User's manual:

WARNING !

EVERY USER OR PERSON WHO IS TO OPERATE OR USE THIS KIT MUST READ ALL PAGES OF INSTRUCTIONS IN THIS MANUAL CAREFULLY AND COMPLETELY.
PLEASE FOLLOW THEM CAREFULLY BEFORE USING THIS LIFT-MTB PRODUCT, OTHERWISE YOU MAY BE EXPOSED TO SERIOUS DAMAGE AND/OR JEOPARDISE YOUR LEGAL RIGHTS.
SAVE THIS MANUAL AS IT CONTAINS IMPORTANT INFORMATION REGARDING YOUR SAFETY.
DO NOT ATTEMPT TO CARRY OUT THE ASSEMBLY AND DISASSEMBLY OF THIS NEW LIFT-MTB PRODUCT ALONE IF YOU ARE NOT COMPETENT TO DO SO!
Always seek the assistance of a qualified mechanic. Follow the assembly and disassembly instructions in this manual carefully and remember that you do so at your own risk.

NOTE: *As with all instruction manuals, this one is subject to change. Please contact your dealer periodically or visit our website (**www.lift-mtb.com**) for updates.*
*This manual is a guide to help you mount the kit correctly and safely on your bicycle. Following the various observations contained in this manual will guarantee the best performance and reliability of your system, and thus avoid the most basic errors that are often the cause of accidents during assembly, use or handling of the **LIFT-MTB** motorisation kit.*
*The word **CAUTION** informs you that failure to follow the instructions could result in damage to the equipment and the user.*

GENERAL SAFETY NOTES :

- *LIFT-MTB's motorised devices have been designed exclusively for use on private land, for two-wheeled vehicles moved by human propulsion at the base. Any other application represents a dangerous condition for which LIFT-MTB accepts no responsibility.*
- *An electric bike equipped with kits capable of cycling at speeds greater than 25 km/h can only be cycled on public roads if indicated with: Approval , The user must be in possession of the driving license, safety and traffic license, The vehicle must be registered and equipped with individual protection (certified helmet, gloves, etc.), In its defect, the solo vehicle may circulate for private travel.*
- *- LIFT-MTB power assist devices are high performance products that offer more power than conventional power assist devices and require a certain amount of dexterity. Use extreme caution, as operating at too high a speed can result in loss of control of the vehicle and possible injury to the user or any other person.*
- *- It is the user's responsibility to learn the correct operating techniques: consult the bicycle's Owner's Manual and a specialist bicycle dealer if in doubt.*
- *- Try out the power assist or drive system on a flat, level and clear surface before moving on to rougher terrain*
- *- Always control your speed, make sure you are able to stop, use the system only in an open area, when you are sure you will not hit anything and at a reasonable speed. Improper installation and use of the LIFT-MTB system can lead to loss of control or an accident, with unforeseeable consequences and the possibility of serious injury.*
- *- Do not put your hands inside moving or potentially moving parts, use sturdy five-finger gloves that do not reduce the sensitivity and capacity of the grip.*
- *- Do not modify the parameters of the system in order to obtain performances different from those foreseen by the manufacturer (example: + 36 volt battery)*
- *- Before starting any assembly operation, carefully examine the work area, looking for possible dangerous conditions. Avoid working in dark conditions, gather and use the right tools.*
- *- Concentrate properly and take all precautions before using components that may cause damage*
- *- It is useful when using your bicycle to wear a helmet and to drive with care and responsibility.*
- *- All extraordinary handling operations must be carried out only and exclusively by a qualified person authorised by LIFT-MTB.*
- *- Ensure that the system is switched off and the battery disconnected before carrying out any work.*
- *- A high load on the system (total weight over 100 kg and slope over 15%) requires a reduction in speed and regular breaks to prevent the system from overheating.*

ENVIRONMENTAL RATING

In order to protect the environment, you must recycle your batteries through a specialised establishment once they are no longer in use.

WARNING: *The threadlocker, used in some phases of the assembly, is dangerous in case of contact with the eyes or the skin.*

PART 1: The installation :

We have made this manual as precise as possible in order to make it as complete as possible, which may at first sight give an impression of complexity.
But don't worry, once you've learned the steps, they're easy if you know anything about bike mechanics.
Some steps are only carried out once during the first assembly: this will be specified in the subtitle. *The text will then be in a grey table, and in italics.*
Once the bike is ready, only steps 2 / 8 / 9 / 11 / 12 / 13 are necessary for the following assemblies and disassemblies.

Installation of accelerator control	Pictures
(This step is only necessary for the first installation) *-The throttle can be mounted on either the right or left side, depending on your preference.* *However, on the right-hand side, the rear gearshift lever may interfere with the operation of the accelerator.* ***- We recommend a left-hand mounting**, so you will accelerate either :* ***-1- With the phalanx of the index** finger (this position is generally the most neutral and the least tiring for long climbs)* ***-2- With the left thumb** (this position is more efficient on technical passages, but can be more tiring in the long run)* *Opposite: left side (index finger) and left thumb.* *-Dismantle your handle, place the lever and tighten it with the small BTR screw* ***Caution:** Do not use a carbon handlebar with the throttle, the needle screw tightened too much could damage the carbon fiber with a high risk of breaking. Do not use a carbon handlebar with the throttle, the needle screw tightened too much could damage the carbon fibre with a high risk of breaking the handlebar.* *-Adjust the brake lever and other controls to the new handlebar to feel comfortable.* *-For your safety, be careful not to interfere with the brake operation with this new lever. Be sure to test before use that everything is working properly.*	  

Throttle control interface :

In the parts pack you have a small interface part, which improves the ergonomics of the trigger in the left index position**. This is for us the best solution regarding ergonomics for long rides.**

However, it is deliberately not installed to give you the freedom to use it or not.

To test whether this is the best solution for you, you can try taping the interface to the controller.

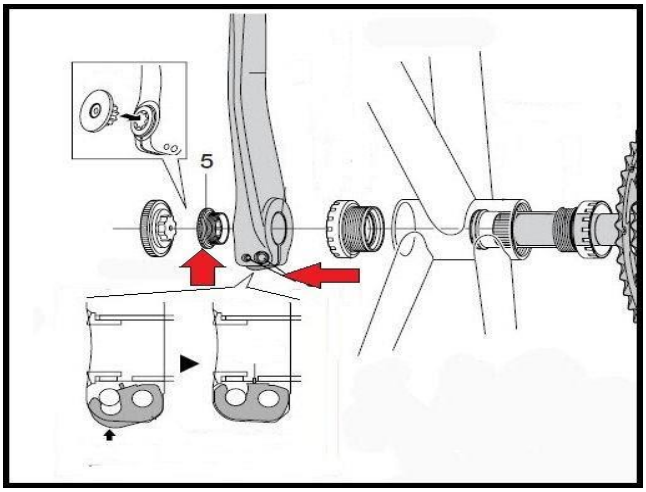
If you are happy with this, you can fix it permanently by drilling 3 holes of 2mm at the defined places and positioning the specific screws, below the two ways of using the controller, index and thumb:

2- Disassemble your crankset

For this purpose, take the instructions for your crankset and the specific tools for your crankset model if necessary (a special tool or a crank puller may be necessary).

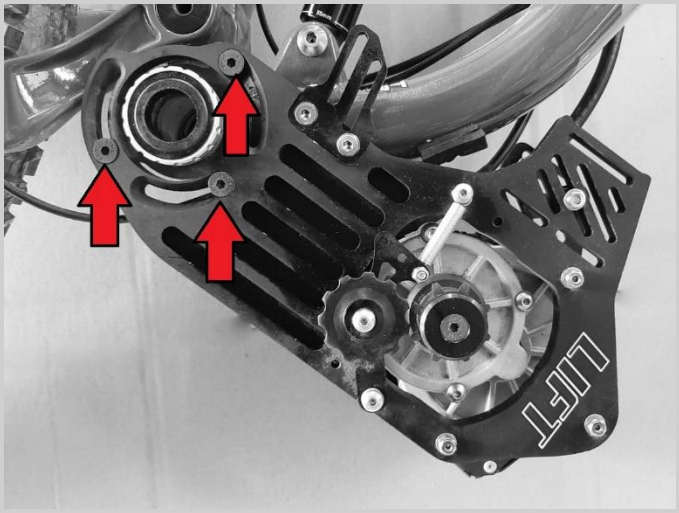
As this may vary from one assembly to another, be sure to note the number and position of the shimming rings that are positioned for the adjustment of your crankset and your anti-skid (if you have one), you can use the memo at the end of the guide to record the information and facilitate reassembly later.

If you have PAS captor system option, you must mount the fixation plate befor add the kit see page 26 for more infos.

Dismantling the crankset	Pictures
Disassembly procedure for Shimano Hollowtech crankset Unscrew completely the 2 BTR screws, unlock and remove the axle screw (thanks to the shimano tool ref: TL-FC16), remove the left crank, remove the chain, then simply pull on the right crank or tap lightly with a mallet on the bottom bracket axle on the left side to extract the bottom bracket (photo below left).	
Disassembly procedure for CINCH, X TYPE and SRAM GXP race face models Remove the chain, unscrew the smallest of the BTR screws inside the right crank, in order to remove the crank, simply pull the left crank or tap lightly with a mallet on the right side axle to remove the crankset (picture below right).	
You now have your bike without crankset only with the bottom bracket (as shown on the picture).	

-3-Pre-mounting of the system to adjust the alignments..

This step is only necessary for the first installation) *.

Pre-assembly of the LIFT-MTB system	Pictures
-The LIFT-MTB system is screwed with 3 BTR screws on the ISCG studs of your frame (studs provided at the base to receive an anti derailment). *If your frame does not have these studs, you must use the ISCG adapter ring available in the "accessories" section of our website* *-First of all, you will screw the system temporarily with the 3 shortest BTR screws.* *-Place the system parallel to the ground, or as low as possible, as shown in the photo opposite.* *This provisional positioning will allow better access to the motor, allowing you to adjust the alignment more easily.*	

-4. Adjust the diameter of the bottom bracket axle:

(PRO and CLASSIC version, the assembly steps are identical).
(This step is only necessary for the first assembly) *

PICTURES

The kit comes with axle diameter adapters so that it is compatible with almost all standards without changing bottom bracket bearings.

Once the motor is attached to the frame, use the axle diameter adapters to match the diameter of the axle supplied with the kit to the bearings on your bike.

Axle diameter summary table :

Standard in mm	Steps
22/24 mm SRAM	Install the ALUMINIUM-coloured bottom bracket axle diameter adapter **on the right**.
24 mm Shimano / FSA / Race face acier…	Install the ALUMINIUM-coloured bottom bracket axle diameter adapters **on both sides.**
28 mm Sram DUB	Install the **BLACK** axle diameter adapters **on both sides.**
30 mm Race face alu / rotor / cannondale …	Install the **BLUE** axle diameter adapters on **both sides.**

Insert the bottom bracket axle from the right (green arrow) into the bottom bracket bearings of the frame, respecting the way of the spindle axle, so with the freewheel conical part's is on the right side. (red arrow)

Insert the freewheel / chainring assembly into the crank spindel axle. (green arrow), with the larger chainring positioned outwards.

Insert the right crank (engrave R on the pedal insert) into the bottom bracket axle then :
-1-Tighten the axle screw to 13Nm (green arrow)
-2-Tighten the crank pinch bolts to 12Nm (yellow arrow)

Check that there is a minimum space of 4mm between the chainrings and the other fixed parts of the bike or the kit such as the motor support plate (photo opposite) or the support fixing screws.

If the space is not sufficient, aluminium washers inclued in the kit are sometimes necessary to shift the chainrings, right crank or left crank.

* For save time on your future assemblies, take care to note in the memo at the end of the document the number of shimming rings you use on the crankset.

Insert the left crank (engrave L on the back of the pedal insert) onto the bottom bracket axle.
Observe the minimum area for inserting the crank into the bottom bracket axle as shown in the photo.

For the **CLASSIC** version: from 0.5mm to 10mm.
For the **PRO** version: from 0.5mm to 5mm.

If the space is not sufficient, aluminium shims are sometimes necessary to shift the cranks (to be seen according to the assemblies.)

* For save time on your future assemblies, take care to note in the memo at the end of the document the number of shimming rings you use on the crankset.

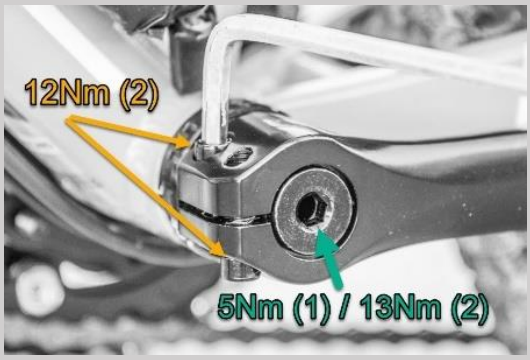
Finally tighten the left crank, respecting the steps and the torque as shown on the picture opposite (from 1 to 3):

-1-Tighten the axle screw to a torque of 5Nm (green arrow)
Caution: If you tighten too much you will compress the bottom bracket bearings too much and risk damaging them.

-2-Tighten the crank pinch bolts to 12Nm (yellow arrow).

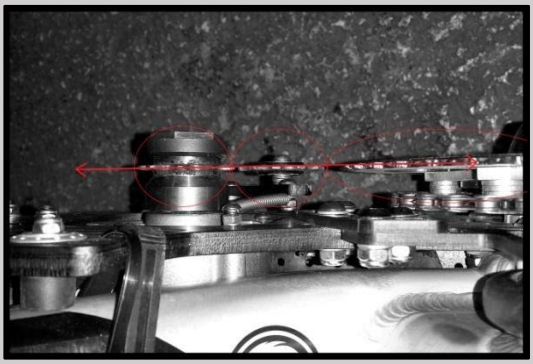
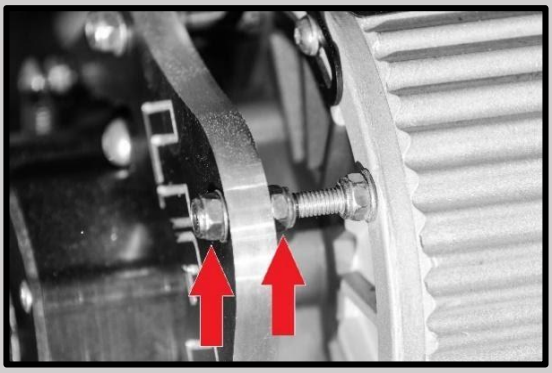
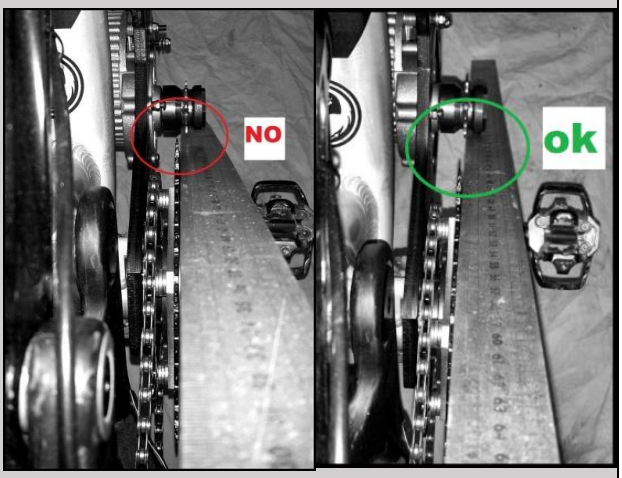
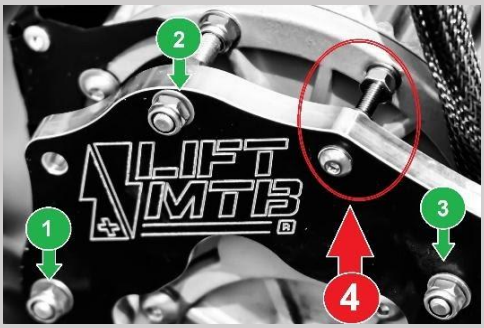
-3- Finally tighten the axle bolt again to 13Nm (green arrow).

Before use, check that the crankset turns freely and that there is no axial play.



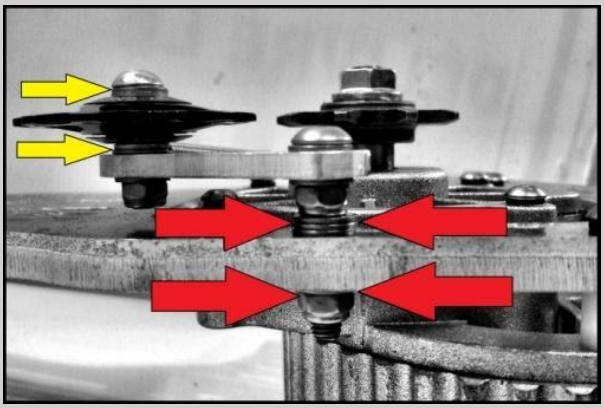
-5- Centering the motor.

(This step is only necessary during the first assembly) *

Engine centring	Pictures
WARNING: This is the most important step for the proper functioning of your kit! In order to avoid any derailment that could damage your KIT, the motor output pinion must be well in front of the tensioner wheel and the primary transmission plate (the largest plate) see photo opposite. -Place the right crank / axle assembly on your bottom bracket, press this assembly against the bottom bracket, then check the alignment of the assembly. -The sprocket has a normal functional play of a few millimetres in translation from right to left: put the sprocket in the middle position (neither in the right nor in the left stop) for the initial adjustment. **-CAUTION:** The chainring usually has a slight warp of 3mm to 5mm, visible when you turn the cranks backwards. This warp is due to the freewheel adjustments, this warp is normal. -To get a good adjustment you will align the motor with the 8mm nuts on the 3 motor fixing screws, by tightening and loosening the nuts on one side or the other of the plate in order to have a perfect alignment. (See photo opposite). In some cases you can also play with the bottom bracket axle washers (see step 4). **Caution:** the maximum torque for these 8mm nuts is 3Nm. -Check with a ruler that the motor is perfectly aligned as shown in the photos opposite. **ATTENTION:** A good alignment of the sprocket / chainring and chain tensioner is essential to the good functioning of the kit. You must check it regularly. If the system is noisy at the chain level, check the alignment. -In order to save time on your future assemblies, take care to note in the memo at the end of the document the number of shimming rings that you use on the engine. You can (depending on the version) add a 4th fixing screw to fix the motor (see photo opposite, screw N° 4 in red), this fixing screw as well as the counter-nuts are supplied in the parts kit, before placing the screw, check that there is a minimum of insertion in the 8mm thread (maximum tightening torque 3Nm)	   

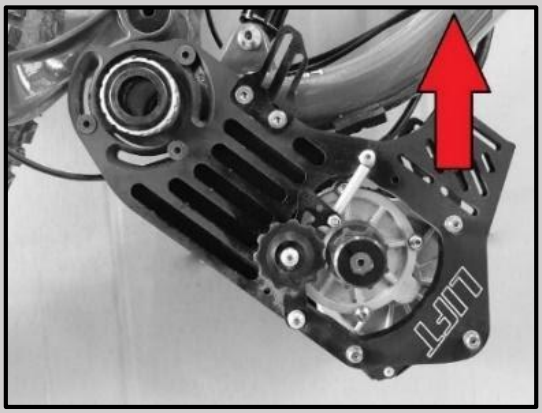
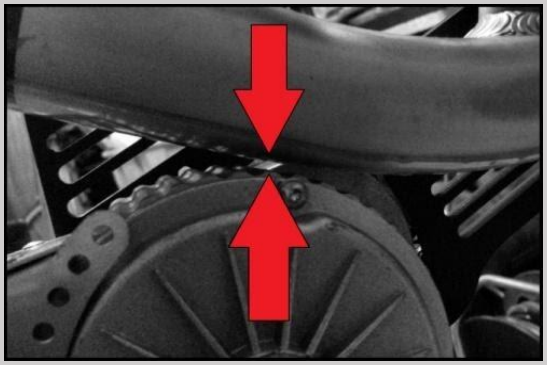
-6- Determine the number of washers required for the turnbuckle.*

(This step is only necessary for the first assembly)

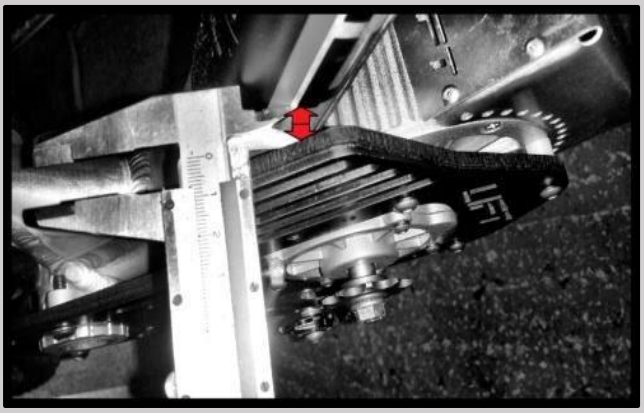
Define the number of washers required for the tensioner.	**Pictures**
In the same way, the chain tensioner wheel must be in front of the engine output sprocket and the chainring. *-To achieve a good alignment, place the supplied shimming washers on either side of the sprocket (small arrows) and the tensioner (large arrows) in the photo.* *-Make sure that the chain tensioner has a minimum of play so that it can rotate freely around the axle without excessive play.* *-In order to save time on your future assemblies, take care to note in the memo at the end of the document the number of shimming rings that you use on the chain tensioner and the sprocket.*	

-7.1- Adjusting the contact point on your frame

(This step is only necessary for the first installation) *.

Adjusting the contact point on your frame	Pictures
-A- Adjusting the motor housing support pad: *In most cases, the motor comes to rest on the bottom tube of the frame.* *Before tightening the system you must (at the time of the first assembly), place a foam pad supplied in the kit on the bottom tube of your frame to avoid damaging it.* *To adjust the foam pad, remove the right crank and the bottom bracket axle, then rotate the motor to the top position (as in the first picture) so that it touches the bottom tube of the frame (as in the second picture).* *This will determine the contact point between the frame and the motor housing.* *It is at this point of contact between the two arrows on the photo opposite that you will stick the self-adhesive foam.* **-B- Adjusting the aluminium support pad:** *-There are 2 rubber pads (photo opposite) to aim and adjust on each side.* *-These pads act as a second support point to increase the torsional rigidity.* *The rubber pads rest against the right and left side of the bottom tube of your frame.* *-The rubber part of the pad is very long (see picture) to fit all types of frames.* *It is usually necessary to cut it back in order to adjust it as well as possible.*	  

-To determine its ideal length, position the motor so that the motor housing lies against the bottom tube, as in the previous step (7), then tighten the 3 screws.



-Determine the ideal position on the support so that the pad rests as flat as possible on the frame (you can position it in many ways)

-Finally, measure the distance between the frame and the support (e.g. 10mm) as shown in the photo.

-Then, using a cutter, cut the pad to the same size, adding a margin of 3 mm (cut to 13 mm if we keep the same example), see photo opposite.

-Finally, loosen the 3 ISCG screws, in order to have the necessary clearance to place the buffers in the chosen place, place the motor in the upper position and then tighten the buffers to the appropriate position.

-When you tighten the system, the buffers must touch the frame and be very slightly compressed (as shown in the photo with the red arrow).

***Then for the under-frame version** :*

*-Tighten the two BTR screws in the threaded tube to a maximum torque of 5Nm (**be careful** if you tighten too much you will bend the plate on the left side!) In order to slightly pinch the bottom tube of the frame, then lock with the counter nuts. (The clamping system can be moved to another hole depending on the frame version)*

Tightening the upper motor/frame connection :

On the upper part, the left and right plates must pinch the frame, so that the motor is correctly fixed.

A/ For the position under the frame:

-On the left side, tighten the tensioning screw to the maximum then place the cable end in the clamping system (blue arrow).

- Pass the cable from the left side to the right side, adjust and position the rubber protection sheath on the cable to protect the frame.

- Place the cable around the right side BTR screw clamp (red arrow), then put maximum tension on the cable while tightening the BTR screw.

- Cut the excess cable with a wire cutter, leaving about 4 cm, then press the cable end supplied with the system, to avoid fraying the cable.

- Push the remaining cable through the rubber protection sleeve (yellow arrow).

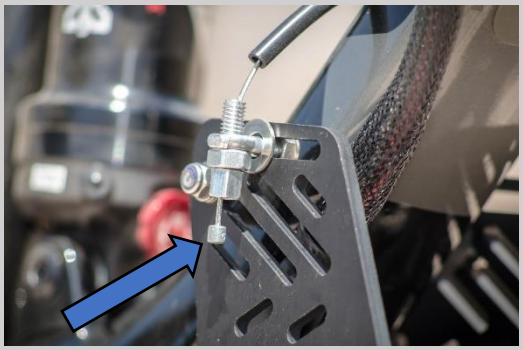
- Use an 8mm spanner to tighten the nut to tension the cable (green arrow), the aim is to compress the rubber pads against the frame.

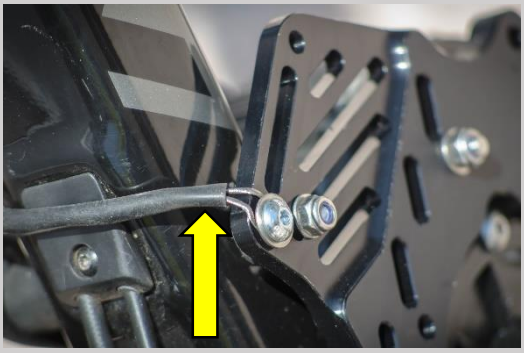
-Finally tighten the lock nut with a 10mm spanner to lock the assembly.

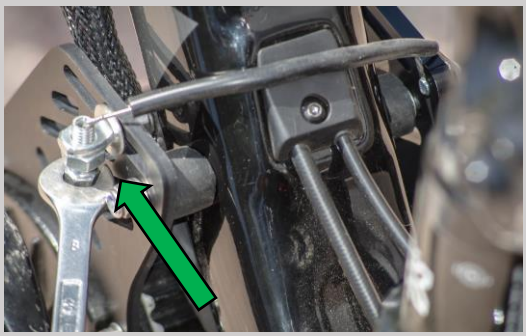
B/ For the internal position:

-The assembly steps are the same, you just have to pass the cable under the frame tube.

ATTENTION :
Check the plate tightening regularly.





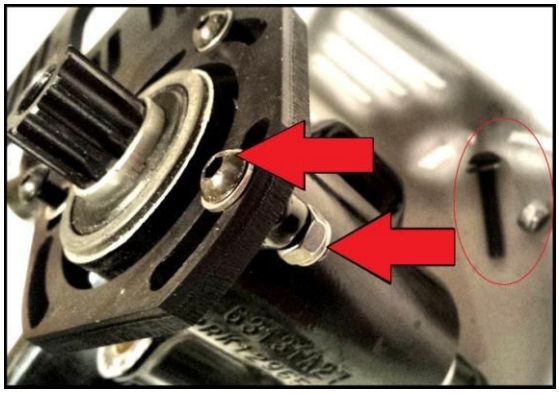
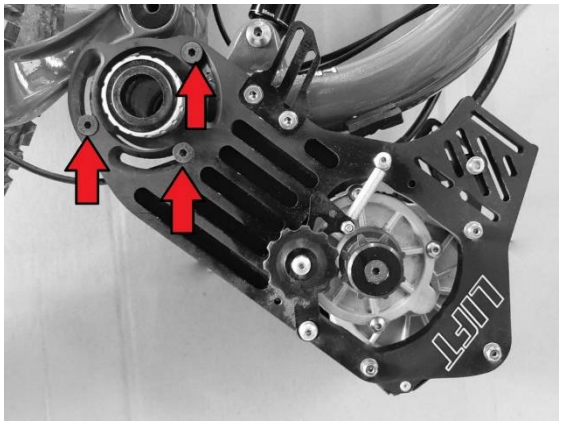


-7.2- Cover adjustment:

(Necessary step only on the first set-up)

Cover adjustment:	Photos
Adjust the engine cover, change its position so that it is plated against the frame and provides maximum clearance with the ground.	
Warning: There are 3 screws for move that, 2 screws on the engine right side and x1 on the left side	
For the internal mount version, it may be necessary to move the controller (the black box with wire connected to the engine) on a fixed part of the bike (as in the photo opposite) because it sometimes does not space because there is sometime rear arm , shock. f the aluminum protective casing with the stickers touches, you can make a cut , or remove it	

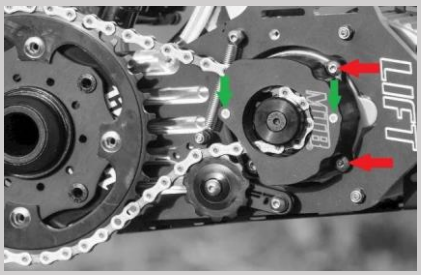
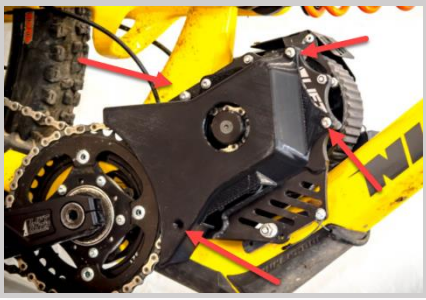
-8-Final system tightening

Kit tightening	Pictures
Once everything is perfectly aligned, you can tighten the system permanently. Different lengths of bolts support screws come with the kit: long and shortest. We recommend putting the longest ones if possible and adding counter-nuts as in the photo attached. If one or more screws are too long do not mount on one of the 3 studs (some threads may not be uncorking),use a shorter screw. In this case it is advisable to mount this screw with the "medium" loctite glue. Once the support is in place in the high position as seen above, tighten the 3 screws firmly, then place, if possible, the counternuts as pictured opposite, or add the net brake. WARNING: Make sure the screws are not too short, and that you use enough threading surface (mark: the screw should slightly protrude from the nut). Make sure the screws are not too long, nor do they hit other parts that may be moving later (shock absorber, brace or suspension arms, etc.). Make sure your suspensions work throughout their traveling without interaction with the engine system, deflate the suspensions if necessary to do this verification.	 

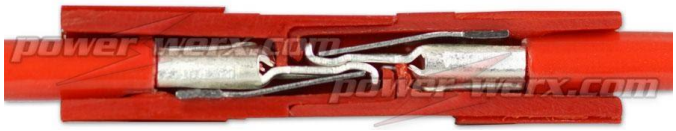
-9- Setting up the primary chain:

We strongly advise you before anything else to check one last time the correct alignment of the 8t motor cogs / tendor / 38t sprocket (see step 5) to avoid any incident that could damage the system. Now place the primary transmission chain on the sprocket, on the pull on the tendor. And 8t cogs So the chain must be rotate freely with pulley , sprocket and 8t cogs. **WARNING:** Do not manipulate the bike's chain or transmission when the motor is pluged with battery.	

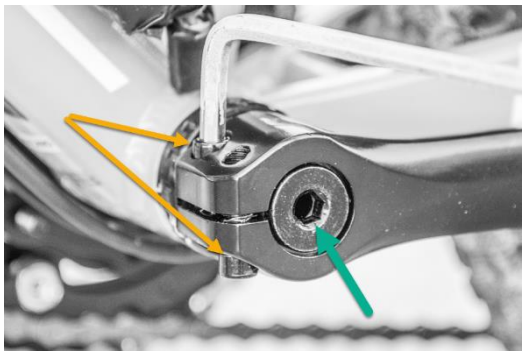
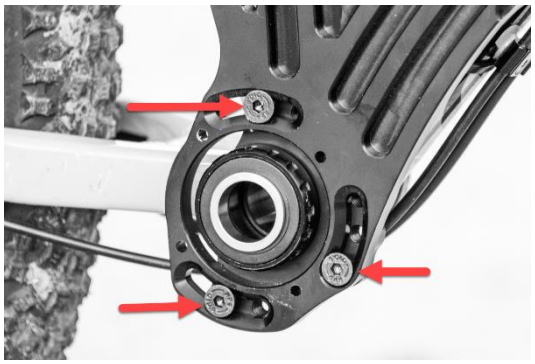
-10- Mounting the chain cover:

Mounting the chain cover	Picture
During the first tests you do not have to mount the chain cover. This will allow you to check the correct alignment and quickly and easily disassemble the chain if necessary. *Once you are sure that everything is perfectly aligned, and if you have already try the system one or two time you can mount the chain cover with the two BTR screws (red arrow), as in the photo attached and then place the locking plate with the two screws (green arrow).* ***WARNING:** you need to remove the primary chain (step 10) to put the chain cover*	  

-11- Finalize editing

Finish editing	Pictures
You must run the battery power cable along the down tube to the steering socket. All you have to do is finalize the assembly by putting on a few plastic collars if necessary to secure the cables. An aluminum cable holder secures the Anderson connector: it can be put on the stem to prevent the wire from passing too far from right to left. For some version fix the accelerator control cable with two plastic collars, either to the brake sheath or the derail sheath, as in the photo (green arrow), to prevent the cable from bending at the junction level when you turn the handlebars. **WARNING:** It's imperative to check that your suspensions are working properly without interacting with the engine system and wires. To do this, deflate your suspensions and make them work to see if they work all the way without the wheels or another part colliding or obstructing the classic operation of your bike. If you have any doubts, don't use your bike, and ask a competent person for advice. Note on the connection We use Anderson connections. If you notice a power outage, make sure the connection is clipped. Sometimes the slat that locks the plug is not well clipped, causing bad contact. This case remains extremely rare, and if this happens to you, you simply have to push the plug back for the slat to clip the plug correctly. You will find a set of connectors in advance in the parts kit of your kit, which will allow you to replace it if for some reason this is necessary	    

-12- Disassembly of your kit:

Steps for dismantling the KIT	PICTURES
To disassemble your kit and find your bike you must : - Remove the hand throttle from the handlebars. - Remove the transmission chains.	
- Remove your left crank by removing the 2 crank clamp screws and the bottom bracket axle screw (see photo opposite). If there are washers, note their dimensions and position on the memo at the end of the document (do not hesitate to make a simple diagram if necessary). Then remove the right hand crank + plates + axle assembly from the right.	
- Unlock the 3 ISCG fixing screws of the motor support, disconnect the motorization system and remove it from the frame.	
- Reassemble your original crankset by putting back the necessary shims on each side, which you took care to note in the memo on the last page of this document...	

Partie 2 : Precautions for use

1. The first test

- The system is now installed. To test it, leave the bike on the workshop stand, with the wheel in the air, far from any object that could come into contact with the bike or the wheel. Plug in the battery (a small arc may occur on the plug - this is normal), press the on/off button on the contactor: a light will indicate that the system is on.

- Gently move the throttle to see if everything is working well.

CAUTION: When connecting or disconnecting the battery cable, it is important not to pull on the wire but rather on the plug in order to preserve the crimping of the connector.

2. Contact with water

The **LIFT-MTB** system is splash-proof, so you can ride on slightly damp ground or in a few minutes of rain, but avoid splashing water on the system as much as possible.

-If you ride in mud, it is better to wash your bike with a damp cloth than with a water jet or pressure washer.

-If you have to hose down the rest of the bike, isolate the engine, throttle and connections with a plastic bag for example, or dismantle the system.

-After washing, dry all parts that may have been in contact with water as well as possible.

-The battery and the control screen are not waterproof and should not be exposed to water.

-If your system is accidentally exposed to water, disconnect the battery immediately and do not use it until it has dried out as much as possible. It may be necessary to leave it to dry for a long time in a dry and warm place so that any moisture that may be present can escape before powering up again. If in doubt, contact us.

Any return of a failed system due to contact with water will not be accepted under warranty.

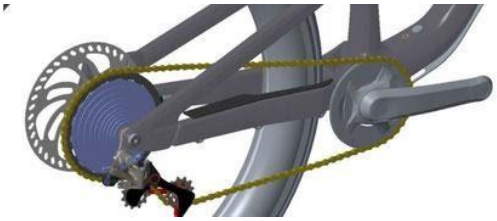
3. General advice for use

-You will notice that once the motor is mounted, if you turn the drive wheel of the bike backwards, there is a very strong resistance, this is quite normal. It is not advisable to operate the system in this direction.

-Make sure that you do not force the system by using it like a moped. In addition to increasing your consumption exponentially, this could shorten the life of certain parts.

-To keep the engine running in the correct rpm range and not overheating, you should

Use the largest possible sprockets on the rear cassette



-For the longevity of your engine, it is therefore very important to respect this instructions. The control screen will allow you to use the kit to the best of its ability. Even if you haven't bought it yet, don't hesitate to read the instructions below to understand how KIT works.

-Regarding the battery, it is not protected by a shell. Be careful not to shock or crush it. Be sure to maintain a storage temperature: 10 to 42 degrees in a dry environment. In operation, the ideal discharge temperature ranges from -5 to 42 degrees. The battery is not waterproof especially do not expose it to water.

If the motor is overloaded over too long a period of time, the 20 amp battery fuse can blow out to secure the system. To replace it, simply open the fuse holder at the battery outlet and put a standard 20amper auto fuse. If this happens to you, be sure to use larger sprockets on your cassette to put less strain on the engine, as described earlier.

-BEWARE:

Check at each ride session the tightening of the various elements that make up the system, including the all sprocket screws (x4), the ISCG screws (x3), the motor screws, the plastic collars, the axis/crank clamps / bolts.

Use the medium Loctite glue if necessary or if you note a recurrent loosening.

-Clean and grease the transmission chains regularly, check regularly the wear of your transmission parts (from the crank to the rear wheel) as a derail, chains, cassette, gables, trays. The use of the engine increases the stresses on these parts.

-To preserve the transmission of your bike, it is IMPORTANT to don't shift the gears with full powe -you must absolutely let go of the power, pedal to shift the gear and then re-accelerate.

-Make sure the cables do not protrude, are not too exposed or are not pinched or frayed. -Unplug the battery and store the cable in the bag during descents or tricky passages.

-Use only the kit on private land: use on public roads is strictly prohibited.

- Always wear appropriate protective equipment, helmet, gloves, knee pads, elbow pads and back protection.

4. We remind you that according to the law

Bicycles for which the main energy source is not muscular (assist operated without pedaling and/or remaining in operation above 25km/h) are likened to either mopeds (if they are intended to travel on public roads, they must be subject to the same reception requirements as mopeds, either mini-motorbikes (machine directive requirements (2006/45/EC) and the 2008-491 act of 26 May 2008 (L321-1 and following)). As a result, bicycles equipped with motorization kits are considered to be motorized vehicles not received and reserved for exclusive use on approved circuit or "suitable terrain" within the meaning of Decree No.2009-719 of 17/06/2009. Restrictions on the use of these devices: - only for non-open lanes to public traffic - to minors under the age of 14 Decree No.2008-1455 of 30/12/2008 specifies that it is mandatory to declare the vehicle, to the Office of Safety and Road Regulation of the Ministry of the Interior, Overseas and Local Authorities. Users travelling on public roads would be subject to sanction (Articles L 321-1 and following of the Highway Code). These vehicles can be seized and confiscated by law enforcement.

5. Battery charge

-Use only the original charger that comes with your battery, plug the charger's charging plug into the battery with color code, always charge the battery into its fireproof charging bag.

-A red light tells you that it is not full; A green light will tell you the end of the charge.

-The battery fits into your backpack, thanks to a cable with a fast connector of about 1.30 meters.

-It is connected to a connector usually placed near the steering socket.

-Take the battery out of the backpack for charging but keep the fireproof protective bag, never leave a battery charging unattended, charge it in an airy area with no flammable thing nearby.

-The charger can be equipped with a fan, it is possible that the noise is loud enough when charging, the fan shuts off at the end of the charge.

-The batteries are originally delivered with a charging and discharge control system (called BMS). If we go down too low in discharge or overload a battery, we will have irreparable damage. The BMS controls the overload and underload of the system.

Our system offers dual discharge protection (there are two BMS) and the charger will regulate the charge so that you don't have to worry more about charging and unloading your battery than your phone or laptop using the same technology.

-The storage mode of your battery: the ambient humidity, the storage temperature too low or too high are all elements that affect the life of the battery, for a long-term storage the ideal is: to store the battery from 30% to 60% of its maximum charge, in a dry place with temperatures between 5 and 25 degrees

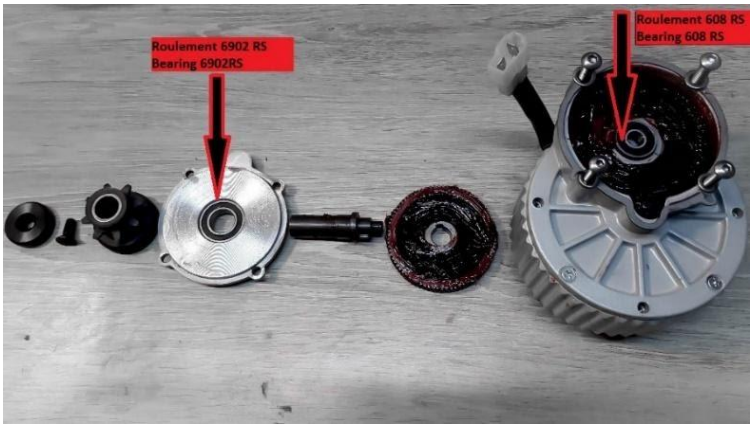
Periodic maintenance:

-The LIFT-MTB system is designed to be maintained and repaired by the user himself autonomously, at a lower cost.

Preventively, we recommend that the gearbox system be greased, and above all to check the condition of the gearbox bearings every year or 2500 kilometres of use.

This represents one year of use for an average user who would do two 25-kilometre-week outings over a 50-week year of use.

The wear of the bearings varies depending on how you use the engine, if you don't force the engine excessively and you use a suitable jack, the replacement of these bearings will not necessarily be necessary for every check



Verification procedure:

-1- put the system on OFF, remove the primary transmission chain

-2- Undo the 8t cogs screw with a BTR key.

-3- Simply remove the gable by pulling on it, gently clean and then grease the freewheel bearing inside the gable (this bearing does not require any particular change).

-4- remove the 4 screws from the reductor, then remove the pan taking care not to damage the seal.

-5- Note the direction of the big toothed wheel to put it back as originally. -6-check the condition of the two bearings that maintain the axle, change them if you have any doubt about their condition.

The bearing references are very common these are the references 6902-2rs and 608-2rs
-7- change the grease of the reducer if it is blackened, use a fat equivalent to the origin neither too thick nor too fluid.
-8- roll up the gearbox, keeping the following mount order: bearing 608-2rs / large toothed wheel / motor axle / bearing 6902-2rs/ o ring/ gable / aluminum washer / screw m5 (tightening torque 7 Nm) /

LIFT-MTB trademark registered with INPI, national number 4204659 / SIREN number: 812 512 424**.**
If you have any questions, please contact us by calling 337 68 91 49 91 or on www.lift-mtb.com or liftmtb@yahoo.com

User control screen manual

The control screen is an option that is not included in the kit. However, this accessory is very useful for anal yzing your consumption. If you don't have it you can buy it in our shop www.lift-mtb.com

The control screen has a support designed to be attached to your gallows. The support is fixed between the hood of the steering game and the gallows. It may in some cases require the use of one or more steering holds and a longer hood tightening screw. Note that you can also deport the screen in a backpack or any other place on the bike.

WARNING: Only handling the steering parts of your bike if you are sure of yourself a bad winding could cause a fall or loss of control of your bike.

2/ Branch

You have to connect the screen in a specific direction: the wire **(source)** that is attached to the steering hood goes towards the battery, the other wire **(load)** connects to the engine output wire.

Make sure your handlebars are running freely without the wires being too tight or at risk of disconnecting.

WARNING: Scrupulously respect the meaning of the connection. Any reversal of polarity or noncompliance with the classic operating sense would irreversibly damage your control screen.

3/ How the different data works and interpretations

The main data is on the upper left and right, while on the lower part you will find other data that will tell you other additional information very useful also to optimize the management of your consumption.

Top left: Instant consumption, which is your instantaneous consumption. So you can see in real time what situations generate high consumption (example: too much jack, use of the engine in the start zone).

The higher the number, the more you will consume.

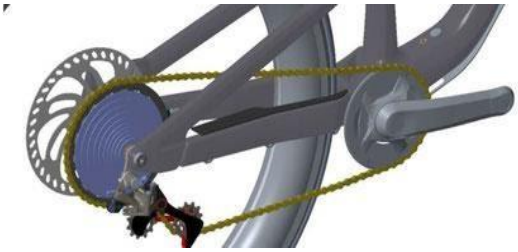
the ideal is to try to have the lowest possible figure, for this always usesuitable jacks.

Here is a table of the typical values of consumption.

Note that you need to separate peak consumption (maximum consumption peak of a few seconds) and continuous consumption (consumption over a longer period).

Consumption in AH	Comments

From 0 to 8Ah	Green Zone / Low Consumption
8 to 14 Ah	Green Zone / Low Consumption
14 to 18Ah	Orange Zone / Heavy Consumption
14 to 18Ah	Orange Zone / Heavy Consumption



-For the engine to work properly, use bigest cogs on the rear cassette on the rear wheel as in the photo opposite.

Remember that unlike a car thermal engine, the more spin an electric motor takes, the less it will consume and the less it will heat up. For the longevity of your engine, it is therefore very important to respect this instruction.

-To properly assimilate this principle if we use the LIFT-MTB engine for too long on extreme consumption phases, this would mean, for example, using the engine of a car at a maximum speed in 1ston the highway...

-These high consumption phases can be used without problems for a few seconds but should not be too long to avoid excessive overheating, and premature wear of some parts.

This red area of use is a bit like the red area of your car's turn account. You can go without abusing it...

Tableau estimatif de consommations LIFT-MTB

Ci-dessous: mon niveau mon utilisation	Ci-dessous: consomation moyenne estimée en A/h	Batterie 8,7 Ah 300 Wh		Batterie 11,5 Ah 400 Wh		Batterie 14 Ah 500 Wh		Batterie 17 Ah 600 Wh	
		Denivelé D+ théorique	Kilometrage théorique	Denivelé D+ théorique	Kilometrage théorique	Denivelé D+ théorique	Kilometrage théorique	Denivelé D+ théorique	Kilometrage théorique
je pédale beaucoup	**6**	1218	49	1624	65	2030	81	2436	97
je pédale très bien	**8**	1044	42	1392	56	1740	70	2088	84
je pédale bien	**10**	957	35	1276	46	1595	58	1914	70
je suis dans la moyenne	**12**	870	31	1160	42	1450	52	1740	63
je ne pédale pas fort	**14**	783	28	1044	37	1305	46	1566	56
je pédale très peu	**16**	609	34	812	46	1015	57	1218	69
je pédale vraiment très peu	**18**	435	21	580	28	725	35	870	42
je ne pédale presque pas	**20**	348	17	464	23	580	29	696	35

*Tableau non contractuel, donné à titre informatif — En moyenne 1Amper/Heure = 100M de dénivelé positif ou 4 Kilometres

Top right: Is the value of the Volt intensity remaining in the battery.

With this indication you will be able to have the battery value you have left more precisely than the display also present originally on the accelerator lever of the LIFT system. The display is fully charged and shows about 41 Volts.

From about 33V the system this puts it to safety and gives a lower assistance then cuts to the value of 31V.. (For a more accurate reading you have to wait a few seconds after using the engine in order for the data to stabilize.)

Below is a chart to help you read these directions, we find that:

Voltage display	% of battery remaining	Voltage afficheur	% de batterie restant
41	100%	36	50%
40	90%	35	40%
39	80%	34	30%
38	70%	33	20%
37	60%	32	10%

Every time you lose 1 Volt on the display at the top right, the battery loses 10% charge.

The lower part of the screen:

Other data scrolling through the display at the bottom left is:			
00 :00 :00	Useurea, Hr/ Min/ Sec (Salton versions, may notbe present)	**Ap**	Maximum consumption in peak in Ampere.
Vm	Minimal Voltage reached in Volt	**Wp**	Peak consumption in Watt
Ah	Total average consumption in Ampere hour	**Wh**	Total average consumption en Watt hour

The Ah data is very interesting. If, for example, your battery has a capacity of 10 A/h and your wattmeter screen indicates that you have consumed 1 A/h, you can deduce that you still have 9 A/h left, so you have 90% more energy left.

If you use 1 A/h on a 10 A/h battery during a climb, you will be able to do the same 10 times this climb.

It is generally considered that 1A/h can climb 100 meters of positive elevation D+

WARNING: To avoid an accident, don't be distracted by reading your screen. Focus on your driving.

The control screen is non-waterproof: Any contact with the water would damage it.

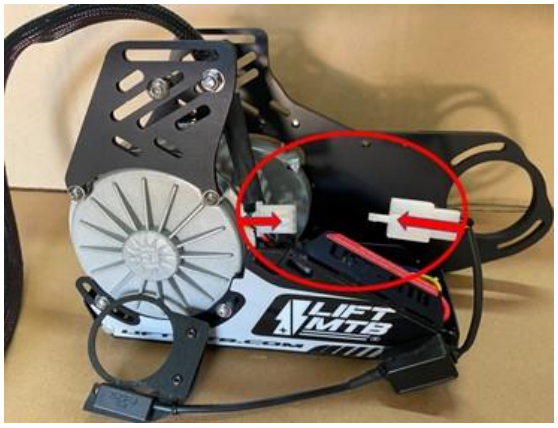
En- User Manual of the LIFT MTB pedal sensor power regulator.

Operation:

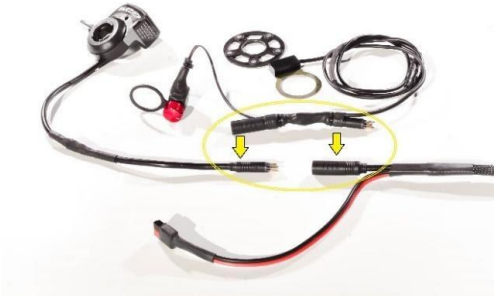
Our kit usually only works with the accelerator controller to handle the support, so the power regulator is for us, considered an option that can be added to your kit. We recommend using the regulator on long climbs without obstacles or technical passage. For a technical pass the regulator will then be put in the OFF position, you will then only use the throttle to manage the assistance. (Just as your car's cruise control only serves you over long distances such as highways, and it will be disconnected to drive in the city). We recommend the use of the pedal sensor below 25 km/h. We remind you that both the regulator and the kit are not approved on public roads.

ELECTRICAL ASSEMBLY:

Attach the adjustment and stop button with the screw of the gallows hood. Handle the wires carefully, make sure the wire will not be bent, pulled or pinched when handling the handlebars. -Connect the pedal sensor's connector to the primary beam connector (Red Arrows). -Plug the connector of the knob (push button) on the trigger connector (Green Arrows).



For models before August 2020 the operation remains the same, simply the wiring changes for this it will be necessary to connect the connector of the sensor in series to the trigger connector (yellow arrows in the photo).



MECHANICAL ASSEMBLY:

- Remove the bottom bracket (photo 1.1), fix the sensor between the bottom bracke and the frame (photo 1.2) on the left side only.

-Place if necessary the spacer between the bearing and the magnetized crown so that the gap between the sensor and the crown is about 2mm.

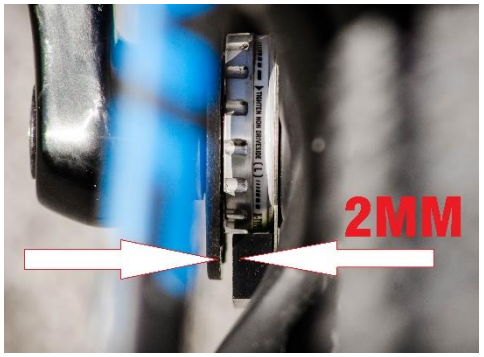
-Place the crown on the pedal axis, so that the part with the magnets is in front of the sensor infront of the magnets.

-Depending on the place add spacer , or the clamp collar or photos 2.1
(Two possible mounts), then place the crank on the axle spindle in accordance with the adjustment instructions provided in the kit assembly manual.

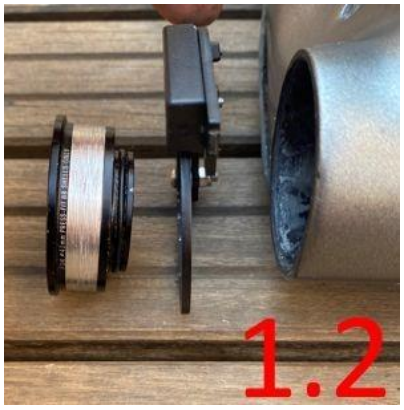
-Be careful to handle queues and login cards carefully.

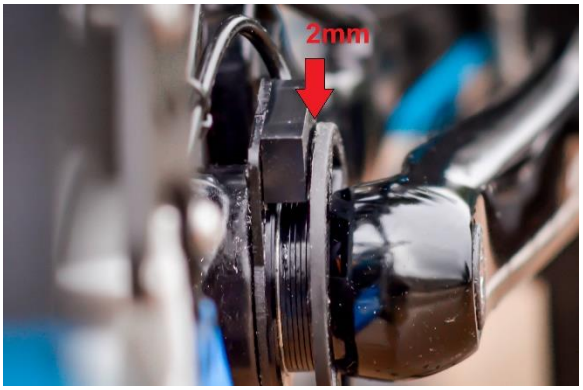
Warning: The area where the sensor detects movement is at the height of the captor (photo 3.1) this round must be placed as close as possible to the axis, any reversal of position of one of the elements will cause a malfunction.

Photos with BSA-type bearings:



Photos with pressed bottom bracket like to BB92/ BB30/ PF30:





How it works:

Position 1 - ON:

When the button is pulled upwards, the regulator is connected, the sensor detects the rotation of the crank, and give the power to the engine.

This power can be adjusted by rotating the button from 0% to 100%.

Position 2 - OFF:

When the button is pushed down, the regulator is disconnected, in which case only the throttle activates the engine as on the basic kit.

Note that the throttle is always a priority. if for example the regulator is on the ON position, with the knob set on 50% of the power, and you want to accelerate without pedaling or accelerating fully while pedaling it is possible thanks to the throttle.

WARNING: When installing, do not bend the wires , and do not twist them at the end of the knob, do not overexpose the knob to the water.