HVR 50.4 MINI – HVR 50.4
HVR 50.4 PRO – HVR 60.4
Bedienungsanleitung

WARNING:

Read these operating instructions carefully before you start using your HVR!

Dear HVR customer,

Thank you and congratulations on purchasing an HVR Ele electric motorcycle.
Read the operating instructions carefully and completely to ensure safe and long-term operation of the HVR and act carefully during operation.

The HVR is the electric motorcycle for children with a powerful electric drive that is perfectly adaptable to your child's riding skills.

Long travel times are possible thanks to the large battery capacity.
The electric drive system is almost maintenance-free and equipped with a large number of sensors to ensure easy and safe handling.

Make sure your child is mentally and physically fit to ride a motorcycle. Safe cycling is a basic requirement for this.

Your child must always wear appropriate protective clothing when riding a motorcycle. At the beginning you explain to your child the functions and controls of the motorcycle as well as the driving technique.

With the HVR Connect app, the power and speed of the HVR can be adjusted over a wide range.

With a low power setting, you can run alongside your child without any problems and support them with their first attempts at driving.

For experienced young racing drivers, the HVR can be transformed into a winning motorcycle with over 8000 watts of power and a top speed of 70 km / h in a matter of seconds.

With this electric motorcycle we would like to give you and your child the opportunity to get into motorcycle off-road sport more easily and have a lot of fun.
The parents also enjoy the low maintenance requirements and low maintenance costs. The low emissions, especially the low noise emissions, make it possible to drive in completely new places and much more frequently.

Nina Deitermann
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CONTENTS

1. IMPORTANT SYMBOLS AND DESIGNATIONS

WARNING: " WARNING “indicates a possibly dangerous situation, which is to be
Injury or death and property damage can result if the situation is not prevented. The symbol " WARNING ”must therefore be given special attention.

DANGER: " ATTENTION “indicates a situation that could lead to damage or malfunction
can result if the situation is not prevented. Make sure you follow the instructions marked with the "ATTENTION" symbol.

NOTE: " NOTE “indicates helpful information which a better use
of the motorcycle. Following the "NOTE" symbol improves or extends the range of uses for the motorcycle.

2. SAFETY NOTICE

WARNING:

Read these operating instructions carefully before putting the HVR into operation!

To ensure safe and long operation, please note the following:

- Your child must be mentally and physically able to ride a motorcycle

- The minimum age is 6 years

- Riding a bicycle is the basic requirement for riding a motorcycle

- Explain to your child how to handle the motorcycle and discuss this with your child so that it is safe to use he understands with the motorcycle

- Rotating parts such as chains, sprockets, wheels etc. pose a risk of injury to fingers and other body parts, so it is essential to keep a safe distance from them during operation

- Never let your child ride the motorcycle unattended

- Your child must always wear appropriate protective clothing (motorcycle helmet, protectors, motorcycle boots, gloves, etc.)

- The safety equipment must always be in proper condition

- Be a good role model and always wear protective clothing when riding a motorcycle

- Explain to your child the riding technique and the controls of the motorcycle

- Make sure you have the correct power and speed setting that suits your child's riding ability and check this setting

- The motorcycle may only be charged by an adult, as is the inspection before every ride and maintenance

- The charging process must be supervised by an adult

- Don't push your child to drive beyond their abilities

- In order to take part in races, your child must have the necessary experience and be in a physical and mental state

- The pull cord of the safety switch m ows are worn on the left arm while driving in order to switch off the motorcycle in the event of a fall

- The maximum driver weight is 50kg for the HVR 50.4 and 70kg for the HVR 60.4, each including full driver equipment!

- Attend a training course at a motorsport club with experienced trainers

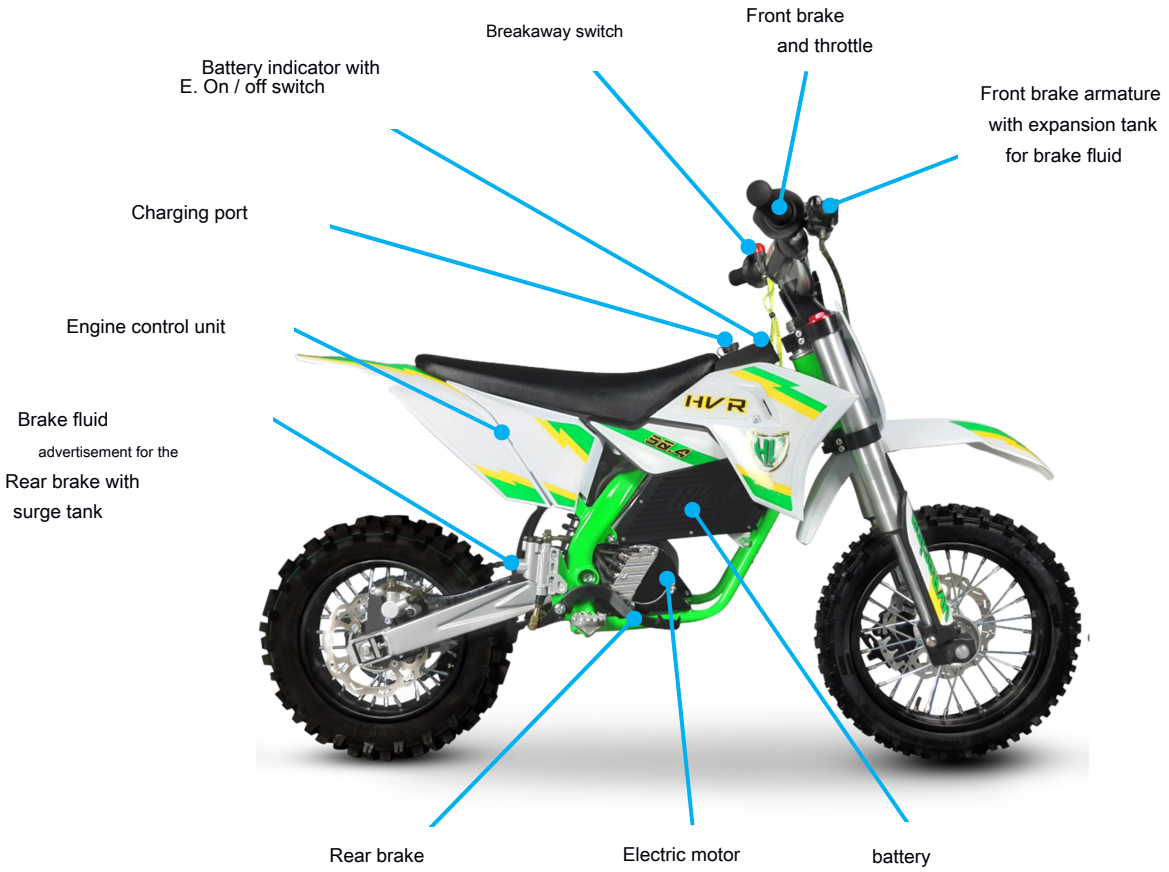
- The brake system can get very hot while driving; do not touch it until after a long cooling phase

- When not in use, pull off the tear-off switch to protect against unauthorized use

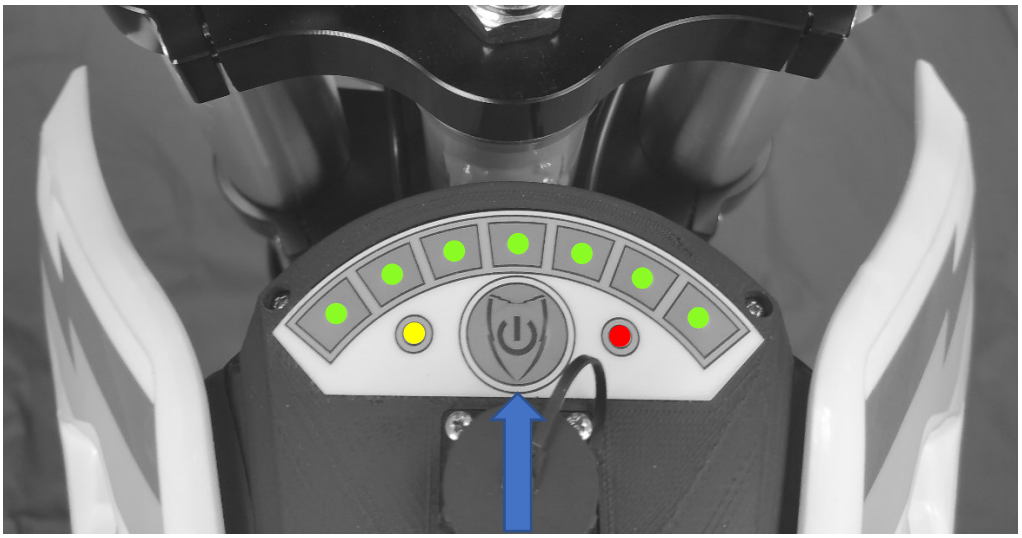
3. TECHNICAL DATA HVR

	HVR 50.4 MINI	HVR 50.4	HVR 50.4 PRO	HVR 60.4
class	50 cc (minicross)	50 cc (minicross)	50 cc (minicross)	65 cc (minicross)
overall length	1350 mm	1350 mm	1400 mm	1600 mm
wheelbase	930 mm	940 mm	980 mm	1135 mm
Seat height	580 mm	630 mm	685 mm	770 mm
Handlebar height	770 mm	820 mm	890 mm	990 mm
bikes	1.4x10 front / 1.4x10 rear	1,4x12 front / 1.4x10 rear	1,4x12 front / 1.4x10 rear	1,4x14 front / 1.4x12 rear
tires	front 10 "2.50 rear 10 “2.50	front 12 “60/100 rear 10 "2.75	front 12 “60/100 rear 10 "2.75	Front 14 "60/100 rear 12 “80/100
Brakes	Front: Two-piston system with 195mm Brake disc Rear: Single piston pliers with each 170mm disc	Front: Two-piston system with 195mm Brake disc Rear: Single piston pliers with each 170mm disc	Front: Two-piston system with 195mm Brake disc Rear: Single piston pliers with each 170mm disc	Front: Two-piston system with 210mm Brake disc Rear: Single piston pliers with each 170mm disc
engine	Brushless HVR liquid- chilled 3 phases E - motor	Brushless HVR liquid- chilled 3 phases chilled 3 phases E - motor	Brushless HVR liquid- chilled 3 phases E - motor	Brushless HVR liquid- E - motor
Converter	BLDC converter 300 A peak	BLDC converter 300 A peak	BLDC converter 300 A peak	BLDC converter 300 A peak
battery	50.4 V 18 Ah Li Ion max.	50.4 V 18 Ah Li Ion 50.4 V 18 Ah Li Ion 50.4 V 18 Ah Li Ion Max. 8000 watts		
power	8000 watts		Max. 8000 watts	Max. 8000 watts
speed	Max. 70 km / h	Max. 70 km / h	Max. 70 km / h	Max. 60 km / h
Primary drive	420 chain 10:45	420 chain 10: 45 420 chain 10: 45 420 chain 9: 55		
Front suspension	33 mm USD 170 mmway	33 mm USD 170 mmway	37 mm USD 180 mmway	33 mm USD 215 mmway
suspension rear: Central strut	170 mm travel	220 mm travel	230 mm travel	275 mm travel
Weight	43 kg	43 kg	44 kg	56 kg

4. CONTROLS



4.1 BATTERY DISPLAY WITH ON / OFF SWITCH



The on / off switch is located in the middle of the display.

GREEN LED: Battery charge status (abbreviation: SOC) LED 1 - 7

YELLOW LED: Temperature pre-warning (flashing) / temperature shutdown (lit) 0% state of charge (SOC) or

RED LED: error

Nac h press de s On / Off switch, the green LEDs of the battery indicator light up one after the other, the yellow and red LEDs light up briefly for testing. The current SOC (state of charge) is then displayed and the motorcycle is ready to drive.

NOTE:

For safety reasons, the HVR switches off automatically after 60 seconds of inactivity, unless it is connected to the APP

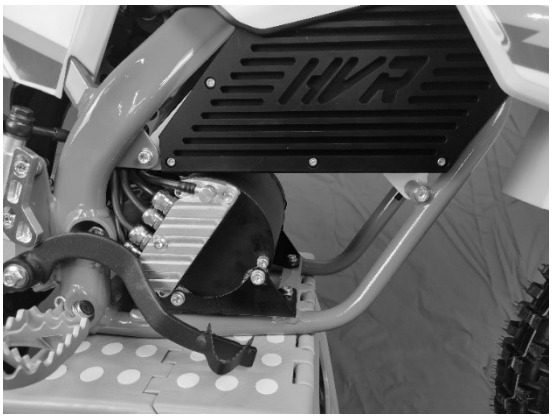
SOC battery indicator

SOC (state of charge)	LED display
0 to 16%	LED 1 flashes
16 to 27%	LED 1 lights up
28 to 39%	LEDs 1 to 2 light up LEDs 1
40 to 51%	to 3 light up LEDs 1 to 4 light
52 to 63%	up LEDs 1 to 5 light up LEDs
64 to 75%	1 to 6 light up LEDs 1 to 7
76 to 88%	light up
88 to 100%	

5. ELECTRIC DRIVE

The electrical drive train of the HVR comprises the battery, the electric motor and the converter.

5.1 BATTERY



The traction battery is the heart of an electric vehicle, performance and range largely depend on the battery. The HVR lithium-ion battery has a specially designed, highly developed battery management system (BMS), which ensures that the battery is always operated within the permissible limits. A large number of sensors constantly measure the parameters of the battery such as the voltage of the individual cells, current, temperature, state of charge (SOC) etc., the Battery becomes permanent monitored and protected by the BMS.

SOC (State of charge) Calibration:
The state of charge is calculated using the current and voltage measurement in order to precisely determine the currently available capacity of the battery. It is recommended to discharge the battery to 0% SOC approximately every 10 charging cycles until the motorcycle switches off. The battery should then be charged to 100%; this procedure calibrates the determination of the state of charge.

NOTE:

The BMS protects the battery from temperatures that are too cold and too warm. For driving in cold conditions, it is recommended to warm the motorcycle in a warm place with approx. 10-25 ° before driving. This improves performance and range.

Very hot ambient temperatures and driving with high power consumption heat up the battery cells. The aluminum side covers serve as heat sinks for the battery cells.

NOTE:

If the battery is too warm or too cold for driving or charging, the yellow LED on the display lights up and the BMS prevents driving or charging until the battery temperature is again within the required range.

The battery temperature can be displayed with the app.

NOTE:

For safety reasons, the HVR 50.4 switches off automatically after a standstill for 60 seconds, unless it is connected to the app.

HVR battery specifications:

Cells	84 Li-Ion cells in the format 18650 plastic
Battery case	aluminum composite housing
nominal voltage	50.4 volts
capacity	18 Ah
Energy content	907 Wh
Battery temperature range driving	0 ° C to 67 ° C
Battery temperature range charging	5 ° C to 50 ° C
Charging time (300 watt standard charger) Charging time	3 h
quick charger (optional)	1 h (typical charge on the route 20 - 90%)

WARNING:

Risk of fire and fire

- NEVER open, damage or burn the battery.

- NEVER short-circuit the battery poles.

- NEVER reverse the polarity of the battery.

- NEVER bring it near heat or fire.

- NEVER try to use any charger other than the original HVR charger.

5.2 ELECTRIC MOTOR AND MOTOR CONTROL UNIT (INVERTER)

The HVR electric motor and the converter ensure that the power delivery is easy to control. No clutch or gear shift is required for driving, the power is available when the driver wants it.

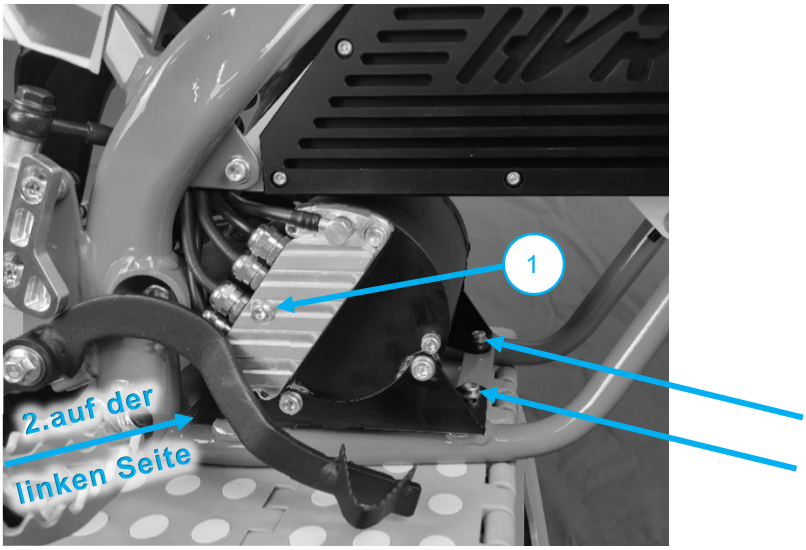
NOTE:

The HVR's electric motor has an innovative liquid cooling system to dissipate the temperature from the inside to the housing. The cooling is designed for the life of the motorcycle and therefore does not have to be changed.

DANGER:

Do not open the motor, otherwise coolant will leak out. The motor may only be removed as a whole using the 4 screws at the bottom of the mounting brackets, the mounting brackets remain on the motor.

Should any oil leak out, it can be refilled through the central screw 1 in the engine block. Use only HVR coolant and only fill up to the hole.



WARNING: **G:**

The motor housing can get very warm after driving at high power, so do not touch it.

NOTE:

The coolant is a special oil that is completely non-toxic and does not attack any components or is environmentally hazardous.

NOTE:

The coolant only serves to better dissipate the heat from inside the engine, even if the vehicle is driven without any coolant, the vehicle will not be damaged. However, it can cause the engine to get too hot under heavy load and the motorcycle switches off to protect the engine from damage.

6. LOADING

WARNING:

The HVR charger is operated with 230 V, make sure that the housing and the cables are not damaged before each use, never use the charger if the charger or the cables are damaged, but send it to HVR for repair. Never open the charger, there is high voltage inside. The HVR charger is only approved for indoor use, never use the charger in the wet. The air inlets and the fan must not be blocked and the air flow hinder . Only use an original HVR charger to charge the HVR. The charging process must always be carried out by an adult, never allow a child to charge the motorcycle. The charging process must be supervised by an adult.

NOTE:

Driving while charging s will you rch the vehicle electronics prevented.

NOTE:

In order to start the charging process, the battery must have a temperature in the range of 5-50 °.

CHARGING PROCESS HVR:

▹ Connect the Schuko plug of the HVR charger to the 230 V household socket.

▹ Open the dust cap (bayonet lock) on the HVR's charging port.

▹ Connect the charging plug of the charger to the charging connection of the motorcycle (bayonet lock), charging now begins automatically and the LED on the HVR charger lights up red.

▹ The flashing green LED on the motorcycle shows the current SOC.

SOC (state of charge)	LED display on the motorcycle
0 to 16%	LED 1 flashes
16 to 27%	LED 1 lights up LED 2 flashes LED 1 to 2
28 to 39%	lights LED 3 flashes LED 1 to 3 lights LED 4
40 to 51%	flashes LED 1 to 4 lights LED 5 flashes LED 1 to
52 to 63%	5 lights LED 6 flashes LED 1 to 6 lights LED 7
64 to 75%	flashes
76 to 88%	
88 to 100%	LED 1 to 7 lights

Normal charging	Motorcycle completely loaded	The battery is too warm or too cold to charge
		
		
The battery is being charged, gradually more and more green LEDs light up (the last flashes) depending on the SOC (state of charge) see table. The lights up on the charger LED red.	The battery is fully charged. 60 seconds later the motorcycle switches off and the green LEDs are on Go out motorcycle. The lights up on the charger LED green.	When the yellow LED on the motorcycle and the green LED light up on the charger means that that the Battery too warm or too cold for loading is. Cools the battery down within the next hour, starts loading automatically. Is the battery too cold you bring that Motorbike to a warmer one Place and start the Loading again when the Battery is warm enough.

NOTE:

If the battery is too warm for charging, wetting the black aluminum side cover helps the battery with water, for example with a simple spray bottle.
The cooling effect caused by the evaporating water quickly removes the heat from the battery.

NOTE:

The exact state of charge and other parameters can be viewed with the HVR app during the charging process.

NOTE:

Charging over 90% of the charge is much slower due to the balancing of the cells, so it is advisable, for example, to only charge the motorcycle to 90% full during the break on the route in order to maximize the training time.

▹ Remove the charging plug on the motorcycle and close the dust cap of the charging connection.

▹ Remove the Schuko plug from the household socket.

NOTE:

Charging can be interrupted and restarted at any time with the on / off switch; the charger must be connected to the Schuko socket and the motorcycle.

NOTE:

The BMS in the HVR battery provides optimal performance ability and service life of the battery safe. Charging is only possible with the original HVR charger.

NOTE:

For charging, the temperature of the battery must be between 5 ° C and 50 ° C, otherwise the yellow LED on the battery indicator lights up and charging is not possible. This serves to ensure a long battery life and to protect the battery cells. Should the battery be too why and If it cools down within the next hour, charging starts automatically. Is the

Battery too cold Take the motorcycle to a warmer place and start the charging process again when the battery is warm enough.

7. SETTING WITH THE HVR APP

NOTE:

For safety reasons, the HVR automatically switches off after 60 seconds of inactivity. As long as the motorcycle is connected to the app, it remains permanently active.

7.1 CONNECTION / PASSWORD REGISTRATION

To connect to the HVR and your Android smartphone (Android 5.0 or higher), download the HVR Connect app from the Google Play Store.
Open the HVR Connect app, turn on the motorcycle and press CONNECT.

The motorcycle is found as "HVR", select this device in the list to register it.

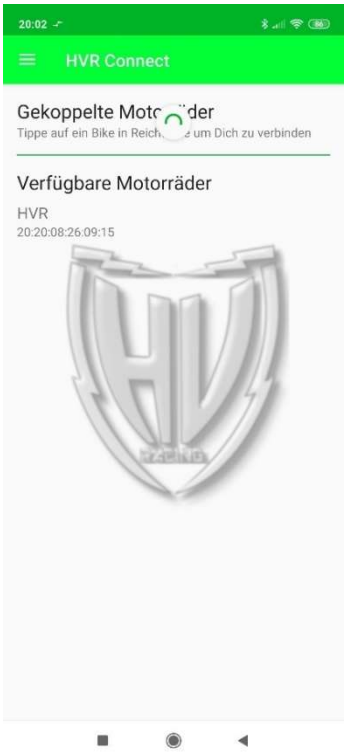
Assign any name to the motorcycle, enter the APP code and confirm this with OK.

NOTE:

The APP code can be found in the delivery certificate and on the converter under the seat.

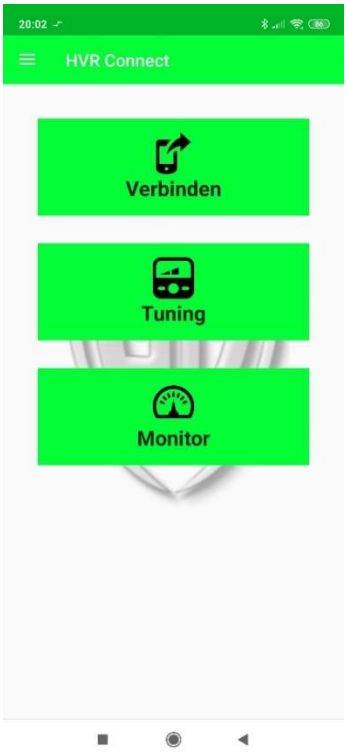
The motorcycle is now registered and available in the list of registered motorcycles. When it is within range you can connect by pressing the name of your motorcycle in the APP.

This process is also described in the quick guide!



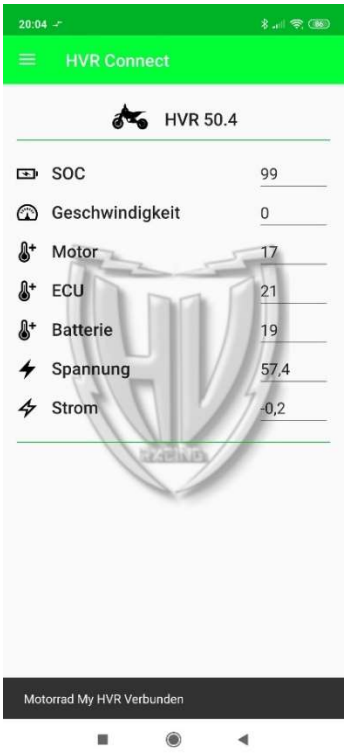
7.2 OBSERVE MONITOR DATA

The MONITOR function shows the current parameters such as SOC, temperatures, voltage, current etc. of the motorcycle:



Press CONNECT

Tap her motorcycle



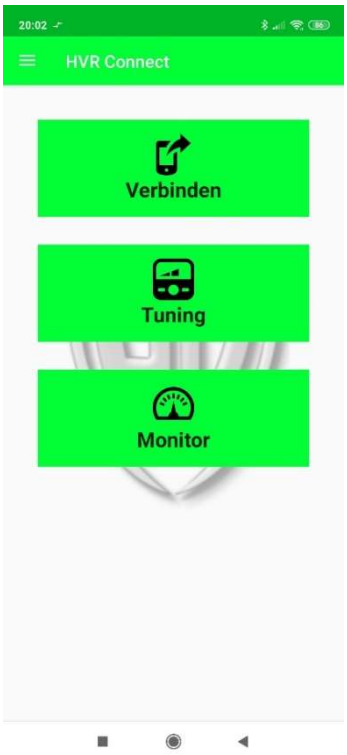
Monitor screen

7.3 ADJUSTING THE MOTORCYCLE SETTING

DANGER:

The motorcycle must be jacked up (with the rear wheel in the air) and must be stationary during the adjustment. The tear-off switch must be removed for the adjustment process. The HVR Connect app shows you when the tear-off switch is still on the vehicle. Adjustment is only possible after removing the tear-off switch.

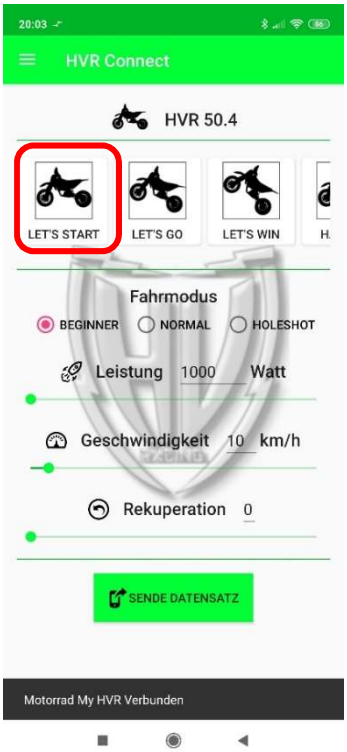
Select SET to adjust the motorcycle's performance data.
3 preset mappings can be selected, these mappings make it easier to get started. If necessary, they serve as a starting point and can be changed individually and saved as new custom mappings in order to optimally adapt the HVR to your child's driving ability and the route conditions.



Press Tuning

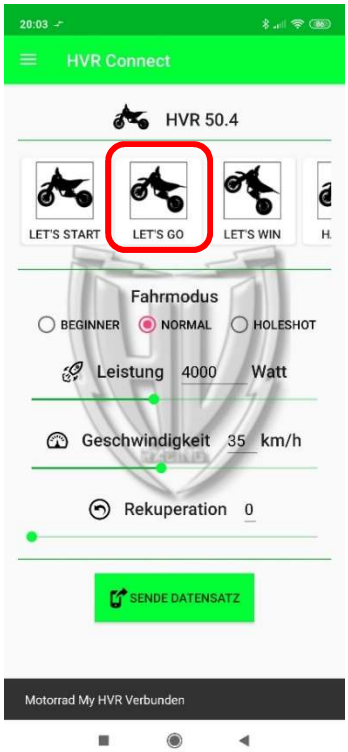
Tap her motorcycle

There are 3 preset mappings available:



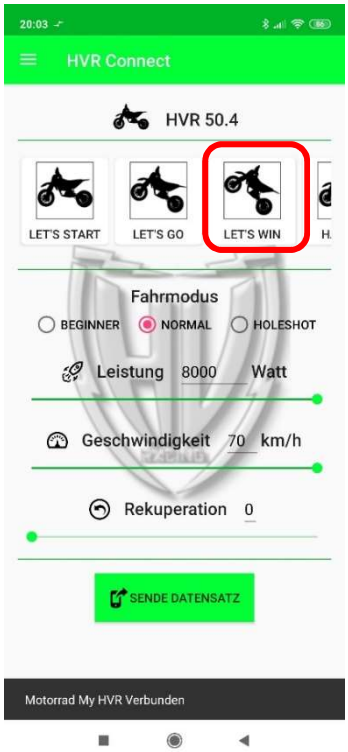
LET'S START

For beginners



LET'S GO

For advanced



LET'S WIN

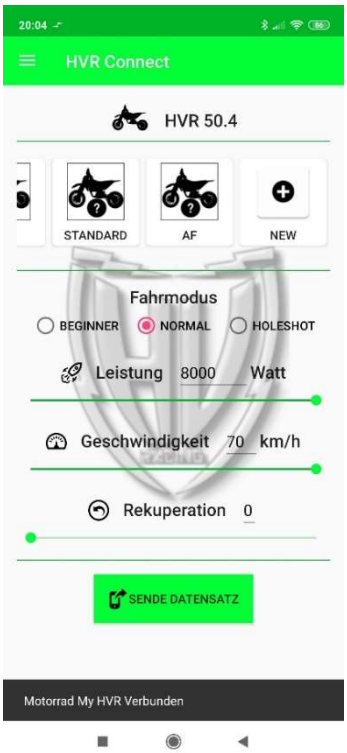
For real racers

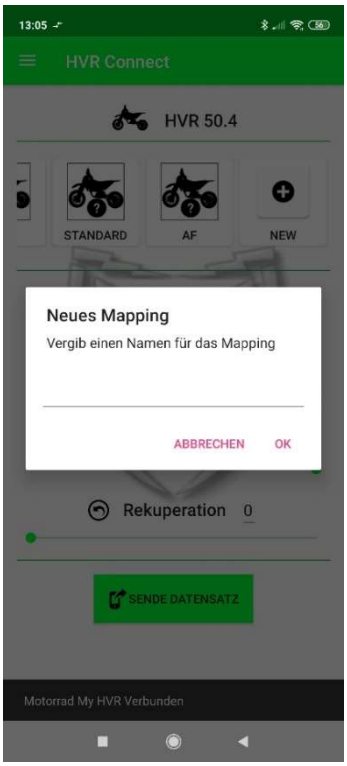
SPEED:
6 - 70 km / h

POWER:
1000 - 8000 watts

RECUPERATION:

0	no engine brake / Recuperation
6th	strong engine brake / Recuperation





Adjust the values accordingly and press SEND to send the set parameters to the motorcycle. The display starts to flash and the motorcycle switches off after the data has been successfully transmitted. The new parameters are activated from the next start.

Should you want to save the set values dr After you have set the parameters accordingly, click on NEW and give it a name. After you have confirmed with OK, the new one Mapping saved.

You can choose one of the following driving modes:

BEGINNER	If the mode is for complete novice drivers, it ensures a gentle throttle response even if the throttle grip is jerked. It cannot be set in conjunction with a high output.
NORMAL	Is the standard mode and should be used as soon as you have a little feel for the throttle grip. In contrast to the beginner mode, it ensures a direct response to the throttle grip.
HOLESHOT	Is the mode for real experts, it ensures a direct and toxic throttle response and thus the strongest acceleration. Holeshot mode is not recommended on slippery track conditions. It cannot be set in conjunction with low power.

WARNING:

After every adjustment with the motorcycle jacked up, check whether the motorcycle behaves as you expect and the set maximum speed windiness is set correctly. To do this, hold the motorcycle tightly, then turn the throttle grip and let the rear wheel turn in the air, making sure that nobody is injured on the rotating parts.

8. TRANSPORT

Pay attention to the following points during transport:

- It is best to transport the motorcycle upright and securely fixed
- If you need to transport the motorcycle on its side, lay the motorcycle on its left side (on which the chain is located)

In order to protect your vehicle from soiling, please always put a blanket under it

NOTE:

If you are transporting the motorcycle on its left side, it is possible that a small amount of coolant will leak out. The coolant is non-toxic.

9. BEFORE YOUR FIRST DRIVING

Before driving for the first time, familiarize your child with the controls of the motorcycle and explain to your child how to use the motorcycle. The setting of the motorcycle must match your child's riding ability. Start with low power and slow speed. Make sure that your child can easily reach the controls. Internalize your child an adapted and safe driving style.

10. DRIVE

WARNING:

Electric vehicles are ready to drive immediately after being switched on without a running engine or noises indicating this. Unintentional twisting of the throttle can set the motorcycle in motion without being expected.

Driving on public roads is prohibited; only allow your child to drive on closed training grounds. The HVR is not equipped with a lighting system, so operation in the dark is not permitted.

Before every trip, check the technical condition of the motorcycle, especially the controls and their ease of movement, the brakes (brake pads, brake fluid level), the chain tension, the condition of the chain and the tires.

Your child must always wear the appropriate protective clothing with protectors and a motorcycle helmet when riding a motorcycle. The pull cord of the breakaway switch must be worn on the left arm in order to switch off the motorcycle in the event of a fall.

Instruct your child on a driving style that is adapted to their driving ability and the route.

11. CLEANING

After driving off-road, first clean the motorcycle carefully with a scraper or spatula to remove the coarse dirt.

DANGER:

Do not use a metal scraper or spatula as this could damage the motorcycle.

Then wash the motorcycle with a soft water jet, do not aim the water jet directly at electronic components and cables.

Dry the motorcycle, grease the chain and check that the controls move easily.

Do not use a high pressure cleaner!

12. DECOMMISSIONING FOR LONG PERIODS

Should the motorcycle be used for a long time, e.g. B. not be used for more than a month clean the motorcycle, lubricate the chain and charge or discharge (depending on the charge level) the battery to approx. 50% SOC. The recommended The storage temperature is between 10 ° C to 15 ° C, do not expose the motorcycle to direct sunlight.

For a longer shutdown e.g. B. For longer than 3 months, the battery voltage should be checked once a month with the MONITOR function of the HVR app.If it has fallen below 46V, charge the battery.

13. MAINTENANCE

13.1 CHAIN

13.1.1 CLEAN THE CHAIN

Check the chain for coarse soiling; if this is the case, it must be cleaned.

Place the motorcycle on a stand so that the rear wheel can rotate freely. Rinse off coarse dirt with a soft jet of water (not a high-pressure cleaner). Use a suitable chain cleaning agent to remove used grease residue. After drying, chain spray must be applied.

13.1.2 CHECK THE CHAIN TENSION

WARNING:

Excessive chain tension can lead to increased wear on the chain, chain sprocket and possibly other components, possibly even tearing or breaking them.

Too little chain tension can cause the chain to jump off the engine sprocket or rear sprocket. If this is the case, the rear wheel can lock up or the engine can be damaged.

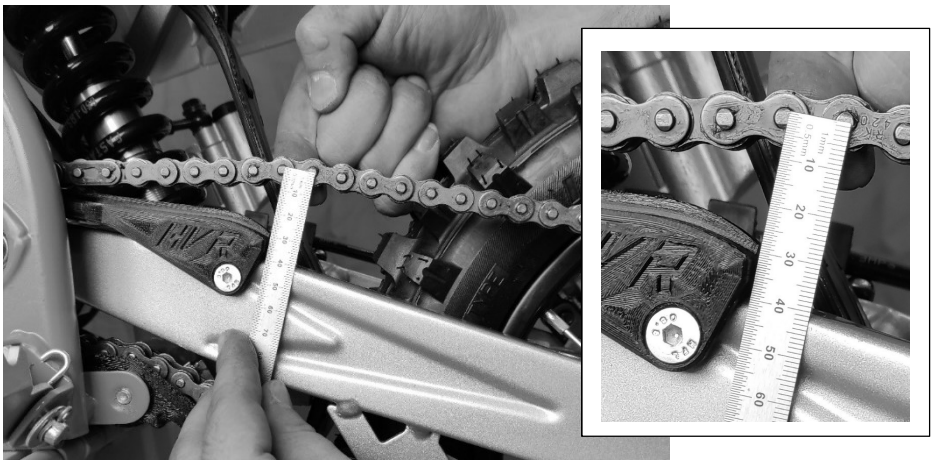
Incorrect chain tension can damage components and lead to accidents!

DANGER:

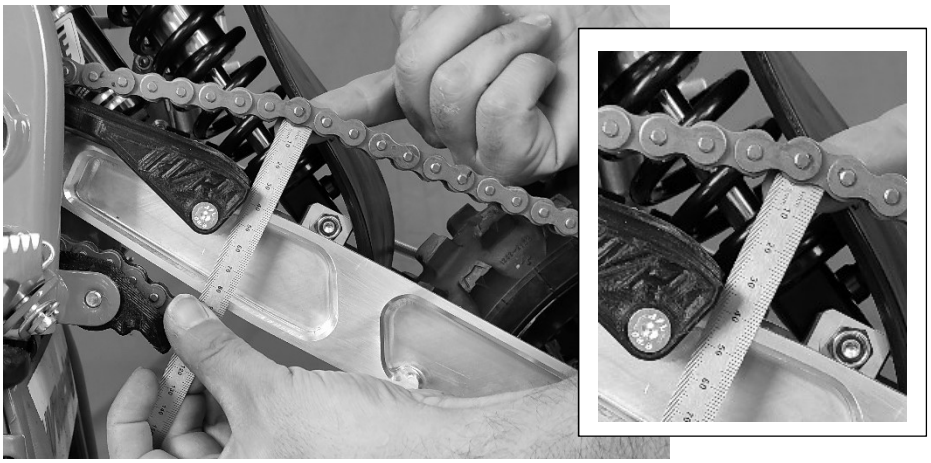
The chain tension must therefore be checked before every ride.

To do this, lift the chain as shown in the respective picture. The distance to the rear edge of the chain grinder must be 40 mm.

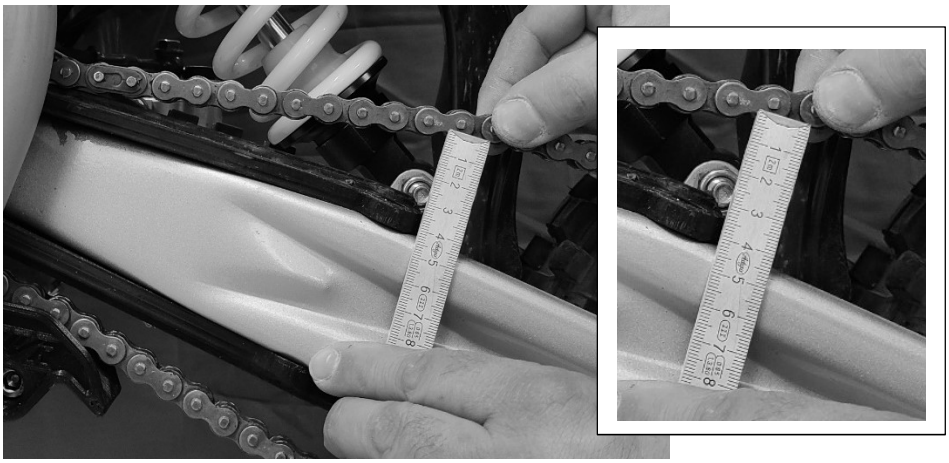
50.4 / 50.4 MINI



50.4 PRO



60.4



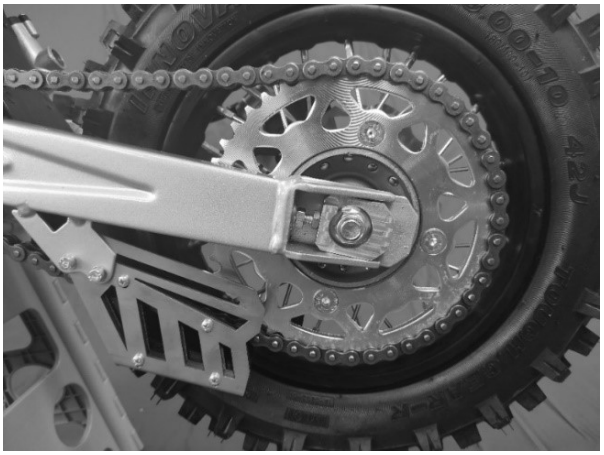
13.1.3 ADJUSTING THE CHAIN TENSION

WARNING:

A rear wheel that is not correctly installed can damage components and cause accidents!

The chain tension is set by loosening the rear wheel axle and is set using the two chain tensioners with the nuts. Make sure that the setting is identical on both sides to ensure that the rear wheel is just mounted.

Make sure that the adjusting screw is fixed again with the lock nut.



NOTE:

In the first hours of operation it is necessary to check and adjust the chain tension more often, as the chain sliders and sprockets run in as well as the chain elongation.

13.2 TIRES

13.2 AIR PRESSURE

WARNING:

If the tire air pressure is too low, wear increases and the tire valve can tear off.

Excessive tire air pressure leads to overstressing of the material and can possibly cause the tire to burst.

Check the air pressure of cold tires before driving.

Tire pressure	
front	1.5 bar
back	1.5 bar

If the tire pressure does not match the specification, correct it accordingly.

NOTE:

If you consciously want to drive with lower tire pressure, we recommend using a tire holder.

13.3 BRAKE FUNCTION AND BRAKE PADS

13.3.1 CHECKING THE BRAKE DISCS

Front wheel

Rear wheel

WARNING:

Worn brake discs reduce the braking effect, which can lead to accidents, injuries and damage to components!

You should therefore regularly check the thickness of the brake discs!
To do this, measure the thickness of the brake discs on the front and rear wheels at several points.

NOTE:

Each braking process reduces the thickness of the brake disk in the area between the brake pads.

Wear limits of the brake discs (min. Thickness) at the front	
	2.2mm
back	2.2mm

If the thickness of the brake disc is below these values, the respective brake disc must be replaced.

Also check the two brake discs for damage, cracks and deformation.

WARNING:

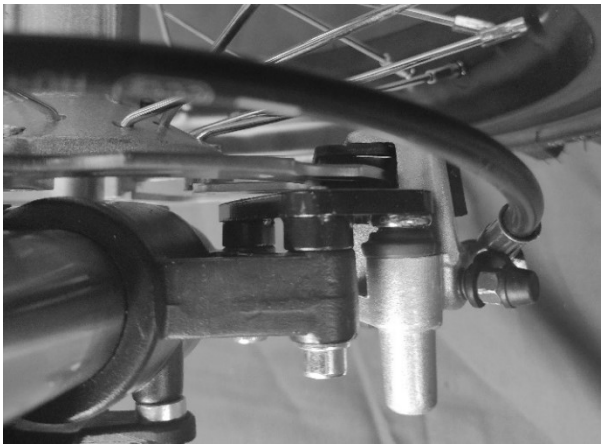
If the brake discs are damaged, cracked or deformed, the respective brake disc must be replaced!

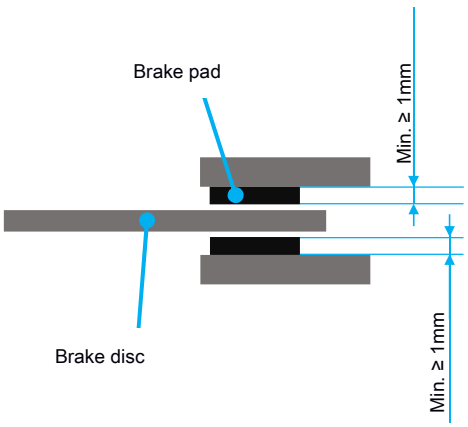
WARNING:

It must be ensured that the brake discs and the brake pads are free of grease and clean, otherwise the braking effect is not guaranteed and accidents can occur! If necessary, use brake cleaner to remove dirt.

If the brake pads come into contact with oil, they must be changed!

13.3.2 CHECKING THE BRAKE PADS





WARNING:

Worn brake discs reduce the braking effect, which can lead to accidents, injuries and damage to components.

You should therefore regularly check the thickness of the brake pads!
To do this, measure the thickness of the brake pads on the front and rear wheels.

NOTE:

Each braking process reduces the thickness of the brake lining in the area between the brake linings.

Brake lining wear limits (min. Thickness) Minimum lining thickness	
	≥ 1mm

If the values are below this value, the brake linings must be changed. Also check the two brake pads for damage and cracks.

WARNING:

If the brake discs are damaged, cracked or deformed, one or both of the brake discs must be replaced!

WARNING:

It must be ensured that the brake discs are free of grease and clean, otherwise the braking effect is not guaranteed and accidents can occur!

13.3.3 TOPPING UP OR CHANGING BRAKE FLUID WARNING:

If the brake fluid level is too low, the brake system will fail!
If the brake fluid level of the rear brake falls below the MIN mark or the expansion tank of the front brake is less than half full with brake fluid, either the brake system is leaking or the brake pads are worn!

If this is the case, make absolutely sure that nobody can ride the motorcycle until the brake fluid has been filled up and the vehicle has been repaired if necessary.

WARNING:

Brake fluid that is too old reduces the braking effect!
It is therefore imperative to change the brake fluid regularly in accordance with the maintenance plan.

WARNING:

It must be ensured that the brake discs are free of grease and clean, otherwise the braking effect is not guaranteed and accidents can occur!

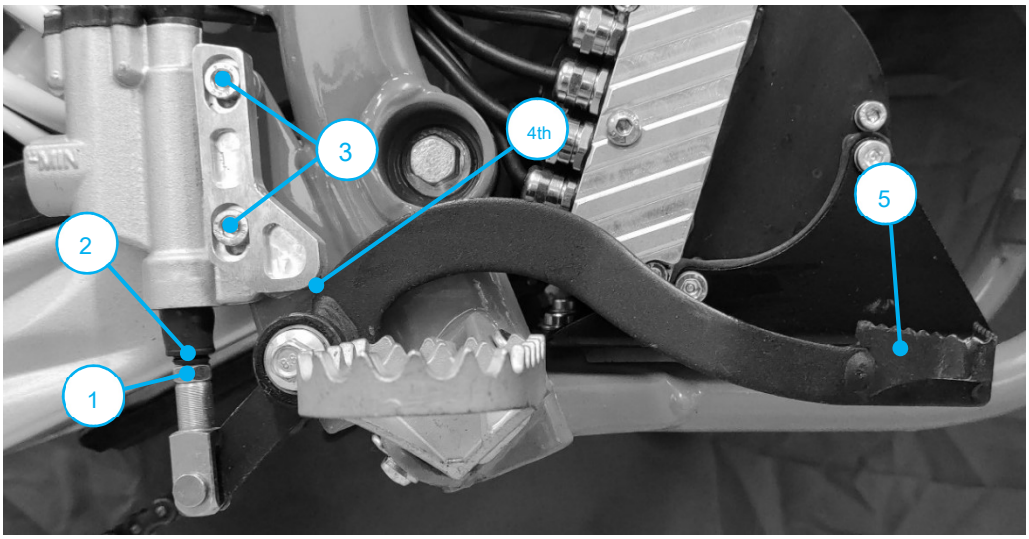
13.4 FOOT BRAKE LEVER

13.4.1 CHECK THE POSITION OF THE FOOT BRAKE LEVER

Check whether the foot brake lever is in line with the footrest. This is the default position.

If this is not the case, adjust the position of the foot brake lever correctly.

13.4.2 ADJUSTING THE POSITION OF THE FOOT BRAKE LEVER



▹ Loosen the lock nut 1

▹ Remove the split pin

▹ Remove the collar bolt

▹ Use thread 2 to adjust the position of the brake lever as it suits you.
The recommendation for this is to align it in a horizontal line with the footrest.

▹ Then fix this position with the lock nut 1 and mount the collar bolts and
Splint again.

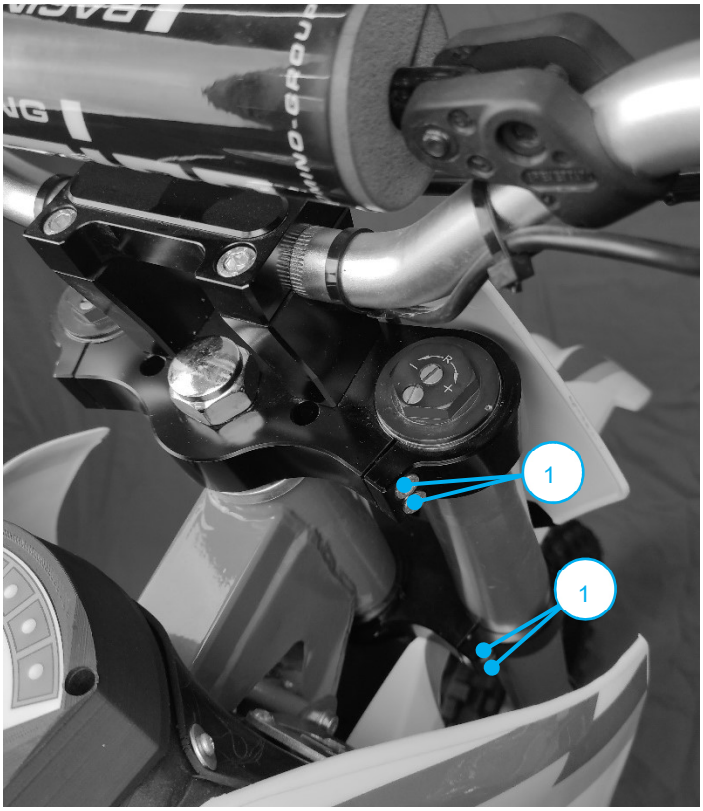
▹ Loosen the 2 screws 3

▹ Slide the brake lever stopper 4 down so that it makes contact with the
Foot brake lever 5 has.

▹ Tighten the 2 screws 3 again.

13.5 FORK

13.5.1 ADJUSTING THE FORK HEIGHT



▹ Loosen the 4 screws 1

▹ You can now move the fork legs by up to 3 cm in the fork bridge
desired position.

▹ Make sure that the bars are adjusted to the same height.

▹ Tighten the 4 screws 1 with a torque of 10Nm firmly again

NOTE:

The recommendation is to adjust the sides one after the other, as the second side remains fixed and thus prevents the fork from slipping through unintentionally.

NOTE:

Tightening the clamping screws too tightly leads to poor response. Too little tightening can cause the fork legs to slip.

13.5.2 CHECK FORK LEGS FOR LEAKAGE

If the fork's dip tubes are wet with oil, it is likely that they are leaking. This can be due to the fact that the sealing rings are dirty

or damaged.

▹ First remove the fork protector

▹ Slide the dust boots down on both fork legs pay attention to it
not to damage them.

NOTE:

The dust sleeves are used to remove dust and coarse dirt from the fork inner tubes

to strip off. Over time, however, it can happen that dirt gets behind the dust sleeve. If this dirt is not removed, the oil sealing rings behind it can leak.

WARNING:

Oil or grease on the brake discs will reduce the braking effect. Therefore, always keep the brake discs free of oil and grease and clean the brake discs with brake cleaner if necessary.

If the brake linings come into contact with oil, they must be replaced.

▹ Clean the dust boots and the inner fork tubes on both fork legs.

▹ Use a seal cleaning tool, such as Seal Doctor.

▹ Push the dust sleeve back into the installation position and press it on firmly.

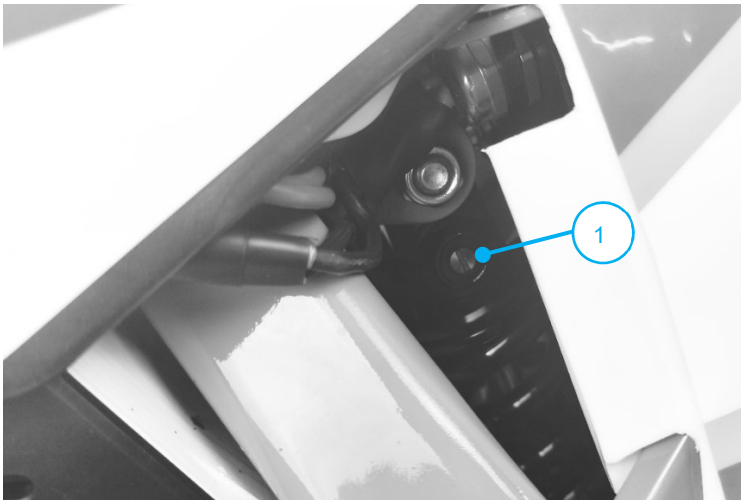
▹ If necessary, remove Oil on the fork

▹ Reinstall the fork protector

If this does not improve the situation, please contact your dealer or HVR directly.

13.6 REAR DAMPER

13.6.1 ADJUSTING THE DAMPER



WARNING:

If the shock absorber is dismantled improperly, parts of the shock absorber can be thrown around. Components can be damaged and injuries can be caused.

▹ Carefully turn the adjustment screw clockwise until you feel the last click. This means that the rebound damping is high and the

shock absorber rebounds slowly.

▹ Carefully turn it counterclockwise

This means that the rebound damping is low and the shock absorber rebounded quickly.

Damper adjustment	50.4 / 50.4 MINI
	Counterclockwise clicks (open)
	Rebound shock absorber
Sports	2
normal	4th
Comfort	8th

Damper adjustment	50.4 PRO			
	Counterclockwise (open) clicks suspension fork			
			Shock absorbers	
	train	print	train	print
Sports	6th	2	3	3
normal	11	5	7th	7th
Comfort	18th	9	11	11

Damper adjustment	60.4			
	Counterclockwise (open) clicks suspension fork			
			Shock absorbers	
	train	print	train	print
Sports	7th	6th	3	-
normal	14th	12th	7th	-
Comfort	20th	19th	11	-

13.7 SAVE

13.7.1 CHECK THE SPOKE TENSION

WARNING:

If spokes are too tight, they can tear due to overload.
If they are tensioned too loosely, a side or vertical runout can form in the wheel and further spokes can loosen.

After the first 3 battery charges, check the spoke tension at regular intervals, especially on a new vehicle.

NOTE:

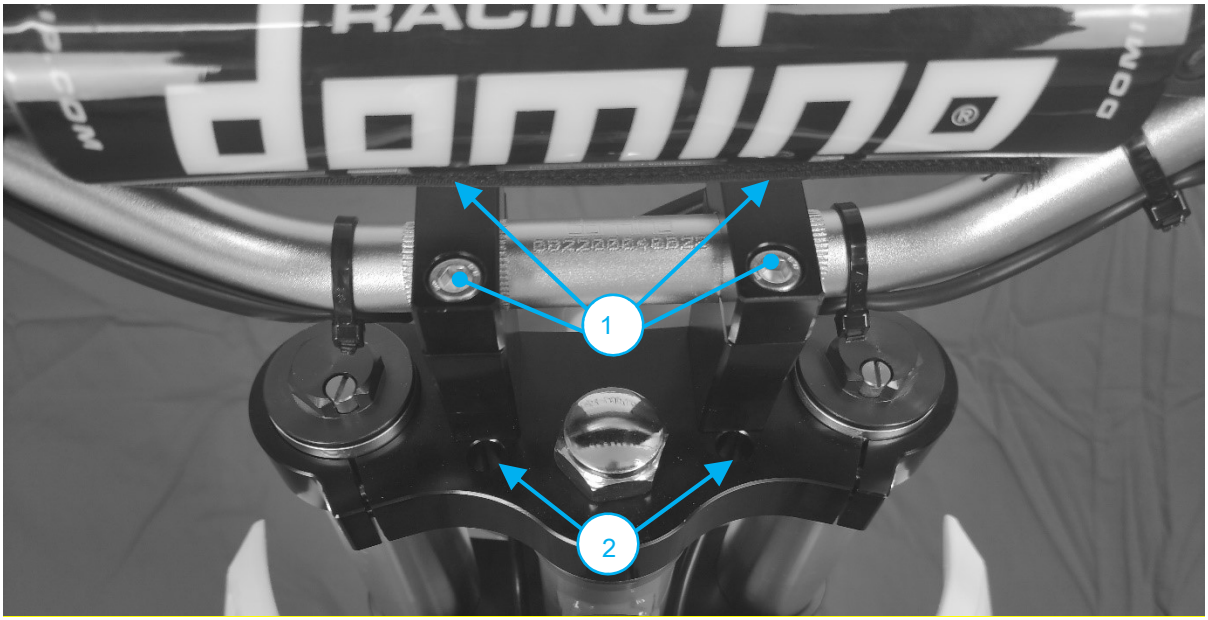
If you play them gently (e.g. with a small screwdriver), the spokes make a light tone.

All the spokes on the wheel should sound the same light tone. If the tone frequencies differ on the individual spokes, this indicates a different spoke tension.

If the spoke tension is different, it must be corrected.

13.8 HANDLEBAR

13.8.1 ADJUSTING THE HANDLEBAR POSITION



TILT

▹ Loosen the 4 screws 1

▹ Adjust the handlebar incline as required

▹ Fix the 4 screws 1

POSITION

The handlebar mount can be mounted on the fork bridge in two positions.

▹ Remove the 4 screws from the underside of the triple clamp

▹ Move the handlebar to the desired position 2

▹ Fix the 4 screws

14. SERVICE PLAN

14.1 MANDATORY WORK

	Every hour	Every 10 Hours	Every 40 hours / once a year
Checking the front brake linings Checking the rear brake linings	○	●	●
Checking the brake discs	○	●	●
	○	●	●
Check the brake lines for damage and leaks. Check the rear brake fluid level. Check	○	●	●
the free travel of the foot brake lever	○	●	●
	○	●	●
frame for damage or cracking control swing arm for damage or cracking check		●	●
		●	●
Check swing arm bearing		●	●
Check tire condition	○	●	●
Check tire pressure	○	●	●
Check the wheel bearing for play		●	●
Wheel hubs for damage or cracking check		●	●
Check rim runout	○	●	●
Check spoke tension	○	●	●
Check chain, sprocket, engine sprocket and chain guide. Check chain tension	○	●	●
	○	●	●
Lubricate all moving parts (e.g. hand lever, chain, ...) and check for ease of movement	○	●	●
Check the brake fluid level of the front brake. Check the play of the hand brake	○	●	●
lever	○	●	●
Check steering head bearing play	○	●	●
Check cables and Bowden cables for damage and kink-free routing and adjustment	○	●	●
Perform fork service		●	●
Perform shock absorber service			●
Check screws and nuts for tight fit	○	●	●
Final inspection: Check the vehicle for operational safety and take a test drive	○	●	●

○ one-time interval

● periodic interval

14.2 RECOMMENDED WORK

	Every 40 hours / once a year	Every 10 hours	Every hour
Change the brake fluid of the front brake. Change the brake fluid of			•
the rear brake. Perform a fork service			•
			•
Perform shock absorber service			•
Lubricate the steering head bearing			•

15. TORQUE LIST

	50.4 / MINI / PRO		60.4	
designation	screw	Torque [Nm]	screw	Torque [Nm]
Front wheel axle	M12x1.25 L = 210mm	50 Nm	M14x1.25 L = 215mm	60 Nm
Rear wheel axle	M12x1.25 L = 170mm	50 Nm	M12x1.25 L = 185mm	50 Nm
Swing axle	M12x1.25 L = 165mm	80 Nm	M12x1.25 L = 175mm	80 Nm
Control head nut SW 30	M22x1	50 Nm	M22x1	50 Nm
Control head castle nut	M22x1	backlash free set by hand	M22x1	backlash free set by hand
Handlebar position triple clamp up	M10x1.5 L = 40mm	40 Nm	M10x1.5 L = 40mm	40 Nm
Shock absorber screw (top & bottom)	M10x1.5 L = 40mm PER: M8x1.25 L = 55mm	45 Nm	M10x1.5 L = 40mm	45 Nm
Handlebar clamp	M8x1.25 L = 25mm	25 Nm	M8x1.25 L = 25mm	25 Nm
Rear frame attachment (4x)	-	-	M8x1.25	25 Nm
Foot brake lever (with lock nut)	M8x1.25	25 Nm	M8x1.25	25 Nm
Chain grinder frame underside	M8x1.25 L = 30mm	10 Nm	M8x1.25 L = 30mm	10 Nm
Chainring	M8x1.25 L = 20mm	25 Nm	M8x1.25 L = 25mm	25 Nm
Fork bridge clamping above and below fork leg	M6x1 L = 25mm	10 Nm	M6x1 L = 25mm	10 Nm
Front brake caliper mounting	M6x1 L = 35mm	10 Nm	M6x1 L = 35mm	10 Nm

Rear brake caliper mounting	M6x1 L = 16mm	10 Nm	M6x1 L = 12mm	10 Nm
Cooling grid	-	-	M6x1 L = 12mm	10 Nm
Side panel at the front of the cooling grille	-	-	M6x1 L = 30mm (Countersunk head)	8 Nm
Stop seat bench in front	M6x1 L = 65mm	8 Nm	M6x1 L = 65mm	8 Nm
Rear seat attachment	M6x1 L = 20mm	3 Nm	M6x1 L = 20mm	3 Nm
Rear brake disc	M6x1 L = 14mm	10 Nm	M6x1 L = 14mm (Countersunk head)	10 Nm
Front brake disc	M6x1 L = 14mm	10 Nm	M8x1.25 L = 16mm	25 Nm
Chain grinder in front above	M6x1 L = 12mm	3 Nm	M6x1 L = 12mm	3 Nm
Chain guide rear	M5x0.75 L = 16mm	6 Nm	M5x0.75 L = 16mm	6 Nm
Fork protectors	M6x1 L = 14mm	6 Nm	M6x1 L = 14mm	6 Nm
Side rear fairing	-	-	M6x1 L = 20mm	8 Nm
Battery holding points frame (top & rear)	M6x1 L = 16mm	10 Nm	M6x1 L = 16mm	10 Nm
Battery breakpoints frame below	M6x1 L = 30mm	10 Nm	M6x1 L = 30mm	10 Nm
Motor mounting frame (4x)	M6x1 L = 16mm	10 Nm	M6x1 L = 16mm	10 Nm
Motor controller attachment Rear frame	M6x1 L = 12mm (Countersunk head)	10 Nm	M6x1 L = 12mm (Countersunk head)	10 Nm
Sprocket cover	M6x1 L = 25mm	10 Nm	M6x1 L = 25mm	10 Nm
Banjo bolt ventilation hose	M6x1 SW10	5 Nm	M6x1 SW10	5 Nm
Motor housing screws / Bracket *	M6x1	10 Nm	M6x1	10 Nm

16. EU / EG DECLARATION OF CONFORMITY

The

High Voltage Racing GmbH
Neustadterstr. 13a
D-91085 Weisendorf
Email: info@HVR-bikes.com

As the manufacturer, hereby declares that the children's motorcycles HVR 50.4 MINI / HVR 50.4 / HVR PRO and HVR 60.4 comply with the relevant provisions applicable to these products

Harmonization legislation of the European Community fulfilled.

The person authorized to compile the technical documents in terms of the Machinery Directive is: Ms. Nina Deitermann, Managing Director of High Voltage Racing GmbH.