LAVINA® 7X User Manual

SUPERABRASIVE

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

LAVINA by SUPERABRASIVE

Warranty Registration Card

Complete and submit this form within 30 days from the date of purchase. The registration is invalid without the machine serial number.

Section 1: Customer Information

Customer name

Address | City | State and Zip Code

Phone # | Email

Section 2: Machine Information

LAVINA model | Serial #

Purchase Date | Purchased From (distributor, dealer)

Email: warranty@superabrasive.us / Fax: 706-658-0357
Superabrasive Inc., 9411 Jackson Trail Rd, Hoschton, GA 30548

WARRANTY AND RETURNS

WARRANTY POLICY FOR LAVINA® X MACHINES

A warranty card must be submitted to Superabrasive within 30 days of purchase in order for the foregoing warranty to apply.

You can either mail a hard copy of the warranty card or submit it electronically - see page 2.
Superabrasive warrants, from the time of delivery and receipt by the original customer, new and unused products sold by Superabrasive or Superabrasive-appointed distributors or dealers. Goods shall be free from defects in materials and workmanship. Superabrasive or a Superabrasive-appointed repair facility shall either replace or repair any defects in the Goods resulting from faulty design, materials, or workmanship. Products repaired or replaced during the warranty period shall be covered by the foregoing warranty for the remainder of the original warranty period, or ninety (90) days from date of the repair or shipment of the replacement, whichever is longer. Spare parts for repair will be either new or equivalent to new.

Warranty period shall be 2 years from the time of delivery and receipt by the original customer, or 600 operating hours on the machine - whichever occurs first. Superabrasive will cover the shipping charges for the transportation of the machine to Superabrasive (or an approved repair facility) and back to the customer (within the contiguous 48 States) in the event that the damage occurs and is reported within the first 90 days or 200 operating hours - whichever occurs first. Shipping charges, if covered by Superabrasive, must be agreed upon in advance and approved by Superabrasive. Thereafter, the customer will have to cover the shipping charges to Superabrasive and back. Superabrasive will not warranty Goods after a period of 2 years from the time of delivery and receipt by the original customer, or 600 operating hours on the machine - whichever occurs first.
Superabrasive shall not be liable for any defects that are caused by circumstances that occur after the Goods have been delivered and whilst the Goods are in the possession of the purchaser. Furthermore, the warranty does not include normal wear and tear or deterioration. Wear parts are not warranted. Superabrasive is not liable for defects arising out of use of non-OEM parts.

The Warranty is void if the purchaser has not followed the maintenance plan stipulated by the machine's manual and warranty card. The warranty is void if the purchaser repairs said Goods himself, or if repairs are conducted by a repair facility that is not approved by Superabrasive. Superabrasive's liability does not cover defects which are caused by faulty maintenance, incorrect operation, faulty repair by the purchaser, or by alterations conducted without Superabrasive's prior written consent. The same applies to any alterations of the Goods or services performed by another party other than Superabrasive, a Superabrasive-appointed distributor, or a Superabrasive-approved repair facility. The warranty is not applicable on a defect that arises due to tools or parts that are not original to Superabrasive. Replaced defective parts shall be placed at Superabrasive's disposal and shall become property of Superabrasive. If such defective parts are replaced
within the warranty period, the shipping charges will be covered by Superabrasive. In warranty complaint cases, when no defects are found for which Superabrasive is liable, Superabrasive shall be entitled to compensation for the labor, material cost, and shipping charges, incurred by Superabrasive as as a result of the complaint.

The warranty herein is non-transferable, and only applies to the original owner or purchaser of the machine.

RETURN POLICY FOR LAVINA® X MACHINES

The Lavina® X machines may be returned, subject to the following terms:
In no case, a machine is to be returned to Superabrasive Inc. for credit or repair without prior authorization. Please contact Superabrasive Inc. or your local distributor for an authorization and issuance of a return authorization number. This number along with the serial number of the machine must be included on all packages and correspondence. Machines returned without prior authorization will remain property of the sender and Superabrasive Inc. will not be responsible for them. No machines will be credited after 90 days from the date of invoice.

All returns must be shipped freight prepaid. Returned machines may be exchanged for other equipment or parts of equal dollar value. If machines are not exchanged, they are subject to a fifteen percent (15%) restocking fee.

1. GENERAL INFORMATION

This owner's manual is intended for the operator of the Lavina 7X machine, the servicing technician as well as anyone else 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 7X 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 7X machine is intended for grinding, polishing and buffing concrete, marble, granite, limestone and terrazzo surfaces with diamond tools.
The Lavina 7X is a one-disc machine intended for dry use.
The Lavina 7X is intended to grind/polish edges, corners, steps of stairs 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 7X machine is manufactured and fitted for the above-mentioned applications only! Every other use may possess risks to the persons involved.

MACHINE CHARACTERISTICS

The Lavina 7X is designed to grind/polish surfaces where bigger machines have difficulties to reach.

LAVINA 7X MAIN DESIGN

Figure 1.1

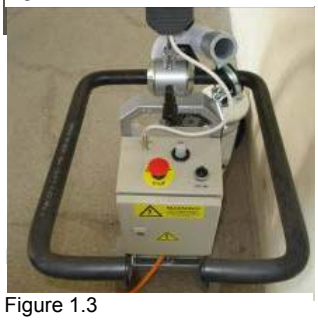


Figure 1.3

- **The carriage** can swivel 30º to both sides The machine can be pushed straight or the grinding can follow a wall. The normal wheel support can be changed with a "stair" wheel support, which can be adjusted in height to work on stairs.
- **The halogen spotlight** (Fig.1.2) enables the operator to work in darker areas.

⚠ WARNING Lighting system does not replace adequate overhead lighting.

Figure 1.2

- **The frame** The handle on the frame is adjustable in height and allows the operator to work in a correct and safe posture.
- **The controls** are positioned on top of the electrical box (fig.1.3)
- **The electrical box** (fig.1.3) contains the electric switching devices and the inverter. The motor feeding cable and the main feeding are located on the bottom of the box.
- **The motor** is mounted on the base plate and is driving the grinding head with a belt system.

ENVIRONMENTAL CONDITIONS

The temperature range for operating the Lavina 7X outdoors is between 41°F and 86°F or 5°C and 30°C. Never use the Lavina 7X during rain or snow when working outdoors. When working indoors, always operate the machine in well-ventilated areas.

ELECTRICAL CONNECTION

The voltage (Volt) and current (Ampere) are displayed on a label on the electrical control box 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 handle. The Lavina 7X 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 50 mm and can be glided over the pipe. The vacuum dust extractor must be adapted for floor grinders and have a minimum air displacement of 300m3/h with a negative vacuum of 21 kPa.

TECHNICAL DATA

	Lavina 7X	
Voltage/Hz	**1 ph x 110-120 V 50/60Hz**	
Amperage	**Max 15 Amps**	
Power	**1.5 kW**	**2 hp**
Tool holder rpm	**500-1100 rpm**	
Working width	**178 mm**	**7”**
Tool holder diameter	**178 mm**	**7”**
Tool diameter	**178 mm**	**7”**
Weight	**63 kg**	**139 lbs**
Grinding pressure	**23 kg**	**51 lbs**
Additional weight	**max 4x2,5 kg**	**22 lbs**
Application	**dry**	
Cable length	**17.4 m**	**57 ft**
Machine LxWxH	**790x400x915 mm**	**31”x16” x44”**
Packing LxWxH	**730x730x1050 mm**	**28,7”x28,7”x41,4”**

VIBRATIONS
The vibrations of the machine are within the limits of directive 2003/10/EC (the seventeenth Individual Directive of Article 16(1) of Directive 89/391/EC) if the Lavina 7X is operated with the recommended tools and in normal conditions.

SONOROUS EMISSIONS
Sonorous emissions are also within the limits of directive 2003/10/EC (the seventeenth individual Directive of Article 16(1) of Directive 89/391/EC). However, the operator must wear ear protectors.

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 7X machine is designed and manufactured to grind and polish concrete, terrazzo and natural stone floors. It can be used for renovations as well as for polishing. The machine is 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.
  - Possess electromagnetic radiation.

PREPARATION FOR WORK ⚠ WARNING
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
- The machine is in upright working position
- The protection devices are working properly.
- The electrical cable is free to move and follow the machine easily. In order to keep the electrical cable from being damaged, no vehicle should cross the zone where electrical cables are situated.

PROTECTION DEVICES ⚠ WARNING
- The machine is equipped with several protection devices including the following:
- An emergency stop button
- 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

Methods of arresting of the machine are following:

- Button to stop the motor (category 1)
- Emergency button (category 1)

SAFE USE ⚠ WARNING

- The Lavina 7X 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 uninstructed 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 times.

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 emergency break must be clear and working
- The tool protector must be working
- The machine must be clean
- Never operate the machine in the rain!
- Confirm that there are no missing parts especially after transportation, repair or maintenance.

OPERATING MACHINE ⚠ WARNING

- When operating the Lavina 7X, 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 floor, 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

THE WORK AREA ⚠ WARNING

- Prevent people or vehicles from entering the work area.
- Clear any hoses or cables in the way
- Always check the floor 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 safety glasses 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 operator must have floor grinding experience.
- The operator must know what to do in case of emergency.
- The operator must have an adequate technical knowledge and preparation.

3. OPERATION

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 7X.

MOUNTING TOOLS

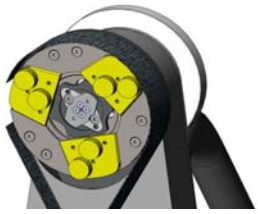


Figure 3.2

Figure 3.2

Figure 3.3

Mount the tools only after ensuring that there is enough diamond bond material left. Be sure that the plates are always clean before mounting. Before dismounting or mouting the tools, unplug the machine. Always use the tool holder key, turn the butterfly in the middle to secure the tool (Fig.3.1).
Diamond tools with Velcro are attached on the 7-inch foam plate (Fig. 3.3). The foam plate is mounted the same way as the other tools (Fig. 3.3).

LEVELING AFTER MOUNTING THE TOOL

Figure 3.4

Figure 3.5

To ensure the tool works flat on the floor, the machine has to be leveled. A round water level is mounted on the baseplate (Fig. 3.5). This should only be used on a flat surface. To level the machine, turn the knob between the wheels (Fig. 3.4).

ADJUSTING HANDLE AND SWIVELLING CARRIAGE

Figure 3.6

Figure 3.7

Figure 3.8

To adjust the handle in height, pull the T-pull handle, adjust the handle, and release.(Fig. 3.6).
Once the angle has been adjusted (Fig. 3.7), swivel the carriage left or right the by unblocking the turning wheel (Fig. 3.8).

TOOL PROTECTING GUARD

Turn the tool protecting guard to the preferred position. Adjust the height according the tool while mounting on the “Velcro” strip. (Fig. 3.9)

Figure 3.9

THE CONTROL BOARD

Figure 3.10

1. **Lamp jack** plug in the lamp when needed
2. **Potentiometer** controls the RPM of the grinding plates, from 500-1100 rpm
3. **ON/OFF switch** starts/stops motor
   Power led lights green when the power is on
4. **Emergency button** used to stop the motor in case of emergency

STARTING THE MACHINE

First, follow the directions in chapter Safety Devices and Safety Instructions.
Next, release the emergency stop (Fig. 3.10-4) to ensure that the machine is in working condition. Check the potentiometer (Fig. 3.10-2) and ensure that it is set to the working speed. Switch on the vacuum unit. Finally, hold the machine firmly and switch the start button (Fig. 3.10-3).

OPERATING THE MACHINE

Guide the machine in straight lines across the floor, slightly overlapping the previously completed surface with each new 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 7 Pro machine in one spot while the tools are still working as they will leave marks on the floor surface. Check the floor surface periodically to ensure that dust is not accumulating on the surface. Check regularly 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. Switch off with the off button (Fig. 3.10 3). Use the Emergency button (Fig. 3.10 4) only in case of emergency or to switch the power totally off.
Remember not to hold the machine in one spot before turning off the motor.

4. TOOLS AND ACCESSORIES

WEIGHTS

Superabrasive offers additional weights used to increase the productivity of the machine (Fig.4.1). Each additional weight weighs about 5.5 lbs or 2,5 kg. Each individual application, type and condition of surface, power capacity of the outlet, etc. will determine the number of weights you can use without tripping a breaker, with a maximum of four. The weight stacks on to central shaft above the tools around the outer bowl (Fig.4.1).
The additional weight depends on the tools; it is not always possible to add weights. Some tools work too aggressively and will cause the machine to stop.

Figure 4.1

TOOL HOLDER KEY

The tool holder key (Fig. 4.2) is used for adjusting, mounting and dismounting of the tools. Always use the key for mounting. Item number is A03.00.00.00

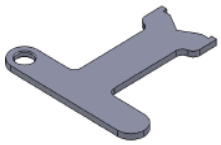


Figure 4.2

FOAM PLATE

Diamond tools with Velcro are mounted on the foam plate 7“(Fig.4.3). The foam plate is mounted on the “QuickChange”System. Item number is LV-7-FP-S

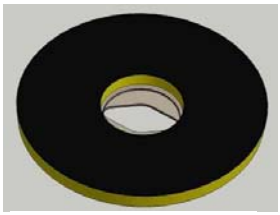


Figure 4.3

SECURITY PLATE FOR QUICKCHANGE PADS

Plate used to secure the “Quickchange” pads.
Item number is A38.00.04 (Fig.4.4)

Figure 4.4

RECOMMENDED TOOLS

QuickChange System and Tooling feature extremely fast and convenient tool changes, and a long tool life, providing for great long-term cost savings. The QuickChange pads are produced in four different bonds for super hard, hard, medium and soft concrete, in a variety of grit sizes. They are offered with 1 or 2 buttons or rectangular segments, which allows you to customize the aggressiveness of the cut.

the need for multiple

Calibra grinding discs: our popular ceramic bond discs are designed for the removal of difficult scratches and they save you valuable time by eliminating passes with metal tools. They can be used wet or dry, and are best for hard concrete applications. They are 3-inch, with included Velcro back attachment.

NATO® polishing discs feature a special resin formula designed for both wet and dry applications and a unique design with wide channels allowing for work on a cleaner surface and ensuring a quality polish. Available in 3 and 4 in sizes. They are with Velcro attachment.

V-HARR® Premium Polishing Pads are designed for mechanically polishing and restoring concrete; also ideal for terrazzo and hard stone floors. V-HARR® pads are offered in a wide variety of diameters and grit sizes to accommodate many applications. Dry use is strongly recommended.

Shine Pro® are high quality diamond-integrated pads for floor maintenance. Available in a variety of sizes, they are great for daily use. When used wet, they require only water (no wax or chemicals needed), making them a very environmentally-friendly solution for maintaining floors.

Use Only Superabrasive's Recommended Tools. For More Tooling Options, Visit www.superabrasi

5. SPARE PARTS

LAVINA 7X ASSEMBLY AND PARTS SPECIFICATION (FIG. 5.1)

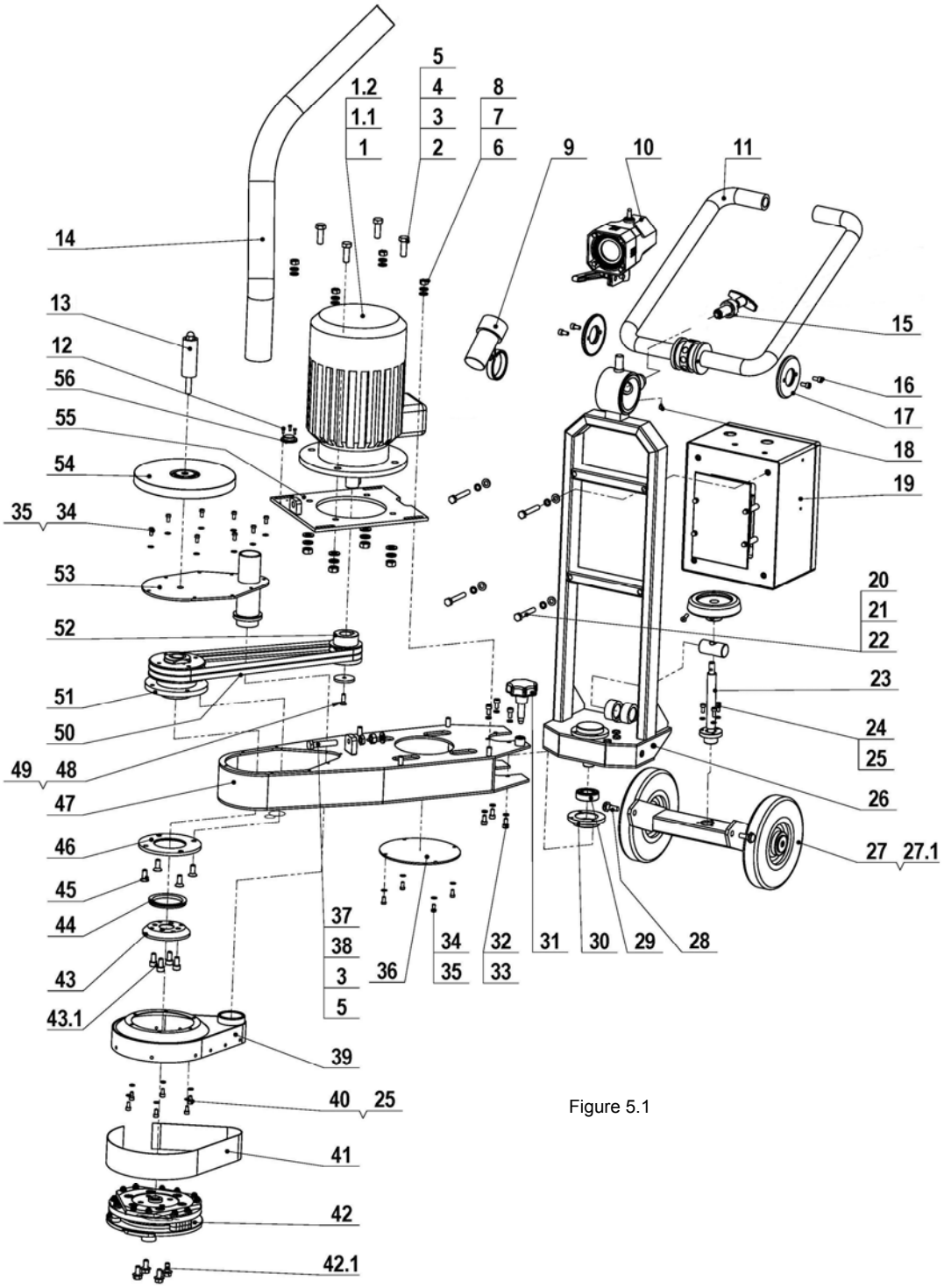


Figure 5.1

To order any parts, customer has to provide the machine model and serial number. Without this information, customer is responsible for ordering the correct part, and no shipping charges will be refunded if the part ordered is wrong.

№	Item Number	Description	Qty.
1	S071	Electro Motor	1
1.1	L7P-00.00.00.11	Fan Cover	1
1.2	L7P-00.00.00.12	Fan	1
2	M10x30DIN 912	Screw	4
3	M10DIN125A	Washer	5
4	M10DIN127B	Spring Washer	4
5	M10DIN934	Nut	5
6	M8DIN934	Nut	4
7	M8DIN127B	Spring Washer	4
8	M8DIN433	Washer	4
9	LC-57-08.00.00.00	Air Duct Connection	1
10	L25SPS- 01.00.00.00	Lamp Unit Incl. Cable	1
11	L7X-04.00.00	Handle Assembly	1
12	M3x8DIN84A	Screw	3
13	LC-57-00.11.00.00	Weights Holder	1
14	D40L860	Air Duct Hose	1
15	L20X-23.00.06-K	Locking bit	1
16	M6X12DIN912	Screw	4
17	L25S-23.00.02	End Cover	2
18	M6X8DIN915	Screw	1
19	L7P-05.00.00.00	Control Box	1
20	M8DIN125A	Washer	4
21	M8DIN7980	Spring Washer	4
22	M8x55DIN933	Bolt	4
23	L7P-03.00.00.00	Leveling Wheel Assembly	1
24	M5x12DIN912	Screw	3
25	M5DIN127B	Spring Washer	9
26	L7P-01.02.00.00-03	Back Housing Ass.	1
27	L7X-20.00.00	Normal Wheel Support	1
27.1	L7P-06.00.00.00	Stair Wheel Support	1
28	LC-57-00.00.00.49	Swivel Bolt	2
29	6004	Roller Assembly	2

№	Item Number	Description	Qty.
30	L7P-01.00.00.01	Roller Assembly Cap	2
31	L7P-00.00.00.02	Handle M12	1
32	M6x12DIN912	Screw	6
33	M6DIN7980	Spring Washer	6
34	M5x10DIN84A	Screw	12
35	M5DIN6798A	Washer	12
36	LC-57-00.00.00.57	Bottom Cover	1
37	M10x50DIN933	Bolt	1
38	M10DIN439	Nut	1
39	L7X.05.00.00	Cover	1
40	M5x10DIN912	Screw	3
41	L7X-00.00.01	Guard	1
42	A40.00.00	Tool Holder A40	1
42.1	M8x16DIN6921	Bolt	4
43	A42.01.00	Adaptor	1
43.1	M8x16DIN912	Screw	4
44	TWVA00550-N6T50	V-Ring Type A	1
45	M8x20DIN7991	Screw	4
46	L7X-00.00.26	Outer Cover	1
47	L7X-01.01.00	Front Housing	1
48	M6x20DIN84A	Screw	1
49	L25SPS-00.00.00.15	Front Washer	1
50	XPZ937	Belt	2
51	L7X-03.00.00	Driven Bearing	1
52	LC-57-00.00.00.29	Motor Pulley	1
53	L7X-02.00.00	Top Cover Assembly	1
54	L7X-06.00.00	Guide Assembly	1
55	L7P-04.00.00.00	Motor Base Assembly	1
56	DF30	Water level	1

LAVINA 7X ASSEMBLY AND PARTS SPECIFICATION (FIG. 5.2)
WHEEL SUPPORT

№	Item Number	Description	Qty.
1	L7X-20.10.00	Wheel Support Frame	1
2	180X40	Wheel	2
3	M8X12ISO7380F	Screw	2

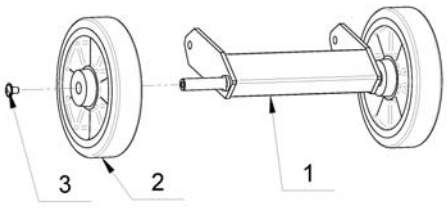


Figure 5.2

LAVINA 7X ASSEMBLY AND PARTS SPECIFICATION (FIG. 5.2.1)
WHEEL SUPPORT

FOR MACHINES WITH SERIAL NUMBER BEFORE No. 1609L7X2740

№		Item Number	Description	Qty.
1		L7P-02.01.00.00	Wheel Support Frame	1
2		M5x16DIN7991	Screw	2
3		LC-7P-09.00.00.03	Washer	2
4		VPA175-8K	Wheel set	2
	4.1	180X40	Wheel	1
	4.2	L7P-02.00.00.99	Bushing	1
	4.3	M5DIN7980	Washer	1
	4.4	M5X25DIN912	Screw	1

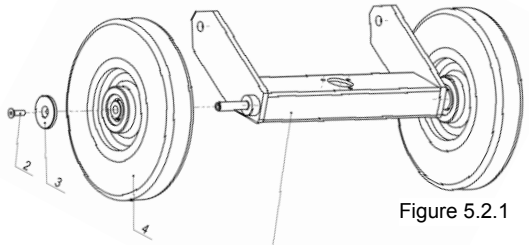


Figure 5.2.1

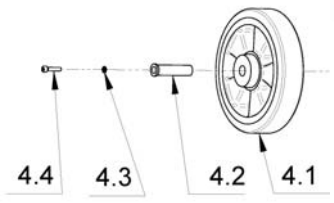
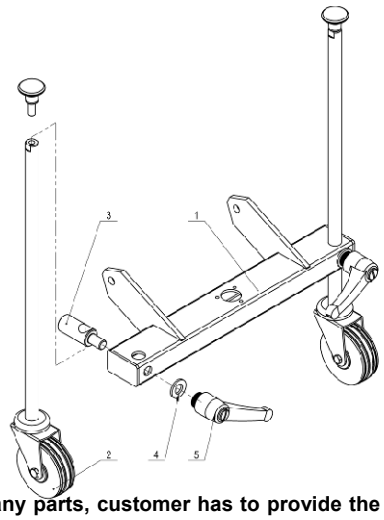


Figure 5.2.2

LAVINA 7X ASSEMBLY AND PARTS SPECIFICATION (FIG. 5.3)

STAIR WHEEL SUPPORT



№	Item Number	Description	Qty.
1	L7P-06.01.00.00	Stair Wheel Support Frame	1
2	L7P-06.02.00.00	Wheel assembly	2
3	L7P-06.00.00.03	Clamp	2
4	M12DIN125A	Washer	2
5	M12x19A580-80	Swivel bolt	2

Figure 5.3

To order any parts, customer has to provide the machine model and serial number. Without this information, customer is responsible for ordering the correct part, and no shipping charges will be refunded if the part ordered is wrong.

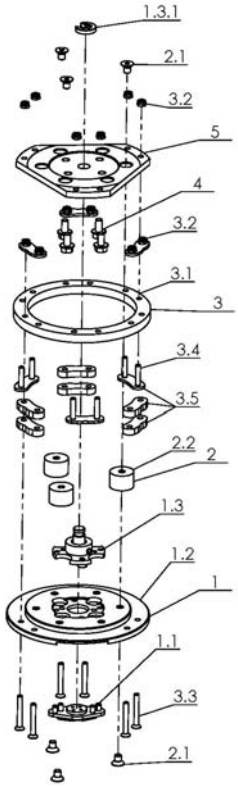


Figure 5.4

LAVINA® 7X TOOL HOLDER PARTS /SEE ALSO FIG.7.34/			
No.	**Item No.**	**Description**	**Pcs.**
1	A40.10.00	Quick Change Assembly	1
1.1	A31.12.00	Keylock Set	1
1.2	A40.11.00	Quick Change plate	1
1.3	A41.12.00	Security set	1
1.3.1	A41.00.05	Washer A41	1
2	A25.00.10-K	Buffer with two screw	3
2.1	M8X12DIN7991	Screw	6
2.2	A25.00.10	Buffer	3
3	A40.20.00 K	Driving Set	1
3.1	A40.20.02	Elastic Element	1
3.2	M6DIN985	Self Locking Nut	12
3.3	M6X45DIN7991	Screw	6
3.4	M6X30DIN7991	Screw	6
3.5	A40.21.00	Set of plates	1
4	M8x16DIN6921	Bolt	4
5	A40.20.01	Flange	1

LAVINA 7X ASSEMBLY AND PARTS SPECIFICATION OF THE CONTROL BOX (FIG. 6.13)

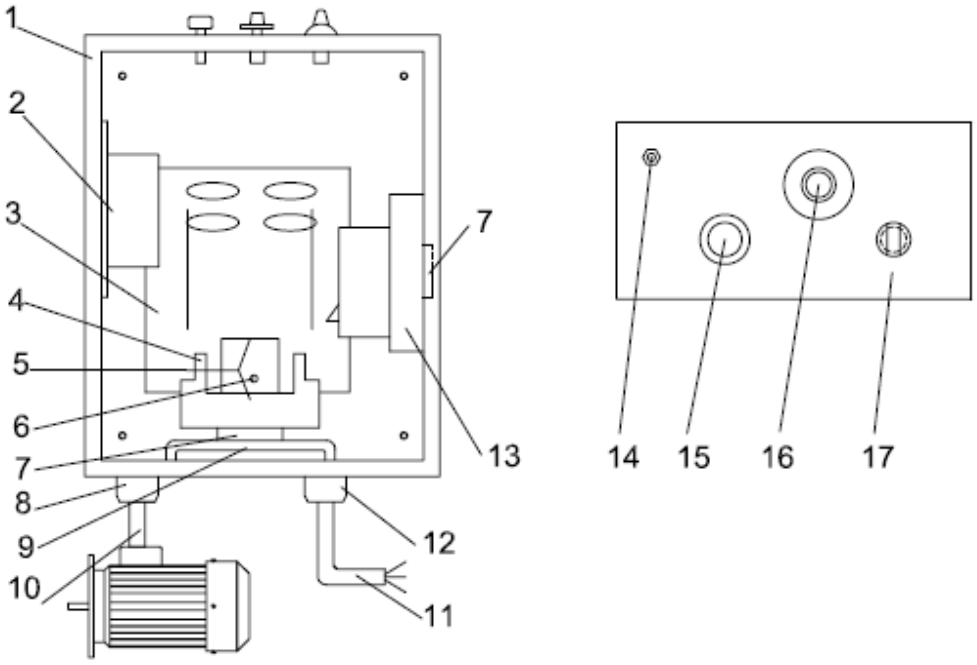


Figure 5.4

110-120 Volt

№	Item Number	Description	Qty.
1	LC-57-00.12.00.01	Metal Box	1
2	115V/50VA	Transformer	1
3	KVBF-26D1.1kW;115/230V	Inverter	1
4	L20NS-30.11.04	Rail Base	1
5	CM-1	Holder	1
6	RXM4AB1F7	Relay	1
7	L20NS-30.11.02	rail	1
8	PG16	Cable gland	1
9	LC-57-00.12.00.02	support	1
10	HO7BQ-F4x2,5	Cable	1
11	HO7BQ-F3x2,5	Cable	1
12	M20x1.5	Cable gland	1
13	L20NS-30.11.01	Circuit Breaker	1
14	D9,3	Female jack	1
15	L20NS-30.10.10	Emergency Stop Button	1
16	L20NS-30.10.15	Revolution counter	1
17	M22-WLK3-G;M22-K10;M22-K01;M22-LED-G; M22A	Button assembly	1

To order any parts, customer has to provide the machine model and serial number. Without this information, customer is responsible for ordering the correct part, and no shipping charges will be refunded if the part ordered is wrong.

6. MAINTENANCE AND INSPECTION

FIRST USE
Before the first use, mount the Levelling Wheel Assembly in. Put the transverse shaft (Fig. 6.1-4) in position on top of the back housing assembly (Fig. 5.1 26). Turn the shaft (Fig. 6.1-3) from under the back housing assembly (Fig. 5.1 26) through the transverse shaft (Fig. 6.1 4) mount the turning wheel (Fig. 6.1-6) and secure with screw (Fig. 6.1-5).

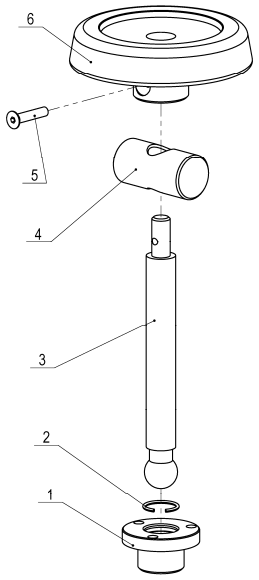


Figure 6.1

CLEANING
Keep your machine clean. Cleaning the machine on a regular basis will help detect and solve potential problems before they cause damage to the machine. Most importantly, check and clean the tool plate connections, power cord and plugs, vacuum hoses.

CHECK DAILY
After operating the Lavina 7X, the operator should conduct a visual inspection of the machine. Any defect should be solved immediately. Pay attention to power cords, plugs and vacuum hoses.
Shock absorbers A01/00.00.01 (See page Floating backer plate) are consumables and have to be checked daily and replaced if needed.

CHECK AFTER THE FIRST 15 WORKING HOURS
Check the belt tension after 15 hours working with the machine.
For the correct tension, see TROUBLESHOOTING.

CHECK EVERY 200 WORKING HOURS
Every 200 working hours, the operator should inspect all parts of the machine carefully. Most importantly, inspect and clean the tool plate connections, power cord and plugs, vacuum hoses. Check the guard assembly. Make certain the wheels are clean and rotate properly. Inspect the control buttons. If there are defective control parts, they should be replaced immediately. Replace worn vacuum- and water hoses. Carefully inspect the seal rings and bearings of the grinding units, and replace any showing signs of excessive wear.
For more information, refer to chapter troubleshooting below.

CHECK EVERY 500 WORKING HOURS
In addition to checks made every 200 working hours, open up the bottom cover as described in “TROUBLESHOOTING - REPLACING BELT" Check if sealers, belt and bearings are in good condition; change if needed. Be wary when tensioning the belt to not “over tension”; the belt will not recover its original tension.

VACUUM
As stated previously, frequently check hoses and other parts for clogging.

MECHANICAL PARTS
Parts such as the belt, seal rings, cap rings, spiders and buffers and guard assembly are subject to wear and should be replaced as needed.

ELECTRICAL SYSTEM
Dust should not enter the control box as it will destroy the contacts. Remove (blow out) any dust present.

ONE PHASE CONNECTION
Please note: the power cable has 3 wires. The ground is yellow/green, the other 2 colors are “hot” wires and should be connected to the phases. (Fig. 6.2).


Figure 6.2

ELECTRICAL SYSTEM

LAVINA 7X ELECTRICAL SCHEMES WITH INVERTER

110-120 Volt

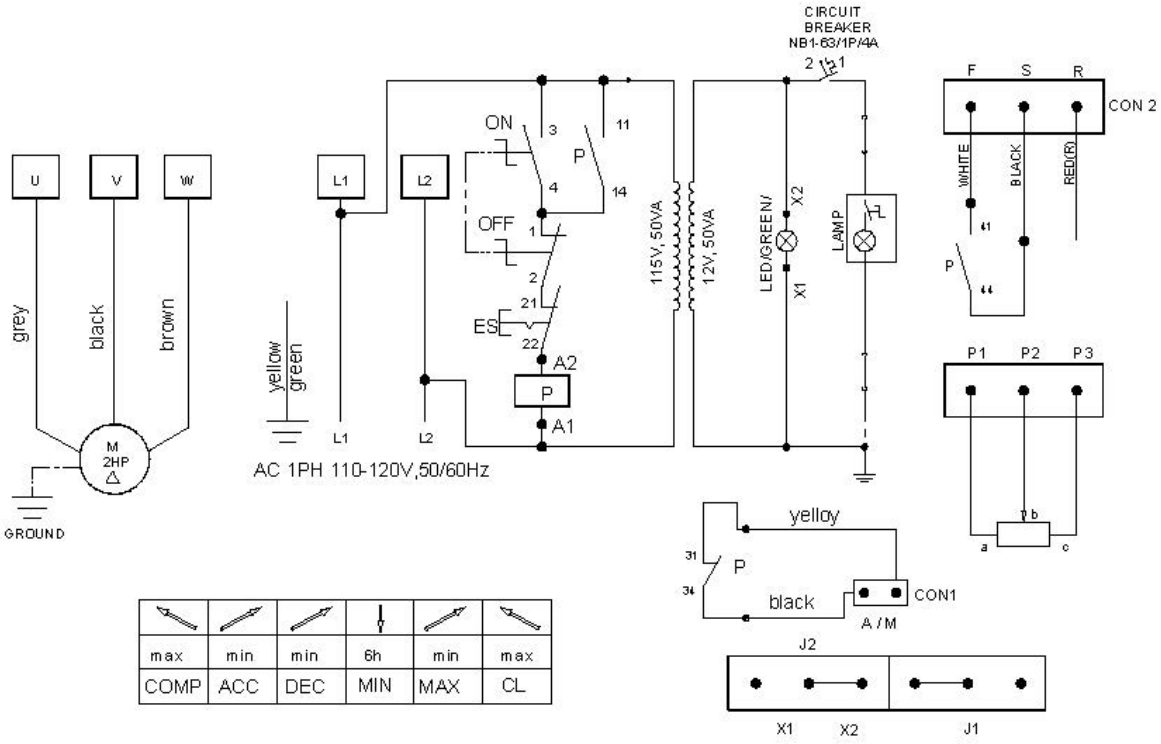


Figure 6.3

7.TROUBLESHOOTING

INDEX OF PROBLEMS AND SOLUTIONS

REPLACING POWER CORD AND PLUGS

When replacing the power cord or plugs, always use cords and plugs with specifications as the original ones.
Do not use lower quality or different types of cord and plugs.
In addition, consider the distance between the appliance and the electrical source. The greater the distance, the greater the resistance and the lesser the current that will be available at the other end. This will cause a voltage drop and the inverter will switch into alarm mode. This will also happen if several machines are working on the same line or the generator is not rated for the power needed. In general, our standard power cable can be doubled in length; longer lengths require replacing all the cables with cables of a larger gauge rate to account for the length and amperage.

TENSIONING THE BELTS

PLEASE MAKE SURE YOU CHECK THE TENSION OF THE BELT AFTER THE FIRST 15 HOURS OF OPERATION

If the grinding spindle is turning irregularly, making excess noise, or not spinning although the motor is turning, it is recommended that the belts be checked.

ATTENTION: NEVER “OVER” TENSION THE BELT, THE BELT WILL BE DISTROYED AND IT WILL NEVER RECOVER ITS ORIGINAL TENSION

Figure 7.1

Take off the weight holder (Fig. 5.1 58) along with the guide (Fig. 5.1 54) (Fig. 7.1).

Figure 7.2

Figure 7.3

Figure 7.4

Unscrew the bolts (Fig. 7.2) from the top cover (Fig. 5.1 53) and set aside (Fig. 7.3).Check the tension of the belts (Fig. 7.4). If the belts are damaged or broken, see next chapter “Replacing the Belts” on how to replace them.
The Static Belt Tension should be 250 N with a new belt, or 200 N with a used one. It is recommended to use an OPTIKRIK 1 Tension Gauge (Fig. 7.4) to measure tension.

Figure 7.5

Figure 7.6

Figure 7.7

To change the Static Belt Tension, loosen the 4 bolts on the motor base (Fig. 5.1 55) (Fig. 7.5). Unsecure the two nuts of the tensioner (Fig. 7.6, Fig. 7.7) Tension by adjusting the motor to be closer or further.


Figure 7.8


Figure 7.9


Figure 7.10

After tensioning, resecure the nuts on the tensioner device (Fig. 7.8). When replacing the top cover (Fig. 5.1 53), ensure that the sealer is still in place (Fig. 7.9).

REPLACING THE BELTS


Figure 7.11


Figure 7.12


Figure 7.13

Open the tension device totally (Fig. 7.11). Open up the bottom cover (Fig. 5.1 36) (Fig. 7.12). Remove the belts (Fig. 7.13).


Figure 7.14


Figure 7.15


Figure 7.16

Slide in the new belt through the top cover (Fig. 5.1 53) opening (Fig. 7.14). Put the belt in place by turning the pulleys (Fig. 7.15, Fig. 7.16). Tension like in the chapter “Tensioning the Belts”

DISMOUNTING TOOL HOLDER TO CHANGE V-RINGS

Figure 7.17

Figure 7.18

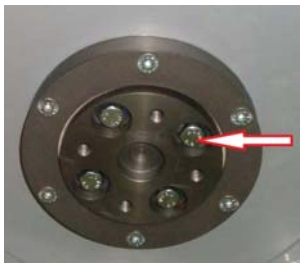


Figure 7.19

Figure 7.20

Figure 7.21

To check or replace the buffers and the elastic elements, the tool holders have to be dismounted.
You will need a 13mm deep metric socket with an outside diameter of no more than 3/4in to unscrew the four bolts (Fig.7.17) and remove the holder (Fig.7.18) When the tool holder is dismounted, you can change the sealers (V-Ring).
By loosening four Hex cap flange bolts (Fig.7.19) the adaptor comes loose. Remove the adaptor and V-Ring

Mount the V-Ring with the smallest lip of the V to the inside (Fig.7.21) - simply push the V-Ring so the top is on the same level as the pulley top (Fig.8.2.6). Then take the adaptor and push the V-Ring down with the adaptor. The lowest lip of the V-Ring should only barely touch its gliding surface. Mount the adaptor and the Felt-Ring on top (Fig.8.2.7). Close the sealers with the cap (Fig.8.2.8) and screw the bolts. Always use the original bolts. Do not push the V-ring down with fingers.

DISASSEMBLING AND MOUNTING TOOL HOLDER TO CHANGE BUFFERS AND ELASTIC ELEMENT

When the TOOL HOLDER is disassembled you can change defective parts – elastic element, buffers, etc.
Lift the locking pin (Fig.7.22) to dismount the retaining washer (Fig.7.23). Take out the screws on the buffers and the nuts of the elastic element (Fig.7.24;Fig.7.25). Remove the elastic element from the QC plate (Fig.7.26). While the holder is dismounted (Fig.7.27;Fig.7.28), clean the parts and replace any defective ones with new ones. Assemble the holder with new buffers, new screws, and new elastic element. Replace the retaining washer (Fig.7.29) and push the locking pin (Fig.7.30). This will prevent the washer from falling while mounting the holder on the machine.


Figure 7.22


Figure 7.23


Figure 7.24

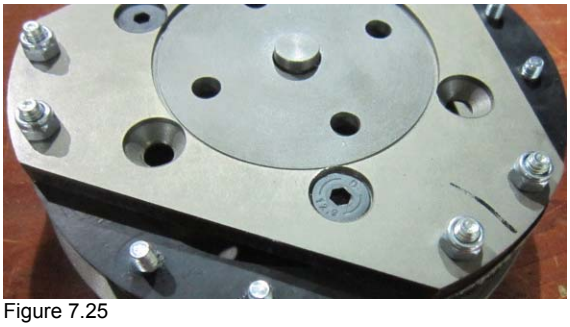


Figure 7.25


Figure 7.26


Figure 7.27


Figure 7.28


Figure 7.29


Figure 7.30

M ake sure the four bolts holding the adaptor (Fig.7.33) are reliably tightened. Mount the holder on the machine using the same socket as in 8.2 (Fig.7.31;Fig.7.32). The retaining washer fits into the central hole C of adaptor and the four bolts into the thread holes T (Fig.7.33). The holder is centered on the outside diameter of the adaptor. Ensure the holder is properly connected to the plate of the adaptor and then tight evenly the four bolts. Tightening force on the bolts has to be 22...25N.m(16...18 lbf.ft).
Mounting the holder without the retaining washer is **INADMISSIBLE** because the security system preventing the separation of part of the holder in case of broken buffers and elastic element will not function!
You can change the butterfly of the holder without dismounting the holder from the machine.


Figure 7.31

Figure 7.32

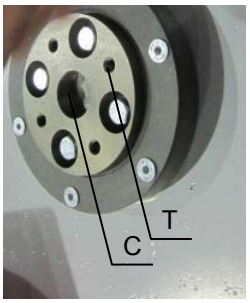


Figure 7.33

Fig.7.34 is a 3-d section view of the holder, showing its parts. The numbering is the same as in Spare parts.

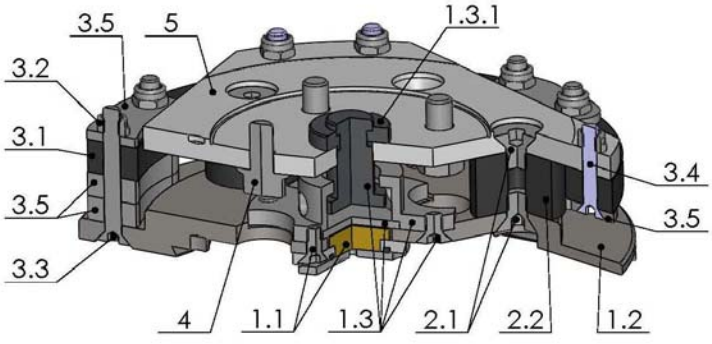


Figure 7.34

8. DISPOSAL

If your machine after time is not usable or needs to be replaced, send the machine back to Superabrasive or a local distributor, where a professional disposal complying with the environment laws and directives is guaranteed.

9. MANUFACTURER'S CONTACTS

If you need to contact Superabrasive Inc. with technical support questions, below is the contact information.

Address; 9411 Jackson Trail Road, Hoshton GA 30548, USA
Email: info@superabrasive.us
Tel.: 706 658 1122
Fax: 706 658 0357
Website: www.superabrasive.com