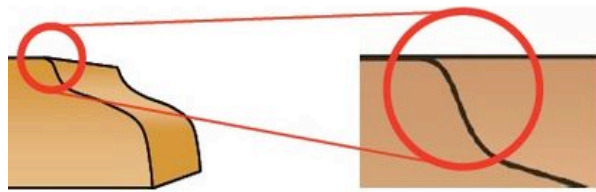


Figure 18: After brush sanding

Brushing prepares the work piece for sealer sanding without over sanding on the edges where it is important to achieve “rolled” edges, thus allowing better finish adhesion.

8.3 The brush sanding system offers 4 variations of abrasive cut (slash, width)

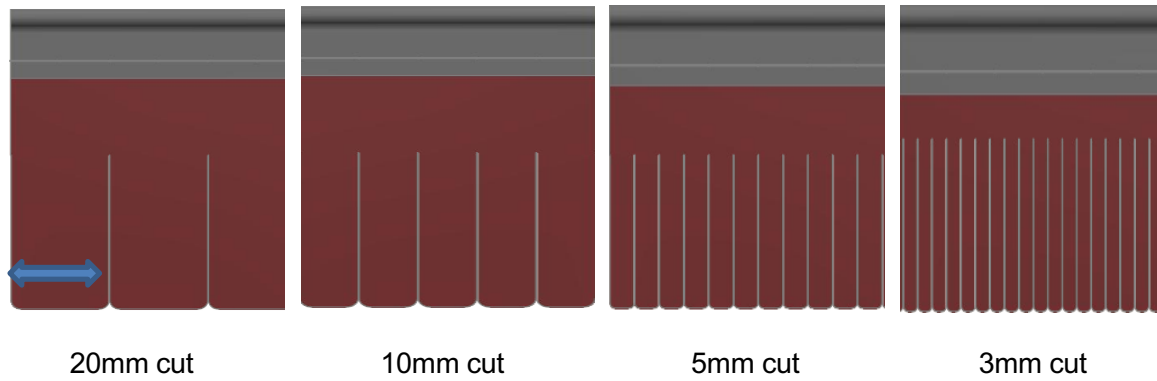


Figure 19:

The machine is normally equipped with 10mm or 20mm cut as standard to sanding flat surface and remove sharp edges (left side of figure below). The narrower cut abrasives can be incorporated or mixed for deep or sharp profiles (the right side of figure below).



Figure 20:

8.4 Abrasive & support brush length combinations



Figure 21:

When Abrasive Length = 35mm/Brush = 30mm; 55mm/Brush = 46mm; 70mm/Brush = 61mm

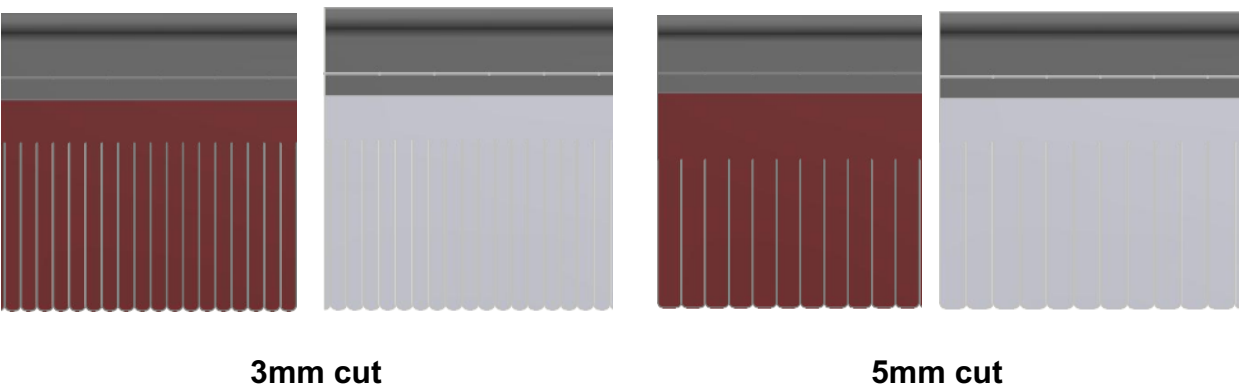


Figure 22:

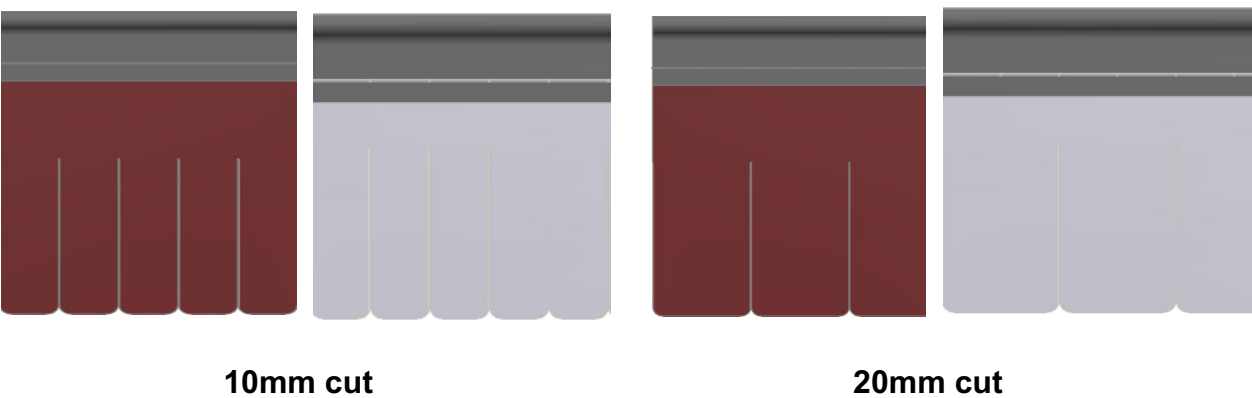


Figure 23:

A/O = aluminum oxide for wood sanding.



Figure 24:

A/O/C aluminum oxide, stearate coated is useful for sealer sanding.



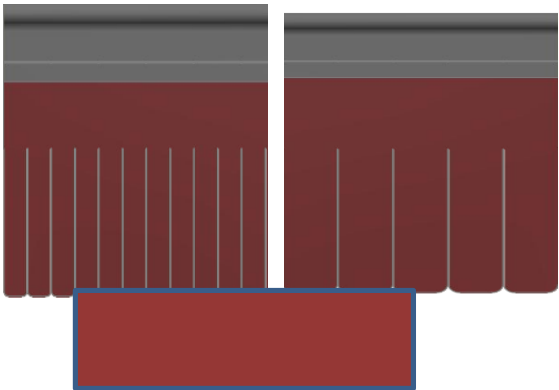
Figure 25:

8.5 Recommend combinations

For square /rectangular parts or parts – Abrasive 55mm/Brush 46mm



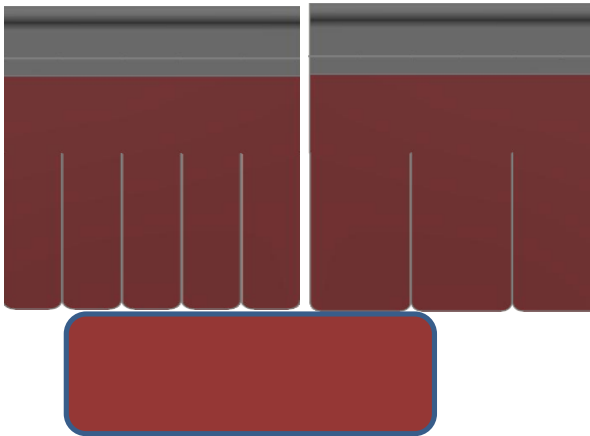
Figure 26:



To keep the edges sharp use a combination of 5mm and 10mm cut.



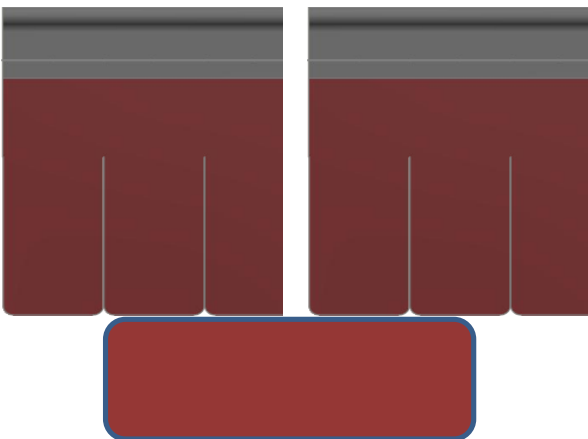
Figure 27:



For more rounded edges, use a combination of 10mm and 20mm cut.



Figure 28:



If all rounded edges, use all 20mm cut.

For moldings less than 15mm deep – Abrasive 55mm/Brush 46mm.

For profile:

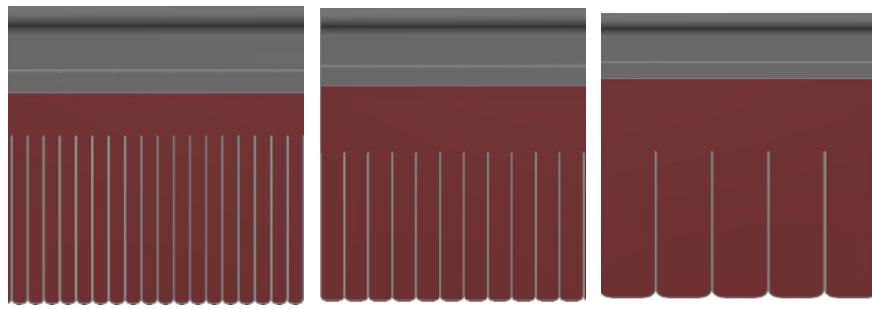
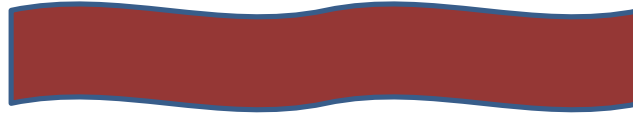


Figure 29:



To effectively penetrate into sharp or deep profiles testing a combination of 3mm, 5mm & 10mm cut is suggested.



Figure 30:



Figure 31:

For narrow profiles use mostly 3mm mixed with 5mm cut. For wider profiles, mix 5 & 10 mm slash. For moldings and profile doors more than 5/8" (15 mm) deep use 70mm Abrasive/Brush 61mm height.

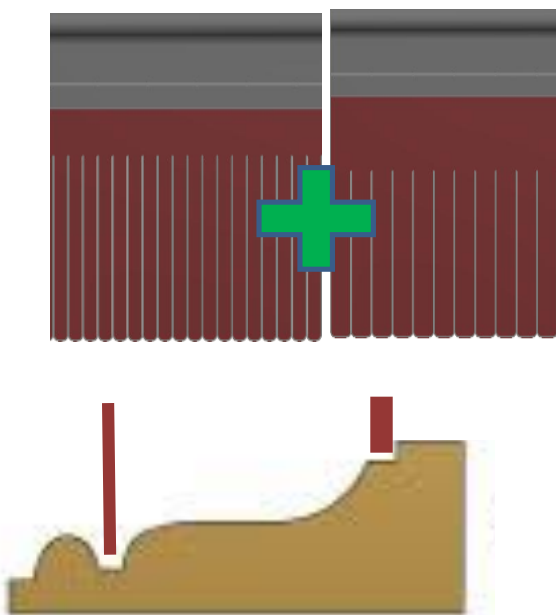


Figure 32:

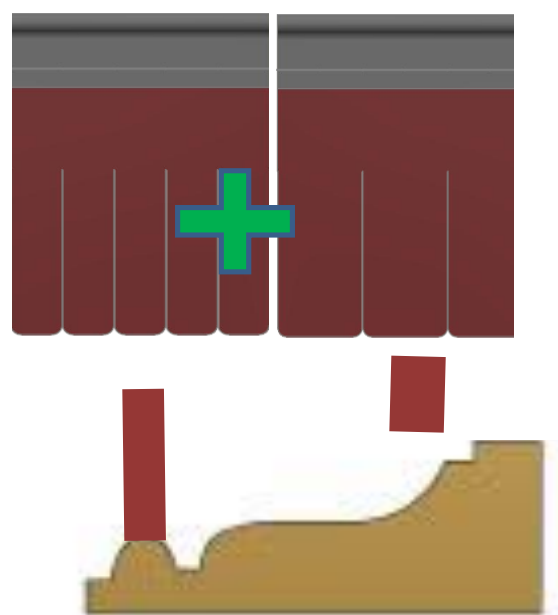


Figure 33:

For sealer, typically use A/O/C or S/C from #240 to 600 grit.

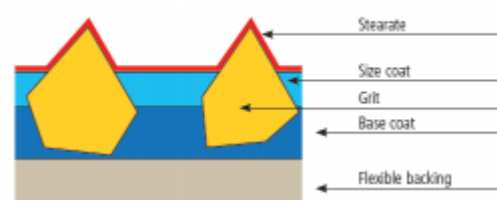


Figure 34:

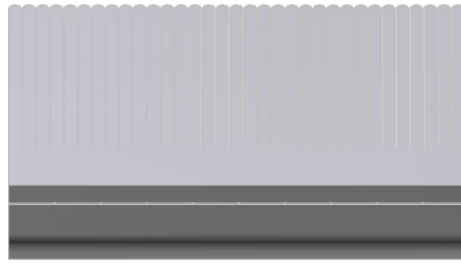


Figure 35: A/O/C

Coated abrasive generally offers better surface conditioning for sealer and primer.

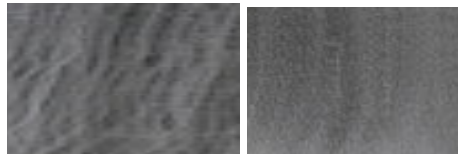


Figure 36:

8.6. Applications



Figure 37: **Molding & Furniture parts**

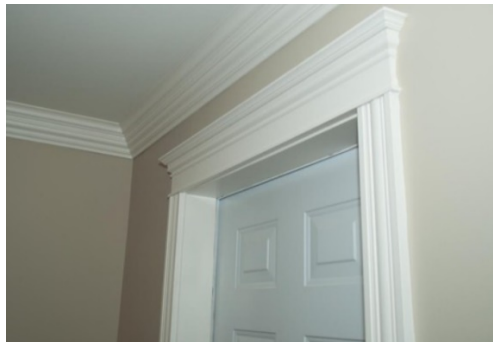


Figure 38: **Doors & Molding**



Figure 39: **Cabinet Doors & Components**

Dining Chair

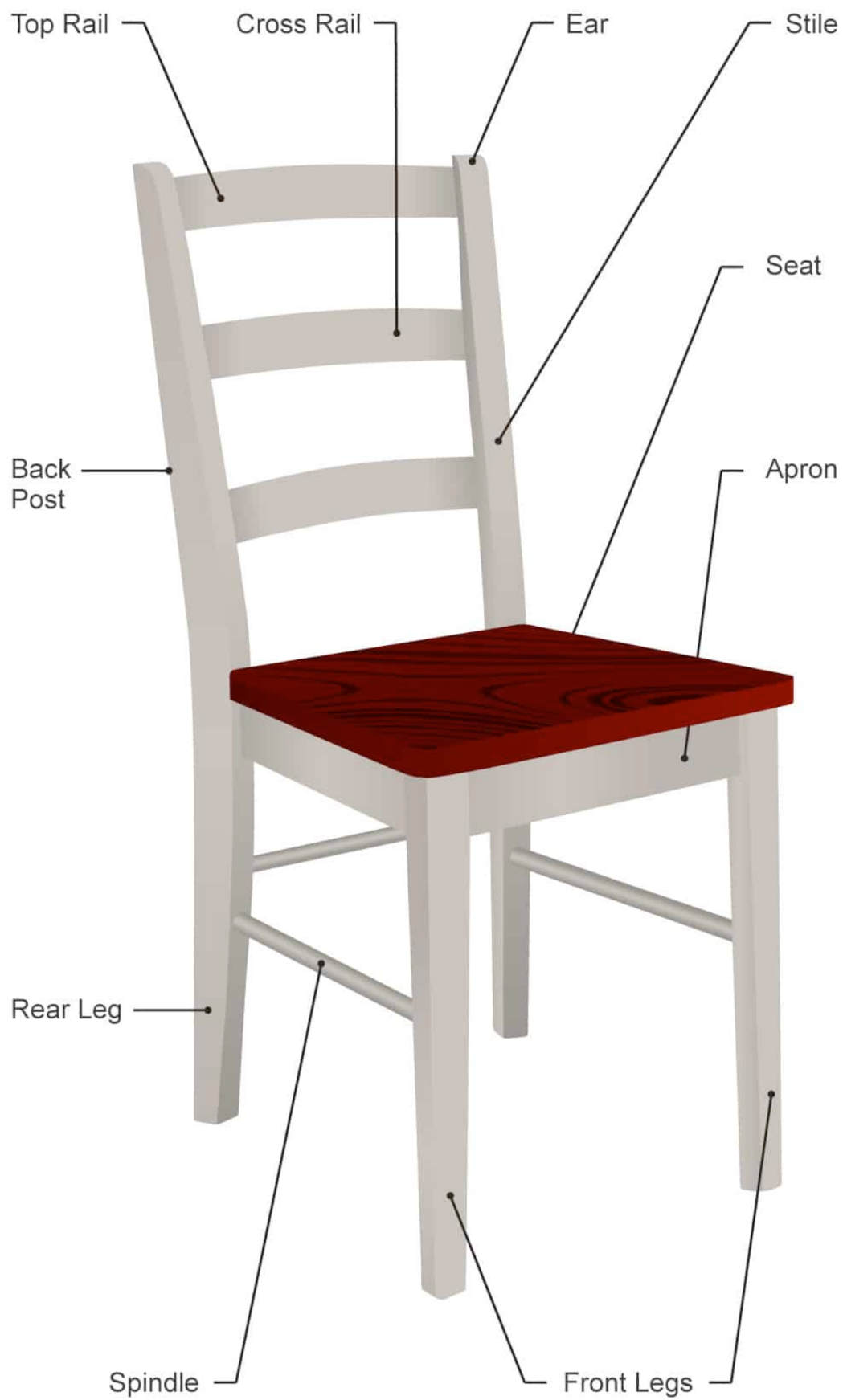


Fig. 40



Figure 41: **Chair & furniture components**



Figure 42: **Kids furniture / toys**



Figure 43: **Wooden kitchenware**

9. Supplies:

9.1 Supplies/Abrasives/Brushes

Replacement abrasive strips

See sections 8.3, 8.4 & 8.5 for abrasive selection suggestions.

200mm Aluminum Oxide (A/O) and Aluminum Oxide Stearate Coated (A/O/C) abrasives strips for brush sander, two strips per channel of sanding hub. Below are some of the abrasives available, contact Laguna Tools for more information.

Note: "H" = abrasive height, "Cut" = abrasive finger width

Note: When ordering, each sanding brush head requires two 200mm strips per channel!

150 grit, A/O, 55mm H, 5mm Cut

150 grit, A/O, 55mm H, 10mm Cut

150 grit, A/O, 55mm H, 20mm Cut

180 grit, A/O, 55mm H, 3mm Cut

180 grit, A/O, 55mm H, 5mm Cut

180 grit, A/O, 55mm H, 10mm Cut

180 grit, A/O, 55mm H, 20mm Cut

240 grit, A/O, 55mm H, 3mm Cut

240 grit, A/O, 55mm H, 5mm Cut

240 grit, A/O, 55mm H, 10mm Cut

240 grit, A/O, 55mm H, 20mm Cut

320 grit, A/O/C, 55mm H, 3mm Cut

320 grit, A/O/C, 55mm H, 5mm Cut

320 grit, A/O/C, 55mm H, 10mm Cut

320 grit, A/O/C, 55mm H, 20mm Cut

400 grit, A/O/C, 55mm H, 3mm Cut

400 grit, A/O/C, 55mm H, 5mm Cut

400 grit, A/O/C, 55mm H, 10mm Cut

400 grit, A/O/C, 55mm H, 20mm Cut

Replacement backer brush strips for brush sanders, 200mm long.

Note: "H" = brush (bristle) height.

46mm H, (typically used with 55mm H abrasive strips).

NOTE: Other abrasive grit and combinations may be available, contact Laguna Tools Customer Service for a complete selection.

800-234-1976

customerservice@lagunatools.com