



User manual



OPair

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Conformity Europe (CE)

Van Raam Reha Bikes B.V., as manufacturer, declares that the OPair, as described in this user manual, is manufactured in accordance with Regulation (EU) 2017/745, risk class 1. The OPair supplied with the Silent electrical system also complies with Directive 2006/42/EC including the applicable parts of EMC Directive 2014/30/EU and the NEN-EN 15194:2017 Bicycles - Electric supporting bicycles - EPAC Bicycles - part 4.2 Electrical requirements. The signed declaration of conformity can be found on the Van Raam website.

Conformity UK (UKCA)

Van Raam Reha Bikes B.V. as manufacturer declares that the OPair, as described in this user manual, is manufactured in accordance with the "Essential Requirements of Medical Devices Regulation 2002" (UK MDR 2002 Class 1 Medical Devices). The OPair supplied with the Silent electrical system also complies with the "Machinery (Safety) Directive SI 2008/1597" including the applicable parts of "Electro Magnetic Compatibility Regulations SI 2016/1091" and the NEN-EN 15194:2017 Bicycles - Electric support bicycles - EPAC Bicycles - part 4.2 Electrical requirements. The OPair is provided with UKCA label according to "EU Exit Regulations 2020/1478". The signed declaration of conformity can be found on the Van Raam website.

Introduction

This user manual provides important and necessary information about the use of your tricycle. We ask you to read this manual thoroughly before using the tricycle. Always follow the instructions as provided in this user manual and keep the manual carefully. The most current version of the user manual can be found on the product page of the bicycle on the website www.vanraam.com.



READ CAREFULLY

Delivery

The delivery should include the following:

- Tricycle with packaging
- User manual(s)
- Possible Smart-battery including card with 5-digit code (depending on options)
- Possible chargers (depending on options)
- (Spare) keys

Check the delivery immediately after receiving it. In case of damage or incomplete delivery we ask you to contact your dealer immediately. Upon delivery you should fill out the form "Form service, maintenance, modifications a warranty claims" in the back of this manual.

Indication

The OPair3 is designed for cycling with children or adults who are unable to ride independently as a result of their disability. If the user is in a wheelchair, then a transfer to the bike should be possible.

Intended usage

The tricycle has been designed for normal use on a flat, solid surface. In general, tricycle caution should always be observed when using the tricycle. Moreover, the safety instructions as described in this manual should be explicitly followed. Local traffic laws and regulations should also be observed.

The tricycle is designed for two people, one in the front (in the wheelchair section) and one rider. The rider must be independently mobile and may not have any serious visual or other restrictions which prevent responsible participation in traffic. The maximum weight of the rider, passenger and carrier load (to be found in the chapter '**Technical specifications**') may not be exceeded.

The manufacturer is not responsible for any damage or injury caused as a result of or during the course of any other type of use.

Safety measures

- Ensure the tricycle is in good condition each time before using it. Check before **each** ride that the brakes are in order. Check the lighting and make sure there is enough tyre pressure.
- Regularly check if the wheels, the handlebars and the saddle are properly fixed and also whether all screw joints are tight.
- Only use the tricycle on a **solid and level surface** (or: not for off-road use).
- It is not recommended to cycle on a slope steeper than 10%, this carries an increased risk.
- A tricycle is sensitive to tipping when riding across a speed bump. Therefore, it is important to always drive straight towards a speed bump.
- Make sure that wide trousers or loose hanging clothing don't get caught in the chain, spokes or pedals.
- Do not use a pressure washer or a steam cleaner for the cleaning of the tricycle.
- Block the tricycle to stop it from moving when you are getting on or off the tricycle. Do this by using the parking brake and holding the tricycle.
- Always lock the tricycle when leaving it unattended.
- Prevent cycling without a passenger as much as possible. The tricycle will behave differently, which may lead to instability.
- Make sure that you do not reach a dangerous speed when driving downhill and entering tunnels. Brake in time and bike at a moderate speed.
- Always drive perpendicularly and at low speed off the curb or speed bump.
- In case of pregnancy, extra care is required owing to a higher risk of injury.
- Do not leave the tricycle in direct sunlight: the temperature of some parts could exceed 41°C resulting in possible burns to the skin.
- If your tricycle is equipped with the Silent electric motor system, make sure that you get used to riding with the electric support engaged. Be careful when you turn on the electric support system and make sure you don't get startled by unexpected behaviour because you turned on the electric support.

Load

The maximum load should not be exceeded. See the information in the technical data table in the '**Technical Specifications**' section of the user manual. By permitted load we mean the total load, including the load on the luggage rack.

Make sure that the permitted load on the luggage is not exceeded. (**maximum** 20 kg).
People may not be transported on the luggage rack.

Damaged or worn out parts

The replacement and repair of parts (frame, forks, light, brakes, drive mechanism and the handlebars) should **always** be performed by an authorised dealer. If not, the guarantee ceases to be valid and you will be personally responsible in the event of possible damage.



Specific safety parts should **always** be replaced by new parts!

Adjustment of the tricycle

Before using the tricycle, adjust its height to the height of the rider. This is of essential importance, especially with regard to the, saddle, handlebars and seat.



If an optimum setup with specified instructions is not possible you can contact your dealer for a suitable solution.

The brakes are always properly adjusted and may only be adjusted during regular maintenance by your dealer.



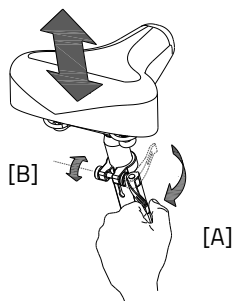
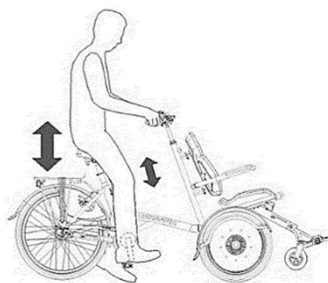
Take care that fingers and limbs do not get trapped while adjusting the tricycle.

Saddle Height

You can correctly set the saddle height by sitting on the bike and placing your foot on the pedal in the lowest position. Make sure your leg is stretched, yet still relaxed.

To adjust the saddle:

1. Open the quick-clamp [A].
2. Slide the saddle to the correct height.
3. Close the quick-clamp.



Make sure clothing cannot get caught in the clamp!



If the clamp closes too easily, the clamping force is too low. In this case, open the clamp and tighten the nut [B] a bit more. If a lot of force is necessary to close the clamp, the nut should be loosened slightly.



Don't **pull out** the seat post further than the markings. If you do so, the tube won't be inserted deep enough into the shaft, increasing the risk of breakage, which may lead to serious injuries.

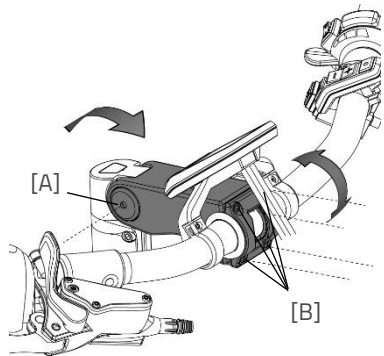


Handlebar Position

You can tilt the handlebar and rotate the stem upwards. This affects the distance from the handlebar to the upper body. Determine what is most comfortable for you in practice.

To tilt the stem upwards:

1. Loosen the Allen bolt [A] a few turns with an Allen key.
2. Position the stem as desired and then tighten the bolt securely.



To tilt the handlebar:

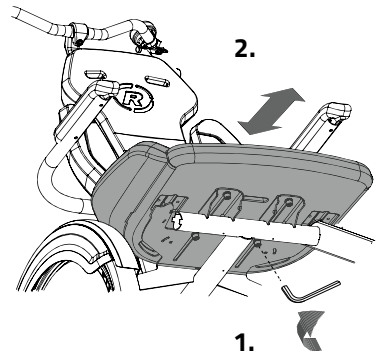
1. Loosen the 4 Allen bolts [B] a few turns with an Allen key.
2. Position the handlebar as desired and then tighten the 4 bolts securely.

Seat depth

Adjust the seat depth to the passenger. Adjust the seat to the desired position.

To do this:

1. Unscrew the four screws with Allen key.
2. Slide the seating in the desired position and tighten the four screws.

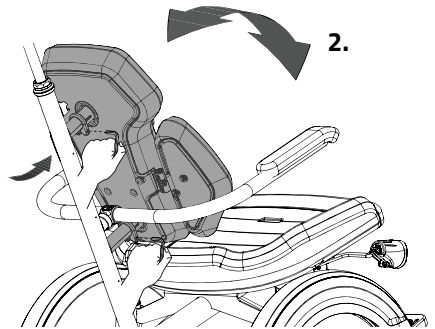


Chair Backrest

Adjust the position of the backrest and side supports to the passenger.

Adjust the backrest to the desired position. To do this:

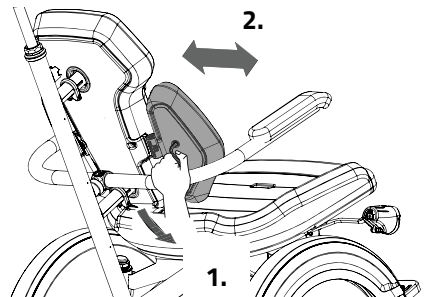
1. Loosen the screw of the top and/or bottom bar with an Allen key.
2. Turn the backrest to such a position that the passenger feels comfortable. Now tighten the screws.



Adjust the width of the side supports.

To do this:

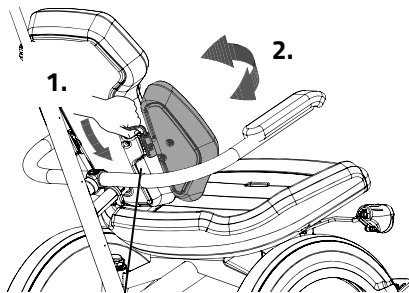
1. Loosen the two backrest screws and two side support screws with an Allen key.
2. Slide the side supports to the passenger's desired position. Now tighten the screws.



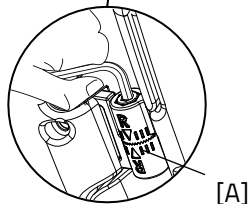
Finish by adjusting the angle of the side supports.

To do this:

1. Loosen the screw with an Allen key.
 2. Turn the side supports against the body, so that the passenger is comfortable.
- Now tighten the screw.



The neutral position of the side supports is indicated by the markings [A]. They can also be used to place both side supports in a similar position.

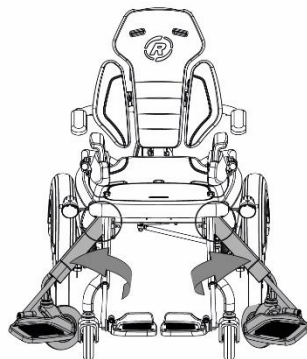


Widen the entry

To easily mount the front of the bike, both footrests can be folded outwards. This widens the entry.

Follow these steps to fold out the footrests:

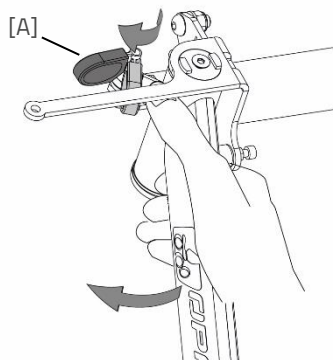
1. Push the orange locking pin [A] to the side with a finger.
2. After pushing aside the locking pin, you can fold the footrests outwards.
3. The footrest will automatically lock when it is in the fully extended position. A click will be heard when the locking pin [A] engages.



To fold the footrests back in, follow the same steps.



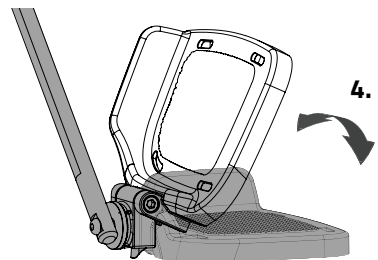
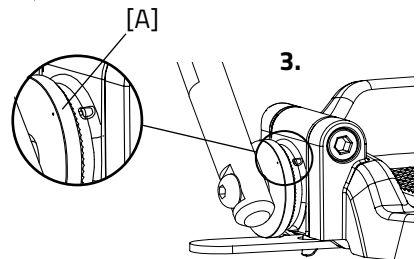
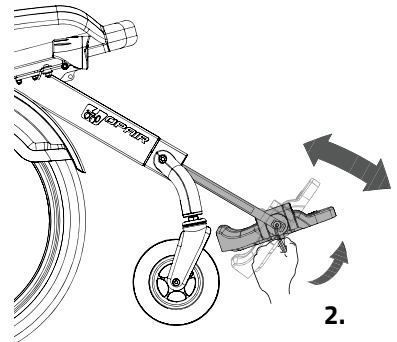
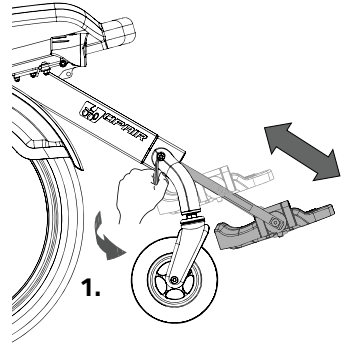
Always ensure that the footrests are locked before you start cycling.



Footplates

Adjust the position of the footplates to the passenger.

1. To adjust the height of the footplate:
First determine whether the footplates are in the right position. This depends on the leg length of the passenger.
Loosen the screw with an Allen key. The footplates can now be slide out and be put in the correct position.
Make sure that the legs are at an angle of 90 degrees. Now tighten the screw.
2. To adjust the angle of the footplate:
Loosen the screw with an Allen key and place the rest in the desired position as indicated by the passenger.
Now tighten the screw.
3. The neutral position is indicated by markings [A]. This so you will know when both footplates are set to the same position
4. The footplates can be folded when mounting and dismounting.

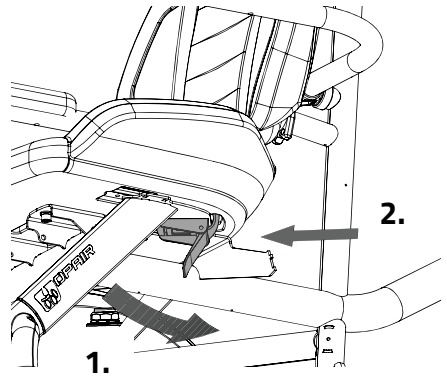
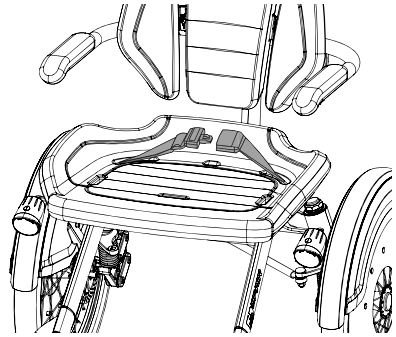


Chair Hip Belt

Wrap the belt around the body and snap it into the clamp. You can remove the seat belt again by pressing the red button.

Adjust the belt length to the passenger by following these steps:

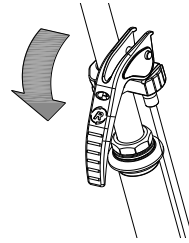
1. Open the belt clamp on the bottom of the seat.
2. Pull the belt so that it covers the body of the passenger. Now close the belt clamp.



Before the first use

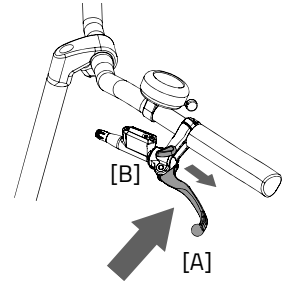
Parking brake

Always use the parking brake if you park the tricycle and leave it behind.



Block the tricycle with the hydro brake when passengers are getting on and off.

To operate the parking brake, squeeze the left brake [A] and secure the brake with the lever [B].



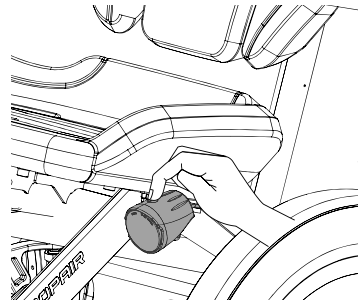
Always try to park the tricycle on a level surface. The tricycle may never be parked on a slope bigger than 6 degrees.

Lighting

Normally, the lighting on your bike can be operated manually and set to different modes. However, if your bike is equipped with the Silent Elektro system, your lighting will automatically turn off when the electric system is activated. The controls of both the manually operated and centrally operated lighting is explained below.

Manually operated headlight

The front light has a pressure switch with three settings: **On/Auto/Off**.



By pressing the pressure switch once, the front light will turn on. By pressing again the lamp will switch to 'Auto' mode (a green LED will flash for 5 minutes). Finally, a third press will turn the front light off.

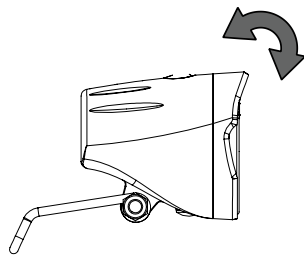
Auto "on" feature:

The front light will automatically turn (as long as it is in 'Auto' mode) on when it is dark, the light sensor is activated and the tricycle is in motion.

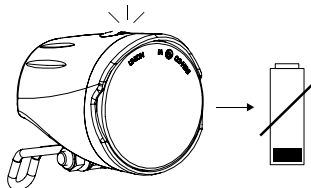
Auto "off" feature:

The front light will automatically turn off after 4.5 minutes without motion in 'Auto' mode. The light will first dim from 100% to 50% and then completely turn off.

Adjust the angle of the front light so that the centre of the light beam is located approximately ten metres in front of the tricycle.



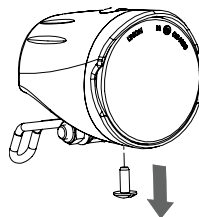
Under the pressure switch on the top of the front light is a battery indicator that lights up when the batteries are low. Once the battery indicator starts lighting up red, replace the batteries as soon as possible.



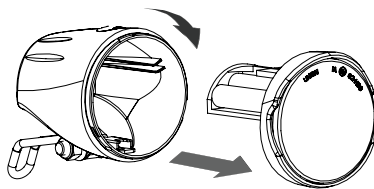
The light comes with 4 pre-installed AAA alkaline batteries. Before use, remove the plastic strip that protects the batteries.

Follows the steps below to replace the batteries.

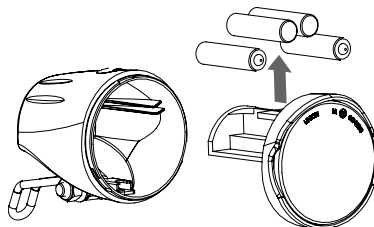
1. Remove the screw on the bottom of the front light with a screwdriver.



2. Remove the front cover by turning it slightly and pulling it forward.



3. Replace the alkaline batteries (1.5 V - 1500 mA) and reattach the front cover.





Operate the lights only at standstill to avoid dangerous situations and risk of entrapment. Recommendation: use the automatic mode of lighting.

Manually operated rear light

The rear light has three options which you can choose by pressing the button repeatedly: **On-
Auto-Off.**

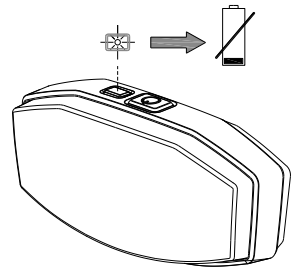
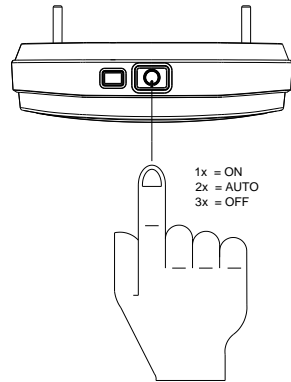
The setting is as follows:

- *Press 1x: light is on*
- *Press 2x: lighting is automatic*
- *Press 3x: light is off*

With the "On" or "Off" mode, the rear light can be manually switched on and off.

With the "Automatic" mode the rear light automatically turns on and off with the help of light and movement sensors. When the tricycle stands still for a while, the light will automatically turn off.

The rear light works on batteries. When the batteries are almost empty, a red LED light on the top starts flashing. To replace the batteries, follow the next steps.



1. Dismantle the cover of the holder by pressing in the lip at the bottom of the light.
2. Replace the alkaline batteries (1,5 V - 1500 mA) and assemble the cover.



*Batteries cause environmental pollution.
Follow the local regulations during disposal.*

Centrally Operated Lighting

The bike has been equipped with centrally operated lighting, with the lighting being connected to the electric system.

The lighting will turn on automatically when the electric system is activated.

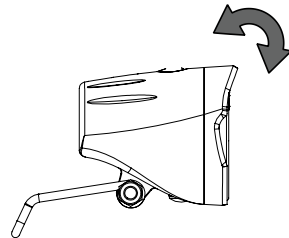
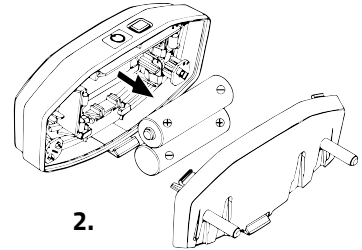
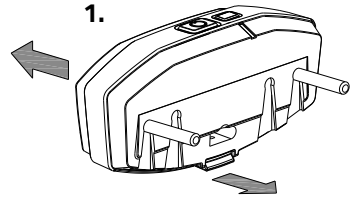
Adjust the angle of the headlight, so that the centre of the light beam is aimed about ten metres in front of the bike.

You can manually turn the lighting on and off by briefly pushing the on/off button on the display. When the electric system is turned off, the lighting will turn off automatically.



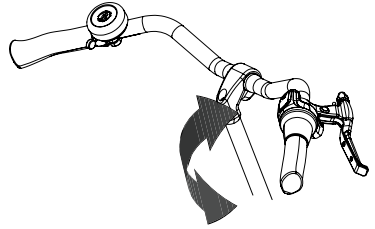
Make sure there is always a battery on the bike when you are cycling after dark!

Once the battery is nearly empty, the motor will no longer provide pedal support power assistance while cycling. The lighting will still be powered by leftover power.



Gears

Your tricycle has eight gears. The gears can be adjusted by turning the handle.



Never pedal when changing gears.

Please note: If your bike has an electric motor at the rear, you must **continue pedalling** when changing gears.



Please note! Do not shift gears and then paddle backwards. This could cause the chain to run off the sprocket.

Before every ride check:

- The brakes (including the parking brake)
- The tyre pressure
- The lighting
- That all parts are secure
- That the battery is sufficiently charged (optional)

Contact your dealer and never use your bike if you notice any irregularities.

As is the case with all mechanical parts, the tricycle is subject to wear and high loads. If a component fails, this may lead to very dangerous situations and damage or injury to the tricycle or user. Any form of cracks, scratches or change of colour in heavily loaded parts of a component is an indication that the part must be replaced.

Points of attention while cycling

Once you've set up the bike on the basis of the rider and passenger's size you can start using the bike.



Your bike is a tricycle. The experience of riding a tricycle is completely different from riding a bicycle with two wheels!

Practice, in particular, with bends and braking, because a tricycle can react contrary to what you would expect. It may happen that the back wheel comes off the ground on the inside when going round a bend. To avoid this the rider leans towards the inside of the bend with his body.

One of the brake levers (usually the right) operates the brake on the front wheel. This deserves special caution, as a forceful braking could block the front wheel, which could result in a fall. The driver should be familiar with controlled braking of the front wheel!



If there is an electric motor on a bike: you must train with the acceleration function and reverse functions. Be careful that the acceleration mode or reverse mode are not unintentionally started while using the bike. For example, at traffic lights the reverse function can accidentally be activated and the tricycle reverses.



High speeds in the bends, driving on rough ground, and sharp bends can lead to the tricycle **falling over!**



The tricycle will behave differently when cycling without a passenger. Try this very carefully the first time!

Important safety precautions for the rider

- Make sure you ride with extreme caution when first using the bike.
- While riding, keep both hands firmly on the handlebars and your feet on the pedals.
- Test the bike's behaviour at an appropriate speed on uneven surfaces. In doing so, you will learn how to respond to unexpected movement of the bike and handlebars.
- Explore how the tilting movement of the tricycle reacts to your posture. Always lean towards the inside of a bend.
- Small obstacles must be traversed at appropriate speeds.
- Obstacles higher than five centimetres must be avoided.
- Make sure not to ride at dangerous speeds when riding downhill. Brake on time and cycle at a moderate speed.

Silent electrical system

Item number: -2195

The Silent electrical system comprises 5 components: display, button unit, battery, motor and bottom bracket. How the first 3 parts are used is explained in this user manual.

Operation of the display

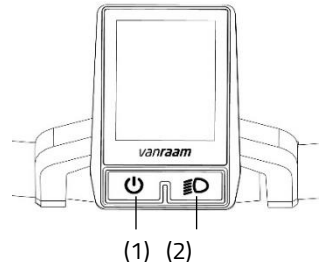
The display provides you with cycling information, which will be explained in more detail later. The display is mounted onto the handlebars by means of a bracket. The display cannot and does not have to be removed when leaving the bike.

(1) On/off

This button switches the electrical system on.

(2) Bicycle lights

The lights on the bicycle switch on automatically when the electrical system is switched on. By pressing this button briefly, the lights can be switched off (and on).



Operation of the button unit

The button unit is mounted next to the handlebar grip. You use the button unit to operate the electrical system.



The button unit can be mounted on the other side of the handlebars by your dealer.

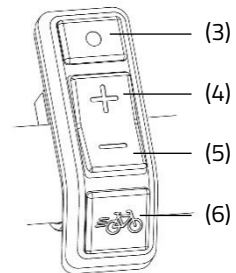
(3) Mode

By pressing this button briefly, you can switch between the different Screen modes.

(4) Plus - Increase pedal support power assistance

(5) Minus - Reduce pedal support power assistance

(6) starting aid

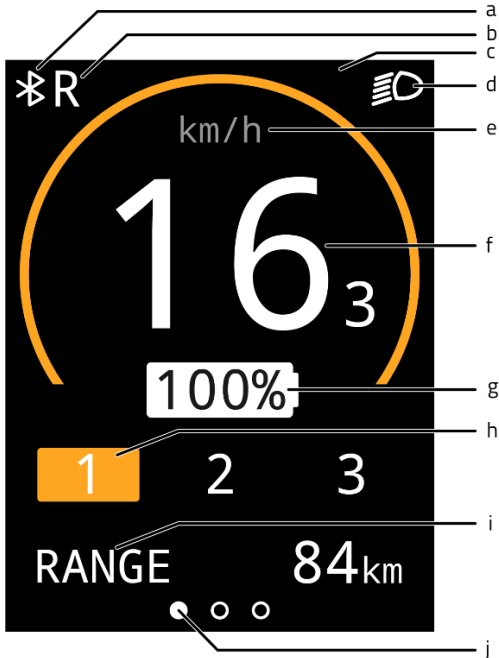


Information screen

After the electrical system is powered up, the information screen is displayed. This screen displays real-time cycling information.



The information screen will only work if you have switched on the electrical system.



- (a) Bluetooth connection
- (b) Reverse function of (thumb) throttle activated
- (c) Notification field
- (d) Bicycle lights
- (e) Speed indicator
- (f) Speed
- (g) Battery charge percentage
- (h) Assistance mode
- (i) Screen modes
- (j) Screen mode orientation bar

Screen modes

The screen mode (i) can be set by using the mode button (3) You can switch between the following 3 screen modes while cycling.

1. Radius of action [RANGE] (default display)
This is the number of kilometres that can still be cycled with the remaining battery capacity in the active assistance mode.



The range is assistance mode dependent and is an estimate, so the actual range may differ from the estimate. The range is dependent on several factors. Among others, the range is influenced by: battery capacity, amount of assistance, tyre pressure, ride speed, rider weight and load, and the environment.

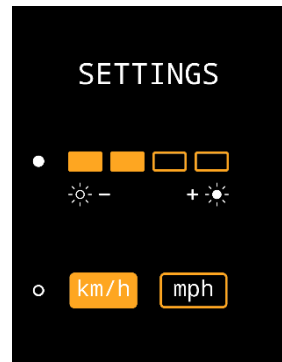
2. Trip distance [TRIP]
This is the distance travelled since the trip odometer was last reset. By holding down the mode button for one second, the trip odometer can be reset to 0.
3. Total distance [TOTAL]
This is the total distance travelled by the bicycle when the electrical system has been switched on.



Settings screen








In the settings screen, the brightness of the display and the units of distance and speed can be changed.

To access the settings screen, the mode button (3) and the plus button (4) should be pressed down simultaneously for one second. Using the mode button (3), you can switch between the settings. The plus and minus buttons (4,5) are used to adjust the setting. To exit the setting screen, press and hold the mode button (3) for one second.



Notifications

Several symbols can be displayed in the information screen. The symbols are explained below. More information on the notifications can be found in the chapter **"Possible Faults"**.

-  The bicycle lights are activated
-  A Bluetooth connection is active
-  No communications with the battery
-  Reverse function of (thumb) throttle is activated
-  The temperature of the controller is too high
-  Voltage is too high
-  Fault

Pedal support power assistance

The Silent electrical system provides assistance while cycling.

Starting aid

With the starting aid, pedal assistance is activated up to a speed of 6 km/h, without having to pedal yourself. To do this, press and hold down the starting aid button (6). If the button is pressed again, the function is reactivated.

If you press the starting aid button while cycling, you will get a "boost". This boost will have the same maximum speed as the bike. The activated pedal assistance mode determines the degree of assistance of the starting aid and the "boost".

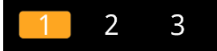
The starting aid button can be used for:

- Extra assistance when starting off (starting aid).
- Extra assistance when cycling uphill (boost).

Assistance settings

The pedal assistance level can be set using assistance settings 1, 2 and 3. The assistance settings can be changed while cycling.

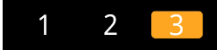
1. Low level of assistance, maximum range.



2. Average support, average range.



3. Maximum support, low range.



Reverse pedalling

The reverse function is activated by pedalling backwards from a stationary position. After a few turns of the wheel, the motor is activated and the bicycle will reverse at the speed of 3 km/h for as long as it is pedalled backwards.



Do not let the electric motor's sudden behaviour take you by surprise. For example, if you wait at the traffic lights and pedal backwards just for fun, the reverse function will be activated and the bike will start riding backwards!

Presets

A preset is a set of settings which sets the level of assistance. By loading a different preset, the level of assistance for all assistance settings can be adjusted. Presets can be changed by the dealer or through the Van Raam app.

Van Raam E-Bike app

With the app, you can track various information and configure the assistance modes. (More information on this can be found in the chapter on the Van Raam E-Bike app)

Charging the Battery

For the best performance and to prolong the life of the battery, we recommend that you charge the battery at home at room temperature.



Only use the charger if the temperature of the environment is between 0 and 35 degrees centigrade.

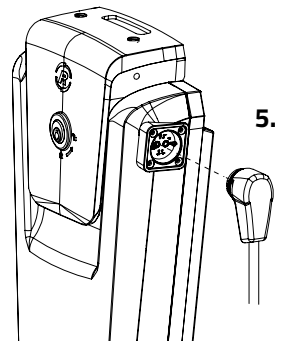
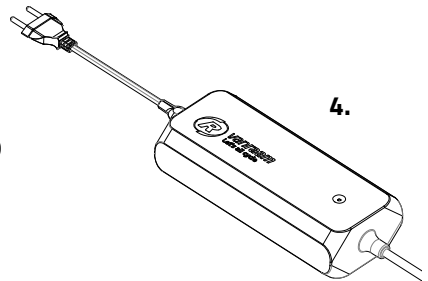
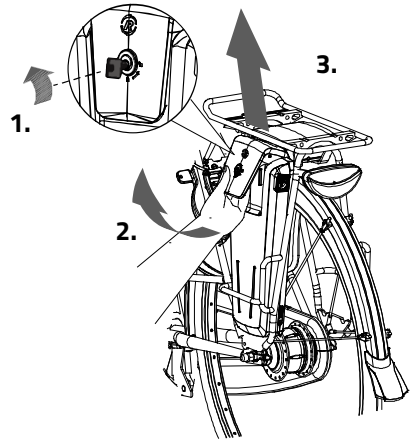
To charge the battery:

1. Unlock the battery by turning the key a quarter.
2. Pull the handle forward.
3. Take the battery pack from the holder.
4. Take the battery pack inside. **First** plug the charger into the socket. The green LED will light up. The charger is now on standby.
5. **Then** insert the charging connector of the charger into the charging point of the battery. The red LED will light up. The charger is now charging.



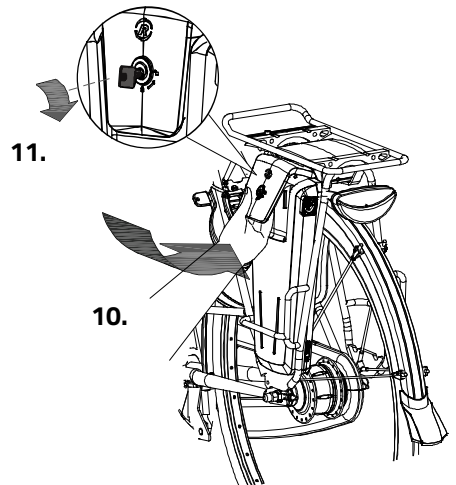
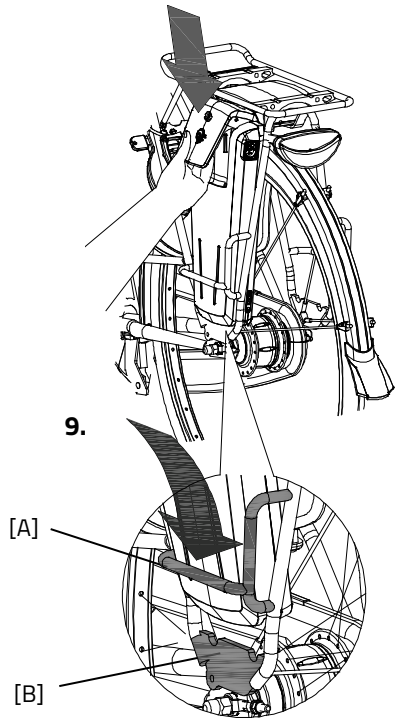
Please note! If the battery is not connected properly, the green LED will light up (standby mode). If the connection is poor, unplug the plug from the socket and clean the charger's connector with a dry cloth.

6. Depending on the battery level, the charging time is about 2,5 hours with a 13,6 Ah/36 V battery.
7. Once the battery is fully charged, the green LED will be solid. Now **first** remove the charging connector of the charger from the connector of the battery.



8. **Then** unplug the charger from the socket.
9. Put the battery back in the holder of the cycle. Slide it behind bar [A] and press it firmly on strip [B].
10. Pull the handle backwards and push the top of the battery to connect as shown in the drawing and close the lock.
11. Push the handle forward and close the lock.

It is also possible to charge the battery while it is still in the holder.



Charger:

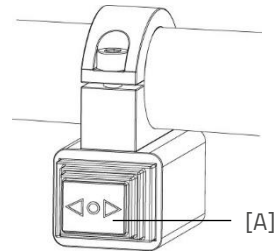
LED indication	Status
Green	Standby
Red	Charging
Green	Battery full
Red, blinking	Safety: Polarity inversion; Short; Over temperature; Over power; Over voltage



It is better for the battery if it is charged regularly, rather than wait until it is completely drained. Never leave the bike with a drained battery!

Direction Indicator

The bike can be equipped with a direction indicator. To operate the direction indicators, press switch [A] on the handlebar to the left or right. When the direction indicator is active, a clicking sound can be heard. To deactivate the direction indicator, you need to set the button to the middle position. The direction indicator is powered by the battery of the Silent Electric System.

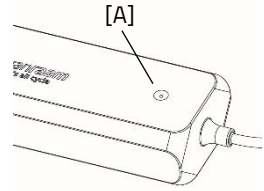


Please note that the turn signal can only be activated when the bicycle's lighting is turned on.

Charger indicator light

The status of the charger is indicated by the coloured indicator light.

- If the indicator light is green, the charger is in standby mode or the battery is full.
- If the indicator light is red then the charger is charging the battery.
- ⊘ If the indicator light flashes red then the charger is in safety mode.



Caution! Unplug the charger from the power outlet.



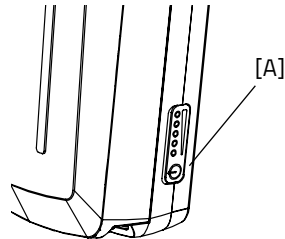
Only use the charger when the ambient temperature is between 0 and 35 C.



It is better for the battery to be charged periodically instead of waiting until it is completely empty.

Battery indicator lights

On the battery pack there is an LED indicator to check the battery charge status. The battery charge status can be read by briefly pressing the on/off button [A]. While the battery is being charged, the indicator shows the charging progress:



- The battery is fully charged. When the battery is used, the number of green lamps will decrease.
- If two green lamps are lit, the battery is 50% charged.
- If only the left LED remains green, the battery is almost empty and needs to be recharged or replaced with a charged battery.
- ⊘○○○○ If the left LED starts blinking green, the battery is empty and the motor will not support cycling for much longer. However, the switchable lighting will still work after that.



Never put the bike away with an empty battery.

Deep sleep battery mode

When the battery is almost empty and has not been used for a week, the battery will go into a "deep sleep mode". In this mode, the battery uses as little energy as possible, which extends the battery life.

When "deep sleep mode" is activated, the battery cannot be used. By pressing the on/off button [A] on the battery, the battery will be released from 'deep sleep mode' and can be used again. It is advisable to charge the battery before using it.

Charging and maintenance of the battery pack

Important safety warning:

- To ensure the battery's optimal condition and capacity, we recommend charging it indoors at room temperature.
- Never put the bicycle away with an empty battery. We recommend charging the battery as soon as possible when it is empty. The best storage charging level for the battery is when the charge display shows three to five LED lights.
- In winter, check the battery charge every other month, recharge it if less than three LEDs light up.
- Preferably store and use the battery between 5 and 20 C, avoid higher and lower temperatures.
- Do not charge the battery in direct sunlight and make sure that the battery is not charged at a temperature lower than 5 C.
- Only use the charger in dry indoor areas, the charger is not allowed to get wet.
- Only use the supplied Van Raam battery and charger.
- The housing of the battery and the charger must not be opened. In case of any problems, please consult your dealer.
- A Van Raam battery is not allowed nor is it possible to recondition the battery due to safety reasons and incorrect functioning of the electrical system.
- Do not drop the battery as this can cause external and internal damage.
- If the bicycle malfunctions, the battery must be disconnected from the bicycle.



Keep in mind that the bike provides less assistance at lower temperatures (0°C and below) and that the battery will drain more quickly. It also takes longer to charge at low temperatures.



Every battery drains over time. This process is called 'self-discharge'. A battery that is empty and not charged can undergo a deep discharge caused by self-discharge and become faulty as a result. The warranty is voided in the case of a deep discharge.



Keep in mind that every battery wears out over time. The wear and tear process of the battery is inevitable and depends on several factors such as use, the number of times to fully discharged and charged and the ambient temperature. Even if the battery is not used, its capacity will decrease. A worn-out battery can be used, but keep in mind that the range will be reduced.

Possible faults

- The system cannot be switched on:
 1. Check that the battery is attached properly.
 2. Check the status of the battery. If it is empty, charge the battery.
 3. If the above does not provide a solution, please contact your dealer.
- If a red LED flashes on the charger, unplug the charger from the power outlet and stop using the charger and battery. In this case, contact your dealer.

Faults table

Fault symbol/ code	Description	Consequence/ course of action
All assistance modes are flashing	Temperature controller too high	System does provide assistance, motor power is reduced.
Thermometer (symbol) + all assistance modes are flashing.	Temperature controller too high	System does not provide assistance, let the controller cool down.
Battery with cross (symbol) + all assistance modes are flashing	No communications with the battery	System does provide assistance. Contact your dealer.
Lightning bolt (symbol) + assistance settings are turned off	Voltage too high	System does not provide assistance, voltage drops automatically when cycling speed is slower than maximum assistance speed.
Exclamation mark (symbol) Exclamation mark (symbol)	Voltage too low	System does not provide assistance, check the connection between controller and battery. Check how full the battery is.
	Controller communication error	System does not provide assistance. Contact your dealer.
Active assistance mode is flashing	Electrical current too high	System does not provide assistance. Contact your dealer.
Active assistance mode is flashing	Motor sensor fault	System does provide assistance. Contact your dealer.
All assistance settings are turned off.	The battery is almost empty.	Charge the battery

Charging and maintenance of the battery pack

Important safety warning:

Charger safety precautions

- Only charge Van Raam Li-Ion batteries with the supplied charger. Only connect the charger to a suitable wall socket (220–240 Volt AC 50–60 Hz). When the charger is not in use, disconnect it from the power outlet and the power plug from the battery.
- The charger may only be used by persons who have read the information in this manual and are familiar with the correct use of the charger. Keep the charger out of reach of children; they should not play with the charger.
- The charger is designed for use in a dust-free, dry and ventilated environment. Do not expose the battery to water, heat sources and direct sunlight. Keep the charger clean and dry.
- Do not charge batteries that feel hot. The battery may only be charged in places where the temperature is no higher than room temperature. Stop charging if the battery gets hotter than ($> 40^{\circ}\text{C}$).

Caution! The charger can become warm during charging $> 50^{\circ}\text{C}$. First, carefully feel whether you can pick up the charger, this temperature can cause hypersensitivity or a startled reaction when it comes into contact with the skin.

- Do not use the charger if it is visibly damaged or modified. Do not repair the charger yourself! Please contact Van Raam. You are strictly prohibited from opening the charger yourself!
- Always keep an eye on the charger and battery while charging. When the battery is full, disconnect the power plug from power outlet and remove the power plug from the battery.

Van Raam e-bike app

The Van Raam bicycle app is a free smartphone app that you can use while cycling on your electric Van Raam bicycle.

What can you do with the Van Raam e-bike app?

- App can be used as a luxury bicycle computer
- Change bike settings
- Send SOS messages with GPS location to a number of your choice
- View information about the bike

How does the Van Raam e-bike app work?

With the Van Raam e-bike app, a connection can be made with the display via Bluetooth connection. As soon as the display is ready to connect to the smartphone, the on/off button will briefly turn blue.

This app can be used as a luxury bicycle computer for Van Raam bicycles with pedal assistance and also contains many other extra functionalities. The dashboard on the app shows the current speed, total distance, trip meter, battery capacity and power consumption during the bike ride. For more cycling data, there is a details screen including average speed, maximum speed, total distance, battery voltage, pedaling power and pedaling frequency.

The Van Raam e-bike app can be downloaded free of charge from the **Google Play Store** or **Apple App Store**.

For more information about the Van Raam e-bike app, you can visit the Van Raam website: www.vanraam.com.



Accessories

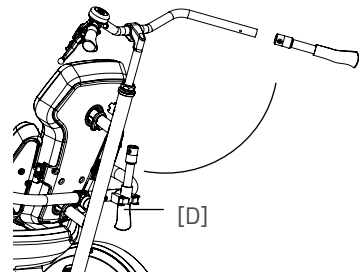
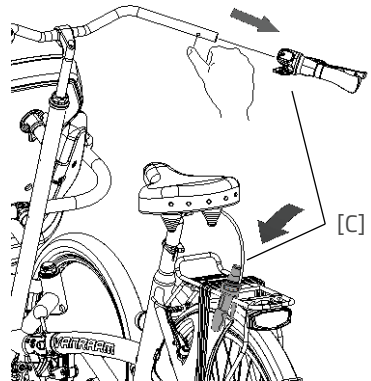
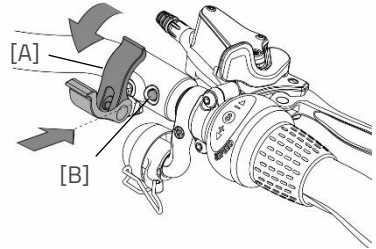
Depending on your order, you can use the accessories described below. Additional accessories are available from your dealer.

Detachable Frame

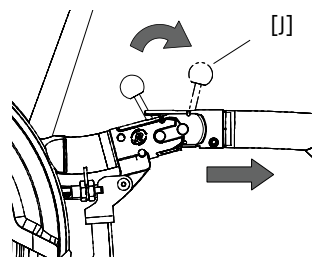
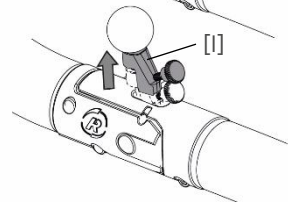
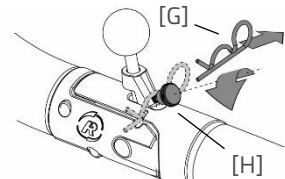
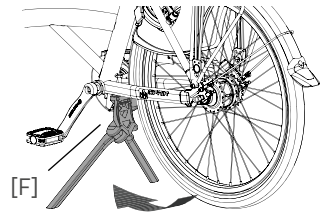
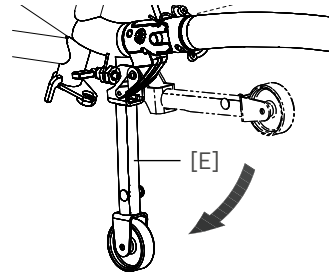
The wheelchair can be detached from the bicycle part, allowing you to use it for walking. Ensure that the bike is on a flat surface before detaching the wheelchair section.

To detach the wheelchair section:

1. Engage the parking brake by squeezing the left brake and securing it with the lever.
2. Remove the right handlebar grip. Open the clamp lever [A] and press the locking ball [B] to remove the grip [C] from the handlebar. Also, remove the parking brake from the handlebar by pulling it straight up from the holder (this may require some force).
3. Hang the handlebar grip [C] with the brake lever on the luggage rack or another suitable part.
4. Take the (extra) loose handlebar grip [D] from the holder located behind the passenger's armrests and place it on the handlebar. Press the locking ball to slide the grip onto the handlebar. Ensure that the ball clicks into place in the grip!



5. Lower the support wheel [E] until it locks into place.
6. Place the rear part on the stand [F].
7. Remove the safety pin [G].
8. Loosen the rotary knob [H] a few turns and then slide the wedge [I] upwards.
9. Hold the rear part (bicycle section) with one hand and pull the lever [J] backward with the other hand to detach the bike. If a passenger is seated, the wheelchair section will tip forward at this moment; otherwise, it will rest on the support wheel.
10. Remove the bicycle section from the coupling. Note: This is heavy. Hold the frame firmly with both hands.



You can now walk with the wheelchair section.

Note: The handlebar locks automatically. To reassemble the bike, follow these steps in reverse order.

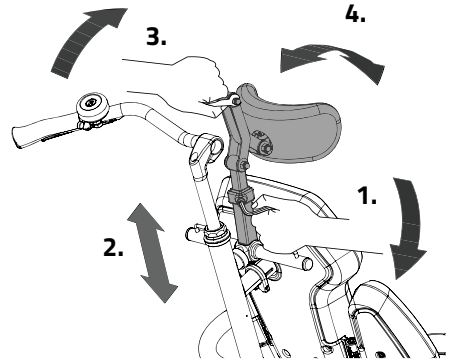


Ensure that the wheelchair is on the front nose wheels when hooking the rear frame back in. Once the frame is hooked in, the wheelchair section can be tilted back, allowing the coupling to click into place.

Headrest

To adjust the headrest:

1. Loosen the headrest's screw with an Allen key.
2. Set the headrest at the right height and tighten the screw.
3. Loosen the headrest's nuts with an open-end wrench.
4. The height, depth and angle can be adjusted simultaneously. Now tighten the nuts again.



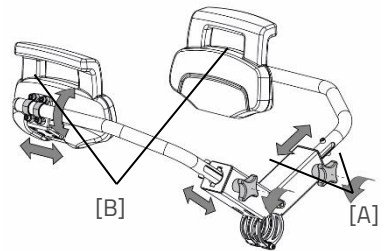
Please note: make sure the handlebars can easily move after setting up the headrest.

Adjusting Seat Width

The width of the seat can be adjusted to fit the passenger.

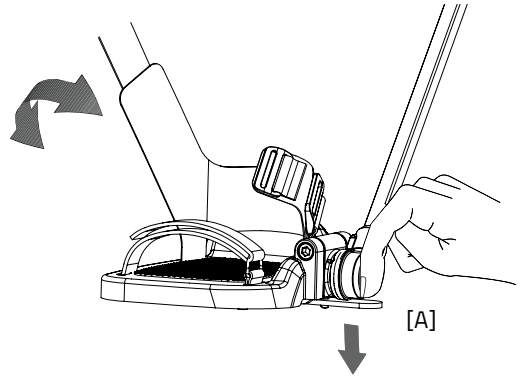
To adjust it:

1. Loosen the star knobs [A] to set the seat width of the side supports.
2. Then tighten them again.
3. Loosen the clamps [B] at the back of the supports to adjust the angle and seat depth.
4. Then tighten the clamp again.



Foot fixation

The feet of the passenger can be fixed by means of two belts. When getting on and off, the footplates can be folded upwards. The footrest can be folded up by pressing the tab [A]. The footplates automatically lock themselves when folded back.



Technical specifications

Length (cm)	214
Width (cm)	76
Height (cm)	120
Mounting Height (cm)	45
Inseam Size (cm)	80-95
Front Wheel	20"
Rear Wheel	26"
Weight (kg)	approx 58
Max. Load Carrier (kg)	20
Max. Weight Rider (kg)	120
Max. Weight Passenger (kg)	120
Brakes, front	Disc Brakes
Rear Brakes	Cantilever / Rim Brakes

Maintenance and adjustments by owner

Below are some instructions for maintenance and adjustments that you can perform on a regular basis. This ensures an optimum condition of your bike.

Cleaning

The frame of the tricycle can be cleaned with a damp cloth. For dirty spots it is recommended to use a mild detergent.

The wheels can be cleaned with a damp brush with plastic bristles (not a wire brush!). The saddle, handlebars and seat can be cleaned with mild soap and water.



Never use a high pressure or steam cleaner!

The right lubricant

The chain should be cleaned and maintained regularly (approx. once every three months). Only use special chain grease or Teflon spray. This is the only way to ensure that the chain moves smoothly, remains water-repellent and does not rust.

1. Clean the chain with a cloth.
2. Treat the chain with grease or spray.
3. Remove all abundant lubricants with a rag.

Never treat any of the other parts with lubricant.

Inspection of the tricycle

It is necessary to have the bike inspected by a dealer at least once a year. This in order to extend your warranty claim. Please use the 'Service, Maintenance and Modifications Form' at the back of this manual when doing so. The first maintenance will be performed after the first 200 kilometres or two months.

In case of failure or defects, **immediately** bring the tricycle to the dealer for repair.

The replacement of safety-related components (i.e. frame, brakes, lights, handlebars, front fork and drive) must be done by your dealer.

If you choose to replace components by yourself, you will be liable for any damage or injury caused by improperly installed components.

Only use **original** Van Raam spare parts. You can purchase these from your dealer. Upon request, the dealer will provide the necessary information for repair and maintenance.

Repair and maintenance by your dealer

During the maintenance session, check the brakes, wheels, lights, chain tension and spokes. Also check the tread depth of the tyres. This must be at least one millimetre. Worn tyres or defective parts must be replaced. Also check the operation of the parking brake. When the parking brake is active, the tricycle with rider may not move. Finally, the front suspension must be checked. First check whether the bolts are secure. Subsequently check whether the spring does not allow any vertical play. If this is the case, it is necessary to take a closer look at this component.

Inspection of the rims

Due to the interplay between both the brake and rims, both the condition of the brake lining and rims is important. For this reason, the rims must be regularly inspected (e.g. when pumping the tyre). The presence of fine cracks in the rim at the spoke nipples or deformation of the rim during elevated air pressure in the tyre, indicate greater wear and tear. In that case the rim must be replaced. If not, this may negatively impact the operation of the brakes or may even cause a break in the rim with all sorts of dangerous consequences.

Repairs, maintenance and modifications may only be performed with original Van Raam parts.

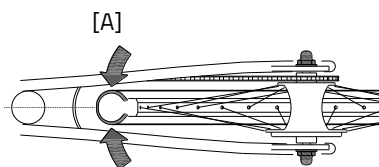
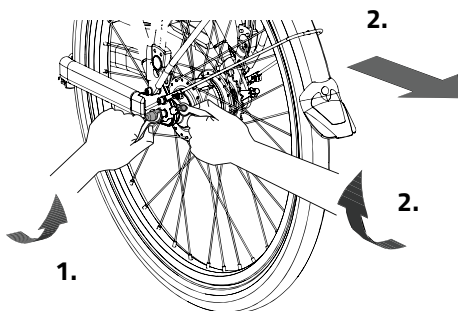
Adjustments by dealer

The correct tension of the chains

Several chains are present on the tricycle. These must have enough room for movement. Without any real effort, the chain must be able to be moved about half a centimetre up and down.

In order to keep tension on the chain, the rear wheel axis can be adjusted. Follow the instructions below:

1. Slightly loosen the nuts on the rear wheel axis, allowing the rear wheel to move back and forth.
2. Tighten the screws on the two chain tensioners, making the rear wheel move backwards and tightening the chain. Do this in such a way that the chain has some room to move, as previously indicated.
3. At the same time, make sure the wheel is straight and located in the middle of the frame. Not to the left or right. See figure [A].
4. Lightly tighten the nuts of the rear wheel axis.
5. Make sure the tension on the chain is adequate and that the wheel is attached straight to the frame.
6. Now firmly tighten the nuts.



Setting the steering

In order to realise optimal steering behaviour and minimal tyre wear, the steering must be set correctly.

1. Loosen the left and right nuts of the steering shaft [A].

Please note! This is a nut with a left wire and a nut with a right wire.

2. Subsequently turn the steering shaft to adjust the tracking of the wheels. The wheels must be set parallel.

3. Tighten the nuts of the steering shaft again.

4. Loosen the two nuts of the steering shaft [B].

Please note! This is a nut with a left wire and a nut with a right wire.

5. Make sure the steering stop is in the middle of the steering plate [C]. In case of a dividable frame, the handlebar is automatically fixed in this position when the wheelchair section is disconnected.

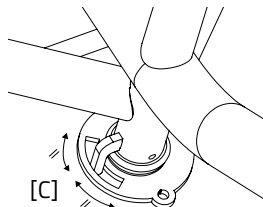
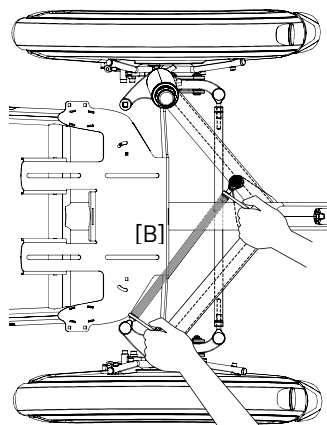
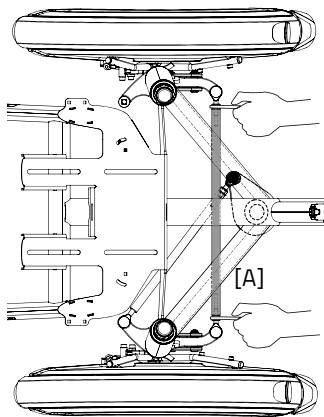
6. Subsequently move the steering shaft to ensure that the wheels face straight ahead when the steering stop is in the middle of the steering plate.

7. Tighten the nuts of the steering shaft again.

8. Finally point the handlebar straight ahead.

Make sure the wheels also face straight ahead at that moment.

9. Check whether the tricycle easily drives straight ahead on the tyres, without resistance and friction.

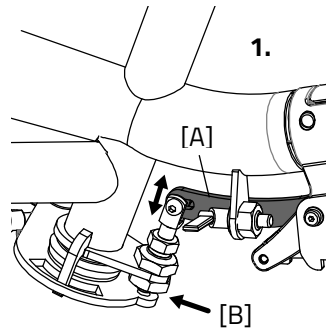


Handle Bar Lock on Detachable Frame

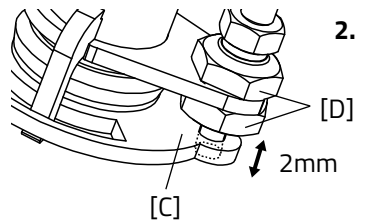
It is important that the handlebar lock is set up correctly. The locking bolt ensures that the handlebars are locked when the rear frame is detached from the front frame.

Check if the handle bar lock has been set up correctly:

1. When the front and rear frame are linked, check if the bracket [A] is not under tension and has minimal vertical movement. Also check if the locking bolt [B] is released.
2. When the front and rear frame are detached, check if the locking bolt sticks into the plate [C] by at least 2 mm.



If this deviates, loosen the two nuts [D] using a nut spanner and adjust the locking bolt in the correct manner as described above.



Disposal

If you want to dispose your tricycle, contact your dealer. You can also contact the local waste disposal company. They will dispose the tricycle according to the regulations of your town.

Recycling the Battery

If your battery is defective or if you are no longer using it, you must have it recycled. Please contact your dealer. They are responsible for complying with the recycling obligation. Ask them about the conditions or view the rules regarding recycling in your place of residence/country.

Handover/sale to a new owner

When you hand over your tricycle to a new owner it is important that you also hand over all necessary technical documentation and spare keys, so that the new owner can use the tricycle safely.

Guarantee

The guarantee is valid for all faults in the product, which are proven to be caused by material or manufacturing error.

We give a guarantee of five years on the frame and the front fork. For all accessories and other parts (except wear parts) we provide a two year guarantee, as legally regulated. The guarantee only applies for normal use and maintenance of the tricycle, as described in this manual.

Beware!

The guarantee as well as the product liability in general expires if the instructions stated in this manual are not followed. This is also the case if unauthorized maintenance is carried out or if technical changes or additions are made with non-original Van Raam parts without permission of Van Raam. The original CE certification will become nul-and-void if modifications are done by third parties. The absence of the certification can lead to problems in insuring your bike, and for any loss or incurred.

Frame number

The frame number is printed on the sticker. This sticker is located on the frame, see the image below.

Example sticker:



Position of sticker:



Achter op de zitbuis

Maintenance recommendation

A Van Raam bike often is subject to extensive use and must perform in all weather conditions. By correctly maintaining the bike, the lifecycle can be extended greatly. This maintenance can be done by a Van Raam dealer. In most cases, you can do the monthly and annual inspection yourself.

Maintenance Overview:

What	One-person bike	Multi-person bike	Duration	By whom?
1 st service moment	3 months/300 km	3 months/200 km	15 min	Dealer
2 nd Service moment	6 months/1.000 km	6 months/500 km	15-30 min	Dealer
3 rd Service moment	12 months/2.000 km	12 months/1.000 km	30-90 min	Dealer
Monthly inspection*	Every month	Every month	15 min	User
Annual inspection*	Every 12 months	Every 12 months	60 min	User

* This is advised to extend your bike's lifecycle. You can also have this done by your dealer.

Monthly inspection

15 minutes

Among them:

- Check and inflate the tyres
- Check the chain tension and grease if needed
- Tighten bolts/nuts where needed
- Check all lights
- Check the brakes
- Check all rotating parts and grease if needed
- Clean the bike

Annual inspection

60 minutes

Among them:

- Check and touch up the paintwork
- Check the wheels for any buckling
- Check the spoke tension
- Check the steering ball joints
- Check all lights
- Check the saddle clamp
- Check the placement of all electric components (E-Bikes only)

1st Service moment

15-30 minutes

Among them:

- Check tyres and inflate
- Check the spoke tension
- Check the chain tension and grease
- Tighten any bolts and nuts if needed
- Check all brake cables and brake calipers
- Check the gears
- Check and grease all rotating parts
- Check all lights
- Clean the bike

2nd Service moment

30-90 minutes

Among them: All points from service moment 1, and:

- Inspection of the pedals and bottom bracket
- Grease and tighten the lock
- Grease and tighten the steering stem
- Check the steering ball joints
- Run all tests in the dealer tool (E-Bike)

3rd Service moment

60-120 minutes

Among them: All points from service moment 1, 2, and:

- Inspection of the paintwork
- Inspection of the frame/front fork
- Inspection of the seat cushions
- Inspect the functioning and sound of the motor/gear hub
- check reflectors for any damage
- Check all electric components on their placement (E-Bike)
- Run all tests in the dealer tool (E-Bike)

Service plan

1st Service moment

- Yes/No
- Dealer:
- Mechanic:

Date:

Remarks:

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2nd Service moment

- Yes/No
- Dealer:
- Mechanic:

Date:

Remarks:

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3rd Service moment

- Yes/No
- Dealer:
- Mechanic:

Date:

Remarks:

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Annual inspection

Date	Dealer	Mechanic	Remarks

Here you have space to take notes or write down the maintenance on your bike:

Here you have space to take notes or write down the maintenance on your bike:

Delivery and service form

Congratulations on your purchase of your Van Raam tricycle. This bike is produced with utmost care. To guarantee the quality as much as possible Van Raam produces the cycles according to the ISO 9001:2015 quality standards. Van Raam has been certified by DNV GL Business Assurance B.V.

You will especially enjoy your Van Raam bike when the bike is adjusted to your specifications and when the instructions in the user manual are followed. Pay special attention on the service intervals who specified in the manual of the bike.

To claim warranty and service you should always fill out this form, at least at delivery and service. This signed form declares that the end user had an instruction on the operation of the tricycle, that the tricycle is adjusted to the specifications of the end user and that the user manual is received.

Fill out when the tricycle is delivered

Type Van Raam tricycle:	
Frame number:	
Key number:	
Delivered to:	
By dealer:	
Place:	
Date:	
Signature user bike:	Signature dealer:
When available, stamp dealer:	