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You can read the recommendations in the user guide, the technical guide or the installation guide for NILFISK BA 410. You'll find the answers to all your questions on the NILFISK BA 410 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 410
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BA 410



BETRIEBSANLEITUNG **D**
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INSTRUCTIONS D'ORIGINE
USER MANUAL **GB**
ORIGINAL INSTRUCTION
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Manual abstract:

@@@ Pour reprendre le travail après l'arrêt de la brosse / plateau support disque à cause de la surcharge, il est nécessaire d'arrêter la machine, en portant les interrupteurs de brosse / plateau support disque et du système d'aspiration (65 et 66) en position "0". Enlever la brosse / plateau support disque comme suit : · Avec la brosse / plateau support disque soulevé, porter l'interrupteur de brosse / plateau support disque (65) sur "I" et, après quelques secondes, le porter à nouveau sur "0" en détachant ainsi la brosse / plateau. 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 (1).

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 Spare Parts List (supplied with the machine) Service Manual (that can be consulted at Nilfisk Service Centers) 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. Please check that the following items have been supplied with the machine: Technical documents: · 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. Pay careful attention to the paragraphs marked by this symbol. CONSULTATION It indicates the necessity to refer to the Quick Start Guide before performing any procedure. Specific warnings and cautions to inform about potential damages to people and machine are shown below. dANGER! Before performing any maintenance, repair, cleaning or replacement procedure, turn the main switch to "0" and, if necessary, disconnect the battery. This machine must be used by properly trained operators only. Children or disabled people cannot use this machine. When using lead (WET) batteries, keep sparks, flames and smoking materials away from the batteries. During the normal operation explosive gases are released. Do not wear jewels when working near electrical components.

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. When using lead (WET) batteries, battery charging produces highly explosive hydrogen gas. During battery charging, remove the recovery tank and perform this procedure in well-ventilated areas and away from naked flames. 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. do not run the machine on the battery charger cable. Keep the battery charger cable away from heated surfaces. Do not charge the batteries if the battery charger cable or the plug are damaged.

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. 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.



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Do not leave the machine unattended without being sure that it cannot move independently. 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. The machine storage temperature must be between 0°C and +40°C. The humidity must be between 30% and 95%.

When using floor cleaning detergents, follow the instructions on the labels of the detergent bottles. To handle floor cleaning detergents, wear suitable gloves and protections. Do not use the machine as a means of transport. Do not use the machine on incline. Do not allow the brushes to operate while the machine is stationary to avoid damaging the floor.

In case of fire, use a powder fire extinguisher, not a water one. Do not tamper with the machine safety guards and follow the ordinary maintenance instructions scrupulously. Do not allow any object to enter into the openings. Do not use the machine if the openings are clogged. Always keep the openings free from dust, hairs and any other foreign material which could reduce the air flow.

Do not remove or modify the plates affixed to the machine. This machine cannot be used on roads or public streets. Pay attention during machine transportation when temperature is below freezing point. The water in the recovery tank or in the hoses could freeze and seriously damage the machine. Use brushes and pads supplied with the machine and those specified in the User Manual. Using other brushes or pads could reduce safety. In case of machine malfunctions, ensure that these are not due to lack of maintenance. Otherwise, request assistance from the authorised personnel or from an authorised Service Center. If parts must be replaced, require ORIGINAL spare parts from an Authorised Dealer or Retailer. To ensure machine proper and safe operation, the scheduled maintenance red warning light (63 or 64) turns on, the batteries must be charged (see the procedure in Maintenance chapter).

Set the machine and the battery charger (if equipped) according to the type of batteries installed (WET or GEL), according to the procedure shown in the following paragraph. 1. Remove the electrical component box cover (B). 2. In the area (B) and slightly raise it. 3. Lower the deck (10) by using the handlebar (2). 4. Lower the squeegee (11) with the lever (19). 5. If necessary, adjust the solution quantity by using the lever (4). CAUTION! 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 brush/pad-holder switch and the vacuum system switch (65 and 66) to "0". Turn on the machine by turning the brush/pad-holder switch and the vacuum system switch (65 and 66) to "I".

Until the green warning light (62) stays on, the batteries allow the machine to work normally. When the green warning light (62) turns off and the yellow (63) and red (64) warning lights turn on in sequence, it is necessary to charge the battery as the machine residual autonomy is at the minimum level. CAUTION! Do not use the machine with discharged batteries, to avoid damaging the batteries and reducing the battery life. The machine speed varies according to the type of floor to be cleaned and the choice of using the brush or the pad. If necessary, it is possible to adjust the machine speed, according to the procedure shown in Maintenance chapter.

Grasp the handlebar (2) and slightly lower it until the rear wheel (7) comes into contact with the floor (Fig. 4). While holding the machine in this position, drive it to the transport/parking area. 4. In order not to drag the brush/pad on the floor and leave wet marks, when finishing working, remove the brush/pad-holder from the deck by using the release device (see the procedure in After Using The Machine paragraph), then place it on the support (43).

An automatic float shut-off system (46) turns off the vacuum system when the recovery tank (31) is full. The vacuum system shutdown, due to the recovery tank filling, is signalled by an increase in the vacuum system motor noise, moreover 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 (66), then open the cover (6) and check that the float inside the grid (46) has gone down to the water level. Then close the cover (6) and turn on the vacuum system by pressing the switch (66). When the recovery tank (31) is full, empty it according to the following procedure. Empty the recovery tank with the drain hose (16). Then, rinse the tank with clean water. perform steps 1 to 4. Empty the solution tank by using the drain valve (18). Then, rinse the tank with clean water.

After working, before leaving the machine: 1. remove the brush/pad-holder as follows: With the brush/pad-holder lifted, turn the brush/pad-holder switch (65) to "I" and, after a few seconds, back to "0", thus releasing the brush/pad-holder. Store the machine in a clean and dry place, with the brush/pad-holder and the squeegee lifted or removed. To check or charge the lead (WET) batteries, or to perform other procedures, it may be necessary to remove the recovery tank (31) as shown below. Make sure that the switches (65 and 66) are turned to "0". 5) in the area (B) and slightly raise it. 8. If the machine is not going to be used for more than 30 days, proceed as follows: 1. Store the machine in a clean and dry place. After the first 8 hours, check the machine fastening and connecting parts for proper tightening.

The lifespan of the machine and its maximum operating safety are ensured by correct and regular maintenance. The following chart 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! Maintenance procedures must be performed with the machine switched off and the batteries/battery charger cable disconnected. This Manual describes only the easier and most common maintenance procedures.

NOTE For other maintenance procedures shown in the Scheduled Maintenance Table, refer to the Service Manual that can be consulted at any Service Center. Procedure Squeegee cleaning Brush cleaning Tank and vacuum grid cleaning Squeegee blade check and replacement Solution filter cleaning Battery charging WET battery fluid level check Screw and nut tightening check Brush motor carbon brush check and replacement Vacuum system motor carbon brush check and replacement (1) (2) (2) Daily, after using the machine Weekly Every six months Yearly (1) And after the first 8 working hours.



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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. Make sure that the switches (65 and 66) are turned to "0".

Lower the squeegee with the lever (19). Wash and clean the squeegee. 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). 6) and the rear blade edges (I) lay down on the same level, along their length; if necessary adjust the height according to the following procedure: · Remove the mounting springs (F), then adjust the front blade (C) and the rear blade (D). Check the front blade (C) and rear blade (D) for integrity, cuts and tears; if necessary replace them as shown below. Also check the front corner (H) of the rear blade for wear; if it is worn, overturn the blade to replace the worn corner with the other one (I), if it is integral. If the other corner is worn too, replace the blade according to the following procedure: · NOTE It is advisable to wear protective gloves when cleaning the brushes because there may be sharp debris. Clean the brush with water and detergent. Make sure that the switches (65 and 66) are turned to "0". Open the cover (6), then clean and wash the cover, the tanks (31 and 32) and the vacuum grid (46) with clean water.

Drain the water from the tanks with the drain hose (16) and the valve (18). If necessary, release the fasteners (B, Fig. 7) and open the grid (A); recover the float (C), clean all the components and then reinstall them. If necessary replace the gasket (D) by removing it from its housing (E). When assembling the new gasket, install the joint (F) in the rear central area, as shown in the figure. NOTE The hole (33), allowing to compensate the air in the cover air gap, contributes to create vacuum in the tank. 8. Close the recovery tank cover (6). Make sure that the switches (65 and 66) are turned to "0". Clean and install them on the support (C).

NOTE The filter strainer (B) must be correctly positioned on the housing (D) of the support (C). NOTE The machine speed varies according to the type of floor to be cleaned and the choice of using the brush or the pad. If necessary, perform the following procedure. @@@@ After adjusting, tighten the screw (57). install the recovery tank as shown in Use chapter.

@@NOTE Charge the batteries when the yellow or red warning light (63 or 64) turns on, or at the end of every working cycle. Keeping the batteries charged make their life last longer. CAUTION! When the batteries are discharged, charge them as soon as possible, as that condition makes their life shorter. When using lead (WET) batteries, battery charging produces highly explosive hydrogen gas. charge the batteries in well-ventilated areas and away from naked flames.

Do not smoke while charging the batteries. Do not reinstall the recovery tank until the battery charging cycle is over. WARNING! Pay careful attention when charging WET batteries as there may be battery fluid leakages. 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; if necessary, top up through the caps. Leave all the battery caps open for next charging. If necessary, clean the upper surface of the batteries. charge the batteries as shown below. Connect the battery charger cable (21) to the electrical mains (the electrical mains voltage and frequency must be compatible with the battery charger values shown on the relevant Manual).

NOTE When the battery charger is connected to the electrical mains, all machine functions are automatically cut off. The green warning light (27) flashes when the battery charger is charging the batteries. When the green warning light (27) stays on, the battery charging cycle is over. When the battery charging is completed, disconnect the battery charger cable (21) from the electrical mains and wind it round its housing. Check the level of electrolyte inside the batteries; if necessary, top up through the caps. If necessary, clean the upper surface of the batteries. Now the machine is ready to be used. NOTE For further information about the operation of the battery charger (26), see the relevant Manual. For machine without battery charger only 10), then carefully remove the electrical component box cover (B). Solenoid valve and electronic board (5 A) (E) Install the components in the reverse order of removal.

For machine with battery charger only For machine with battery charger only Trouble The motors do not turn on; no warning light turns on The warning lights (62, 63, 64) flash simultaneously The vacuum system motor does not turn on Possible Cause The battery terminals (50) are disconnected The batteries (50) are discharged The brush motor is overloaded There are foreign materials (tangled threads, etc.) preventing the brush from rotating The fuse is blown The recovery water tank (31) is full The vacuum grid (46) is clogged or the float is closing The vacuum hose (22) is disconnected from the squeegee (11) or it is damaged The squeegee (11) is dirty, or the squeegee blades (13 - 14) are worn or damaged The recovery water tank cover (6) is not properly closed, or the gasket (42) is damaged The recovery water tank (31) is dirty (clogged drain hole) The solution flow is insufficient The squeegee leaves marks on the floor The solution filter (20) is dirty There is debris under the squeegee blades (13 - 14) The squeegee blades (13 - 14) are worn, chipped or torn Connect Charge Use a different kind of brush Clean the brush hub Replace Empty Clean the grid and check the float Connect Clean the squeegee or replace the blades Check and/or clean the seating surface or replace the gasket Clean Clean Remove the debris Replace the blades Remedy 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: Battery Brushes 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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