

## INSTRUCTION MANUAL

ITEM NO.: EMC-B78H, EMC-B78HA  
ELECTRIC SANDER, CENTRAL-VACUUM  
W/ 70x198MM HOOK PAD

ITEM NO.: EMN-B78V, EMN-B78VA  
ELECTRIC SANDER, NON-VACUUM  
W/ 70x198MM VINYL PAD



\*E-type\*



EMC(N)-B78-I-2008F-X2

## INSTRUCTION

**Congratulations on your purchase and welcome to SUMAKE.**

### Intended Use

This electric tool is intended for use in industrial locations, and used only by skilled, trained professionals in accordance with the instructions in this manual. This electric tool is designed to be used with a disc pad and appropriate abrasive for sanding metals, wood, stone, plastics and other materials. It should only be used for such sanding applications and within marked capacity and ratings. Only accessories specifically recommended by **SUMAKE** should be used with this tool. Use in any other manner or with other accessories could lead to unsafe operating conditions.

Do not operate tool in water or in an excessively wet application.

Do not use disc pads that have a Max RPM or Max OPM less than the tool Max RPM or Max OPM rating. Never use disc pads that have a weight and/or size different from what the tool was specifically designed for.

## IMPORTANT SAFEGUARDS

**WARNING:** Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire, and/or other serious injury.

Save all warnings and instructions for future reference. The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

### **1. Using your machine for the first time**

PLS. Warm Up. Works at high speed during the first few minutes until the inner parts are perfectly assembled/greased.

### **2. Work Area Safety**

- a. Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- b. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- c. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

### **3. Electrical Safety**

- a. Power tools plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

- b. Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- c. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- d. Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- e. When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f. If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of a GFCI reduces the risk of electric shock.

#### **4. Personal Safety**

- a. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- b. Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c. Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d. Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- f. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.
- g. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

#### **5. Power Tool Use and Care**

- a. Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- b. Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c. Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d. Store idle power tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.



- e. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- f. Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g. Use the power tool, accessories and tool bits, etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

## **6. Service**

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

### **WARNINGS**

**To reduce the risks associated with impact from abrasive product, disc pad, or tool breakup, sharp edges, hazardous downforce, rupture, vibration and noise :**

- Only personnel who are properly trained should be allowed to service this tool.
- If you notice any abnormal noise or vibration when operating the tool, immediately discontinue its use and inspect for worn or damaged components. Correct or replace the suspect component. If abnormal noise or vibration still exists, return the tool to SUMAKE for repair or replacement. Refer to warranty instructions.
- Prior to use, inspect abrasive product and accessories for possible damage. If damaged, replace with new abrasive product and accessories available from **SUMAKE**.
- Only use accessories supplied or recommended by **SUMAKE**.

**To reduce the risks associated with vibration**

- If any physical hand/wrist discomfort is experienced, work should be stopped promptly to seek medical attention. Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibration.

**To reduce the risks associated with loud noise :**

- Always wear hearing protection while operating this tool. Follow your employer's safety policy or local/national standards for personal protective equipment requirements.

**To reduce the risks associated with fire or explosion :**

- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. The abrasives are able to create sparks when working material, resulting in the ignition of the flammable dust or fumes.
- Refer to MSDS of material being worked as to potential for creating fire or explosion hazard.

**To reduce the risks associated with ingestion of harmful / toxic dusts from sanding surfaces such as lead painted surfaces, woods and metals :**

- Contact with or inhalation of these dusts can endanger the health of operator and bystanders. Use appropriate personal protective equipment.
- Use appropriate respiratory and skin protection, or local exhaust as stated in the MSDS of the material being worked on.

**CAUTION**

**To reduce the risk associated with environmental contamination:**

- Do not throw electric power tools into the household waste! In accordance with the European Directive 2002/96/CE on Waste Electrical and Electronic Equipment and transposition into national law, used electric power tools must be collected separately and recycled in an environmentally friendly manner.
- Separate collection of used products and packaging allows materials to be recycled. Use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.
- Dispose of all the process dust in accordance with all applicable regulations.

**To reduce the risks associated with fly off of abrasive product or parts:**

- Use care in attaching abrasive product and disc pad; following the instructions to ensure that they are securely attached to the tool before use.
- Never free spin the tool or otherwise allow it to be started unintentionally.
- Never point this product in the direction of yourself or another person, or start tool unintentionally.
- Never over-tighten accessory fasteners.

**Specification:**

Model No.	Sander Type	Orbit		Pad Size		Free Speed (r.p.m.)	Motor Hp (W)	Versions of Volatge AC-in	Length		Weight	
		inch	mm	inch	mm				inch	mm	lbs	kgs
EMC-B78HA	Central Vacuum	1/8	3	3x8	78x198	4,000 7,000 9,000	350W Max 150W Rated	110-120VAC 50-60HZ	11.42	290	3.19	1.45
EMN-B78VA	Non Vacuum	1/8	3	3x8	78x198				10.67	271	3.12	1.42
EMC-B78H	Central Vacuum	1/8	3	3x8	78x198			220-240VAC 50-60HZ	11.42	290	3.19	1.45
EMN-B78V	Non Vacuum	1/8	3	3x8	78x198				10.67	271	3.12	1.42

## OPERATING INSTRUCTIONS

### PRIOR TO THE OPERATION

The tool is intended to be operated as a hand held tool. It is always recommended that while using the tool, operators stand on a solid floor, in a secure position with a firm grip and footing. Be aware that the sander can develop a torque reaction.

### STARTING AND STOPPING SANDER

1. Plug-in the sander's AC power cord to the power source (220VAC output). The warning "beep" sounds would be occurred after the plug is securely plug-in to the power source and the LED indicator shows "Solid Red" color at the moment.- see figure 1.
2. Press the power on/off button "Θ" on the button plate to switch on the sander. The LED indicator shows "flash green" color after sander being switched on. - see figure 2.
3. Adjust the speed by pressing "+" or "-" buttons on the button plate. Press "+" is to raise up to higher speed setting, "-" is to lower the speed setting. - see figure 3.
4. Press the lever to start running the tool. Release the Lever to stop the tool.

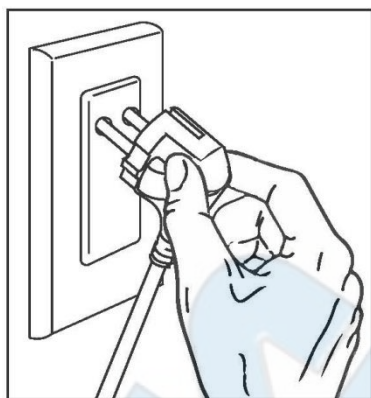


figure 1

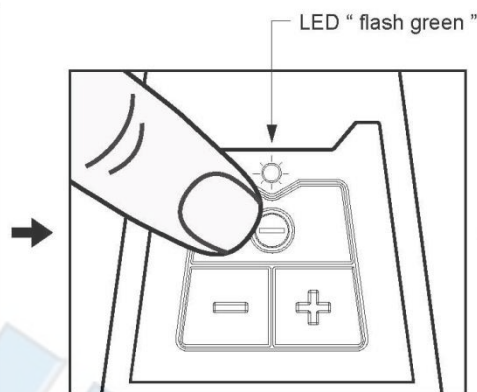


figure 2

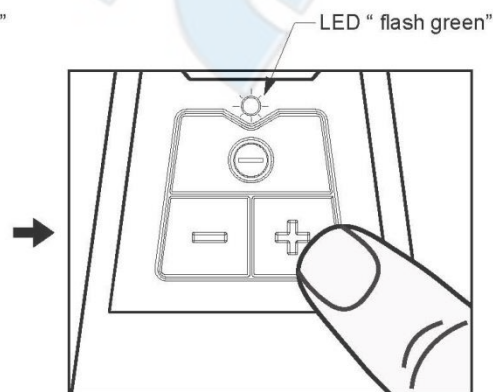


figure 3

### MAXIMUM SPEED FUNCTION

The Electric Orbital Sander has four preset Maximum Speeds (4,000, 7,000, 9,000 r/min (RPM)). The Maximum Speed can be changed at any time while the Sander is running or when it is stopped. Any setting for the Maximum Speed will be stored while the Power is turned "OFF".



## MAXIMUM SPEED AND INTERMEDIATE SPEED CONTROL

1. Maximum Speed is adjusted by pressing the “+” or “-” buttons on the buttons plate of the Sander. Each touch will raise or lower the speed to the next setting.
2. Intermediate speeds between Zero (0)/min (RPM) and the set Maximum Speed can be used with intermediate Lever positions.- see figure 4.



figure 4

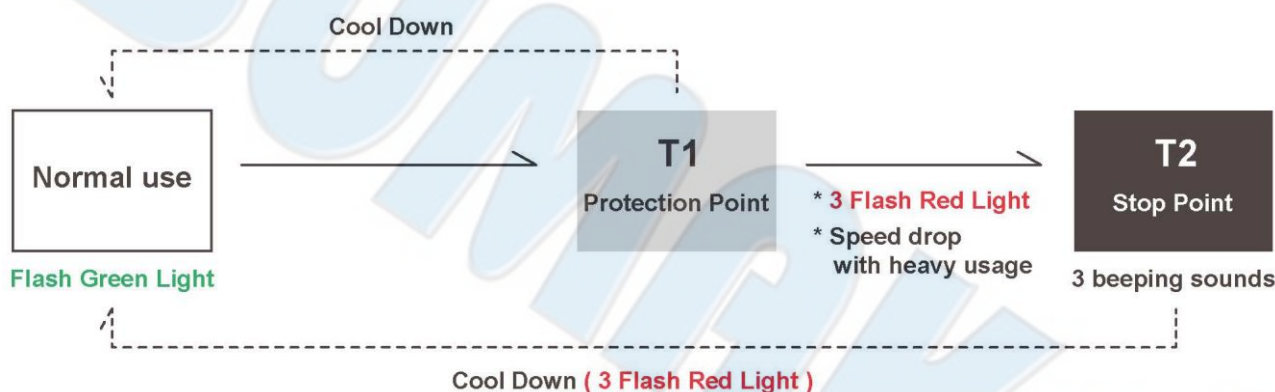
## OVERLOAD PROTECTION SYSTEMS

The Electric Orbital Sander has two systems to protect the motor and circuit board from overloading and overheating.

### Brushless Electric Random Orbital Sander Overload and Overheat Protections

#### (1) Motor Overheat Protection

- a) The Electric Random Orbital Sander detects for 2 temperature points (T1&T2) to initiate the overheat protection system. T2 is the higher temperature.
- b) When the motor temperature rises to T1, the tool speed may drop with heavy sustained usage, but may not affect the speed with lighter usage. At T1, the LED indicator will flash red 3 times periodically. The Electric Random Orbital Sander can resume operation once it has fully cooled down and the LED indicator has turned back to a flashing green light.
- c) If not given an opportunity to cool down when motor temperature has reached T1, the temperature of the motor will reach T2. The tool will automatically shut down automatically with 3 beeping sounds; the LED indicator will also flash red 3 times periodically. Wait until the motor has completely cooled down and the LED indicator has turned back to a flashing green light. This shows that the tool is still under Overheat Protection mode.



#### (2) PCB Heat Protection

When the PCB reaches the protection point, the tool will stop automatically with 5 beeping sounds; the LED indicator will turn into a flashing red light. The LED indicator will keep flashing red until the PCB has fully cooled down. Once the PCB has fully cooled, it will turn back into a flashing green light. The tool can then resume operation by pressing the lever again.

## **CLEANING**

1. Periodically blow out all air passages and area above Disk Pad and under shroud with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts.
2. Wear safety glasses while using compressed air.

## **HEALTH AND SAFETY INFORMATION**

### **RoHS Compliant**

This product and the associated component parts are “RoHS Compliant” and do not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC and other amendments issued as of the date code marked on the product.



### **Waste Electrical & Electronic Equipment (WEEE) Compliant**

- Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.
- Contact your local government for information regarding the collection systems available.
- If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.
- When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge

### **Federal Communications Commission (FCC) Compliance Statement**

**IMPORTANT NOTE :** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide a reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**NOTICE:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **Replacement**

### **PAD**

Replace pad regularly. When the sander vibration is getting big, the pad could be worn out or damaged, please replace a new PAD. PLS. replace original supplier PAD in order to get the excellent performance and low vibration.



NOTE

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# EU Declaration of Conformity (DOC)

We: **SUMAKE INDUSTRIAL CO., LTD.**

**4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan**

declare in sole responsibility that the equipment

Equipment : **ELECTRIC ORBITAL SANDER**

Model/ Serial No. : **EMC-B78H**

The object of the declaration described above is in conformity with the relevant union harmonization legislation:

- Machinery Directive: 2006/42/EC
- Electromagnetic Compatibility 2014/30/EU
- RoHS 2011/65/EU

The following harmonised standards and technical specifications have been applied:

- EN 62841-1:2015
  - EN 55011:2009+A1:2010
  - EN 61000-3-2:2014
  - EN 61000-3-3:2013
  - EN 610000-6-2-2005
- ( IEC 61000-4-2 Edition 2.0 2008-12, IEC 61000-4-3 Edition 3.2 2010-04,  
IEC 61000-4-4 Edition 3.0 2012-4, IEC 61000-4-5 Edition 2.0 2005-11,  
IEC 61000-4-6 Edition 3.0 2008-10, IEC 61000-4-8 Edition 2.0 2009-09,  
IEC 61000-4-11 Edition 2.0 2004-03 )

Data:

Noise level:

Sound pressure level: No Load: 68.5 dB(A)

Sound power level: No load: 79.5 dB(A)

Vibration level:

No Load: 7.2 m/s<sup>2</sup>

Name and Signature/Position



Mike Su – Managing Director

Date and Place

2017/5/8

Taipei, Taiwan

EMC-B78H-D-1705C-X2F

# EU Declaration of Conformity (DOC)

We: **SUMAKE INDUSTRIAL CO., LTD.**

**4F, No. 351, Yangguang St., Neihu District, Taipei City, Taiwan**

declare in sole responsibility that the equipment

Equipment : **ELECTRIC ORBITAL SANDER**

Model/ Serial No. : **EMN-B78V**

The object of the declaration described above is in conformity with the relevant union harmonization legislation:

- Machinery Directive: 2006/42/EC
- Electromagnetic Compatibility 2014/30/EU
- RoHS 2011/65/EU

The following harmonised standards and technical specifications have been applied:

- EN 62841-1:2015
  - EN 55011:2009+A1:2010
  - EN 61000-3-2:2014
  - EN 61000-3-3:2013
  - EN 61000-6-2:2005
- ( IEC 61000-4-2 Edition 2.0 2008-12, IEC 61000-4-3 Edition 3.2 2010-04,  
IEC 61000-4-4 Edition 3.0 2012-4, IEC 61000-4-5 Edition 2.0 2005-11,  
IEC 61000-4-6 Edition 3.0 2008-10, IEC 61000-4-8 Edition 2.0 2009-09,  
IEC 61000-4-11 Edition 2.0 2004-03 )

Data:

Noise level:

Sound pressure level: No Load: 68 dB(A)

Sound power level: No load: 79 dB(A)

Vibration level:

No Load: 7.2 m/s<sup>2</sup>

Name and Signature/Position



Mike Su – Managing Director

Date and Place

2017/5/8

Taipei, Taiwan

EMN-B78V-D-1705C-X2F

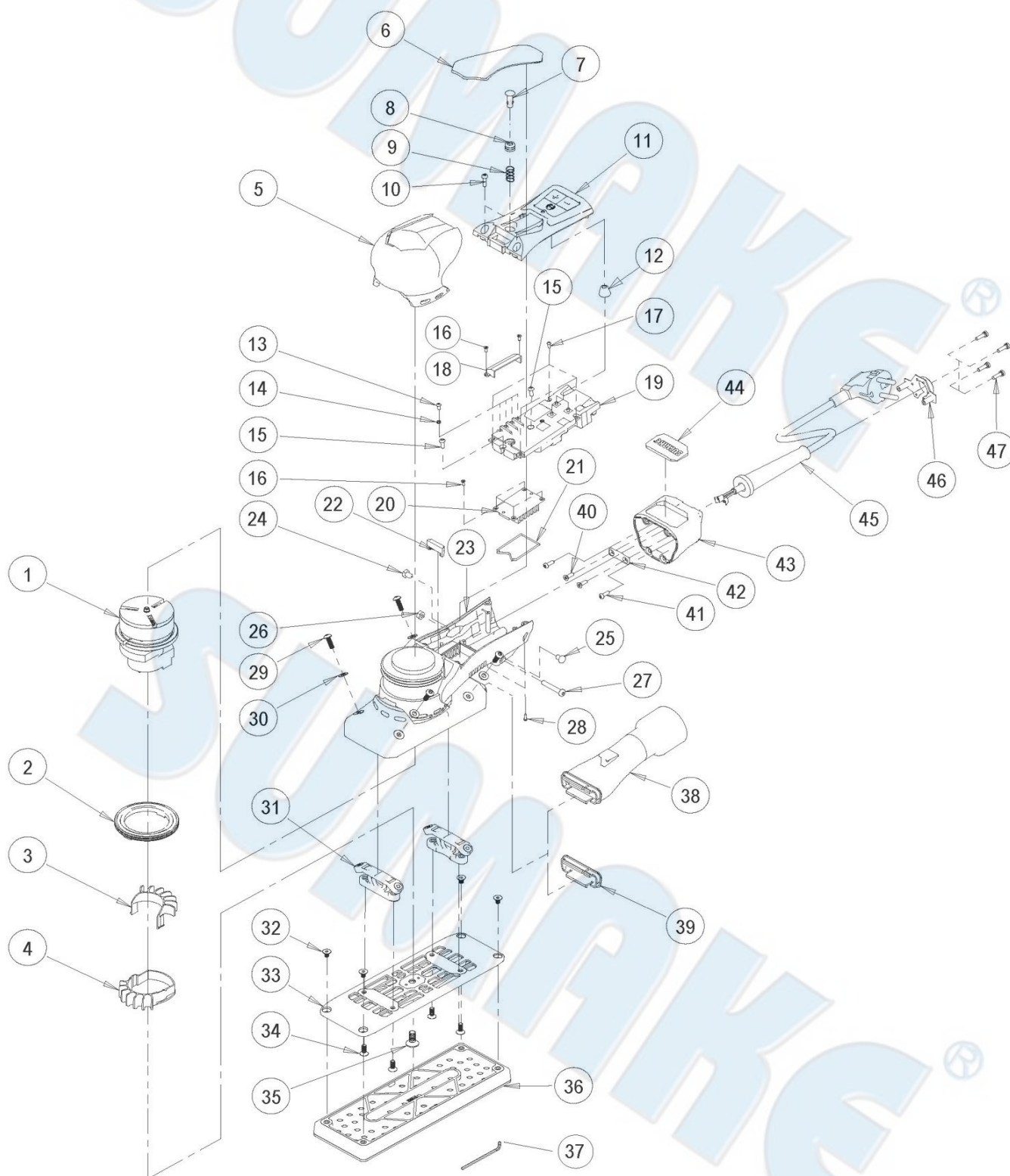


# EMC-B78H, EMC-B78HA

ELECTRIC SANDER,CENTRAL-VACUUM W/ 70x198MM HOOK PAD

# EMN-B78V, EMN-B78VA

ELECTRIC SANDER, NON-VACUUM W/ 70x198MM VINYL PAD



# EMC-B78H, EMC-B78HA

ELECTRIC SANDER,CENTRAL-VACUUM W/ 70x198MM HOOK PAD

# EMN-B78V, EMN-B78VA

ELECTRIC SANDER, NON-VACUUM W/ 70x198MM VINYL PAD

## PARTS LIST

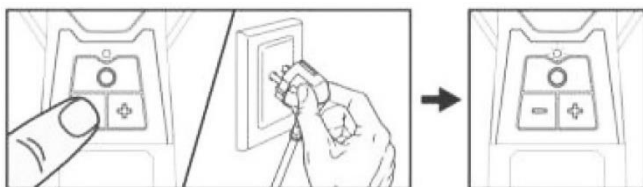
No.	Parts No.	Description	Q'ty
1	EOS50224-2N	Motor Assembly 70x198mm(1/8") (220-240V)	1
		Motor Assembly 70x198mm(1/8") (110-120V)	1
2	EOS10-E2	Lock Ring Assembly	1
3	EOS50225	Cooling Fan	1
4	XPG0065	Cooling Fan	1
5	EOS52144	Grip	1
6	EOS50310	Lever For <b>SUMAKE</b> 9,000 OPM (1/8") Orbit (220-240V) (For EMC-B78H, EMN-B78V)	1
		Lever For <b>SUMAKE</b> 9,000 OPM (1/8") Orbit (110-120V) (For EMC-B78HA, EMN-B78VA)	1
7	EOS50232	Valve Stem Assembly	1
8	EOS50102	Dust Cover	1
9	EOS50129	Spring	1
10	S4-3012B	Button Head Screw (M3x12)	2
11	EOS52123	Machined Housing Cover	1
12	EOS50206	Button Fastener	3
13	S6-2505A	Socket Button Head Cap Screw (M2.5x5)	4
14	SW2-025A	Spring Washer	4
15	S6-3008A	Socket Button Head Cap Screw (M3x8)	2
16	S5-2005B	Hex Socket Headless Set Screw (M2x5)	6
17	S7-2006A	Button Head Screw (M2x6)	4
18	EOS30032	Shroud	1
19	EOS50334	Printed Circuit Board Controller (220-240V) (For EMC-B78H, EMN-B78V)	1
		Printed Circuit Board Controller (110-120V) (For EMC-B78HA, EMN-B78VA)	1
20	EOS51121	Heat Sink	1
21	EOS50106	Dust Seal	1
22	EOS50100	Cord Support	1
23	EOS52168	Machined Housing	1
24	EOS50145	Plug	1
25	EOS50146	Plug	1
26	HN2-04CA	Hex. Nut (M4)	1
27	XPA0512	Socket Button Head Cap Screw (M4x25)	1
28	S7-2006A	Button Head Screw (M2x6)	2
29	XPA0768	Hex Socket Button Head Machine Screw (M4x12)	4
30	XPA0076	Washer (M4)	4
31	EOS50303	Mini Pad Support	2
32	XPA0766	Hex Socket Countersunk Head Machine Screw (M4x6)	4
33	XPB0536	70x198mm OS Pad Backing	1
34	XPA0767	Hex Socket Countersunk Head Machine Screw (M4x10)	4
35	XPA0078	Socket Flat Counter Sunk Machine Screw (M6x14)	1
36	N/A	1 Pad Supplied With Each Tool	1
37	XPA0864	2.5mm Hex Wrench	1
38	EOS52145	70x198mm Swivel Exhaust Fitting	1
39	XPF0117	Snap-In Vac Cover Plate	1
40	S5-0310B	Hex Socket Headless Set Screw (M3x10)	2
41	S4-0310B	Button Head Screw (M3x10L)	2
42	EOS50105	Cord Support Plat	1
43	EOS51113	End Cap	1
44	EOS50309	Logo Insert - End Cap (Blue)	1
45	EOS50173-I12	Power Cord Assembly (220-240V) (For EMC-B78H, EMN-B78V)	1
		Power Cord Assembly (110-120V) (For EMC-B78HA, EMN-B78VA)	1
46	EOS50104	Sr Clamp	1
47	B2-0310A	Set Screw (M3x10)	4

## Troubleshooting Guide

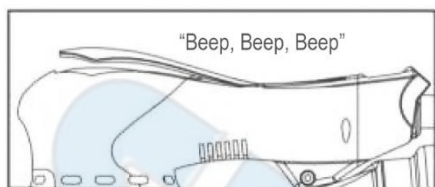
Symptom	Solution		
The sander has started automatically and cannot be stopped after plugged in	Re-programing the tool		
The sander doesn't work after plugged in	Re-programing the tool		
	Check PCB controller lights	No	Replace PCB
		Yes	Replace the Motor
The sander work with abnormal sound from motor	Replace Motor		
The sander work with abnormal free speed	Replace PCB		
Cannot be changed the RPM	Re-programing the tool		

● **Program setting (the steps are same as program reset):**

1. a) Press and hold down the “—” button then plug-in the power cord.  
b) The LED light now flashes and the tool new enters the reset mode.



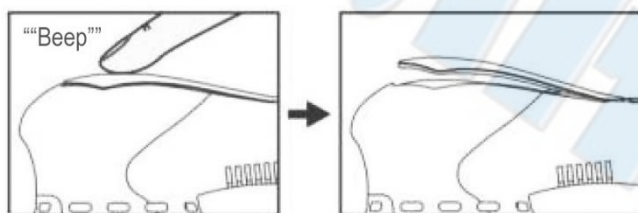
2. Release the “—” button after 3 short beeps sound.



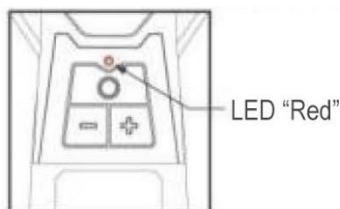
3. Press and hold down the speed lever.



4. Wait for a long beep and then release the speed lever.



5. The reset is now complete and the tool is ready for use.







## Electric sander quality issue check SOP

1. Please provide warranty principle and check list to customer.
2. Please try to re-set and check if sander problem could be eliminated. Please refer SUMAKE service center media category.  
<http://www.sumake-service-center.com/media.php?cid=13&page=2>
3. If problem could not be eliminated after re-set, please ask customer to provide information per check list.
4. **Important:**
  - A. Within warranty period, any quality issue please contact with SUMAKE first and do not take apart sander without authorization, otherwise warranty will be NOT covered.
  - B. Any repair and maintenance task has to follow SUMAKE directly training education.
5. Please provide video to show sander defect situation and it would help engineer judgment.

## The Principle of One Year Warranty

1. One-year warranty is after invoice shipping date.
2. The one-year warranty of SUMAKE electric sander product is under the normal usage condition, any ABNORMAL usage or repair which is not following our training education or with SUMAKE authorization is NOT covered in our warranty.
3. Exchange of the parts for repairing is free of charge under the one-year warranty excepting the consumable parts such as sanding pad, bearing, and cable etc.
4. The one-year warranty will be invalid under following circumstances:
  - The defects caused by wrong or abnormal usage or any unexpected accident.
  - Any failure is caused by unauthorized product modification; we only admit original product specification.
  - Change any non-original parts or a component which is not supplied by SUMAKE.
  - Any incorrect action for disassembly the products.



## Electric Sander Check List

1. Serial number of sander or sander model or motor serial number:
2. Material of work-piece or application, with picture if possible:
3. Number of sanding paper (#), with picture if possible:
4. Use sander with vacuum cleaner: <input type="checkbox"/> Yes <input type="checkbox"/> No
5. Working environment temperature: _____ °C
6. Working time: <input type="checkbox"/> _____ HOURS/PER DAY <input type="checkbox"/> _____ TOTAL DAYS
7. Connected with an extended electric socket: <input type="checkbox"/> Yes <input type="checkbox"/> No
8. Major working speed : <input type="checkbox"/> 10,000rpm <input type="checkbox"/> 9,000rpm <input type="checkbox"/> 7,000rpm <input type="checkbox"/> 4,000rpm <input type="checkbox"/> others _____
9. Kindly provide pictures of defect sanders & pad after use, or videos:
10. Recommendation or your valuable comments:
11. Company: Date: