

VERMEIREN

Maintenance manual
Tricycles





Contents

1	Maintenance	2
1.1	Regular Maintenance.....	2
1.2	Shipping and storage	3
1.3	Care	3
1.4	Inspection	4
1.5	Troubleshooting.....	5
1.6	Disinfection	6
2	Guarantee	8
3	Disposal	8
4	Declaration of conformity	9
5	Maintenance plan.....	10
6	Disinfection book	10

1 Maintenance

Lifetime of the tricycle is influenced by its use, storage, regular maintenance, servicing and cleaning.

The batteries for the electric tricycle are maintenance-free.

The drive unit is maintenance-free and must only be serviced at an authorized service center. Never attempt to open, remove it from the frame or perform any maintenance by yourself.

1.1 Regular Maintenance

The maintenance activities to ensure a good condition for your Vermeiren tricycle are described below:

- Before every ride
 - Check the tyres and make them clean. If necessary change the tire.
 - Check the tyre pressure, if necessary pump it up (only for air tyres).
 - Check screw fastenings, levers, adjusting buttons are secured.
 - Check the brakes and adjusted if necessary.
 - Check the chain condition and adjusted if necessary.
 - Check the tricycle (cleanliness, cracks, damage on structural parts) and make it clean. If necessary change the coating.
 - Check the condition of the fork.
 - Check the tricycle front and rear lightning (if available).
- Every 8 weeks: inspection and possibly lubricating or adjusting from
 - Chain (inspection + lubricating)
 - Wheel axles, crank shaft (inspection + lubricating)
 - Gears (inspection + lubricating)
 - Brake levers (inspection)
 - Other adjusting systems
- Every year or for every new user
 - General review
 - Disinfection
 - Frontwheels, possibly clean bearings

Additional maintenance activities for the "electric tricycles".

- Before every ride
 - Check the condition of the battery. Press the On/Off button to switch on the battery. When no LED lits the battery may be damaged.
 - Switch on the electronic system. The operator control indicates the level of the batteries. If the battery charge is not sufficient for the intended route, switch off the operator control and charge the batteries.
 - Check the battery is locked in the battery housing.
 - Condition of the electric cables (kinks free, no signs of abrasive wear).
- Every 8 weeks: inspection and possibly lubricating or adjusting from
 - Dirt on the battery/battery housing (carefully remove any dirt as it can corrode the plugs).
- Every 6 months
 - That the charger is working



For your convenience, on the back of this manual is a maintenance plan.

Repairing and assembling of spare parts for your tricycle may only be performed by the specialist dealer.

Only authorized Vermeiren spare parts may be installed.

1.2 Shipping and storage

The shipping and storage of the tricycle shall be according following instructions:

- Store in a dry place (between +5 °C and +41 °C).
- The relative humidity of the air should be between 30% and 70%.
- Provide sufficient covering or packaging to protect the tricycle from rust and foreign bodies. (e.g. salt water, sea air, sand, dust).
- Store all removed parts together in one place (or mark them if necessary) to avoid mixing up with other products when re-assembling.
- Components must be stored without being subjected to strains (Do not put too heavy parts on the tricycle, not clamping between something, ...).

Additional activities for the "electric tricycles".

- Check internal cables for squashing and the prevention of kinks.
- Disconnect the power plug of the battery charger.

If batteries are not used, they can completely drain. So if you no longer use your electric tricycle, you could leave it connected to the battery charger. Charging is automatically controlled by the battery charger. It is recommended to remove the battery from the electric tricycle and store it in an enclosed location until being used again. If you remove and store the batteries, kindly note the following:

- Make sure that no objects can make contact with both poles during the time of storage (danger of short circuits!).
- Batteries should only be stored in dry, well-ventilated spaces at a temperature between -20°C and +40°C. Preferred storage temperature: **+20°C**.
- Protect the batteries against deep discharging (see the chapter on battery charging).
- Do not store the battery in direct sunlight.

If you have further questions, consult your specialist dealer who will gladly help you in regard to storage and servicing of your batteries.

1.3 Care

⚠ CAUTION: Make sure the tricycle is secured and cannot fall over accidentally while you are cleaning it.

The cleaning of your tricycle is possible with household products.

The cleaning of the tricycle shall be according:

- Clean the tricycle with a cloth moistened with warm water. Be aware that you do not soak the tricycle.
- Use a mild commercial detergent for removing stubborn dirt.
- Stains can be removed by using a sponge or a soft brush.
- Do not use strong cleaning liquids like solvents, nor use hard brushes, sharp-edged objects.
- Never clean with steam and/or pressure washers.

Afterwards rinse off the bike, so that no soap remains. The most important step is: drying. Take a dry cloth to remove the moisture (quickly damages are avoided). When a tricycle or one of its components remain moist they can rust and the bike will drive less.



1.3.1 Saddle

Check the saddle and see that it is not made out a material that absorbed water.

- Clean the saddle with a cloth moistened with warm water. Be aware that you do not soak the saddle.

1.3.2 Plastic parts

Clean plastic parts of your tricycle with commercial plastic cleaners. Please comply with special product information. Only use a soft brush or soft sponge.

1.3.3 Coating

The high quality of the surface layer guarantees optimal protection against corrosion. If the outer coat is damaged by scratching or in some other way, get your specialist dealer to repair the affected surface.

When cleaning, only use warm water and normal household detergents and soft brushes and cloths. Ensure that no wetness gets into the tubes.

Initially the chrome parts only require rubbing with a dry cloth. Stubborn dirt can best be removed by using a suitable commercial chrome polish.

1.3.4 Degreasing and lubricating chain

Choose a good clean cloth. Choose a cloth that has a decent textural surface. Some materials are too slippery and will not be able to scrub away the dirt from the chain, so choose a cloth that has some texture.

Take the clean section of the cloth in your hand and have the clean section on your palm.

Place your hand and the cloth around the bottom section of the chain. Pedal backwards with your free hand while applying pressure on the chain. Depending on how dirty your chain is, you may need to repeat this process more than once (take sometimes a new clean section of the cloth). Brand-new clean is not necessary, just getting the majority of the stuff off the chain before lubricating.

After cleaning, lubricate your tricycle. Slightly squeeze the lube on the bottom section of the chain with one hand and pedal backwards with the other. Be sure that the lube is getting on each roller of the chain as the chain is moving. Afterwards use a clean, dry section of the cloth to lightly wipe the excess lube off the chain.

1.3.5 Electronic parts (only for the electric tricycle)

- ⚠ **WARNING: Check the plug connectors for corrosion or damage before every ride, since it could affect the efficiency of the electronics.**
- ⚠ **WARNING: Remove the batteries before performing any maintenance, to avoid involuntary conduction of currents.**

Keep water away from the electronic parts.

Wipe the operator control with a cloth moistened by a few drops of a commercial domestic cleaner. Do not use any abrasives or sharp-edged polishing equipment like a metal scrubber or brush, since these can scratch the surface of the operator control.

1.4 Inspection

In principle we recommend one inspection every year, and a minimum of one before usage is resumed. All of the following checks must be performed and documented by authorized persons:

- Check the frame parts and the hinged tubes for plastic deformation, cracks and impaired functioning.

- Visually check for damage to the paintwork (danger of corrosion).
- Check the operation of the wheels (free running, level rolling, axle play, tyres, profile, condition of the rims, air pressure in the case of air tyres, floating axles, etc.).
- Check the function of the brakes.
- Check the solidity and seating of all screws.
- Verify the amount of grease on the metal joints of movable parts (chain, ...).
- The condition and security of the guides and axles of the wheels.
- Visually check all plastic parts for cracks and brittle spots.
- Check the functioning of the saddle, handlebar (locking, load, deformation, wear and tear caused by loads, adjustment levers).
- Check the functioning of all adjusting mechanisms, levers and adjusting screws.
- Functional testing of the cables (kinks), levers and adjusters.
- Completeness of the delivery condition, instruction manual available?

Additional activities for the "electric tricycles".

- Check the cabling (especially for: crushing, abrasion, cuts, visible insulation of the inner conductor, visible metallic veins, kinks, lumpiness, color changes of the outer sleeve, brittle spots).
- Electric cables to be securely placed to avoid shearing, crushing and other mechanical stresses and strains.
- Check the condition of the batteries, battery housing, operator control.

The service must only be signed off in the maintenance plan if a minimum of all the above-mentioned aspects have been checked.

1.5 Troubleshooting

The following list will assist you with the troubleshooting of your electric tricycle.

Problem	Cause of problem
The electric tricycle refuses to go once started. No indication of charge level	<ul style="list-style-type: none"> • Electric tricycle is not switched on. • Battery not connected (batteries not making contact), wrong connected. • Batteries defective (totally discharged). • Defective operator control. • Cables defective.
The assistance of the electric tricycle does not work. Charge level insufficient.	<ul style="list-style-type: none"> • Battery capacity too low. • Level assistance = 0, Assistance is switched off.
Battery error	<ul style="list-style-type: none"> • Check batteries and cabling, if necessary charge. • If necessary, replace batteries.
Batteries cannot be charged.	<ul style="list-style-type: none"> • Batteries not fitted correctly. • Loading socket defective. • Wrong charger. • Loading device defective.

1.6 Disinfection

- ⚠ **WARNING: Dangerous Products - The use of disinfectants is restricted to authorized personnel.**
- ⚠ **WARNING: Dangerous Products, change on irritate your skin - You should wear suitable protective clothing because the disinfectants could irritate your skin. For this purpose you should also take note of the product information of the solutions concerned.**

All parts of the tricycle can be treated by scrubbing with a disinfectant.

All steps taken to disinfect rehabilitation equipment, their components or other accessory parts are to be recorded in a disinfection report containing a minimum of the following information (with product documentation appended):

Date of the disinfection	Reason	Specification	Substance and concentration	Signature
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Table 1: Example of a disinfection book

Abbreviations used in column 2 (reason):

V = Suspected infection IF = Infection case W = Repetition I = Inspection

For a blank sheet of a disinfection book see § 6.

The recommended disinfectants for scrubbing (based on the list provided by the Robert Koch Institute, RKI) are standing in the table below. The current state of the disinfectants included in the RKI list can be obtained from the Robert Koch Institute (RKI) (homepage: www.rki.de).

Active substance	Product name	Laundry disinfection		Surface disinfection (scrubbing-/wiping disinfection)		Disinfection of excretions 1 part sputum or stools + 2 parts diluted solution or 1 part urine + 1 part diluted solution						Area of effectiveness	Manufacturer or Supplier
		Diluted solution	Time to take effect	Diluted solution	Time to take effect	Sputum		Stools		Urine			
						%	Hr.	%	Hr.	%	Hr.		
Phenol or phenol derivative	Amocid	1	12	5	6	5	4	5	6	5	2	A	Lysoform
	Gevisol	0,5	12	5	4	5	4	5	6	5	2	A	Schülke & Mayr
	Helipur			6	4	6	4	6	6	6	2	A	B. Braun
	m-cresylic soap solution (DAB 6)	1	12	5	4							A	
	Phenol	1	12	3	2							A	
Chlorine, organic or inorganic substances with active chlorine	Chloramin-T DAB 9	1,5	12	2,5	2	5	4					A ¹ B	
	Clorina	1,5	12	2,5	2	5	4					A ¹ B	Lysoform
	Trichlorol	2	12	3	2	6	4					A ¹ B	Lysoform
Per combinations	Apesin AP100 ²			4	4							AB	Tana PROFESSIONAL
	Dismozon pur ²			4	1							AB	Bode Chemie
	Perform ²			3	4							AB	Schülke & Mayr
	Wofesteril ²			2	4							AB	Kesla Pharma

Active substance	Product name	Laundry disinfection		Surface disinfection (scrubbing-/wiping disinfection)		Disinfection of excretions 1 part sputum or stools + 2 parts diluted solution or 1 part urine + 1 part diluted solution						Area of effectiveness	Manufacturer or Supplier
		Diluted solution	Time to take effect	Diluted solution	Time to take effect	Sputum		Stools		Urine			
						%	Hr.	%	Hr.	%	Hr.		
Formaldehyde and/or other aldehydes or derivatives	Aldasan 2000			4	4							AB	Lysoform
	Antifect FD 10			3	4							AB	Schülke & Mayr
	Antiseptica surface disinfection 7			3	6							AB	Antiseptica
	Apesin AP30			5	4							A	Tana PROFESSIONAL
	Bacillocid special			6	4							AB	Bode Chemie
	Buraton 10F			3	4							AB	Schülke & Mayr
	Desomed A 2000			3	6							AB	Desomed
	Hospital disinfectant cleaner			8	6							AB	Dreiturm
	Desomed Perfekt			7	4							AB ⁺	Desomed
	Formaldehyde-solution (DAB 10), (formaline)	1,5	12	3	4							AB	
	Incidin Perfekt	1	12	3	4							AB	Ecolab
	Incidin Plus			8	6							A	Ecolab
	Kohrsolin	2	12	3	4							AB	Bode Chemie
	Lysoform	4	12	5	6							AB	Lysoform
	Lysoformin	3	12	5	6							AB	Lysoform
	Lysoformin 2000			4	6							AB	Lysoform
	Melsept	2	12	4	6							AB	B. Braun
	Melsitt	4	12	10	4							AB	B. Braun
	Minutil	2	12	6	4							AB	Ecolab
	Multidor			3	6							AB	Ecolab
Nüscosept			5	4							AB	Dr. Nüsken Chemie	
Optisept			7	4							AB ⁺	Dr. Schumacher	
Pursept-FD			7	4							AB ⁺	Merz	
Ultrasol F	3	12	5	4							AB	Fresenius Kabi	
Amphoteric surfactants (amfotensiden)	Tensodur 103	2	12									A	MFH Marienfelde
Lye	Lime-milk ³							20	6			A ³ B	

1 Not effective against myco-bacteria when service disinfecting, especially in the presence of blood.
2 Not suitable for disinfecting blood-contaminated or porous surfaces (e.g. raw wood).
3 Useless for tuberculosis; preparation of Lime-milk: 1 part dissolved lime (calcium hydroxide) + 3 parts water.
* Checked for effectiveness on viruses in accordance with checking methods of the RKI (Federal Health Reporting 38 (1995) 242).
A: Suitable for killing vegetative bacterial germs including myco-bacteria as well as fungi, including fungal spores.
B: Suitable for deactivating viruses.

Table 2: Disinfectants

Kindly consult your specialist dealer if you have queries on matters related to disinfection; he will gladly assist you.

2 Guarantee

Excerpt from the "General Business Conditions":

(...)

5. The terms of the guarantee may differ from country to country. Consult your specialist dealer for the guarantee period for warranty claims.

(...)

The guarantee excludes damage arising from structural changes to our products, insufficient maintenance, defective or improper handling or storage or the use of non-original parts. Likewise, the guarantee excludes parts or working parts subject to natural wear and tear.

(...)

3 Disposal



When disposing of the tricycle or the batteries observe local regulations or contact your local disposal centre or return the product to your specialist dealer who, after submitting it to a hygienic procedure, will be able to send it back to the manufacturer who will dispose of and recycle it correctly, separating it into its component materials.

The manufacturer is responsible for taking back and recycling the electric tricycle and shall meet the requirements of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment.

Packaging materials can be taken to disposal or recycling centers or to your specialist dealer.

4 Declaration of conformity

The manufacturer or his authorized representative :

N.V. VERMEIREN N.V

Address :

Vermeirenplein 1/15
2920 Kalmthout
Belgium

declares under his sole responsibility that the CE marked devices :

Productgroup: Tricycles
Productgroup (GMDN): Disability cycle, tricycle, foot-propelled (GMDN 31142)
FAMHP (FAGG) registration
number: BE/CA01/11/2-02965-15-CLI
Brand: Vermeiren
Type: 2102, 2103, 2115, 2117, 2119, 2202, 2215, 2217, 2219

have been classified as class I, according to annex IX MDD 93/42/EEC, rule 1,

**and is manufactured in full conformity with the European instructions below -
including the latest modifications - and with the national law, that organizes
this directions :**

Medical devices directive MDD 93/42/EEC: 2007

and is in conformity with the relevant European harmonized standards:

EN 12182: 2012

The manufacturer or his authorized representative :

N.V. VERMEIREN N.V

Address :

Vermeirenplein 1/15
2920 Kalmthout
Belgium

declares under his sole responsibility that the CE marked devices :

Productgroup: Tricycles
Productgroup (GMDN): Disability cycle, tricycle, foot-propelled (GMDN 31142)
FAMHP (FAGG) registration
number: BE/CA01/11/2-02965-15-CLI
Brand: Vermeiren
Type: 2219E

have been classified as class I, according to annex IX MDD 93/42/EEC, rule 12,

**and is manufactured in full conformity with the European instructions below -
including the latest modifications - and with the national law, that organizes
this directions :**

Medical devices directive MDD 93/42/EEC: 2007

and is in conformity with the relevant European harmonized standards:

EN 12182: 2012



5 Maintenance plan

Date	Maintenance	Remarks	Paraph
1/1/2015	Greasing and general servicing	non	

6 Disinfection book

Date of the disinfection	Reason	Specification	Substance and concentration	Signature

Abbreviations used in column 2 (reason):
V = Suspected infection IF = Infection case W = Repetition I = Inspection



SERVICE

The tricycle was serviced:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

Dealer's stamp:

Date:

- For service checklists an additional technical information, please see our specialist dealers nearest to you. More information on our website at: www.vermeiren.com.



Notes

A series of horizontal dotted lines for taking notes.

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