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wood floors. protected

Operating Instructions PALLMANN Cobra Sanding Machine





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1.0 Introduction

Thank you for your purchase of the PALLMANN Cobra sanding machine. The best choice with respect to quality and performance. Since 1950, Cobra sanding machines have been industry leaders in the wood flooring market. We channel this rich history of machine expertise into every Cobra that leaves our facility in Ilsfeld, Germany. All Cobra machines then undergo a rigorous 20 point inspection and testing procedure at our North American Headquarters in Aurora, Colorado.



These operating instructions contain important information for the use and safe operation of the COBRA.



Caution!


Read these operating instructions carefully before assembling or operating the COBRA. Ensure that all operators read these operating instructions prior to operate the machine.

Adherence to the safety notes helps to protect against potential dangers for health and personal safety and to prevent an improper utilisation of the machine.

Before starting to work, make yourself familiar with the operation of the machine. It's too late if you do it while working!

Never allow anybody without sufficient skills and knowledge to operate the machine.

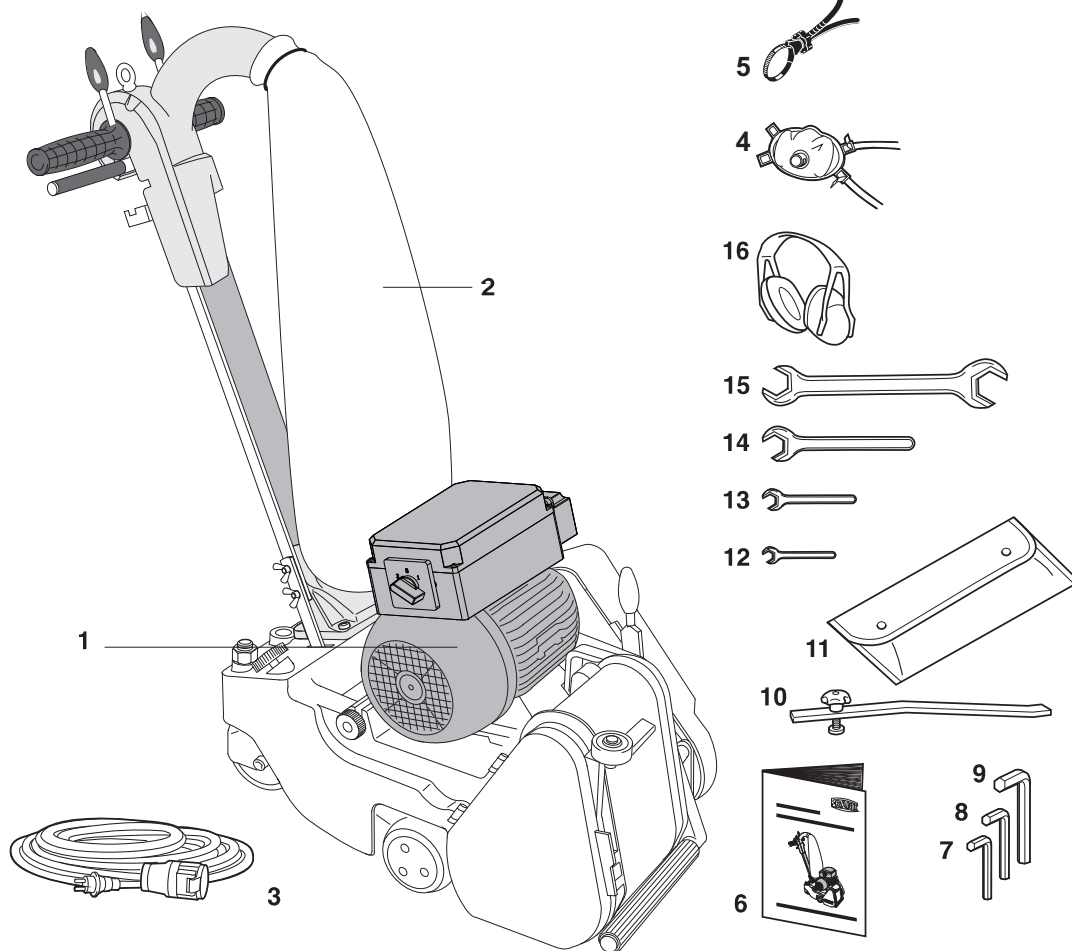


This brochure uses the symbol  to mark important instructions for safety and preventing damage. Please give special attention to the marked instructions.

They refer to a potentially dangerous situation. Failure to comply can result in fatal or severe injuries and damage to property.



2.0 Scope of delivery

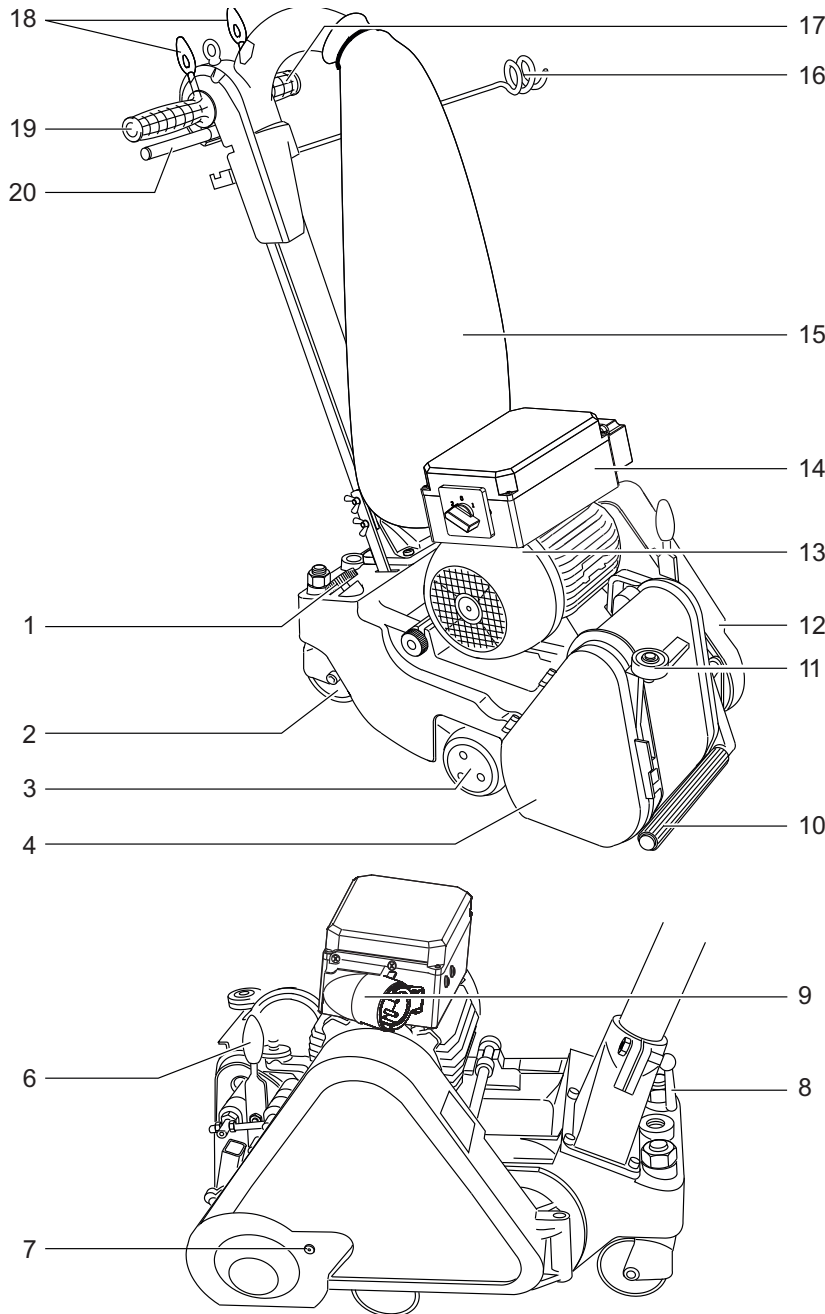


1. machine
2. dust bag
3. power cord with female twist lock
4. respirator
5. multiclip
6. operators manual
7. hexagon socket screw key 5 mm
8. hexagon socket screw key 6 mm
9. hexagon socket screw key 10 mm
10. running wheel adjustment tool
11. tool pouch
12. fork wrench 10 mm
13. fork wrench 13 mm
14. fork wrench 14 mm
15. double fork wrench 30/36 mm
16. hearing protection



3.0 Machine specifications of COBRA

3.1 Important components



1. pressure regulating screw
2. caster wheels
3. running wheels
4. drum cover
6. tension lever
7. cylinder head bolt
8. clamping lever
9. motor plug
10. carrying wheel
11. bumper wheel
12. belt guard
13. motor
14. switch box
15. dust bag
16. power cord holder
17. left hand grip
18. main lifting lever
19. right hand grip
20. lifting lever



3.2 Technical data

Single-phase AC motor	240V, 60 HZ
Motor power	2500 W
3 capacitors	60 UF
Sanding drum speed	2550 rpm
Sanding width	7-7/8"
Sanding belt dimensions	7-7/8" x 29-1/2"
Total machine weight	194 lbs
Chassis weight	94 lbs
Motor weight	73 lbs
Weight of dust tube	17 lbs

3.3 Safety and machine protection

COBRA is equipped with an
- **overcurrent cutout**
- **no-volt release**

The overcurrent cutout protects the machine and operator from danger in case of short circuits or power surges into the machine.

The no-volt release prevents uncontrolled restart of the machine after power failure. The motor will **not** start automatically when the power returns; it will have to be switched on again.

4.0 Proper use

The COBRA wood floor sander is suitable for dry sanding of wood floors. No other use is recommended.



Caution!
Never use COBRA for wet procedures (fatal risk from electric shock)!



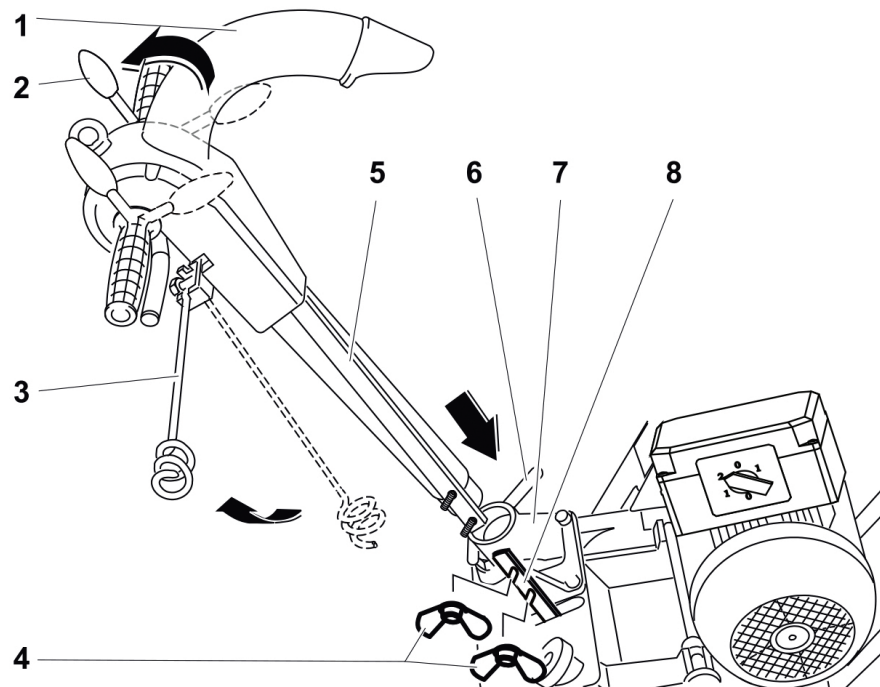
5.0 Assembly of the machine

5.1 Installing the dust tube

Note: The COBRA is delivered with the dust tube (1) removed.

Caution!

Injury to the operator or other persons could occur or damage could occur if the machine starts up unintentionally. Disconnect the machine from the power supply before working on the machine!



Instructions:

1. Insert the dust tube (1) into the dust tube support (7). The curved section of the tube must face toward the motor. Clamp the dust tube by means of the clamping lever (6) located on the guide tube support.
2. Fit the connector (8) into both screws of the pull rod.
3. Move the main lifting lever (2) into the rear position to raise the sanding drum from the floor.
4. Tighten both wing nuts.
5. Install emergency stop switch to side of dust tube, and attach to motor.

5.2 Installing the motor

Installation of the motor is performed in the opposite order to the steps described in Chapter 6.2 removing the motor.



6.0 Disassembling for transport

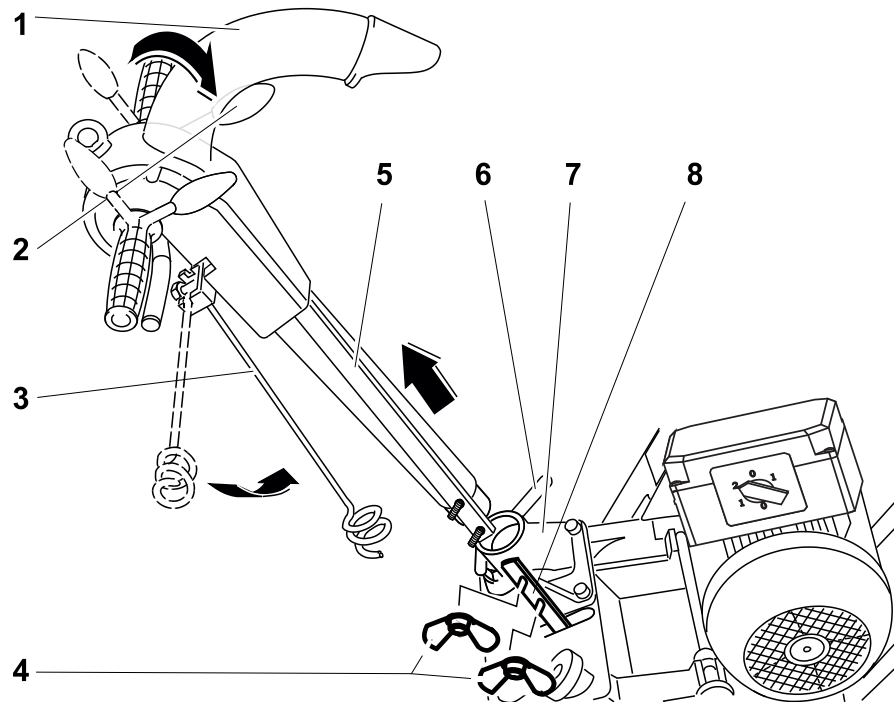
For easy transportation, the motor and the guide tube can be removed.

6.1 Removing the guide tube

Caution!



Injury to the operator or other persons could occur or damage could occur if the machine starts up unintentionally. Disconnect the machine from the power supply before working on the machine!



Instructions:

1. Fold down the cable arm (3).
2. Move the main lifting lever (2) to the front position in order to lower the sanding drum to the floor. This removes the load from the control rod (5).
3. Loosen both of the wing screws a little (4). Push the handle down to detach the control rod (5) from the connector (8).
4. Open the guide tube support (7) with the clamping lever (6) and pull the guide tube (1) out.



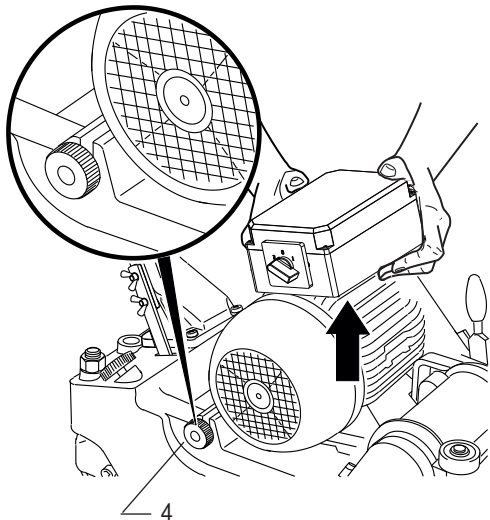
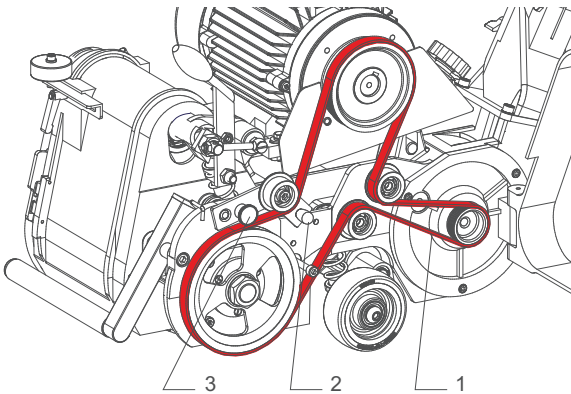
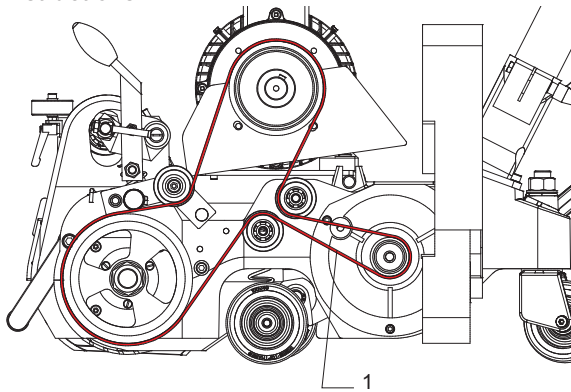
6.2 Removing the motor

Caution!



Injury to the operator or other persons could occur or damage could occur if the machine starts up unintentionally. Disconnect the machine from the power supply before working on the machine!

Instructions



1. Make sure that the motor switch is in the off position and that the main cord is disconnected from the motor plug. In addition, unscrew the emergency stop cable from motor.
2. Unscrew the bolt from the belt guard and open the belt guard.
3. Lift belt tensioner (2) until locating pin (3) snaps.
4. Remove the belt (1).
5. Remove the motor nut from the motor bracket.
6. Now you can remove the motor.



7.0 Operating the COBRA

7.1 Protective clothing and equipment



Caution! Wear hearing protection!

The supplied hearing protection must be worn when using the machine.

The following sound level values have been measured for the parquet floor sander COBRA according to DIN 45 645:

Idle mode LEQ = 85 dB(A)

Working mode LEQ = 87 dB(A)

The noise produced when the machine is working depends on various factors. Local conditions such as room size and quality of the floor affect noise development.

Hand/arm vibration

The following vibration levels have been measured, in accordance with EN 60745:

Long sanding plate	Vibration emissions value:	$a_{h/DS} < 2,5 \text{ m/s}^2$
	Measuring inaccuracy:	K = 1,5 m/s ²

Short sanding plate	Vibration emissions value:	$a_{h/DS} < 2,5 \text{ m/s}^2$
	Measuring inaccuracy:	K = 1,5 m/s ²

The vibration level stated corresponds with the principal use of the electrical tool. If the machine is used for other purposes, with other insertion tools or if the maintenance is inadequate, then the vibration level may be different. This can increase the vibration loading throughout the complete working period.

Caution! Wear a respirator!



When using the COBRA floor sander and when disposing of the sanding dust, always wear a respirator (See chapter 7.3 and 7.4). Wear the respirator which is supplied with the accessories.



Caution! Wear safety goggles!

When using the COBRA floor sander and when working on COBRA, always wear safety goggles to protect your eyes.



Caution! Wear proper working clothing!

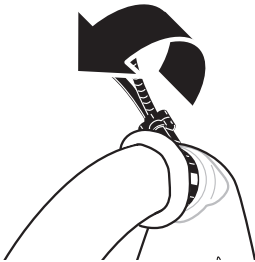
When using the COBRA floor sander and when working on COBRA, never wear loose clothing. This can get caught up in moving parts.

7.2 Fitting the dust bag



Caution!

Use only original PALLMANN dust bags for the COBRA floor sander. The dust bag must be firmly fitted to the dust pipe before sanding.



Instructions:

1. Pull the dust bag over the dust pipe to behind the pipe reinforcement.
2. Fasten the dust bag using the Multiclip.

7.3 Safety instructions regarding dust



Caution! Ultra-fine sanding dust!

Always wear a respirator (included in tool bag) when sanding wood floors.

When the machine is used for its proper purpose, the sanding of wood floors naturally produces dust. The machine has an integrated dust collecting system which blows the dust into the dust bag. The dust is collected in the dust bag. Even so, this cannot prevent fine and ultra-fine dust being produced when using the machine.



Caution! Health risk!

Wood dust, particularly when treated with impregnating agents, solvents and coatings, can cause allergic reactions (e.g. of the skin or respiratory system) after a sensitization period. Beech and oak dust is classified as being carcinogenic (cancer of the nasal mucous membranes). Dust from other kinds of wood is suspected of having a carcinogenic effect.



Caution! Fire risk!

No smoking while sanding!

All ignition sources are prohibited in rooms where sanding work is being carried out!
Air the rooms thoroughly.

Together with an ignition source and the oxygen in the air, wood dust can cause fires and explosions.



Caution! Fire risk!

Sanding over metal parts such as nails can produce sparks which are blown into the dust bag together with the wood dust. The glowing metal chips can still cause a fire even hours later.



7.4 Disposing of sanding dust

Caution!



When the dust bag becomes 1/3 full the bag must be emptied. The dust collecting capacity is greatly reduced when the bag is filled past this point. The sanding dust must be disposed of in a fire proof, non-flammable container. The container must be covered with a fire proof, non-flammable lid. Store the container only outdoors.

Caution! Fire risk!



Because of the fire risk, the sanding dust contained in the dust bag must always be disposed of immediately if the machine is stopped for a extended period of time. The sanding dust must be disposed of in a fire proof, non-flammable container. The container must be covered with a fire proof, non-flammable lid. Store the container only outdoors.

7.5 Replacing the sanding belt

Caution! Danger from machine starting up!



When replacing the sanding belt, there is a risk from the machine starting up unintentionally. Always disconnect the power from the motor before working on the sanding belt.

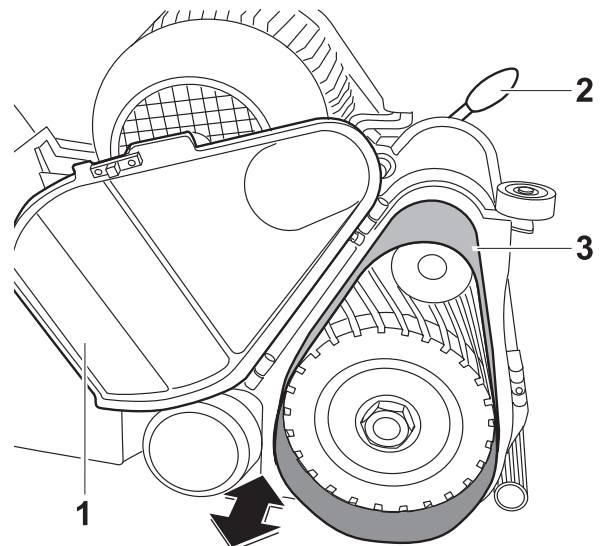
Caution! Risk of cutting your hands!



The sanding grains of the sanding belt have sharp edges. Always wear safety gloves when replacing the sanding belt.

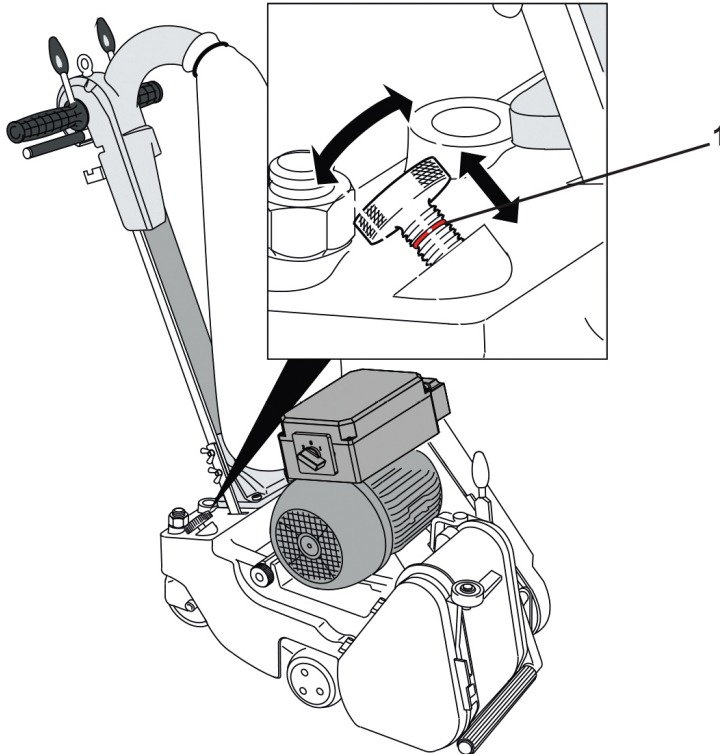
Instructions for replacing the sanding belt:

1. Switch the machine off.
2. Disconnect power to the motor.
3. Open the sanding drum cover (1).
4. Move the tension lever (2) forward. The sanding belt which was held under tension is now released. Pull it out to the side.
5. Insert a new sanding belt.
6. Clamp the new sanding belt by moving the tension lever (2) backward.
7. Close the sanding drum cover (1).





7.6 Adjusting the sanding pressure



Use the pressure regulating screw to adjust the required sanding pressure.

High sanding pressure:

Turn the pressure regulating screw inwards as far as it will go.

Low sanding pressure:

Turn the pressure regulating screw outwards to the **red** marking (2) on the screw thread.

7.7 Safety instructions for electrical connections



Caution! Fatal risk from electric shock!

There is a mortal risk from electric shock if the machine is used when the electric cable or connectors are damaged. If the electric cable and connectors are damaged, they must be replaced by a qualified electrician.

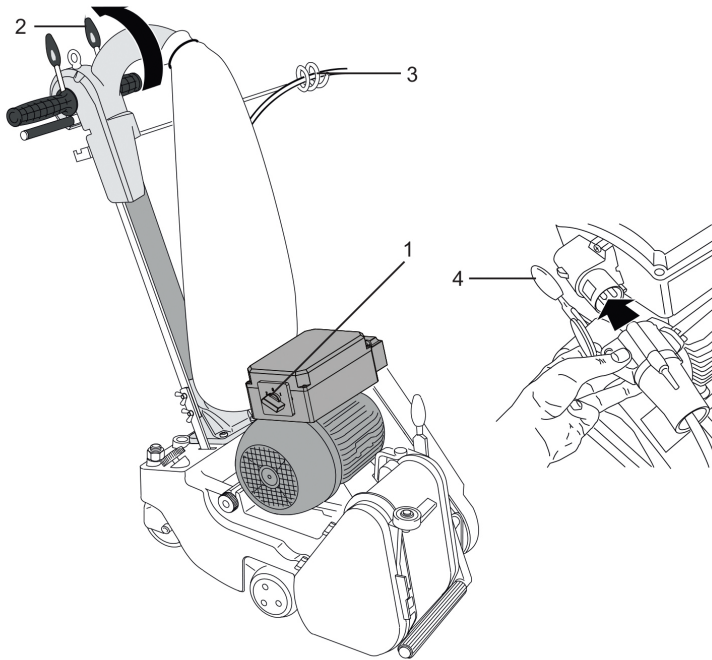


Caution! Fatal risk from electric shock!

Running over the electric cable with the sander entails a fatal risk from electric shock!
Never point the machine towards the cable!



7.8 Connecting the COBRA to the main power supply



Instructions for connecting to main power:

1. Make sure that the switch (1) is in the off position. The machine must be switched off before connecting to the main power supply.
2. The main lifting lever for the sanding drum (2) must be moved backward so that the sanding drum is raised from the floor.
3. Hang the swiveling power cord holder (3) into the left or right power cord holder bracket as required. Wind the main cord through the curl at the end of the power cord holder (3) to keep the cord away from the sanding zone.
4. Connect the coupling (4) of the main cord to the motor plug, which must be disconnected from the main power.
5. Connect the plug of the main cable to proper 220v outlet.



Caution!

Never switch the motor on if the sanding belt is not tightened.



Caution!

Never switch the motor on if the sanding drum is not raised from the floor.

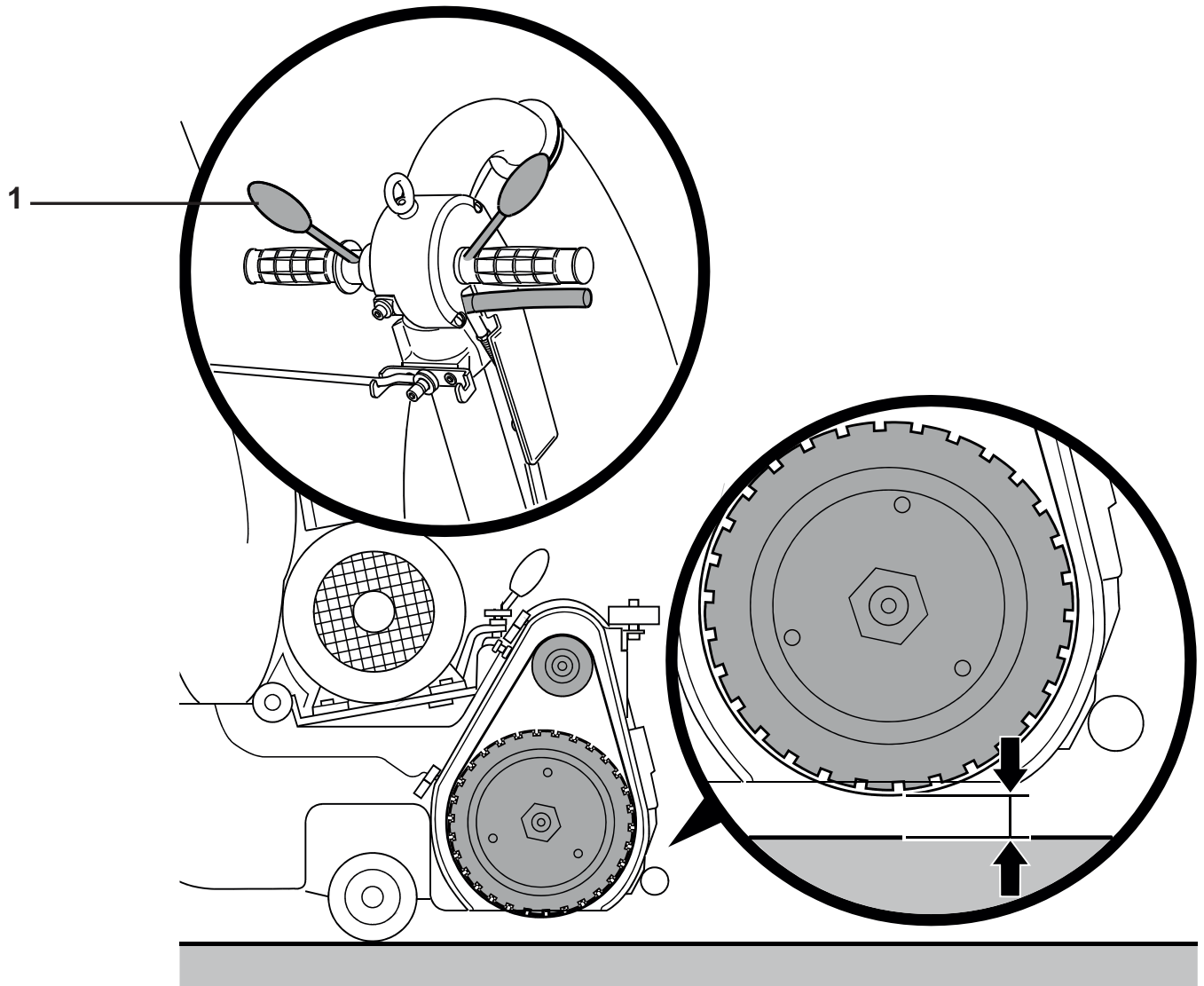


Caution!

Risk of injuries from the machine starting up unintentionally! Disconnect the machine from the power supply when not in use, when changing the sanding belt, and when carrying out any other work to the machine.



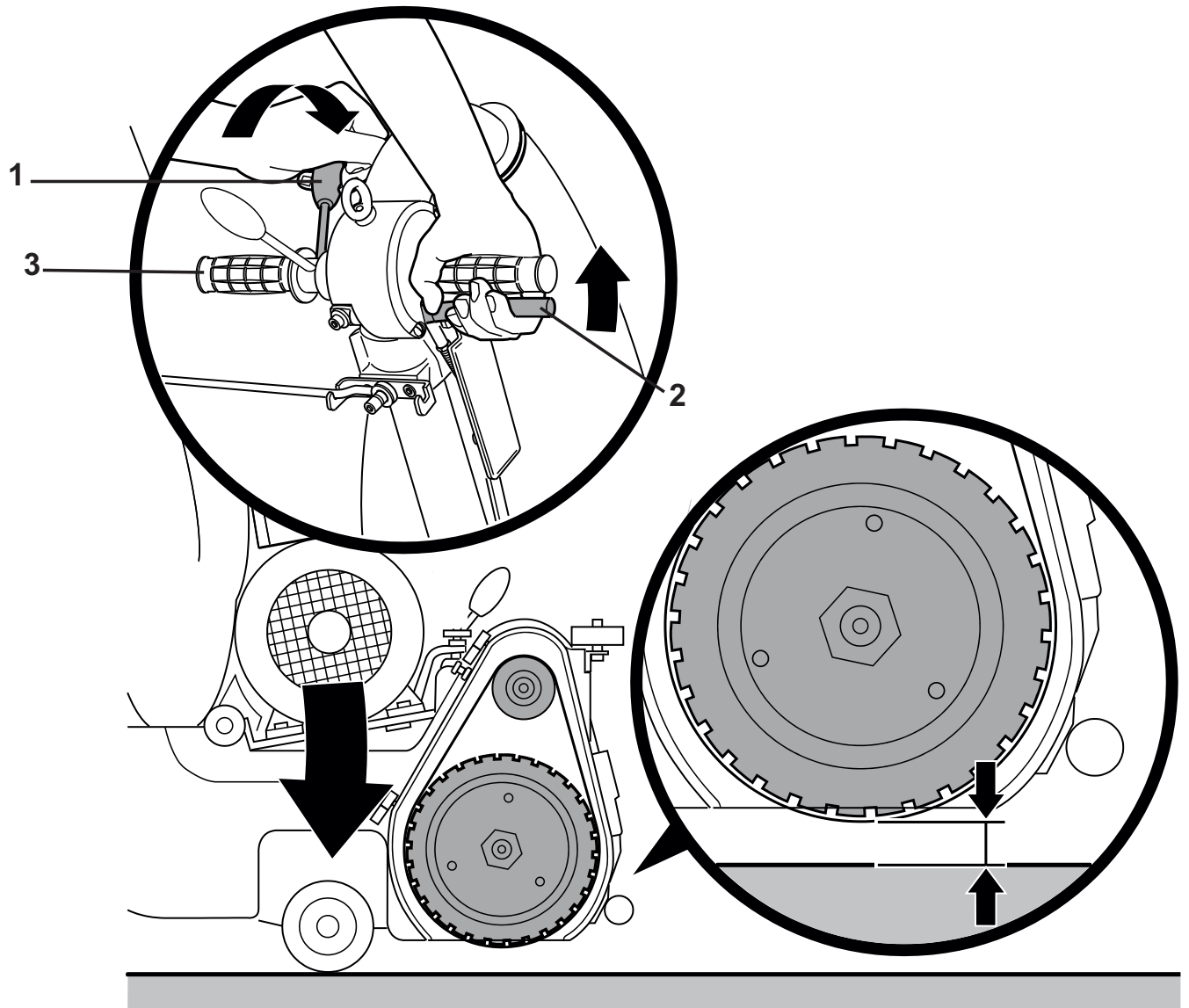
7.9 Sanding with COBRA



1. Before starting the machine, the main lifting lever for the sanding drum (1) must be in the rear position. The sanding drum is clearly raised from the floor. The distance to the floor is approx. 1/2".
2. Before starting the machine, ensure that the sanding belt is tightened.
3. Ensure that the emergency stop switch is properly attached to the motor, and prior to starting the motor in the operating position.
4. Bring the machine into the start position.
5. Set the switch to "Start". Once the motor has started up, switch the setting to "Run". This gradual start-up procedure avoids high current to enter the motor during start up.



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5. To lower the sanding drum, you must first pull the feathering handle (2) up with your right hand and hold in position.
6. While holding the feathering handle (2) up, push the main lifting lever (1) forward. This will engage the sanding drum. The feathering handle (2) must always be held up during this process or the sanding drum will be lowered to the floor.
7. To begin, slowly lower the feather handle (2) while moving the machine forward. The sanding drum will engage the floor.

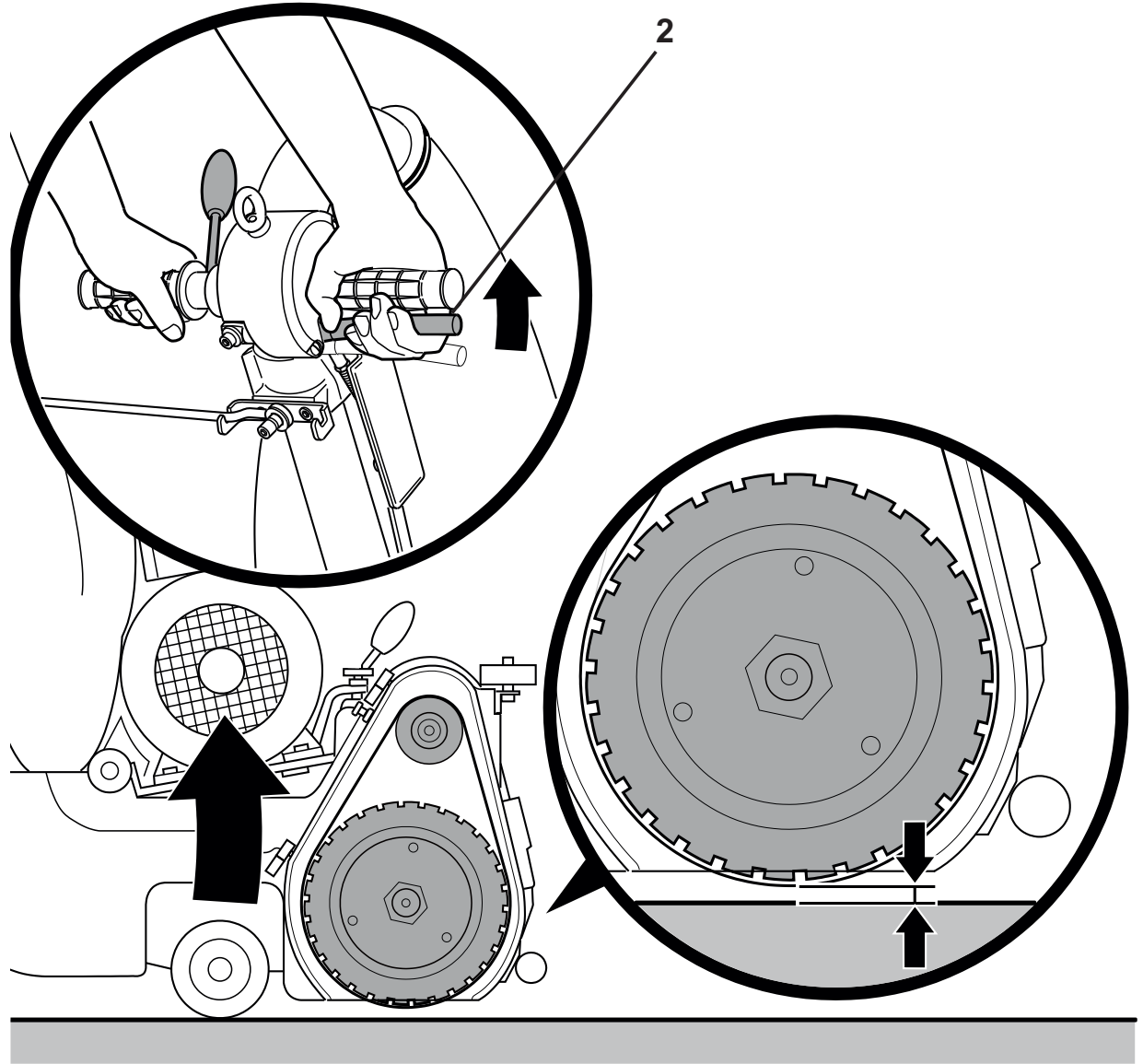


Caution!

To avoid creating uneven sanding marks in floor, always walk at an even pace while sanding.



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8. Before finishing with the forward sanding pass of the machine, raise the sanding drum from the floor by lifting up on the feather handle (2).
9. Each forward sanding pass is followed by a backward sanding pass. The backward sanding pass will follow the same area just covered in the forward sanding pass. Upon completing the backward sanding pass, move the machine over half the sanding belt width to the right of the sanding pass you have just finished.

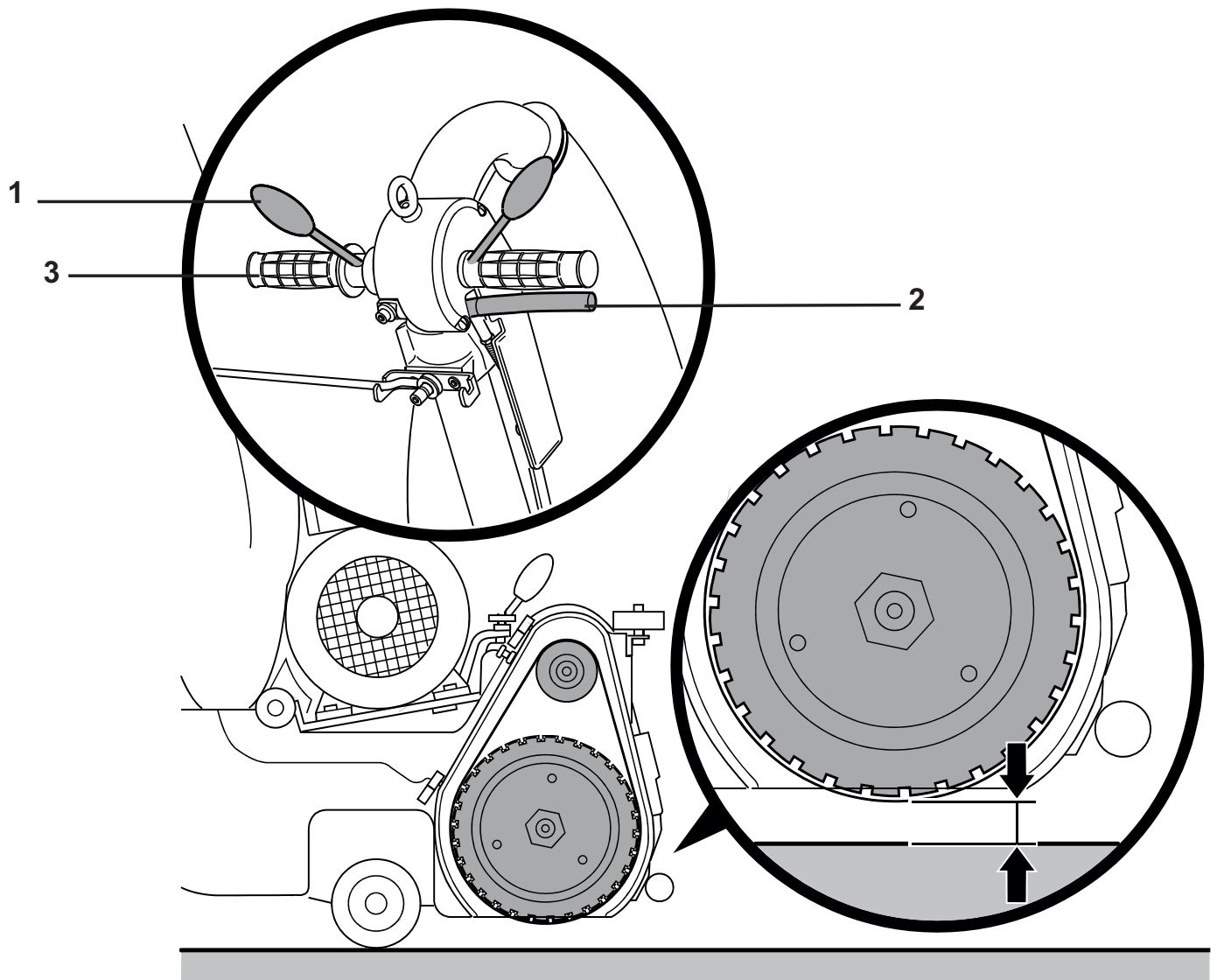
Caution!



Never allow the machine to come to a standstill while the sanding drum is engaged. This will cause a severe indentation in the floor. Whenever changing movement between forward and backwards sanding passes, make sure the sanding drum is raised from the floor and only lowered when the machine is moving.



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10. Stopping the sanding procedure:

To stop the sanding procedure, lift up on the feathering handle (2) with your right hand, and with your left hand pull the main lifting lever (1) back until the sanding drum is disengaged. Do not release the feathering handle (2) until the main lifting lever is locked in place.

Switch the motor off and disconnect main power cord from motor.

Safeguard the machine to prevent it from rolling away from desired location.

The sanding dust contained in the dust bag must be disposed of immediately in a fire proof, non-flammable container. The container must be covered with a fire proof, non-flammable lid. Store the container only outdoors.

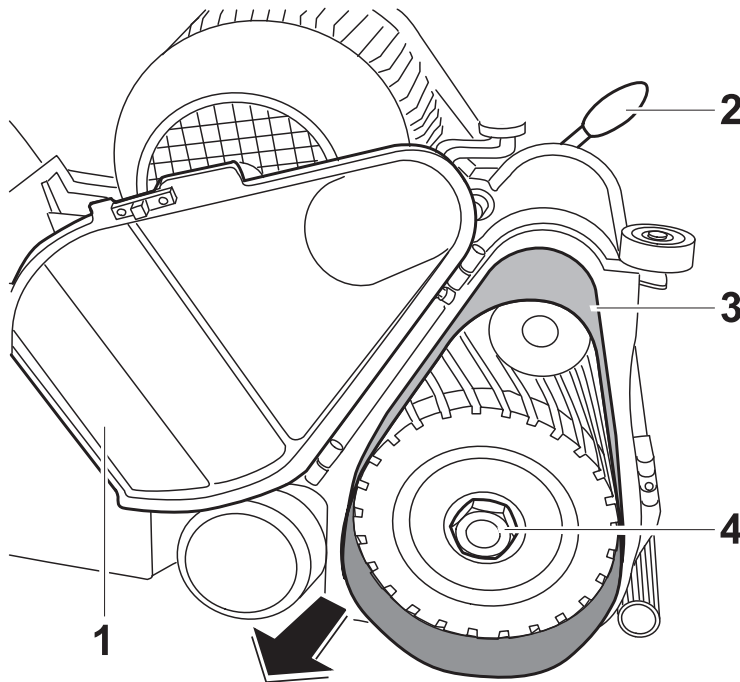


8.0 Maintenance

8.1 Changing the sanding drum

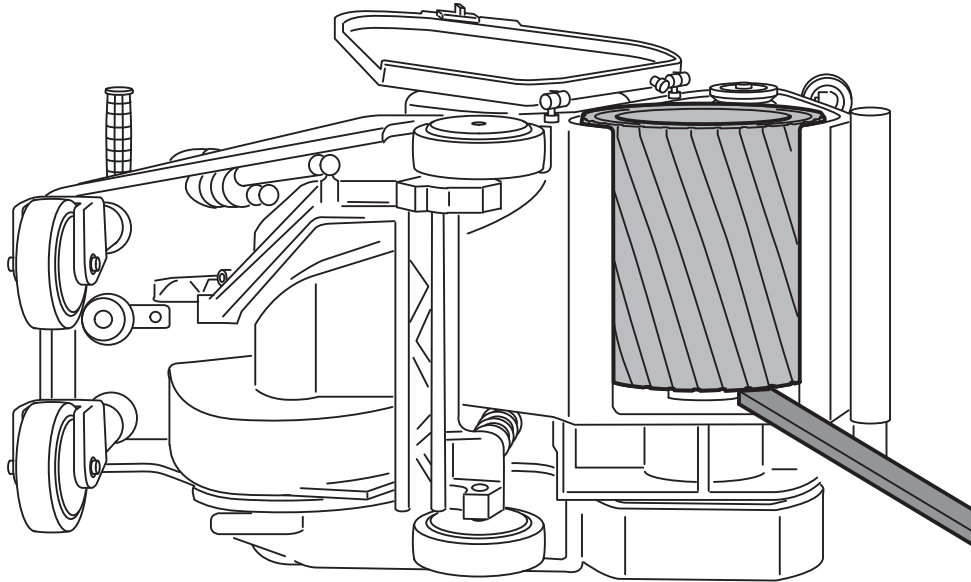
If the sanding drum is damaged or worn, it must be replaced.

Instructions:



1. Turn the machine off.
2. Disconnect the main power from motor.
3. Open the sanding drum cover (1).
4. Fold the tension lever (2) forward to relieve the tension on the sanding belt.
5. Remove the sanding belt (3) to the side.
6. Unscrew the retaining nut (4):

The retaining nut is glued to the threads of the sanding drum shaft to ensure that it will not fall off while the COBRA is in operation. To unscrew the retaining nut, use the double fork wrench that comes with the machine. Lower the sanding drum so it has contact with the floor to prevent it from turning while you are unscrewing the retaining nut.



7. Lay the machine on its left side.
8. Press against the sanding drum carefully with a flat iron bar.
9. Remove the sanding drum out of the machine.
10. Be careful not to lose the parallel key.
11. Slide a new sanding drum onto the sanding drum shaft. The parallel key must fit properly in the slot on the sanding drum shaft.
12. Apply metal adhesive to the retaining nut and screw it back on the sanding drum shaft. Stand the machine up and lower the sanding drum to the floor to ensure that the sanding drum does not turn while you tighten the retaining nut in the next step. Tighten the retaining nut securely with the enclosed double fork wrench.
13. Pull the main lifting lever back to lift the sanding drum off the floor.
14. Close the sanding drum cover.
15. Ensure that the machine cannot roll away.

Note!

After changing the sanding drum, the surface setting on the machine must be readjusted (See chapter 8.2).

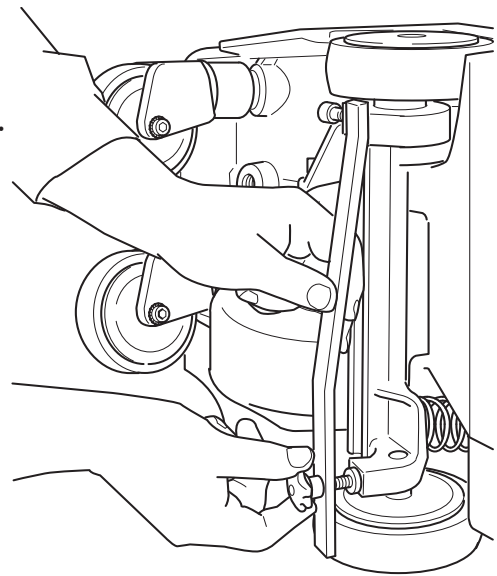


8.2 Adjusting the running wheels

If the machine only sands on one side, the surface setting must be adjusted. Following replacement of the sanding drum or running wheels, the surface setting must always be adjusted. To make a level, uniform setting, the sanding drum and the running wheels must rest on the same plane. The right running wheel is adjustable. The left wheel does not adjust. The running wheel adjustment gauge is required to adjust the machine. For optimal results, check the grinding pattern after adjusting.

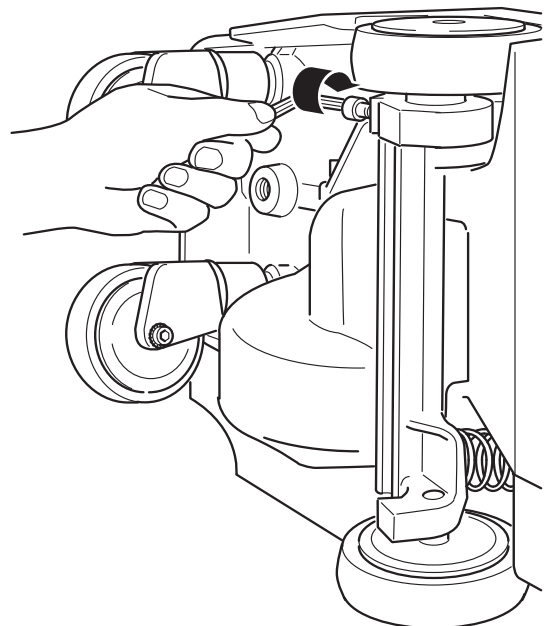
Instructions:

1. Turn the machine off.
2. Disconnect the main power cord from motor.
3. Lay the machine on its left side.



4. With the running wheel adjustment device, determine the position of the left running wheel.

5. Loosen the cam fixation screw on the running wheel bracket next to the right running wheel.

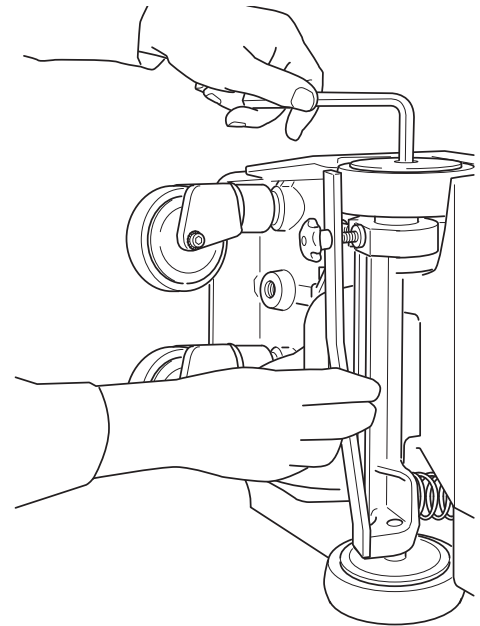




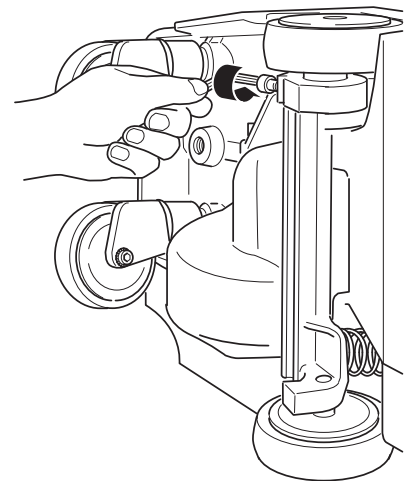
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6. Adjust the right running wheel to the position of the left running wheel using the running wheel adjustment device.

To accomplish this, turn the axle of the right running wheel with the hexagon socket screw key until the right running wheel slightly touches the tongue of the running wheel adjustment device.



7. Tighten the cam fixation screw on the running wheel bracket next to the right running wheel securely.



8. Check on the grinding pattern:

1. Adjusting required

2. Adjusting required

3. Optimal sanding pattern

1.



Incorrect

2.



Incorrect

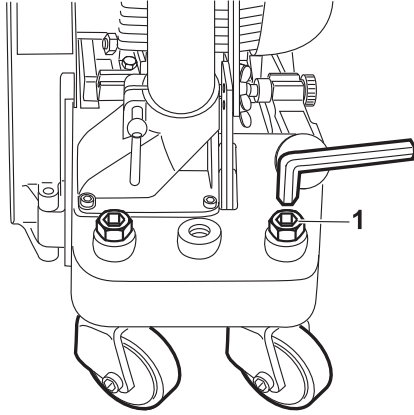
3.



Correct



8.3 Adjusting the caster wheels



1. Turn the machine off.
2. Disconnect the main power cord from motor.
3. Loosen the lock nut (1).
4. Turn the casting shaft with the hexagon socket screw key until both of the caster wheels bear weight.
5. Tighten the lock nut.

8.4 Adjusting the tension roller

The tension roller keeps automatically the track of the sanding belt concentrically to the sanding drum. If with time the sanding belt fails to run concentrically to the sanding drum, the tension roller must be newly adjusted.

Caution! Danger of injury!



Adjustments of the sanding belt while the machine is running and the sanding drum cover is open may only be performed by qualified personnel (in accordance with VBG 1, 41 adjustment).



Caution!

Wear safety goggles and avoid loose clothing before making these adjustments.



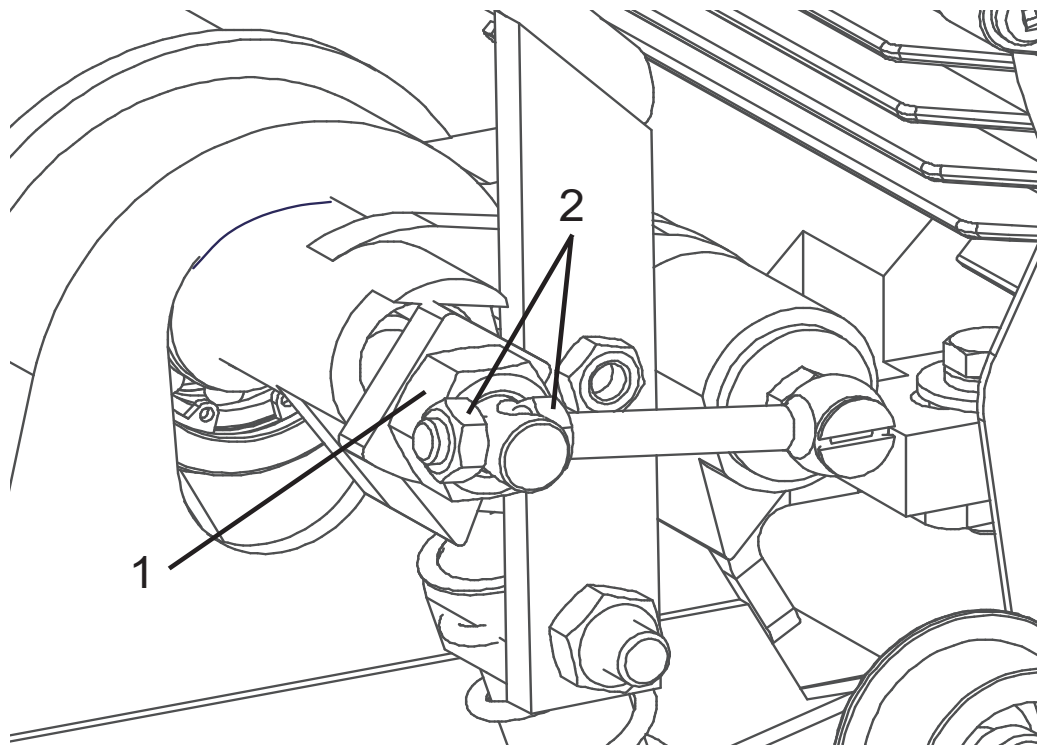
Instructions:



Caution!

Before beginning with the following procedure, the main lifting lever must be pulled back and engaged to ensure the sanding drum is away from the floor.

1. Turn motor to the off position and disconnect main power cord from motor.
2. Open the sanding drum cover.
3. Insert a sanding belt.
4. Shift the tension lever backwards to place tension on the sanding belt.
5. Loosen the retaining nut (1)
6. Connect main power cord to motor (see chapter 7.7 and chapter 7.8)
7. Allow the machine to run in position "Start".
8. By turning the adjusting nuts (2), you can move the tension roller to change the path of the sanding belt. Adjust the position of the sanding belt until it runs in the middle of the sanding drum.
9. Switch the machine off. Disconnect the main power cord from the motor.
10. Tighten the adjusting nuts (2). Tighten the retaining nut (1) securely.
11. Close the sanding drum cover.

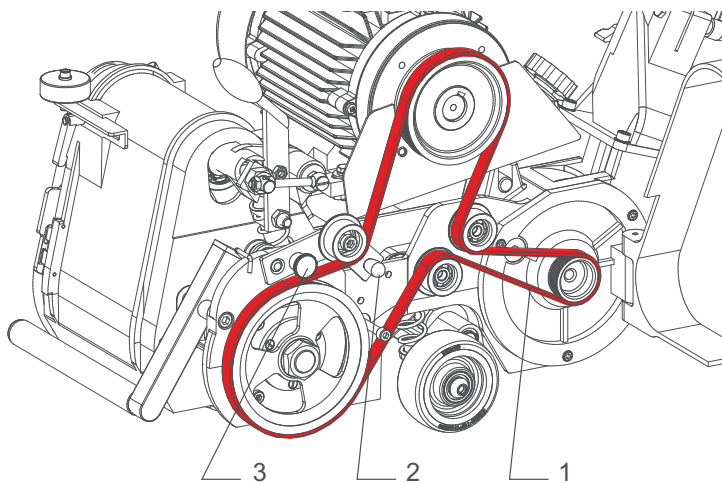
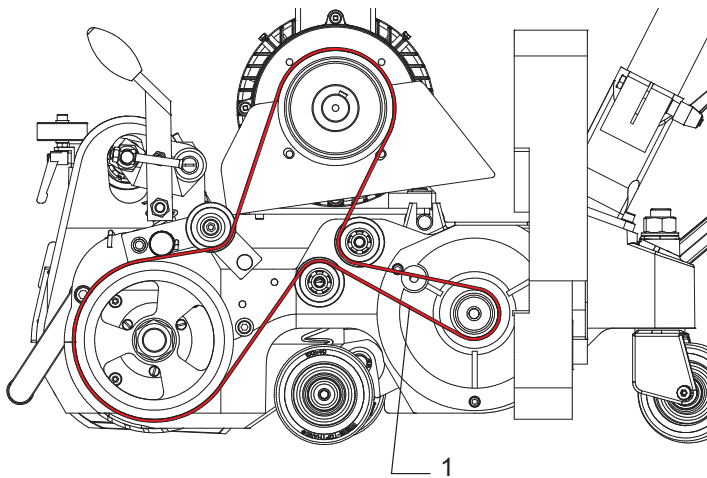




8.5 Replacing the belt

Instructions for removing the belt:

1. Make sure that the motor switch is in the off position and that the main power cord is disconnected from the motor.
2. Unscrew the nut from the belt guard and open the belt guard.
3. Lift belt tensioner (2) until locating pin snaps (3).
4. Remove the belt.



Instructions for tightening the belt:

1. Lift the belt tensioner (2) until the locking stud (3) unlatches.
2. Insert the belt (1) around the belt pulleys and deflection roller as show in the figure.
3. Slightly lift the belt tensioner (2) and pull back the locking stud (3).
4. Lower the belt tensioner to take up belt slack.



8.6 Checking dust extraction

In order to ensure optimum dust extraction, the following points must be checked:

- The seal in the roller doors must not be damaged.
- If seal becomes damaged it must be replaced. The suction channel must not be blocked or have any deposits in it.
- Dirt must be removed.



Caution! Use only original PALLMANN dust bags.

The dust bags must not be damaged, mended or chafed and must not be washed. If an external vacuum cleaner is used, it must provide a minimum flow rate of 20 m/s.

8.7 Switching off and storing the machine

When switching the machine off, the main lifting lever must be in the up position. Secure machine to prevent from rolling away.

Store the machine in an enclosed, dry space.

9.0 EC - Declaration of conformity

The manufacturer:

WOLFF GmbH & Co, KG, Ungerhalde 1, D-74360 Ilsfeld, Germany

manifests that the following product:

Designation: Parquet sanding machine
 Type: COBRA
 Part No: #74540, #075488, #075490, #075489, #071845, #078499, #075492,
 #078500, #075491, #078501, #077752
 Serial No: see type plate

has been developed, designed and produced in series according to the EU-directives:

Machinery Directive	2DDB/42/EG	17.05.2006
Electromagnetic Compatibility Directive:	2DD4/1DB/EG	15.12.2004
Low Voltage Directive:	2DDB/95/EG	12.12.2006

Following harmonized standards are being used:

DIN EN B2B-1: Safety of machine - Reduction of risks to health from hazardous substances emitted by machinery - Part 1: Principles and specifications for machinery manufacturers

DIN EN 1D37: Safety of machinery - Prevention of unexpected start-up

EN ISO 121DD: Safety of machinery - General principles for design - Risk assessment and risk reduction

DIN EN BD2D4-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements

DIN EN BD745-1: Hand-held motor-operated electric tools - Safety - Part 1: General requirements

DIN EN 55D14-1: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission

DIN EN 55D14-2: Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard

Authorized to certificate this declaration and to assemble the technical documentation:


 Dieter Hammer Dipl.-Ing. (FH)
 WOLFF GmbH & Co, KG
 Ungerhalde 1
 D-74360 Ilsfeld, den 08.01.2015



10.0 Warranty

The warranty period for new Pallmann machines shall last for one year from the point at which the machine is transferred / delivered to the customer, insofar as statutory legal requirements do not stipulate otherwise.

When validating warranty claims, the invoice or proof of purchase must always be submitted. All repairs within the framework of the warranty agreement must be undertaken by a service center that has been accredited by us.

Customers performing their own repairs and/or improper repairs regularly lead to the exclusion of warranty claims. The same also applies to incorrect operation and/or use.

Replacement of parts, accessories and other modifications to Pallmann machines

Users of Pallmann sanding machines enjoy a high level of safety and reliability of their machine. In order to maintain this status quo, your Pallmann sanding machine may not be modified from the condition in which it is delivered without the following rules below.

These rules apply to both the replacement of parts and equipping the machine with accessories as well as other technical modifications.

- ❑ All work undertaken to your Pallmann machine must be **undertaken exclusively by a workshop** that has suitably trained and experienced personnel at its disposal, as well as the requisite work equipment. We recommend using authorized service centers.
- ❑ In the event of planned replacement of parts, planned addition of accessories or other planned technical modifications, an assessment must always be carried out **by an authorized service center or us, as manufacturer**, before work is commenced.
- ❑ It is highly recommended that only safety-approved **Original Pallmann** replacement parts and **Original Pallmann** accessories are used, which have been approved by us, as manufacturer.

Replacement parts and accessories can be obtained from your authorized service center, which will also be able to undertake professional installation on your behalf. Original Pallmann replacement parts and Original Pallmann accessories have been checked for safety and suitability especially for Pallmann machines.

We are unable to adequately assess the safety and suitability of non-Original Pallmann replacement parts.

- ❑ In order to preserve operational safety and to prevent damage in the event of technical modifications, of whatsoever nature, our technical guidelines **must always be observed**. We are also always happy to hear from you should you have any other questions about your Pallmann machine.

Please note that we cannot accept any liability for damage, insofar as this is sustained as the result of incorrect work undertaken or as the result of violation of the rules stated above.