

MANUAL USE AND MAINTENANCE



CM1500 S – CM1500 V

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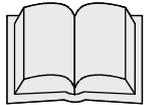
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Symbols used in the manual



Symbol of the book open with letter i
It points out that this document is a manual of instructions.



Symbol of the open book
It points out to the operator to read the manual of use before using the machine.



Symbol of warning
Read attentively the sections preceded by this symbol for the safety of the operator and the machine



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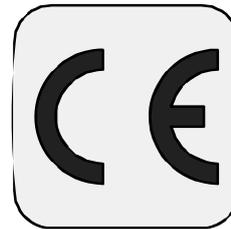
Receiving the machine

Immediately check, when receiving the machine, that all the material indicated on delivery documents has been received and also that the machine has not been damaged in transit. If it has been damaged, this damage must be immediately reported to the shipper and also to our customer service department. Only acting promptly in this manner will make it possible to receive missing material and to be compensated for damage.

Foreword

This machine is designed for professional cleaning of hard and vinyl interior flooring which is to be done by following instructions. Any use of the machine for other purposes is dangerous and consequently prohibited. The machine is designed for community use such as in hotels, schools, hospitals, factories, shops, offices and residential facilities.

Even the best machines will only operate efficiently and work with profit if they are used properly and kept in perfect operating order. This booklet gives you all the information you require to use the "Comac One-brush machines" in a proper, safe and suitable manner. It must always be kept on hand and available for the user.. Read this instruction booklet carefully and consult it every time problems arise with machine operation. Remember that, if necessary, our service organization, in collaboration with our dealers, is always available for helpful hints or direct intervention.



TECHNICAL DESCRIPTION	M/U	CM UHS
Working width	mm	510
Machine width	mm	540
Machine length	mm	610
Machine height (to the motor)	mm	300
Machine height (to the handlebar)	mm	1260
Disk RPM	RPM	1500
Supply voltage	V	230
Motor power	W	1100
Type of drive		semiaut.
Frequency	Hz	50/60
Machine weight	Kg	43
Cable length	m	15
Wheel diameter	Ømm	100x24



SYMBOLS USED IN THE MANUAL



Warning symbol

Read sections preceded by this symbol with care: they concern the safety of the operator and the machine



PREPARING THE MACHINE

BEFORE STARTING TO USE THE MACHINE

Delivery of the machine, explanation relating to the safety regulations, operation, maintenance as well as the first start-up are usually performed by an authorized COMAC operator. If this is not done then the user is responsible for training those who shall use the machine concerning the operating and safety regulations illustrated in the following pages of this manual.

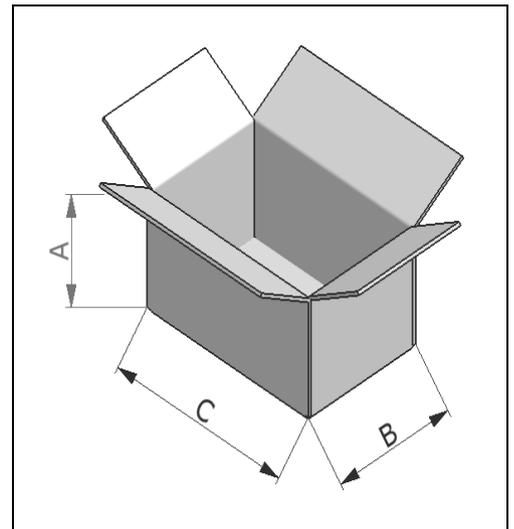
MOVING THE PACKAGED MACHINE

The machine is contained in specific packing with a platform so that it can be moved by a fork-lift. The pallet contains both the packing with the base and that with the handlebar. More than two packings cannot be stacked.

Total weight is 50 kg.

Packing dimensions are:

A:	65 mm
B:	80 mm
C:	120 mm



UNPACKING THE MACHINE

1. Open the top part of the external packing
2. Lift the base of the machine up and out
3. Remove the handlebar from its packing
4. Mount the handlebar on the base (see the paragraph: "INSTALLING THE HANDLEBAR")
5. Keep the packing in storage for any future shipping requirements.

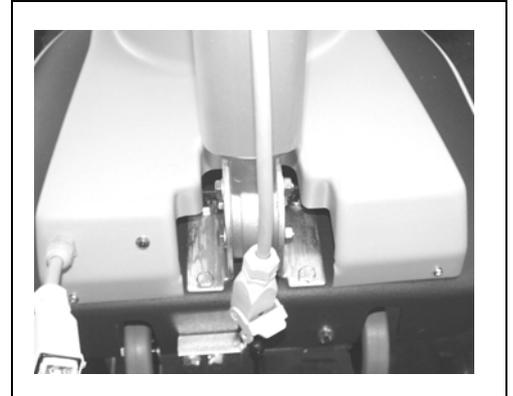


PREPARING THE MACHINE

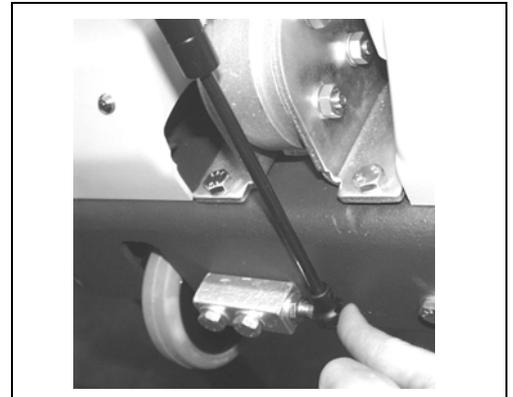
INSTALLING THE HANDLEBAR

Insert the handlebar in its vertical position, placing the support in the four holes on the base. Insert the four M8 screws.

Tighten the screws one at a time, holding the self-locking nuts below the base in their seats.



Connect the gas spring to the support by pressing it in by hand. Connect the power cable to the motor.

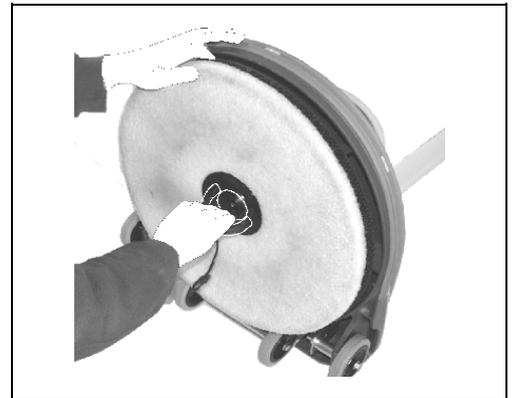


INSTALLING THE PAD



WARNING! Check that the power plug is disconnected from power mains and wear suitable protective gloves before you proceed to install the pad.

Use the handlebar to slope the machine back until it rests on the floor (handlebar horizontal, machine vertical). Remove the clip from the motor hub and screw on the drive disk. Mount the pad on the disk, supporting it with one hand and tightening fastening ring (2) with the other (turning it clockwise), using the special handle (1) provided with



Use the handlebar to bring the machine back up into its vertical position. The machine must be perfectly horizontal and positioned on the vertical of the disk.

Connect the power plug into the power mains. Move the handlebar horizontally until you achieve proper rotation stability. Then release the levers to turn the machine off.





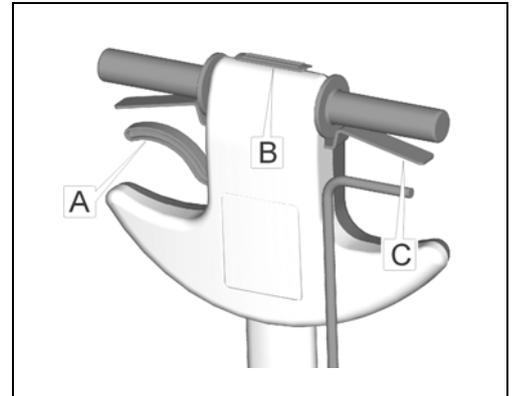
PREPARING THE MACHINE

Pull positioning lever (A) to lower the handlebar until the user's arms are at a comfortable angle. Push lock lever (B) down with your thumb and then actuate the motor using the two levers (C).

The lock lever must be released every time the machine is started up. For safety reasons the motor cannot be activated when the handlebar is in its vertical position.



WARNING! Use only special high speed disks as specified in the last chapter of this manual, "Polishing pads selection and use". Order these disks from COMAC or from one of their authorized dealers.





GENERAL SAFETY REGULATIONS

Any use of the machine different from that described in the operating instructions or from the uses specified by the contract is prohibited. It is prohibited to use the machine whenever it is not in perfect condition or whenever the following regulations cannot be complied with:

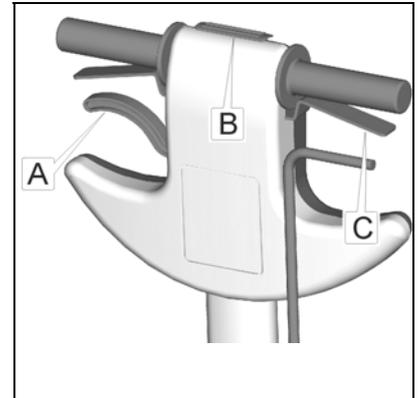
- Read the labels on the machine with care. Do not cover them for whatever reason and replace them immediately whenever they are damaged.
- Read the operating instructions CAREFULLY before starting up the machine or performing maintenance.
- Use of the machine in enclosed interior areas is subject to standards applicable in the country where the machine is used.
- Never use the machine for purposes other than those for which it is designed.
- Never use the machine to collect incandescent materials (burning cigarette stubs, for example).
- Never use the machine to collect toxic waste or dust.
- Never set containers of liquid on the machine.
- Always make sure that work surfaces, floor slabs and ramps are able to support the weight of the machine.
- Always keep a safe distance from persons present in the work zone when working. Be especially careful of children.
- Do not put your hands in the machine when it is operating.
- Never remove covers and/or guards when the machine is operating.
- Never operate the machine without its safety guards.
- Never approach the machine with garments that could get caught in it. AVOID wearing scarves, shawls, ties and loose garments.
- Avoid working with pieces of rope, wires, cables: these could get caught in the brush and create friction.
- The machine is not designed to clean carpets or textile flooring.
- Use only disks provided with the appliance or disks specified in this operating and maintenance manual. Use of other disks may jeopardize safety.
- The machine must only be used by authorized persons who have been properly trained regarding machine operation and are aware of these safety regulations.
- The power cable outlet must have a proper grounding.
- Avoid touching or running over the power cable when the disk is operating. Avoid damaging it by crushing, bending or stressing it.
- Whenever you encounter damage in the power supply cable you must immediately stop the machine if it is at work, pull the plug out from the power supply mains and replace the cable with a new one from a COMAC service center.
- Do not set containers of liquid on the machine.
- Machine storage temperatures must be between -25°C and $+55^{\circ}\text{C}$.
- The optimum working temperature is between 0°C and 40°C .
- Humidity must be between 30 and 95%.
- Never use the machine in explosive atmospheres or in the presence of inflammable liquids or powders that are harmful to health.
- Avoid running the disk with the machine stopped to prevent damage to the floor.
- Use a powder fire extinguisher in case of fire. Do not use water.
- Do not hit against scaffolding or shelving where there is a danger of falling objects.
- Polishing procedures must be done in zones where the passage of unauthorized personnel is prohibited. Put up special signs to indicate the work zones.
- Whenever you encounter malfunctions in machine operation check that they are not caused by insufficient routine maintenance. Ask for help from your nearest COMAC service center if this is not the case.
- When replacing parts always ask for ORIGINAL spare parts from an Authorized Retailer and/or dealer.
- Always interrupt the electrical supply to the machine whenever performing maintenance, cleaning or when converting the machine to another function.
- Do not remove guards that require tools in order to be removed.
- Never wash the machine with direct jets of water or jets of pressurized water or with corrosive substances.
- Have the machine checked each year by a COMAC service center.
- The machine contains materials subject to standards for disposal in special waste centers and consequently must not be left when it is being scrapped.
- Never cut off power to the machine when it is working.



OPERATION

GETTING SET TO OPERATE THE MACHINE

Pull positioning lever (A) to lower the handlebar until the user's arms are at a comfortable angle. Push lock lever (B) down with your thumb and then actuate the motor using the two levers (C). The lock lever must be released every time the machine is started up. For safety purposes the motor cannot be activated while the handlebar is in its vertical position.



OPERATING THE MACHINE

The first time you use the machine you must become familiar with the movements to impart on the handlebar in order to be sufficiently sure about the direction the machine will move. Do not use the machine near persons or obstacles until you have become familiar with it.

Work by performing back and forth movements and if possible going backwards so that the operator is always standing on a floor that has not yet been polished.



Keep the power supply cable behind the operator. Be careful not to work with the machine near this cable in order not to damage it.

Do not work too long on the same zone in order to avoid damage to the floor.



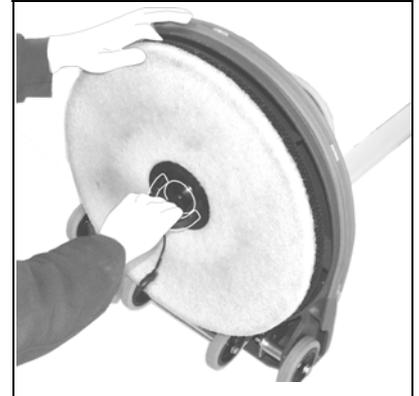
AFTER WORK IS TERMINATED

REMOVING THE PAD

To remove the pad bring the handlebar up to vertical by pulling on the positioning lever. Then tilt the machine back by resting it on the wheels. Use the specific handle to unscrew the ring that clamps the pad in place and remove the pad. Now unscrew the fastening screw located in the center of the pad.

The machine must never remain resting on the pad.

In fact the weight of the machine could permanently deform the pad or the disk and create vibrations and oscillations when working.



WARNING! Pull the plug out of the power supply outlet before performing any type of maintenance and at the end of the work cycle.



WARNING! Abrasive disks can be installed manually only after pulling the power supply plug out from the power outlet and only when wearing suitable protective gloves.



DAILY MAINTENANCE

CLEANING

Before you put the machine away:

- examine the power cable and check it has not been damaged;
- clean the machine with a damp cloth.
- Periodically check the condition of the pad and replace as necessary.



CHECKING OPERATION

THE MACHINE DOES NOT CLEAN WELL, VIBRATES OR OSCILLATES

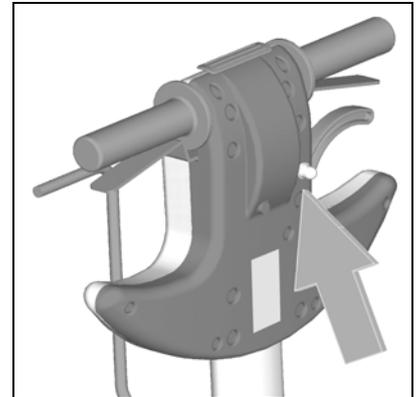
Check the condition of the abrasive pad.

If the machine has been resting too long on the abrasive pad the pad may have been permanently deformed. This will cause the machine to vibrate. If the pad is ruined or worn then it must be replaced with a new pad.

To replace the pad consult the paragraphs: "REMOVING THE PAD" and "INSTALLING THE PAD".

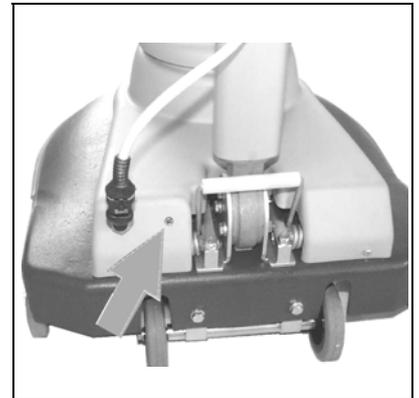
THE MACHINE STOPS WHEN IT IS AT WORK

The machine has an amperometric safety switch located behind the handlebar that cuts off power to the brush motor whenever a predetermined load is exceeded. To give current back to the motor you must press the push-button. If the switch continues to cut off power then you must call your nearest COMAC service center.



MOTOR SIGNAL LAMP ON

The machine has a device that checks the state of wear of the motor brushes. The motor brushes must be replaced when the red signal lamp turns on (see the figure). This procedure must be done by qualified personnel from a COMAC service center.



WARNING! Ask for service from a COMAC service center whenever you encounter any other malfunction.



POLISHING PADS SELECTION AND USE

POLISHING PAD TABLE

Machine	No. of Pads	Ø Pad	
CM UHS	1	508	