INSTALLATION MANUAL

Mid-Drive Electric Bicycle Kit

EVBIKE-SET-CMS-36

EVBIKE-SET-CMS-48

EVBIKE-SET-CMS-68

EVBIKE-SET-CMS-100

Thank you for purchasing EVBIKE product and we hope that you will become a happy user.

Carefully read the entire manual prior to installation and first use!

If you find any fact in the manual that would prevent you from using our product, please contact your reseller for further discussion and keep the original packaging. The reseller will advise you how to proceed properly.

CAUTION

EVBIKE SET IS SOLD AS THE CONVERSION KIT. SAFETY AND COMPLIANCE WITH LEGISLATIVE REQUIREMENTS OF THE FINAL PRODUCT IS FULLY GUARANTEED BY THE OPERATOR OF A BIKE OR WHOEVER BUILT AND THAN SOLD THE CONVERSED BIKE. WE RECOMMEND THAT YOU ENTRUST CONVERSION OF THE BIKE TO AN AUTHORIZED SERVICE CENTER.

PLEASE READ CAREFULLY THIS INSTALLATION MANUAL BEFORE YOU WILL START EVBIKE CONVERSION.

Note: This user manual was translated from the Czech original.

TABLE OF CONTENTS

1. Central motor installation

2. Installation of LCD display, left brake, accelerator and wheel speed sensor.

3. Battery installation

4. Diagnostic of malfunctions and service

SPECIFICATIONS

	EVBIKE-SET-CMS-48	EVBIKE-SET-CMS-36
Motor power:	**750 W**	**250 W**
Motor torque:	**steady 70, top 100 Nm**	**steady 50, top 80 Nm**
Designed for battery voltage:	**48 V**	**36 V**
Motor weight:	**3,8 kg**	**3,7 kg**
Water-Dust protection:	**IP65**	**IP65**
Operating temperature range:	**-25°C ~ 55°C**	**-25°C ~ 55°C**
Maximum speed:	**25 km/h (limiter turned ON)**	**25 km/h (limiter turned ON)**
Driving range:	**40 – 80 km***	**50 – 100 km***

	EVBIKE-SET-CMS-68	EVBIKE-SET-CMS-100
Motor power:	**1000 W**	**1000 W**
Motor torque:	**steady 130, top 160 Nm**	**steady 130, top 160 Nm**
Designed for battery voltage:	**48 V**	**48 V**
Motor weight:	**4,8 kg**	**4,8 kg**
Water-Dust protection:	**IP65**	**IP65**
Operating temperature range:	**-25°C ~ 55°C**	**-25°C ~ 55°C**
Maximum speed:	**25 km/h (limiter turned ON)**	**25 km/h (limiter turned ON)**
Driving range:	**30 – 60 km***	**30 – 60 km***

** depending on pedalling intensity, nature of the terrain and used battery type*

Importer: GWL Power Ltd., EU-VAT ID: CZ682998344

PACKAGE CONTENT

Motor unit

Chainwheel

M5

M8 nut

Cranks

M33 *M6* *Fixing plate*

Main wiring harness

Accelerator

2x Brake lever

FOR SUCCESFUL ASSEMBLY OF EVBIKE, YOU WILL ALSO NEED FOLLOWING:

— ribbons for cables fastening
— screws, nuts, washers
— special bottom bracket tools (see pictures a, b, c)
— basic technical skills

Picture 1

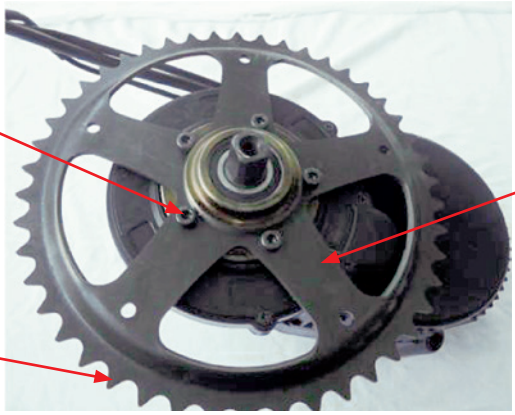
1 a - Compact Crank Puller

1 b - Cassette Lockring Remover Tool

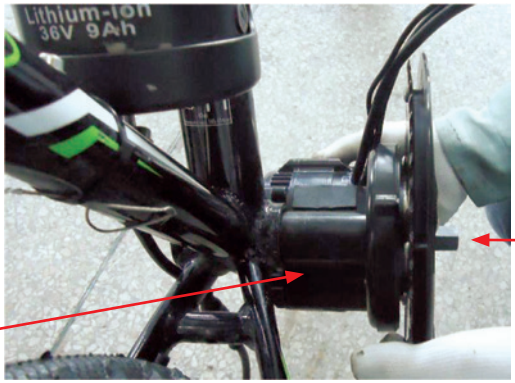
1 c - Tool for easy assembly of bottom bracket lock rings

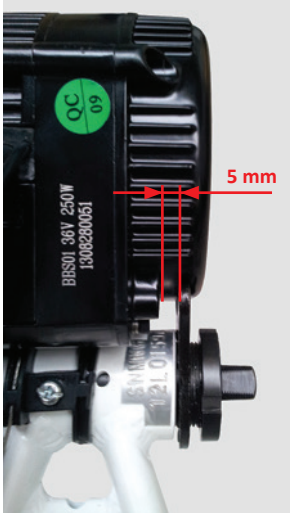
1 CENTRAL DRIVE UNIT INSTALLATION

1) Fasten chainwheel onto the main drive. Chainwheel is fastened on the motor, so that the teeth facing toward the engine (see picture).

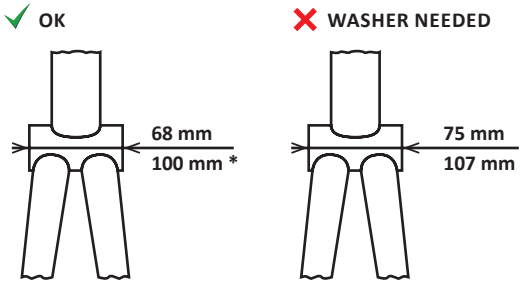


2) Remove the original bottom bracket including cartridge and cups. Use special bottom bracket tools (see pictures 1 a, b). Remove the derailleur, if the bike is fitted with it. The interior thoroughly clean and make sure that nothing prevents insertion of the motor. Cassette of the motor must go slip freely.



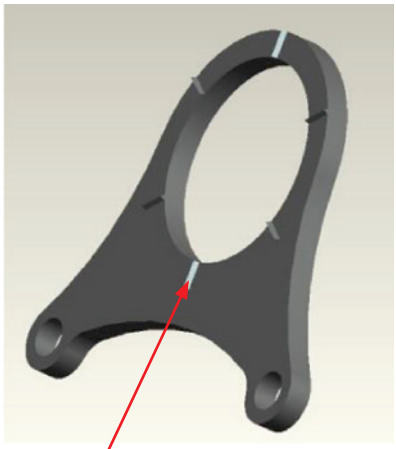


In the case of using a frame for the bottom bracket of width 73 mm, you must fill space between the engine and fixing washer using a ring or nuts (not included in package).
For instalation on bike with central axle 100 mm is necessary to use special motor with 100 axle for correst instalation.

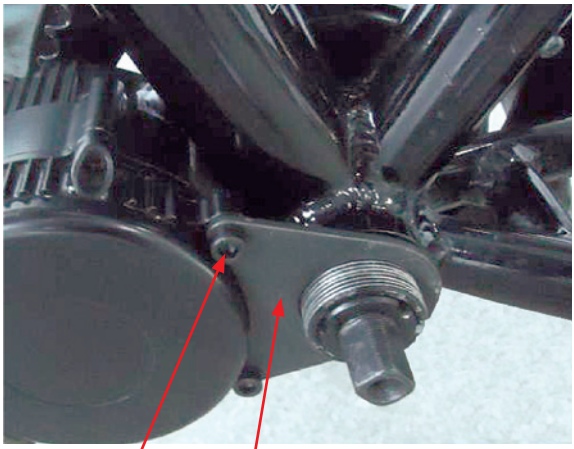


** Motor CMS-100 is central axle 100 mm.*

The surface with teeth of fixing plate towards inside, then fix the plate on drive unit with 2pcs M6 Nuts.



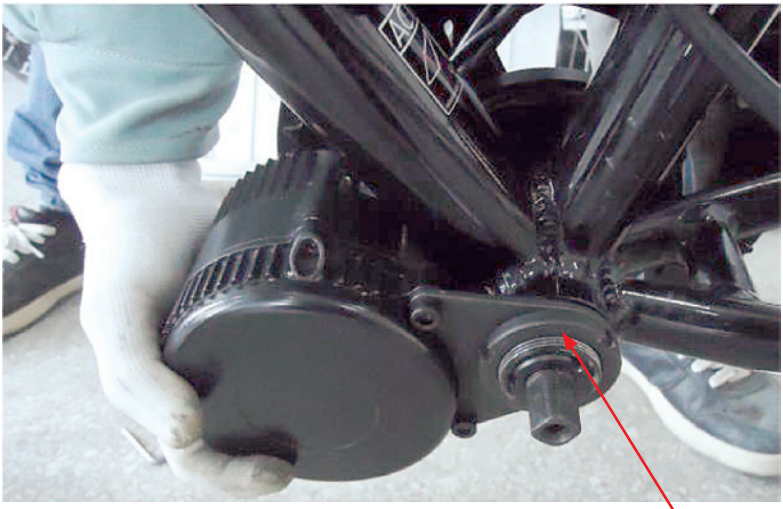
Fixing plate with teeth.



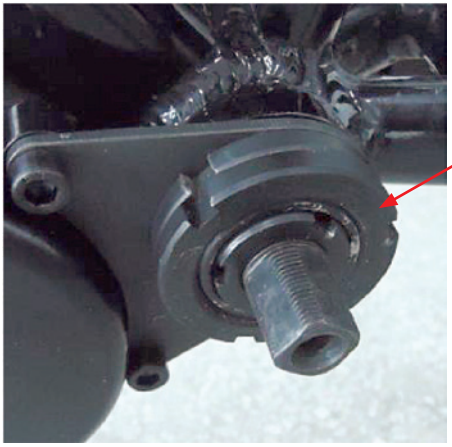
2x M6 Nut.

Teeth of the fixing plate must face towards the bicycle frame!

Now gently pull the motor towards the bicycle frame and tighten the first M33 nut onto axle tube with reasonable force (30-40 Nm). Then tighten the second M33 nut onto axle tube. When tightening, secure first M33 nut against the movement and tighten second M33 nut with force against first (so called „contra nut“) .
For tightening, use bottom bracket tool (see picture 1c).

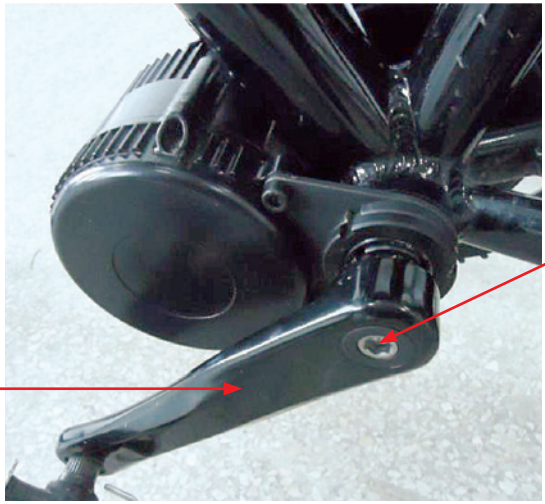


M33 Nut.



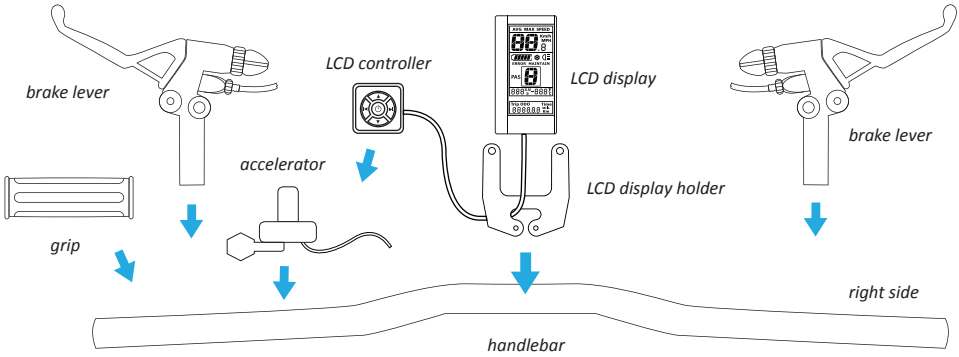
In the case of using a frame for the bottom bracket of width 73 mm (105 mm), is possible to install only one M33 nut.
Is recommended to secure nut with a special glue for screws (not included in package).

Now place the left and right crank (watch the label L and R) and tighten M8 crews with reasonable force (about 35-40 Nm). After tightening, install pedals (watch out for right and left-hand thread).

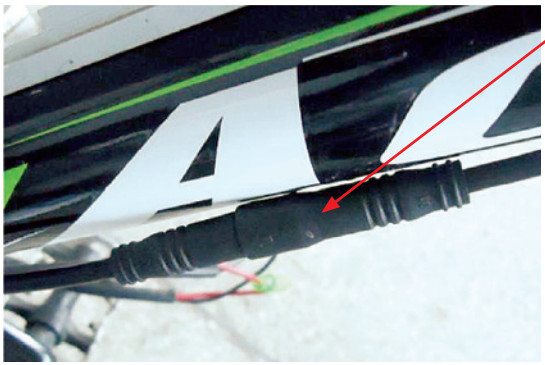


2 INSTALLATION OF CONTROLS AND SPEED SENSOR

First remove the original equipment from left side of the handlebar. Grip, the brake lever and shifter. In reverse order mount LCD display, LCD controller, accelerator, brake lever and grip. LCD controller and accelerator can be optionally installed on the right side of the handlebar.

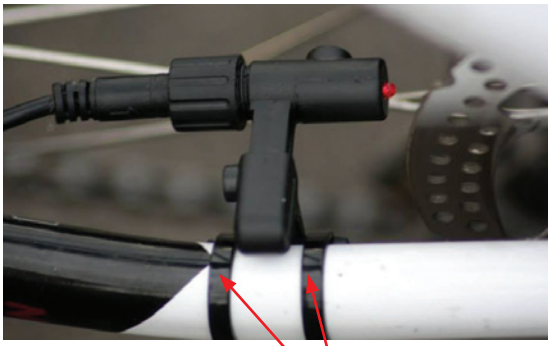


After installing all controls, connect their connectors to the main harness.



Connect controlers to the main harness and then connect the connector from motor unit.

Fasten Speed Sensor to the frame of the rear fork in an appropriate place so between the sensor and the magnet is not a distance greater than 5 mm. Now install the magnet on the spoke and set it, his magnetic side, to the sensor. Check, that the distance is 5 mm. If the sensor and magnet are installed correctly, when rotating the LED on the sensor is activated and flashes when passing through the magnet.



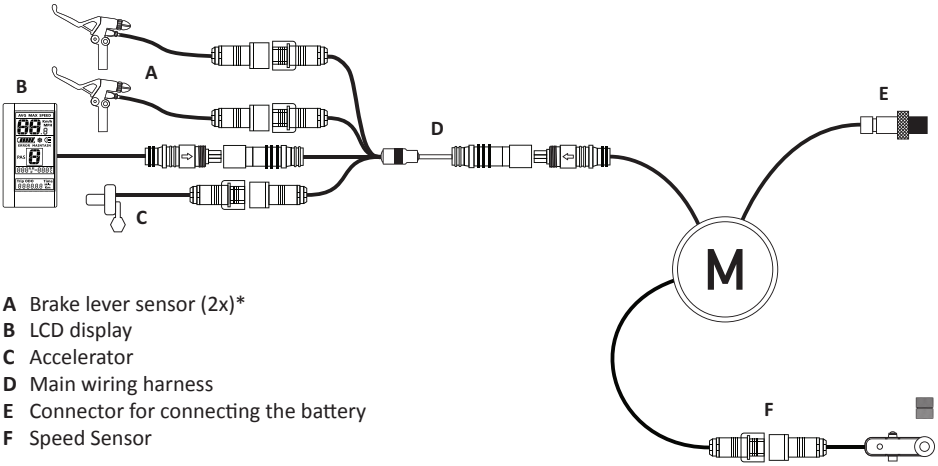
Fasten or underlay and make sure, that distance between the magnet and the sensor is not greater than 5 mm.

Connect sensor connector with output from the motor unit.

⚠ NOTICE

The manufacturer reserves the right to change shape and appearance of the sensor. Its functionality will not be affected. Therefore, the appearance may differ from those illustrated in this manual this is not a defect of the product.

Schematic diagram of the controls and speed sensor:

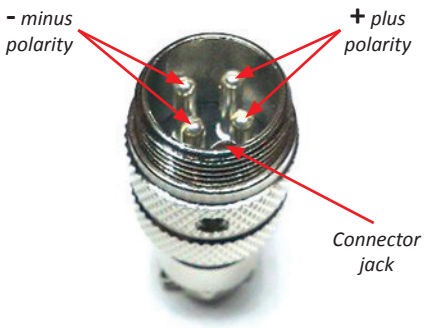


A Brake lever sensor (2x)*
B LCD display
C Accelerator
D Main wiring harness
E Connector for connecting the battery
F Speed Sensor

** The possibility of installing gearsensor.*
(Installation is done instead of the brake lever via distributor.)

3 BATTERY INSTALLATION

EVBIKE kit can be powered by your own battery of voltage 36 V or 48 V. For proper functionality and seamless installation we recommend using certified EVBIKE batteries. When you install your own batteries always make sure that the correct polarity of the connected battery and provide battery output with the connector that is compatible with the connector of the motor unit. You can purchase that connector accessories. The polarity of the battery connector is shown below.



NOTICE

Battery is not included.
Compatible voltage is 36/48 V.

CAUTION

ENSURE CORRECT POLARITY!
In case of polarity reversal, engine control unit will be damaged, as well as other electronic components!

4 ERROR DIAGNOSTICS - TROUBLE SHOOTING

Error Code	Error description	Handle
1	Communication Error	Check cable connection
2	Controller protection	Check three-phase power line. If the problem persists, consult your dealer, it is a defect in the motor.
3	Three-phase power error	Check three-phase power line connection. If the problem persists, consult your dealer, it is a defect in the motor.
4	Battery low	Charge the battery. If the problem persists you must check the battery.
5	Brake error	Release the brake lever or perform check of the switch functionality.
6	Turn error	Then turn on and off the system again.
7	Speed Hall error	Speed Hall error. If the problem persists, consult your dealer, it is a defect in the motor.
other	Reserved	Check cable connection - turn off and turn on the system. If the fault persists contact servis. It is an engine defact.

5 USAGE

The product can be used in the rain, but should not be exposed to continuous contact with water. If you drive in the rain never disconnect connectors and do not use LCD controller. Do not leave the main unit exposed to direct sunlight when you do not ride the bike. Store the product in a dry place with a temperature of 15-25 °C.
Keep product clean. Do not use thinner, alcohol or benzene. Wash with clean water using a damp cloth.
Do not concentrate on meter while riding. Safety first!

CAUTION

NEVER MANIPULATE THE CHAIN AND CHAINSET IF BATTERY IS CONNECTED. RISK OF SERIOUSLY INJURY! BEFORE HANDLING TURN OFF LCD DISPLAY, DISCONNECT BATTERY AND REMOVE IT OUT OF THE HOLDER.

6 MAINTENANCE

It might seem that the EVBIKE set is almost maintenance free. Main care will definetely require your battery. Please check separate battery user manual for more infromation. In this manual you can find only basic guidelines how to use lithium batteries. If you follow this guidelines, you will ensure longer life of your battery.
The following principles apply to most types of lithium batteries.

Proper charging
Lithium cells which contain EVBIKE batteries can be recharged at any level of charge or discharge - these batteries have no memory effect. We recommend to recharge the battery always after the ride, so you can immediately enjoy full power and a long driving range. After recharge always unplug the battery from the charger.

Proper discharging
Recharge the battery to full capacity after the the first disconnection of protective controller. Never try to reuse the battery after protective disconnection! Deep discharge of some cells and their unrepairable damage may happen! Such battery usage may also cause unbalance of battery cells voltage and decrease their capacity.
In extreme cases, the battery cannot be recharged again. This kind of damage can be easily diagnosed and will result in avoiding your warranty.

Storage
If you do not use the bike for more than 1 hour, always disconnect the battery using its power switch. If you do not use the bike for more than 24 hours, always remove the battery, recharge it and store in a safe dry place at room temperature. Beware of short-circuit the battery terminals (contacts) when storing and handling. For long-term storage, such as off-season, it is also necessary check battery every 14 days (using LEDs) and after 1 month recharge the battery to its full capacity. If you do not perform this maintenance deep discharge of the battery cells will occur. This irreparable battery damage is not covered by warranty.

BEFORE THE FIRST RIDE CHECK THE TIGHTNESS OF ALL BOLTS AND FUNCTIONALITY OF ALL SYSTEMS INCLUDING WHEEL BRAKES.

Declarations of conformity:
GWL Power Ltd., EU-VAT ID: CZ682998344, as an entity authorized by the producer for EU, thus proclaims that the device conforms to basic requirements and any other relevant provisions of Decree-Law No 117/2016 and 118/2016 Coll., as well as the device conforms to basic requirements and any other relevant provisions of Decree-Law No 176/2008 Coll., establishing technical requirements for machinery (MACHINERY DIRECTIVE 2006/42/EC, 2009/127/EC). This statement is issued on the basis of documents presented by the producer.

CE

Notes