

LAVINA[®]



LAVINA[®] 12/12E User Manual



 **SUPERABRASIVE**

Tech Support Line: 800-987-8403 | www.superabrasive.com | info@superabrasive.us

1. GENERAL INFORMATION

This owner's manual is intended for the operator of the Lavina® 12 machine, the servicing technician as well as for anyone involved with operating or servicing the machine. We recommend that you read the instructions very carefully and follow them strictly. The manual includes information about assembling, using, handling, adjusting and maintaining your Lavina® 12 floor grinding and polishing machine.

MANUFACTURER

Superabrasive was founded in 1987, as a manufacturer of high quality diamond tools for the stone and concrete industry. Today, Superabrasive is one of the world's leading companies in the production of diamond tools and floor grinding machinery. At Superabrasive, we strive to deliver the very best solutions to our customers, and enable them to work more efficiently.

GENERAL DESCRIPTION

The Lavina® 12 machine is a 3-disc machine intended for polishing and buffing concrete, marble, granite, limestone and terrazzo surfaces with diamond tools. The Lavina® 12 is intended to work on countertops, steps of stairs treads, bathroom floors, and walls or difficult to reach surfaces. Additionally, the machine could be used for grinding wood floor surfaces.

For best results, use only tools manufactured or recommended by Superabrasive and its distributors.

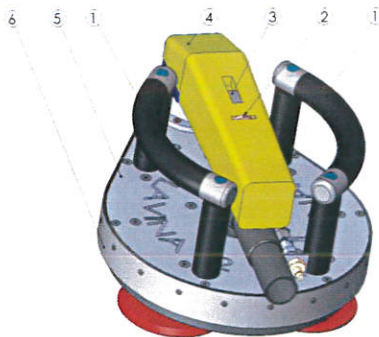
WARNING!

The Lavina® 12 machine is manufactured and fitted for the above-mentioned applications only! Every other use may possess risks to the persons involved. **Each hour of operation, stop the machine for 15 minutes to allow the drive system to cool.**

MACHINE CHARACTERISTICS

The Lavina® 12 is made to easily grind/polish working surfaces. It runs 3 heads to increase grinding capacity.

LAVINA® 12 MAIN DESIGN



- **The handles** provide the operator maximum of comfort and control. They allow the operator to work safely. (Fig.1.1-1)
- **The controls** are positioned on top of the power tool. (Fig.1.1.2-3)
- **The power tool** is mounted on top of the planetary head and the gears are driving a clutch. The clutch is driving the belt of the planetary movement and the movement the toothed gear which is driving over pignons the three grinding heads. (Fig.1.1-4)
- **The planetary head** with a lightweight aluminum top plate covers the working tools. (Fig.1.1-5)
- **The protective skirt** mounted with Velcro® protects the operator from dust and debris. (Fig.1.1-6)
- **The hour meter** shows total hours of operation. (Fig.1.1-7)

Fig.1.1

ENVIRONMENTAL CONDITIONS

The temperature range for operating the Lavina® 12 outdoors is between 41°F and 86°F or 5°C and 30°C. Never use the Lavina® 12 during rain or snow when working outdoors. When working indoors, always operate the machine in well-ventilated areas.

ELECTRICAL CONNECTION

The voltage (Volt) and power (Ampere) are displayed on a label on the of the power tools to avoid any incorrect connection. Refer to these before connecting the power. To avoid electrical shocks, make sure the ground power supply is functioning properly.

VACUUM CONNECTION

A connection for a vacuum dust extractor is located on the power tool. The Lavina® 12 does not include a vacuum dust extractor. The customer must purchase the vacuum dust extractor separately. The hose of the vacuum extractor must be Ø 1 1/2" or 38 mm and can be fitted over the pipe. The vacuum dust extractor must be adapted for grinders and have a minimum air displacement of 220m³/h or 130 CFM with a negative vacuum of 21 kPa.

WATER CONNECTION

A quick connection for a water tube of diameter 1/4" with ball valve is placed under the power tool.

| | Lavina® 12 110 Volt | | Lavina® 12E 220 Volt | |
|----------------------------|----------------------|------------------|----------------------|------------------|
| Angle grinder | FEIN WPO 14-25E | | FEIN WPO 14-25E | |
| Voltage/Hz | 1 ph x 110 V 50/60Hz | | 1 ph x 220 V 50/60Hz | |
| Amperage | Max 10.9 Amps | | Max 6 Amps | |
| Breaker requirement | 15 Amps | | 15 Amps | |
| Power | 1.2 kW | | 1.2 kW | |
| Driver Speed | 900-2500 rpm | | 900-2500 rpm | |
| Platen Speed | 820-2240 | | 820-2240 | |
| Platform Speed | 160-440 | | 160-440 | |
| Platen Driving Direction | counterclockwise | | counterclockwise | |
| Platform Driving Direction | clockwise | | clockwise | |
| Working width | 307 mm | 12" | 307 mm | 12" |
| Tool holder diameter | 3x 127 mm | 3x 5" | 3x 127 mm | 3x 5" |
| Tool diameter | 3x 127 mm | 3x 5" | 3x 127 mm | 3x 5" |
| Weight | 15 kg | 33 lbs | 15 kg | 33 lbs |
| Application | Dry/wet | | Dry/wet | |
| Vacuum connection | 38 mm | 1"1/2 | 38 mm | 1"1/2 |
| Water Feeding | Central | | Central | |
| Water connection | Hose ¼" | | Hose ¼" | |
| Cable length | 4 m | 12.8 ft | 4 m | 12.8 ft |
| Machine LxWxH | 430x315x216 mm | 16.9"x12.4"x8.5" | 430x315x216 mm | 16.9"x12.4"x8.5" |
| Packing LxWxH | 450x351x249 mm | 17.7"x13.8"x9.8" | 450x351x249 mm | 17.7"x13.8"x9.8" |

LABEL DATA

The data on the label provides the correct voltage and kW (needed for operational purposes); Weight (needed for transportation purposes); production year and serial number (needed for maintenance purposes).

CUSTOMER SERVICE

For customer assistance and technical support call your local distributor or call Superabrasive Inc. at 1-800-987-8403 or visit us at: www.superabrasive.com, where you can download a copy of this manual.

2. SAFETY INSTRUCTIONS

RECOMMENDED USE  **WARNING**

The Lavina® 12 machine is designed and manufactured to grind and polish concrete, terrazzo, natural stone and hardwoods. It can be used for renovations as well as for polishing. The machine is also designed for dry use. Use a vacuum of appropriate size. For more information, please refer to the chapter on handling the vacuum connection.

PROHIBITED USE  **WARNING**

The machine **MUST NOT** be used:

- For applications different from the ones stated in the General Description chapter.
- For not-suitable materials.
- In environments which: Possess risks of explosion
- Possess high concentration of powders or oil substances in the air
- Possess risks of fire
- Feature inclement conditions.

PREPARATION FOR WORK

Make sure that:

- You have closed the work area, so that no person unfamiliar with operating the machine can enter the area.
- The tool plate and tools are adjusted to the machine properly
- There are no missing parts of the machine

 **WARNING**

- The protection devices are working properly.
- The electrical cable is free to move and follow the machine easily.

PROTECTION DEVICES  **WARNING**

- The machine is equipped with several protection devices including the following:
- A protection skirt and a hood for protecting the tool plates.
- These devices protect the operator and/or others persons from potential injuries. Do not remove them. On contrary, before using the machine, please ensure that all protection devices are mounted and function properly.

ARREST FUNCTIONS  **WARNING**

Functions of arresting of the machine are following:

- Button to stop the motor (category 1)

SAFE USE  **WARNING**

- The Lavina® 12 is designed to eliminate all risks correlated with its use. However, it is not possible to eliminate the risks of an eventual accident with the machine. Unskilled or un instructed operator may cause correlated residual risks. Such risks are:
 - Position Risks due to operator's incorrect working position
 - Entanglement Risks due to wearing inappropriate working clothes
 - Training Risks due to lack of operational training

NOTE: In order to reduce all consequences of the above-mentioned risks, we advise that machine operators will follow the instructions in the manual at all time.

RESIDUAL RISKS



WARNING

- During the normal operating and maintenance cycles, the operator is exposed to few residual risks, which cannot be eliminated due to the nature of the operations.

BEFORE YOU BEGIN



WARNING

- Working area must be clear from any debris or objects.
- A first-time operator must always read the manual and pay attention to all safety instructions.
- All electric connections and cables must be inspected for potential damages.
- Ground wire system of the power supply must be also inspected.
- Perform general daily inspections of the machine and inspect the machine before each use.
- Always inspect the safety devices:
- The tool protector must be working
- The machine must be clean
- Confirm that there are no missing parts especially after transportation, repair or maintenance.

OPERATING MACHINE



WARNING

- When operating the Lavina® 12, make certain that there is no one, but you around the machine.
- Never leave the machine unattended while working.
- The electrical cable must move freely and must be damage-free.
- Check if the surface, you work on, is not too uneven. If this is the case, it may damage the machine.

AFTER WORK IS COMPLETED



WARNING

- Clean the machine and its surroundings properly
- Unplug the machine and wind up the electrical cable
- Store the machine in a safe place

3. OPERATION

BEFORE START OPERATION CUT THE WIRE OF THE HOUR METER

If the wire is not cut the hour meter will not start to work. The wires are not connected to the power supply, they are connected only to the battery of the hour meter.

PRELIMINARY CONTROLS

Inspect the working area as explained in the safety instructions. For dry use connect the vacuum extractor and ensure that the vacuum hose is clear and it will follow the machine easily. Plug in the machine and make sure that the power cord is free to follow the working direction of the Lavina® 12. **Each hour of operation, stop the machine to make a break of 15 minutes for cooling the drive.**

MOUNTING TOOLS

Mount the tools only after ensuring that there is enough diamond bond material left. Be sure that the tool holders are always clean before mounting. Unplug the machine before dismantling or mounting the tools. The maximum diameter of the tools is 5" or 127 mm, with thread 5/8"-11-LH UNC. Pay attention the thread is left hand turning or counter-clockwise turning also turn opposite as normal. Always use the right wrench to tie the tools. Diamond tools with Velcro are attached on the tool holders with Velcro. Use only Superabrasive recommended tools see www.superabrasive.com

THE WORK AREA



WARNING

- Make certain that people do not enter the work area.
- Avoid cables and hoses being in the way.
- Always check the surface for debris

PERSONAL PROTECTIVE EQUIPMENT (PPE)



WARNING

- Always wear safety shoes when working with the machine.
- Always wear ear protectors when working with the machine.
- All personnel in the immediate work area must wear goggles eye protectors with side shields.
- Always wear safety gloves when changing the tools.
- Always wear clothes suitable for the work environment.

OPERATOR



WARNING

- The operator must know the machine's work environment.
- Only one operator at a time can work with the machine.
- The operator must be properly trained and well instructed prior operating the machine.
- The operator must understand all the instructions in this manual.
- The operator must understand and interpret all the drawings and designs in manual.
- The operator must know all sanitation and safety regulations pertaining to the operation of the machine.
- The operator must have grinding experience.
- The operator must know what to do in case of emergency.
- The operator must have an adequate technical knowledge and preparation.



TOOL PROTECTING GUARD

Adjust the height the tool protecting guard according the height of the tool while mounting the "Velcro" strip.

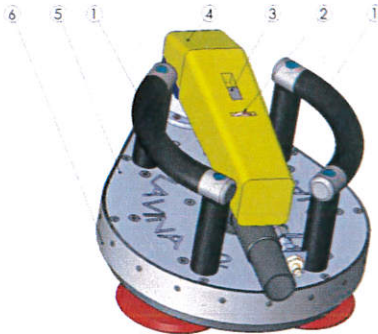


Figure 3.1

SETTING THE SPEED

The speed can be variably adjusted by turning the knob from "1" (slowest) to "6" (fastest). (Fig. 3.1.2)

SWITCHING ON AND OFF

Follow the directions in "Safety Devices and Safety Instructions." Secure the working surface. A surface that is not properly secured can cause the accessory to jam and kick back, or can lead to several hazards. Check the knob (Fig. 3.1.2) and ensure that it is set to the working speed. Switch on the vacuum unit or start the flow of water. Hold the machine firmly and push the switch (Fig. 3.1.3).

OPERATING THE MACHINE

Guide the machine in straight lines across the surface, slightly overlapping the previous iteration on each line. Work at a constant speed, allowing the tools time to work at a speed appropriate for the tools' grit size. Avoid vibrations. Do not stop the Lavina® 12 machine in one spot while the tools are still running as they will mark the surface. Check the surface periodically to ensure that dust is not accumulating; also check that the vacuum works properly.

STOPPING THE MACHINE

The stopping of the machine must be done gradually until the motor stops. Do not stop moving the machine before the motor comes to rest as the tools could damage the surface. To stop, push the switch (Fig. 3.1.3).

4. ACCESSORIES**WRENCHES**

All wrenches come with the machine can be replaced if needed:

- Spindle Wrench: item number LA12B-K24-28,5
- Backer Back Wrench (22-24 mm): item number 350-22x24

TOOL HOLDERS

5AL-5/8-11-L ALUMINUM RIGID BACKER PADS Ø121mm with left thread (5/8" -11)

5. POPULAR TOOLS**TOOLS**

Use only Superabrasive recommended tools.

See www.superabrasive.com