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You can read the recommendations in the user guide, the technical guide or the installation guide for NILFISK BA 531D. You'll find the answers to all your questions on the NILFISK BA 531D in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual NILFISK BA 531D
User guide NILFISK BA 531D
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Manual abstract:

@@REMARQUE Pour un lavage / séchage correct du sol près du mur, Nilfisk recommande d'approcher le côté droit de la machine, comme illustré dans la figure 3. The purpose of this Manual is to provide the operator with all necessary information to use the machine properly, in a safe and autonomous way. It contains information about technical data, safety, operation, storage, maintenance, spare parts and disposal. Before performing any procedure on the machine, the operators and qualified technicians must read this Manual carefully. Nilfisk will not be answerable for damages coming from the non-observance of this prohibition. The User Manual must be kept near the machine, inside an adequate case, away from liquids and other substances that can cause damage to it. The Declaration of Conformity, supplied with the machine, certifies the machine conformity with the law in force. NOTE Two copies of the original declaration of conformity are provided together with the machine documentation. The machine model and serial number are marked on the plate (34). The machine production year is written in the declaration of conformity and it is also indicated by the first two figures of the machine serial number. This information is useful when requiring machine spare parts. Use the following table to write down the machine identification data. Electronic Battery Charger Manual (if equipped), to be considered as integral part of this Manual Moreover, the following Manuals are available: Service Manual (that can be consulted at Nilfisk Service Centers) Spare Parts List (supplied with the machine) All necessary operating, maintenance and repair procedures must be performed by qualified personnel or by Nilfisk Service Centers. Only original spare parts and accessories must be used. Contact Nilfisk for service or to order spare parts and accessories, specifying the machine model and serial number.

Nilfisk constantly improves its products and reserves the right to make changes and improvements at its discretion without being obliged to apply such benefits to the machines that were previously sold. Any change and/or addition of accessory must be approved and performed by Nilfisk. These scrubber-dryers are used to clean (scrubbing and drying) smooth and solid floors, in civil or industrial environment, under safe operation conditions by a qualified operator. The scrubber-dryers cannot be used for fitted carpet and carpet cleaning. Forward, backward, front, rear, left or right are intended with reference to the operator's position, that is to say in driving position with the hands on the handlebar (2).

When the machine is delivered, check that the packing and the machine were not damaged during transportation. In case of visible damages, keep the packing and have it checked by the carrier that delivered it. Call the carrier immediately to fill in a damage claim. Check that the machine is equipped with the following features: Technical documents: · 1 connector for battery charger (for machines without on board battery charger) · The following symbols indicate potentially dangerous situations. Always read this information carefully and take all necessary precautions to safeguard people and property. the operator's cooperation is essential in order to prevent injury. No accident prevention program is effective without the total cooperation of the person responsible for the machine operation. Most of the accidents that may occur in a factory, while working or moving around, are caused by failure to comply with the simplest rules for exercising prudence. A careful and prudent operator is the best guarantee against accidents and is essential for successful completion of any prevention program. It indicates a dangerous situation with risk of death for the operator.

It indicates a potential risk of injury for people or damage to objects. Pay careful attention to the paragraphs marked by this symbol. CONSULTATION It indicates the necessity to refer to the User Manual before performing any procedure. Specific warnings and cautions to inform about potential damages to people and machine are shown below. This machine must be used by properly trained operators only. Children or disabled people cannot use this machine. Keep the battery away from sparks, flames and incandescent material. During the normal operation explosive gases are released. Do not wear jewels when working near electrical components. Do not work under the lifted machine without supporting it with safety stands.

Do not operate the machine near toxic, dangerous, flammable and/or explosive powders, liquids or vapours: This machine is not suitable for collecting dangerous powders. Battery charging produces highly explosive hydrogen gas. Keep the tank assembly open during battery charging and perform this procedure in well-ventilated areas and away from naked flames. WARNING! Before using the battery charger, ensure that frequency and voltage values, indicated on the machine serial number plate, match the electrical mains voltage. Do not pull or carry the machine by the battery charger cable and never use the battery charger cable as a handle.

Do not close a door on the battery charger cable, or pull the battery charger cable around sharp edges or corners. If the machine is not working as it should, has been damaged, left outdoors or dropped into water, return it to the Service Center. To reduce the risk of fire, electric shock, or injury, do not leave the machine unattended when it is plugged in. Before performing any maintenance procedure, disconnect the battery charger cable from the electrical mains. Do not smoke while charging the batteries.

To avoid any unauthorized use of the machine, remove the ignition key (if equipped). Do not leave the machine unattended without being sure that it cannot move independently. Always protect the machine against the sun, rain and bad weather, both under operation and inactivity condition. Store the machine indoors, in a dry place: This machine must be used in dry conditions, it must not be used or kept outdoors in wet conditions. Before using the machine, close all doors and/or covers. Do not allow to be used as a toy. Close attention is necessary when used near children. Use only as shown in this Manual. use only Nilfisk's recommended accessories. Take all necessary precautions to prevent hair, jewels and loose clothes from being caught by the machine moving parts.

Do not use the machine on slopes with a gradient exceeding the specifications. Do not use the machine in particularly dusty areas. While using this machine, take care not to cause damage to people or objects. Do not bump into shelves or scaffoldings, especially where there is a risk of falling objects. Do not put any can containing fluids on the machine. The machine working temperature must be between 0°C and +40°C.



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If necessary, press the washing water flow control switches (82) as necessary, depending on the type of cleaning to be performed. If necessary, stop the machine and adjust the squeegee balancing handwheel (27). If necessary, stop the machine and turn the adjusting handwheel (28); when turning it clockwise or counter-clockwise the machine forward speed can be adjusted. If necessary, stop the machine and turn the forward speed adjusting handwheel (29) as shown below (only for BA 451 and BA 531): · Turn it counter-clockwise to increase the forward speed; · Turn it clockwise to decrease the forward speed. NOTE For correct scrubbing/drying of floors at the sides of the walls, Nilfisk suggests to go near the walls with the right side of the machine as shown in figure 3. To avoid any damage to the floor surface, turn off the brush/pad-holder when the machine stops in one place, especially when the extra pressure function is on. (For machines with EDSTM - ECO Dosage Solution) To check the actual setting of the detergent percentage to be added to the washing water, perform the following procedure: 1. turn off the flow control switch (A), Fig.

4) [the warning light (B) must be off]. 3 seconds after pressing the switch, the indicator (C) turns on, thus indicating the percentage, as shown in the figure. 4) [the warning light (B) must be off]. 4. Press and hold the flow control switch (A) until the warning light (B) flashes. Press it again shortly, to go to the next percentage shown by the indicator (C); repeat the procedure until the desired setting is reached. 6. Wait for the warning light (B) to turn off and for the indicator (C) to show the washing water flow: the new percentage value is now set. NOTE Detergent percentage setting is stored into memory, even if the machine is turned off. Working with brush/pad-holder extra pressure function turned on If the floor proves to be particularly difficult to clean, it is possible to turn on the brush/pad-holder extra pressure function by pressing the pedal (11) to position (11c).

CAUTION! In case of brush/pad-holder motor overload, due to foreign bodies which prevent them from turning, or to excessively aggressive floors/brushes, the safety system stops the motor after about one minute of continuous overload. The overload is shown by the three warning lights (81a, 81b, 81c) flashing simultaneously. If the overload takes place when the extra pressure function is on (11c), press the pedal to position (11b). If the overload persists, the brush/pad-holder stops. To start scrubbing again after a brush/pad-holder stop due to overload, stop the machine by turning the ignition key (80) to "0". Turn on the machine by turning the ignition key (80) to "I". Until the green warning light (81a) stays on, the batteries allow the machine to work normally. When the green warning light (81a) turns off, and the yellow warning light (81b) turns on, it is advisable to charge the batteries, because the residual autonomy will last for a few minutes (depending on battery characteristics and work to be performed). When the red warning light (81c) turns on, the autonomy is over. After a few seconds, the brush/pad-holder is automatically tuned off, while the vacuum system and (only for BA 451D and BA 531D) the drive system stay on, to finish drying the floor and drive the machine to the appointed recharging area.

CAUTION! Do not use the machine with discharged batteries, to avoid damaging the batteries and reducing the battery life. An automatic float shut-off system (36) turns off the vacuum system when the recovery tank (21) is full. The vacuum system deactivation is signalled by a sudden increase in the vacuum system motor noise frequency, and the floor is not dried. **CAUTION!** If the vacuum system turns off accidentally (for example, when the float is activated because of a sudden machine movement), to resume the operation: turn off the vacuum system by pressing the switch (73), then open the cover (22) and check that the float inside the grid (36) has gone down to the water level. Then close the cover (22) and turn on the vacuum system by pressing the switch (73). When the recovery tank (21) is full, empty it according to the following procedure. Empty the recovery tank with the hose (16). Then, rinse the tank with clean water. Empty the solution tank with the hose (17). Then, rinse the tank with clean water.

After working, before leaving the machine: 1. Empty the tanks (20 and 21) according to the procedure shown in the relevant paragraphs. Store the machine in a clean and dry place, with the brush/pad-holder and the squeegee lifted or removed. If the machine is not going to be used for more than 30 days, proceed as follows: 1. After the first 8 hours, check the machine fastening and connecting parts for proper tightening and check the visible parts for integrity and leakage.

The lifespan of the machine and its maximum operating safety are ensured by correct and regular maintenance. The following table provides the scheduled maintenance. The intervals shown may vary according to particular working conditions, which are to be defined by the person in charge of the maintenance.

wARNING! The procedures must be performed with the machine off and the battery disconnected. Moreover, read carefully the instructions in the Safety chapter before performing any maintenance procedure.

all scheduled or extraordinary maintenance procedures must be performed by qualified personnel, or by an authorised Service Center. This Manual describes only the easiest and most common maintenance procedures. For other maintenance procedures shown in the Scheduled Maintenance Table, refer to the Service Manual that can be consulted at any Service Center. Procedure Battery charging Squeegee cleaning Brush/pad cleaning Tank and vacuum grid with float cleaning, and cover gasket check EDSTM - ECO Dosage Solution draining and cleaning (optional) Squeegee blade check and replacement

Solution/clean water filter cleaning Vacuum system motor filter cleaning WET battery fluid level check Screw and nut tightening check Brush/pad-holder motor carbon brush check or replacement Vacuum system motor carbon brush check or replacement Drive system motor carbon brush check or replacement (only for BA 451D and BA 531D) (1) (2) (2) (2) Daily, after using the machine Weekly Every six months Yearly (1) And after the first 8 working hours. NOTE Charge the batteries when the yellow or red warning light (81b or 81c) turns on, or at the end of every working cycle.

Keeping the batteries charged make their life last longer. When the batteries are discharged, charge them as soon as possible, as that condition makes their life shorter. If the machine is not equipped with on-board battery charger, choose an external battery charger suitable for the type of batteries installed. Do not smoke while charging the batteries. Keep the tank assembly open while charging the batteries.

wARNING! Pay careful attention when charging the batteries as there may be battery fluid leakages.



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the battery fluid is corrosive. If it comes in contact with skin or eyes, rinse thoroughly with water and consult a physician. @@ Check the level of electrolyte inside the batteries (53); if necessary, top up through the caps (54). If necessary, clean the upper surface of the batteries. Charge the batteries according to one of the following procedures, depending on the presence of the battery charger (90). After charging, disconnect the battery charger from the electrical mains and from the battery connector (12). (For WET batteries only): Check the level of electrolyte inside the batteries and close all the caps (54). Connect the battery charger cable (6) to the electrical mains (the electrical mains voltage and frequency must be compatible with the battery charger values shown on the machine serial number plate (34)). When the battery charger is connected to the electrical mains, all machine functions are automatically cut off.

When the green warning light (92) turns on, the battery charging is completed. 16. When the battery charging is completed, disconnect the battery charger cable (6) from the electrical mains and wind it round its housing (7). NOTE For further information about the operation of the battery charger (90), see the relevant Manual. Press the switch (73) and read on the hour counter (79) the total number of working hours (scrubbing/drying) performed by the machine. Turn the ignition key (80) to "0". NOTE The squeegee must be clean and its blades must be in good conditions in order to get a good drying. It is advisable to wear protective gloves when cleaning the squeegee because there may be sharp debris. Lower the squeegee (25) with the lever (10). Wash and clean the squeegee (Fig.

Check the front blade (C) and the rear blade (D) for integrity, cuts and tears; if necessary replace them (see the procedure in the following paragraph). 5) of the front blade (C) and the edge (F) of the rear blade (D) lay down on the same level, along their length; otherwise adjust their height according to the following procedure: · Loosen the handwheels (I) and adjust the front blade (C); then tighten the handwheels. Check the front blade (C) and rear blade (D) for integrity, cuts and tears; if necessary replace them as shown below. Check the front corner (J) of the rear blade for wear; if necessary, overturn the blade to replace the worn corner with an integral one. If the other corners are worn too, replace the blade according to the following procedure: · Unscrew the handwheels (I) and remove the retaining strip (L), then replace the front blade (C).

It is advisable to wear protective gloves when cleaning the brush/pad because there may be sharp debris. Clean and wash the brush/pad with water and detergent. Wash with clean water the cover (A), the tanks (B and C) and the vacuum grid with automatic shut-off float (D). Drain the water from the tanks with the hoses (16 and 17). If necessary, release the fasteners (E) and open the grid (D), recover the float (F), clean all the components and then reinstall them.

If necessary replace the gasket (G) by removing it from its housing (H). When assembling the new gasket, install the joint (I) in the rear central area, as shown in the figure. NOTE The hole (K), allowing to compensate the air in the cover air gap, contributes to create vacuum in the tank. 9. Close the cover (A). If necessary, drain the water from the tank in order to make the filter visible. check that the pre-filter is clean. If necessary clean it with water and compressed air, then install it. @@@@ Clean and install them on the support (F). @@@@ Check/replace the following fuses: C) Brush deck fuse F1: (40 A) D) Vacuum system fuse F2: (30 A) E) Drive system fuse F3: (30 A) () F) Signal circuits fuse F4: (3 A) G) Brush/pad-holder release fuse F5: (20 A) (*) H) Pump fuse F6: (3 A) (*) Only for BA 451D and BA 531D Perform steps 1 to 4 in the reverse order.*

(For machines with EDSTM - ECO Dosage Solution) Clean the detergent tank (45) according to the following procedure: 1. @@ Close the cover (22). When the detergent tank has been drained, the EDSTM - ECO Dosage Solution must be drained too (see the procedure in the following paragraph). Clean the detergent tank according to the procedure shown in the previous paragraph. Turn on the machine by turning the ignition key (80) to "I". turn on the EDSTM - ECO Dosage Solution by pressing the switch (77). Check that the switch warning light (78) turns on. Press the switches (77) and (82a) at the same time, until the switch warning light (78) starts flashing (after about 5 seconds). Release the switches and wait for the warning light (78) to stop flashing and for the vacuum system to turn on. collect the detergent remained on the floor.

Turn the ignition key (80) to "0". Grasp the handle (41) and carefully lift the tank (40), then check that the hose (48) is empty, otherwise perform steps 3 to 9 again. NOTE The draining cycle lasts about 30 seconds, then the vacuum function automatically turns on, which allows to remove the solution remained. The draining cycle can also be performed with the detergent tank (45) full of water, thus cleaning the system thoroughly. It is advisable to perform the draining cycle when the EDSTM - ECO Dosage Solution is really dirty/encrusted because the machine has not been used/cleaned for a long time.

The draining cycle can be performed also to quickly fill the detergent supply hose when the tank (45) is full but the system is still empty. If necessary, the draining cycle can be repeatedly performed. Trouble The motors do not work; no warning light turns on. The brush does not work, the red warning light is on. The machine has been turned on by using the ignition key and by keeping the paddle pressed.

The squeegee is dirty, or the squeegee blades are worn or damaged. The tank cover is not properly closed, or the gasket is damaged. The squeegee is not balanced with the handwheel. Turn the ignition key to "0", then try to start the machine without pressing the paddle. Use less aggressive brushes suitable for the floor to be cleaned or avoid working with extra pressure function turned on. Close the cover properly or replace the gasket. NOTE If the machine has an optional battery charger installed, the machine cannot operate if the charger is not on board. in case of battery charger malfunction , contact an authorised Service Center. For further information refer to the Service Manual, available at any Nilfisk Service Center. Before scrapping the machine, remove and separate the following materials, which must be disposed of properly according to the Law in force: Batteries Brushes/pads Plastic hoses and components Electrical and electronic components () (*) Refer to the nearest Nilfisk Center especially when scrapping electrical and electronic components.*



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