

ND-32B

OPERATION

This manual is furnished with each new model.



It provides necessary operation and maintenance instructions.

Read this manual completely and understand the machine before operating or servicing it.

A complete illustrated Parts Manual is also furnished with each new model. Use the Parts Manual to order replacement parts. To ensure prompt delivery, follow the “HOW TO ORDER PARTS” instructions printed in the Parts Manual.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly-per the machine maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.



PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components such as batteries, hazardous fluids, including antifreeze and oil, in an environmentally safe way according to local waste disposal regulations.

Always remember to recycle.

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SAFETY PRECAUTIONS

This machine is intended for industrial and commercial use. It is designed exclusively to scrub hard floors in an indoor environment and is not constructed for any other use. Only use recommended pads, brushes and commercially approved floor cleaners intended for machine application.

The following warning alert symbol and the “FOR SAFETY” heading are used throughout this manual as indicated in their description.



WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.

FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

The following safety precautions signal potentially dangerous conditions to the operator or equipment. All operators must read, understand and practice them.



WARNING: Fire or Explosion Hazard

- Never use Flammable Liquids Or Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.
- This machine is not equipped with explosion proof motors. The electric motors will spark upon start up and during operation which could cause a flash fire or explosion if machine is used in an area where flammable vapors/liquids or combustible dusts are present.
- Do Not Pick Up Flammable Materials Or Reactive Metals.
- Batteries Emit Hydrogen Gas, Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.



WARNING: Electrical Hazard

- Disconnect Battery Cables and Charger Plug Before Servicing Machine.
- Do Not Charge Batteries with Damaged Power Supply Cord. Do Not Modify Plug.

If the charger supply cord is damaged or broken, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.



WARNING: Spinning Brush. Keep Hands Away. Turn Off Power Before Working On Machine.

FOR SAFETY:

1. Do not operate machine:
 - With flammable liquids or near flammable vapors as an explosion or flash fire may occur.
 - Unless trained and authorized.
 - Unless operator manual is read and understood.
 - If not in proper operating condition.
2. Before starting machine:
 - Make sure all safety devices are in place and operate properly.
3. When using machine:
 - Go slow on inclines and slippery surfaces.
 - Wear non-slip shoes.
 - Reduce speed when turning.
 - Report machine damage or faulty operation immediately.
 - Never allow children to play on or around.
 - Follow mixing and handling instructions on chemical containers.
 - Do not operate on inclines that exceed 5% (3°) .
4. Before leaving or servicing machine:
 - Stop on level surface.
 - Turn off machine.
 - Set parking brake.
 - Remove key.
5. When servicing machine:
 - Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
 - Disconnect battery cables and charger plug before working on machine.
 - Wear protective gloves and eye protection when handling batteries or battery cables.
 - Avoid contact with battery acid.
 - Do not power spray or hose off machine. Electrical malfunction may occur.
 - Use manufacturer supplied or approved replacement parts.
 - All repairs must be performed by a qualified service person.
 - Do not modify the machine from its original design.
6. When loading/unloading machine:
 - Drain tanks before loading.
 - Use a suggested ramp that can support the machine when loading/unloading machine.
 - Remove charger before move machine.
 - Move machine with others' assistance.
 - Turn machine off.
 - Put scrub head in the lowered position.
 - Use tie-down straps to secure machine.
 - Set parking brake.


SAFETY LABELS


The safety labels appear on the machine in the locations indicated. Replace labels if they are missing or become damaged or illegible.

WARNING LABEL - Located on recovery tank cover.

	<p>WARNING</p> <p>EXPLOSION, FIRE AND SHOCK HAZARD, AVOID INJURY.</p> <ul style="list-style-type: none"> ➤ Do Not Use or Pick Up Flammable Materials. ➤ Do Not Use Near Flammable Liquids, Vapors or Combustible Dusts. ➤ Disconnect Battery Cables and Charger Cord Before Servicing. ➤ Keep Sparks and Open Flame Away When Charging Batteries. Keep Battery Compartment Propped Open When Charging.
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	<p>BATTERY CHARGE LABEL- Located on bottom side of recovery tank.</p> <p>⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.</p>
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	<p>SPINNING BRUSH LABEL- Located on scrub head</p> <p>⚠ WARNING: Spinning Brush. Keep Hands Away. Turn Off Power Before Working On Machine.</p>
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MACHINE COMPONENTS



- | | |
|-------------------------------|--|
| 1. Operating Handle | 15. Recovery Tank |
| 2. Control Panel | 16. Recovery Tank Cover |
| 3. Recovery Tank Drain Hose | 17. Cup Holders |
| 4. On-board Battery Charger | 18. Solution Tank |
| 5. Squeegee Lift Pole | 19. Solution Tank Injection Hole |
| 6. Solution Flow Control Knob | 20. Scrub Head |
| 7. Squeegee Vacuum Hose | 21. Scrub Head Height Adjustment Lever |
| 8. Squeegee Assembly | 22. Scrub Head Window |
| 9. Wall Rollers | 23. Scrub Head Skirt |
| 10. Recovery Tank Level | 24. Parking Brak |
| 11. Rear Fill Port | |
| 12. Solution Tank Support | |
| 13. Circuit Breaker Panel | |
| 14. Batteries | |

CONSOLE PANEL COMPENTS



1. Battery Meter
2. Main Power on/off (Key Switch)
3. Start Triggers
4. Ammeter
5. Speed Control Knob
6. Control Console Height Adjustment Lever
7. Brush Pressure Switch

PRELIMINARY MACHINE INSTALLATION

UNCRATING MACHINE

1. Carefully check the shipping crate for signs of damage. Report damage at once to carrier.
2. Check the contents list. Contact distributor for missing items.

Contents:

- 4-6 V Batteries (Optional)
- Battery Tray
- Squeegee Assembly
- 2 Needle Base, 2 Brush (Optional)

Brushes and Pads should be purchased another.

3. To uncrate your machine, remove the shipping hardware and straps that secure the machine to the pallet. Carefully back machine down ramp.

ATTENTION: Do not roll machine off pallet unless a ramp is used, machine damage may occur.

ATTENTION: To prevent possible machine damage, install batteries after removing machine from shipping pallet.

INSTALLING BATTERIES

⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Batteries Hood Open When Charging.

FOR SAFETY: When installing batteries, wear protective gloves and eye protection. Avoid contact with battery acid.

The proposed battery specifications: Four 6V Deep cycle lead-acid batteries.

Battery Maximum volume: 190mm width × 275mm length × 284mm height.

1. Park the machine on a level surface, remove the key and set the parking brake.
2. Put up the recovery tank to touch battery cabin (Figure1).



Figure 1

3. Carefully install the batteries into the battery compartment tray.(Figure2).Connect the battery cables to the battery posts, red to positive (+) and black to negative (-).(Figure2).

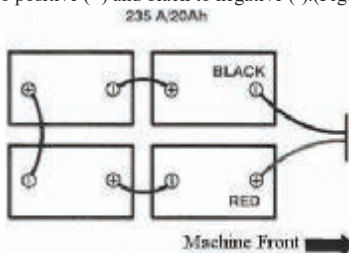


Figure 2

IMFORMATION: If your machine is equipped with the on-board battery charger, make sure that the charger is properly set for your battery type before charging (See Page20 USING THE ON-BOARD BATTERY CHARGER).

MACHINE CLEANING WAYS

Water and detergent from the solution tank flow to the floor through a solution valve. The brushes use the detergent and water to scrub the floor clean. As the machine moves forward, the squeegee wipes the dirty solution from the floor into the recovery tank.

BRUSH AND PAD INFORMATION

For best cleaning results, use the appropriate brush type for your cleaning application. Refer to the Parts manual for part number information.

Polypropylene Bristle Scrub Brush (Black)

This general purpose polypropylene bristle scrub brush is used for scrubbing lightly compacted soilage. This brush works well for maintaining concrete, wood and grouted tile floors.

Soft nylon Scrub Brush

Recommended for cleaning coated floors without removing finish. Cleans without scuffing.

Polishing pads (White)

Using to maintain highly smooth or polished surface.

Buffing Pad (Red)

Used for light duty scrubbing without removing floor finish.

Heavy Duty Stripping Pad (Black)

Used for aggressive stripping of heavy finishes/sealers, or very heavy duty scrubbing.

MACHINE SETUP

ATTACHING SQUEEGEE ASSEMBLY

1. Park the machine on a level surface, remove the key and set the parking brake.
2. Lift the squeegee lift lever to the upward position (Figure3)



Figure 3

3. Mount the squeegee assembly to the squeegee pivot bracket and secure with knobs (Figure4)



Figure 4

4. Connect the vacuum hose to the squeegee assembly. Loop the hose clip provided (Figure5).



Figure 5

5. Check the squeegee strips and adjustment (Figure6) (See Page29 ADJUSTING SQUEEGEE BLADES).



Figure 6

6. To adjust the blade deflection, place the squeegee assembly on a level surface and adjust the casters as shown. (Figure7).



Figure 7

INSTALLING BRUSHES/PADS

FOR SAFETY: Before installing brushes or needle base, stop machine on level surface, remove key and set parking brake.

Disk Model:

1. Park the machine on a level surface and remove key. Lower the scrub head to the floor.
2. Attach the pad to the needle base before installing. Secure pad with center lock (Figure8).



Figure 8

3. Rotate brush motor drivers disk and push it upward to engage, reverse rotation brush until stuck (Figure9)



Figure 9

4. To remove the needle base/ brush, raise the scrub head and turn the needle base/ brush clockwise (Figure10).



Figure 10

5. Check the brushes to ensure they are properly adjusted.

FILLING SOLUTION TANK

The rear of the machine with hose injection hole, in front with bucket injection hole.

Using a hose or bucket, fill the solution tank to the "85L" mark (maximum). (Figure11)



Figure 11

For conventional Scrubbing: Use hot water (60°C maximum). Pour a recommended cleaning detergent into the solution tank according to mixing instructions on the container.

DIRECTION: If the solution is injected into a bucket of water tank, make sure the bucket is clean. Please don't use the same bucket to inject water and discharge of sewage.

ATTENTION: For Conventional Scrubbing, Only use commercially approved cleaning detergents. Machine damage due to improper detergent usage will void the manufacturer's warranty.

⚠ WARNING: Fire or Explosion Hazard. Never Use Flammable Liquids.

FOR SAFTY: When using the machine, follow the mixing ratio of chemical containers on the Internet and processing instructions.

ADJUSTING CONTROL CONSOLE

Pull the control console height adjustment lever and lift or lower the console to a comfortable operating height (Figure12).

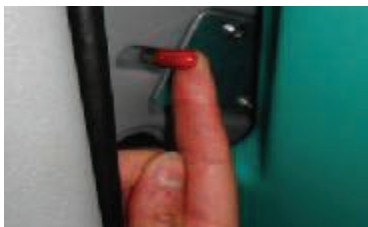


Figure 12

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless operator manual is read and understand.

WARNING: Fire Or Explosion Hazard. Never Operate Machine In Or Near Flammable Liquids, Vapors Or Combustible Dusts.

PRE-OPERATION CHECKS

- ☐ Sweep area.
 - ☐ Check the battery meter (See Page16 BATTERY METER).
 - ☐ Check the brushes/pads for wear.
 - ☐ Check the squeegee blades for wear and proper adjustment.
 - ☐ Make sure the recovery tank is empty and the float shut-off screen is installed and clean.
 - ☐ Check the scrub head skirt for wear.
 - ☐ Make sure the solution tank is filled with hot clean water only.
 - ☐ Ensure that all conventional clearing agents are drained and rinsed from solution tank.
-

STARTING THE MACHINE

1. Release the parking break (Figure13)
2. Turn the key to the on (I) position. (Figure13).



Figure 13

3. Lower the squeegee assembly to the floor by lowering the squeegee lift lever (Figure14), vacuum motor will automatically start.



Figure 14

4. Trample the brush head lift pedal. The brush head will rise from the floor (Figure15).



Figure 15

5. Adjust the control console to a properly position. Pull the triggers to begin scrubbing. To reverse the machine, hold on the back switch and keep pulling the triggers (Figure16).



Figure 16

6. Adjust the speed control knob to a desired (Figure17).



Figure 17

NOTE: 45-60 meters per minute is the recommended scrubbing speed.

7. Check the brush pressure meter reading and adjust the pressure if needed. It must be too much pressure in the red zone. Normal pressure is shown as follow (Figure18).



Figure 18

OPERATION

8. For conventional scrubbing, adjust the solution flow control knob to a desired flow rate.
9. To stop scrubbing, release the triggers, raise the scrub head and squeegee.

WHILE OPERATING MACHINE

⚠ WARNING: Fire Or Explosion Hazard. Do Not Pick Up Flammable Materials Or Reactive Metals.

For Safety: Go slow on inclines and slippery surface. Wear non-slip shoes.

1. Overlap each scrub path by 5 cm.
2. Keep the machine moving to prevent damage to floor finish.
3. Do not operate the machine on inclines that exceed 5% (3°).
4. Conventional scrubbing: Pour a commercially approved foam control solution into the recovery tank if excessive foam appears.

ATTENTION: Do not allow foam to enter the float shut-off screen located in the recovery tank, vacuum motor damage will result. Foam will not activate the float shut-off screen.

5. For heavily soiled areas, use double scrubbing method. First scrub the area with the squeegee up, let solution set for 3-5 minutes, then scrub the area a second time with squeegee down.
6. When leaving the machine unattended, remove the key and set parking brake.

ATTENTION: Do not allow solution tank to run dry. The brush motor failure may result if operated without water for an extended period.

BATTERY METER

The battery meter displays the charge level of the batteries. When the batteries are fully charged, all indicator lights will glow. As the batteries discharged, the indicator lights will begin to go out from right to left.

When the discharge level reaches the first red light (Figure 19), stop scrubbing and recharge the batteries. If you continue to operate the machine beyond the first red light, the scrubbing function will automatically shut off when the last red light begins to blink. This protects the batteries from total discharge. Drive the machine to the charging area and recharge the batteries immediately. Use the hour meter to determine when to recharge and to record service history.



Figure 19

CIRCUIT BREAKERS/FUSES

The machine is equipped four resettable circuit breakers and four fuses to protect the machine from damage. If a breaker should trip, determine the cause, allow the motor to cool then manually reset the circuit breaker button. The circuit breaker panel is located on the control panel. The fuses are located inside the circuit breaker box. When replacing a fuse never substitute a higher Amp rated fuse than specified (Figure20).



Figure 20

CIRCUIT BREAKERS:

- 10 A- Main
- 25 A - Vacuum motor
- 25 A – Left brush motor
- 25 A – Right brush motor

FUSES;

- 100 A – Main
- 30 A – Drive motor

DRAINING AND CLEANING TANKS

After each use, the tanks should be drained and cleaned.

FOR SAFETY: Before leaving or service machine, stop machine on level surface, turn off machine and remove key.

DRAINING RECOVERY TANK

1. Transport machine to disposal area and turn key switch off.
2. While holding the drain hose upward, remove the cap and lower hose to drain (Figure21).



Figure 21

DIRECTION: Sewage tank dress with a bucket of sewage discharge, do not use the same bucket with water tank into the solution.

3. Remove the recovery tank cover and rinse out the tank (Figure22).



Figure 22

4. Remove and clean the float shut-off screen located inside the recovery tank. (Figure23).



Figure 23

DRAINING SOLUTION TANK

1. To drain remaining water from the solution tank, pull the solution tank level hose off the hose fitting (Figure 24).



Figure 24

2. On a monthly basis, clean the float shut-off screen or replace it (Figure 25)



Figure 25

CHARGING BATTERIES

The following direction is applicable to the attached batteries.

ATTENTION: To prolong the life of the batteries only recharge the batteries if the machine was used for a total of 30 minutes or more. Do not leave batteries discharged for lengthy periods.

⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.

FOR SAFETY: When servicing batteries, wear protective gloves and eye protection when handling batteries and battery cables. Avoid contact with battery acid.

BATTERY CHARGER SPECIFICATIONS

- CHARGER TYPE:
 - FOR SEALED (Gel) BATTERIES
 - FOR WET (Lead acid) BATTERIES
 - OUTPUT VOLTAGE – 24 VOLTS
 - OUTPUT CURRENT – 20 AMPS
 - AUTOMATIC SHUTOFF CIRCUIT
 - FOR DEEP CYCLE BATTERY CHARGING
-

USING THE ON-BOARD BATTERY CHARGER

IMPORTANT: If your machine is equipped with the on-board charger, the charger settings must be set for your battery type before charging. Failure to properly set will result in battery damage.

To determine your battery type, see battery label. Contact your battery supplier if not specified.

This machine is equipped with the on-board charger, and the charger type is WET (Lead acid).

1. Transport the machine to a well-ventilated area.
2. Park the machine on a flat, dry surface. Turn the key off and set the parking brake.
3. Check the fluid level before charging (SEE Page27 BATTERY MAINTENANCE).
4. Connect the charger's cord into a properly grounded receptacle. The charger will automatic startup in seconds and the LED will show charging (Figure26).



Figure 26

5. Please prop up the recovery tank cover for ventilation (Figure27).



Figure 27

6. The supplied charger will automatically begin charging and shut off when fully charged. If the batteries self-discharge, the chargers will restart.

NOTE:

1. The chargers may need 30 seconds to shut down after disconnecting the charger cord. During this period, the machine will not charge.
2. The chargers also need 30 minutes after disconnecting the charger cord to restart.
7. The charger will display a sequence of codes once the cord is connected (Figure28).

Three digits + the following code:

A= Charging current

V= Battery voltage

H= Charging time

C= Charging ampere - hours

Press the arrow button to review the codes.



Figure 28

8. Once the charging cycle begins, the indicator lights will progress from red, yellow to green. When the green indicator light comes on, the charging cycle is done, unplug the charger cord.

USING AN OFF-BOARD BATTERY CHARGER

Please refer to attached battery charger manual.

1. Transport the machine to a well-ventilated area.
⚠️ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Batteries Hood Open When Charging.
2. Park the machine on a flat, dry surface. Turn the key off and set the parking brake.
3. If charging wet (lead acid) batteries, check the fluid level before charging (See Page27 BATTERY MAINTENANCE).
4. Prop up the recovery tank for ventilation (Figure29).



Figure 29

OPERATION

5. Connect the charger's AC power supply cord into a properly grounded receptacle.
6. Connect the charger's DC cord into the machine's battery receptacle (Figure30).



Figure 30

NOTE: *The machine will not operate when charging.*

ATTENTION: Do not disconnect the charger's DC cord from the machine's receptacle when the charger is operating. Arcing may result. If the charger must be interrupted during charging, disconnect the AC power supply cord first.

ADJUSTING BRUSHES

To ensure optimum scrubbing performance periodically check the scrub head for proper adjustment.

FOR SAFETY: Before adjusting scrub head, stop machine on level surface, remove key and set parking brake.

DISK MODEL

Tools required: Measuring device, 24mm wrench and 27mm wrench.

1. With brushes installed, lower the scrub head and apply medium brush pressure.
2. Turn machine off and remove key.
3. From the center front and back of scrub head, measure the distance from the top edge of scrub head to the floor (Figure31).



Figure 31

4. If scrub head is not level, loosen the lock nut and turn the scrub head leveling screw to level. Tighter down the lock nut once head is level (Figure32).



Figure 32

MACHINE MAINTNENCE

To keep the machine in good working condition, it's important that the following maintenance procedures are performed on a routine basis.

⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.

DAILY MAINTENANCE (After Every Use)

1. Drain the recovery tank (Figure33).



Figure 33

2. Clean the recovery tank with water (Figure34).



Figure 34

OPERATION

3. Remove the recovery tank float shut-off screen and clean (Figure35).



Figure 35

4. Drain the solution tank and flush it with no more than 60°water (Figure36).



Figure 36

5. Remove the pad/brush and clean. Rotate pad or replace when worn (Figure37).

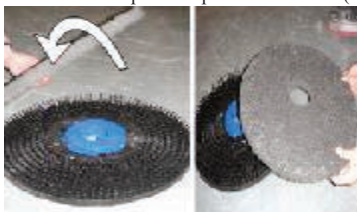


Figure 37

6. Wipe the squeegee blades clean. Store the squeegee assembly in the raised position to prevent blade damage (Figure38).



Figure 38

7. Check the condition of the squeegee blade wiping edge. Rotate blade if worn (See Page28 REPLACING SQUEEGEE BLADES) (Figure39).



Figure 39

8. Clean the machine with an all purpose cleaner and damp cloth (Figure40).



Figure 40

FOR SAFETY: When cleaning machine, do not power spray or hose off machine. Electrical malfunction may occur.

9. Inspect the condition of the scrub head skirt, replace if worn or damaged (Figure41).



Figure 41

10. To prolong the life of the batteries, recharge the batteries after a total 30 minutes of use or more (Figure42).



Figure 42

MONTHLY MAINTENANCE

1. Remove the solution tank filter from underneath the machine and rinse out the screen. Make sure the solution tank is empty before removing filter (Figure43).



Figure 43

2. Inspect and clean recovery tank cover, replace if Damaged (Figure 44).



Figure 44

⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.

3. Lubricate all pivot points and rollers with a water resistant grease.
4. Check the machine for loose battery cable.
5. Clean the parking break clamp with a cleaning solvent.
6. Check the machine for loose nuts and bolts.
7. Check machine for leaks.

BATTERY MAINTENANCE

1. Check battery fluid level frequently to prevent battery damage. The fluid should be at the level shown. Add distilled water if low. Do not overfill, the fluid may expand and overfill when charging (Figure45).



Figure 45

⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks And Open Flame Away. Keep Battery Compartment Open When Charging.

2. Clean the batteries to prevent battery corrosion. Use a scrub brush with a mixture of baking soda and water.

FOR SAFETY: When cleaning batteries, wear protective gloves and eye protection. Avoid contact with battery acid.

3. Check the wiring is loose or worn, please replace it if worn.

MOTOR MAINTENANCE

Contact an Authorized WeiZhuo Service Center for carbon brush replacement.

Carbon Brush Replacement	Hours
Drive Transaxle Motor	750
Vacuum Motor	750
Disk Brush Motors	750

⚠ WARNING: Electrical Hazard. Disconnect Battery Cables Before Servicing Machine.

REPLACING SQUEEGEE BLADES

When the blades become worn, simply rotate the blades end-for-end or top-to-bottom to a new wiping edge. Replace blades when all edges are worn.

1. Discharge the squeegee assembly from the machine.
2. Loosen the band clamp and remove the band from the squeegee assembly (Figure46).



Figure 46

3. Replace or rotate the tear blade to a new wiping edge and replace band. Ensure the edge of the band lamp with sunken mouth is downward (Figure47).



Figure 47

4. To change the front blade, discharge the rear band and loosen the four knobs. Replace the front blade to a new wiping edge, and then reinstall the positioning board (Figure48). Ensure the sudden card of positioning board slots strip. Put back the band clamp in place and lock knobs.



Figure 48

ADJUSTING SQUEEGEE BLADES

Adjusting the squeegee blades only when the blades shifting.

To make the water absorption efficiency to achieve the best, adjust the height of the caster wheel as follow.

1. Remove the squeegee assembly to the surface floor to check whether needs adjusting the squeegee assembly. Measure the distance between caster wheel and floor. The distance should be about 2mm.
2. To adjust the height of caster wheel, loosen top nuts and take down plastic bearing cover. And then rotation the nuts until the height suitable (Figure49). After adjusting, tighten top nuts and replace plastic bearing cover. Repeat the above steps to adjust the other foot wheel.



Figure 49

3. After adjusting the caster wheel, the squeegee blades should deflect as shown (Figure50).



Figure 50

TRANSPORTING MACHINE

When transporting the machine by trailer or truck, be certain to follow the transporting procedure below:

1. Raise the scrub head and squeegee.
2. Load the machine using a ramp that can support the machine weight.
3. Position the front of machine up against the front of the trailer or truck. Lower the scrub head and squeegee.
4. Set the parking brake, if equipped, and place a block behind each wheel to prevent the machine from rolling.
5. Secure with tie-down straps. It may be necessary to install tie-down brackets to trailer or truck.

FOR SAFETY: When loading/unloading machine onto/off truck or trailer, use a ramp that can support the machine weight and person loading it, use tie-down straps to secure machine and block machine wheels.

STORING MACHINE

1. Charge the batteries before storing machine to prolong the life of the machine.
2. Drain and rinse the tanks thoroughly.
3. Store the machine in a dry area with the squeegee and scrub head in the up position.
4. Open the recovery tank cover to promote air circulation.

ATTENTION: Do not expose machine to rain, store indoors.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Machine will not operate	Discharged batteries	Charge batteries
	Emergency-stop button activated	Turn button clockwise to reset
	Faulty battery(s)	Replace battery(s)
	Loose battery cable	Tighten loose cable
	Tripped main circuit breaker	Reset 10A main circuit breaker
	Main fuse blown	Replace 100A main fuse
	Faulty key switch	Contact Service Center
	Machine fault detected	Contact Service Center
On-board battery charger will not operate	Plug not connected to power supply	Check plug connection
	Faulty charger fuse	Replace charger fuse
	Faulty power supply cord	Replace cord
	Error detected	See on-board battery charger error codes
Brush motor(s) will not operate	Scrub head is raised off floor	Lower scrub head
	Battery meter lockout activated	Recharge batteries
	Discharged batteries	Charge batteries
	Tripped brush motor circuit breaker	Reset brush circuit breaker button
	Faulty scrub head (up/down) switch	Contact Service Center
	Faulty trigger switch(es)	Contact Service Center
	Faulty brush motor or wiring	Contact Service Center
	Worn carbon brushes	Contact Service Center
Machine will not propel	Fault relay switch	Contact Service Center
	Parking brake is set	Release parking brake lever
	Machine fault detected	See battery meter LED fault codes
	Main fuse blown	Replace 30A fuse
	Faulty vacuum motor or wiring	Contact Service Center
	Worn carbon brushes	Contact Service Center

TROUBLESHOOTING-Continued

PROBLEM	CAUSE	SOLUTION
Vacuum motor will not operate	Squeegee is raised off floor	Lower squeegee
	Discharged batteries	Charge batteries
	Faulty vacuum motor or wiring	Contact Service Center
	Tripped vacuum motor circuit breaker	Reset 25A circuit breaker button
	Worn carbon brushes	Contact Service Center
Poor scrubbing performance	Debris caught in brush	Remove debris
	Worn brushes/pads	Replace brushes/pads
	Incorrect brush pressure setting	Adjust pressure setting
	Wrong brush/pad type	Use correct brush/pad
Poor water pickup	Recovery tank is full or excessive foam buildup	Drain recovery tank
	Loose drain hose cap	Tighten cap
	Clogged float shut-off screen located in recovery tank	Clean screen
	Clogged squeegee assembly	Clean squeegee assembly
	Worn squeegee blades	Replace or rotate squeegee blades
	Incorrect squeegee blade deflection	Adjust squeegee blade height
	Loose vacuum hose connections	Secure hose connection
	Damaged vacuum hose	Replace vacuum hose
	Clogged vacuum hose	Remove clogged debris
	Recovery tank cover not in place	Properly position cover
	Faulty vacuum motor	Contact Service Center
	Low battery charge	Recharge batteries
	Damaged recovery tank cover seal	Replace seal
Reduced run time	Batteries not fully charged	Fully recharge batteries
	defective batteries	Replace battery
	Batteries need maintenance	See battery maintenance
	Faulty battery charger	Repair or replace battery charger

MACHINE SPECIFICATION

MODEL	ND-28B	ND-34B
LENGTH	1408mm	1408mm
WIDTH	750mm	890mm
HEIGHT	1120mm	1120mm
WEIGHT	145kg	156kg
RECOVERY TANK CAPACITY	105L	105L
SOLUTION TANK CAPACITY	85L	85L
DRIVE SYSTEM	Drive axle 24V, 450w	Drive axle 24V, 450w
TRAVEL SPEED,MAXIMUM	72m/min	72m/min
PRODUCTIVITY RATE	2860 m³/h	3560 m³/h
CLEANING PATH WIDTH	700mm	850mm
BRUSH PRESSURE	≤54kg	≤54kg
SOLUTION FLOW RATE	1.89L/min	1.89L/min
SQUEEGEE WIDTH	1051mm	1151mm
BRUSH MOTOR	0.55kw, 220rpm, 24V, QTY 2	0.55kw, 220rpm, 24V, QTY 2
VACUUM MOTOR	0.64kw, 24V	0.64kw, 24V
BATTERIES	Qty4, 6V	Qty4, 6V
RUN TIME PER CHARGE	4-5h	4-5h
ON-BOARD CHARGER	120/230VAC,50/60Hz, 24VDC,25A output	
VOLTAGE DC	24VDC	24VDC
DECIBEL BRTING AT OPERATOR'S EAR	67dBA	67dBA
GRADE LEVEL,MAX	Scrubbing 5%(3°), Transporting 8%(5°)	Scrubbing 5%(3°), Transporting 8%(5°)