RIF PERFORMANCE

OWNER'S MANUAL

Model : RACE / FURY/BANSHEE

Dear Customers,

Congratulations and thank you for purchasing the 2026 RIF Performance moped . This manual is designed to provide you with a better understanding of the operation, inspection and basic maintenance requirements of this electric motorcycle.

RIF continually seeks advancements in product design and quality. This manual contains the most current product information available at the time of printing. Because technology is constantly changing, your moped may differ from the information supplied in this owner's manual. No legal claims can be made on the basis of data in this manual. When it comes time to sell your RIF, please ensure that this manual stays with the electric moped; it is, by law, an important part of the vehicle. If you have any questions concerning the operation or maintenance of your electric moped, please contact your local RIF dealer or directly to www.rideRIF.com

Vehicle Identification Number (VIN) & Motor Number

• The VIN is a 17-digit number stamped on the head tube of the frame. Do not alter or remove this number as it is the legal identifier for your electric moped.

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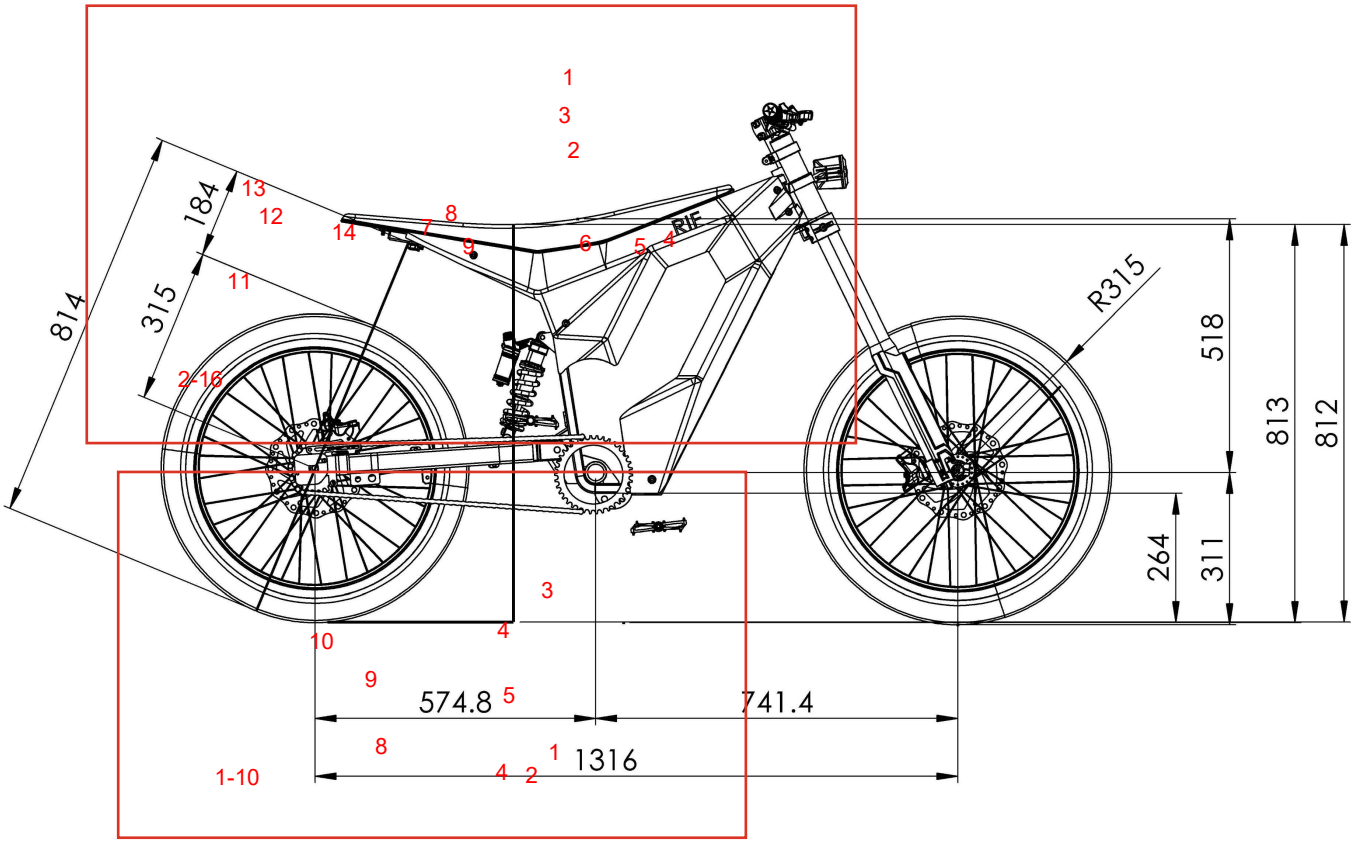
Components

Please refer to the illustrations below to identify the components and become familiar with your electric moped.



1-1 Front Brake Lever
1-2 Throttle Control
1-3 Rear Brake Lever
1-4 Handle Grips
1-5 Handlebar
1-6 Key Switch
1-9 Seat
1-8 Foot Pedal
1-10 Side Kickstand

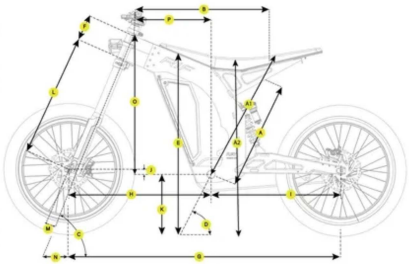
2-1 Headlight
2-2 Front Fork
2-3 Front Fender
2-4 Front Wheel
2-5 Front Disc Brake
2-6 Front Brake Caliper
2-7 Controller
2-8 Battery Pack Charging Port
2-9 Frame
2-10 Rear Fenders
2-11 Rear-Wheel
2-12 Rear Brake Caliper
2-13 Rear Disc Brake
2-14 Rear Swingarm

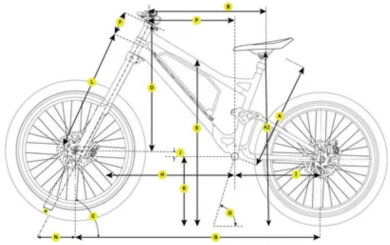
Geometry

Basic Geometry

Measurements		
A, A1, A2	Seat Tube Length	21.6, 25.5, 33.3
B	Top Tube Horizontal	25.22
C	Head Tube Angle	66°
D	Seat Tube Effecive Angle	67.94°
E	Standover	35.05
F	Head Tube Length	4.96
G	Wheel base	51.2
H	Front Center	27.1
I	Chain Stay Length	24.1
J	Bottom Bracket drop	0.74
K	Bottom Brackt Height	11.5
L	Fork Axle to Crown	23.74
M	Fork Rake	1.77
N	Trail	6.18
O	Stack	26.54
P	Reach	14.78

All the measurements in geometry are taken in inches





Basic Geometry

Measurements		
A, A	Seat Tube Length	22.44, 33.82
B	Top Tube Horizontal	24.23
C	Head Tube Angle	66°
D	Seat Tube Effecive Angle	73.15°
E	Standover	33.75
F	Head Tube Length	5.93
G	Wheel base	50.75
H	Front Center	32.99
I	Chain Stay Length	17.76
J	Bottom Bracket drop	1.22
K	Bottom Brackt Height	14.35
L	Fork Axle to Crown	23.38
M	Fork Rake	1.77
N	Trail	10.5
O	Stack	22.85
P	Reach	17.73

All the measurements in geometry are taken in inches

'All dimensions in the geometry dimension graphics are shown in inches'.

Rider Safety

Moped riding requires a set of gear to protect the rider from injuries in the event of an accident. It typically includes a helmet, gloves, boots, riding suit, riding pants, and armor.

1. Helmet:

Off-road helmets are different from regular motorcycle helmets. They cover your full head, face, mouth and chin and are lighter weight than many motorcycle helmets. Off-road helmets and goggles have a detachable design that provide better eye protection, and there is a sun visor on the top of the helmet to block the sunlight and reduce splashes of mud and rain.

2. Armor and Riding Suit:

The human body is fragile, especially the joints. Therefore, full-body armor is essential for off-road riding. It provides protection to the chest, back, shoulders, elbows, knees, and shins. Riders usually wear a long-sleeved off-road shirt and pants over the armor which can resist dirt, mud, gravel and other debris during off-road riding.

3. Gloves:

Full-fingered gloves are also crucial for off-road motorcycle riding. The palm area should use non-slip fabric, and the joints should have good flexibility. The back of the hand should also be able to prevent hand injuries in case of a fall and prevent blisters during long rides.

4. Boots:

Off-road motorcycle riding boots are mostly made of hard plastic. They are taller and stiffer than regular boots and provide better protection to your feet and ankles than regular boots or tennis shoes.

5. Travel Gear:

A backpack may be needed for short or long distances.

6. Rain Gear:

If you have to ride in rainy weather, it is advisable to wear a raincoat or waterproof riding suit. For long rides, it is recommended to carry rain gear. Staying dry will be more comfortable and keep the rider more alert.

Lithium battery maintenance

Do not short-circuit the positive and negative terminals of the battery. Do not disassemble or install the battery by yourself and do not let the battery get damp to avoid any danger.

To prevent damage to the battery, do not turn on the device while the battery is short-circuited.

Do not short-circuit the charging interface of the battery while it is being charged to avoid damaging the battery.

When not in use for a long time, please store the battery properly. Keep the battery in a partially charged state, neither fully charged nor completely discharged. Wrap the battery with non-conductive material to avoid direct contact with metal which may damage the battery. Store the battery in a cool and dry place.

Dispose of the battery safely and properly. Do not throw it into fire or water.

Warning:

Please charge the battery above 30℉. Since charging below 30F/0℃ will cause battery damage, we have set up battery protection to prevent charging below 0℃.

Avoid using and storing the battery in environments below 0F/-20℃ or above 120F/50℃. If not used for more than 30 days, please fully charge it first, store it in a cool and dry place, and fully charge it every 60 days, otherwise the battery may be damaged.

Do not throw it into fire or water. Disassembling the battery pack is prohibited.

Battery charging

The battery pack can be charged either installed on the electric moped or directly by removing the battery pack from bike - six M6 nuts fom battery plate

During charging, the red indicator light will blink. Once the battery pack is fully charged, the green indicator light will remain on. Typically, it takes about 4 hours for the battery pack to fully charge.

Once the battery pack is fully charged, the charging will automatically shut off. However, for safety reasons, it is recommended to disconnect the AC power cord from the power outlet within 6 hours after the battery pack is fully charged.

Unauthorized and inexperienced personnel are not allowed to disassemble the battery pack; doing so may cause damage to the battery pack and pose serious risks.

Transportation:

The battery should be packaged in a box in a semi-charged state (50%~60% charged). During transportation, it should be protected from severe vibration, impact, or compression, and should be protected from exposure to sunlight and rain. It can be transported by car, train, ship, airplane, or other common means of transportation.

Danger Warning:

The battery has internal protective mechanisms and circuits to prevent hazards. Improper disassembly will damage the protective functions and may cause the battery to overheat, smoke, deform, or ignite.

Do not connect the positive and negative terminals of the battery with metal and do not store or move the battery together with metal objects. If the battery is short-circuited, a large current will flow, damaging the battery and causing it to overheat, smoke, deform, or ignite.

Heating and burning the battery will melt the battery's insulation, disable safety functions, or burn the electrolyte. Overheating will cause the battery to overheat, smoke, deform, or ignite.

Do not use the battery near a fire source, oven, or in an environment exceeding 150F/75℃. Overheating will cause a short circuit inside the battery, resulting in overheating, smoking, deformation, or ignition.

Do not get the battery wet, and never immerse the battery in water. Doing so may cause the loss of the internal protective circuit function and abnormal chemical reactions, leading to the battery overheating, smoking, deforming, or igniting.

Avoid charging the battery near a fire source or under direct sunlight, as it may cause the loss of the internal protective circuit function and abnormal chemical reactions, shorten the battery life, and potentially cause failure, overheating, smoking, deformation, or ignition.

Use a dedicated charger and charge correctly. Charging the battery with a non-dedicated charger can be dangerous. Charging under abnormal conditions may cause the loss of the internal protective
circuit function and abnormal chemical reactions, leading to overheating, smoking, deformation, or ignition of the battery.

Prohibited actions include using metal tools to pry, hammer, or strike the battery, or any other methods to damage the battery.

Directly connecting the battery to a power outlet is strictly prohibited. High voltage and large current will pass through the battery, causing damage or overheating, smoking, deformation, or ignition of the battery.

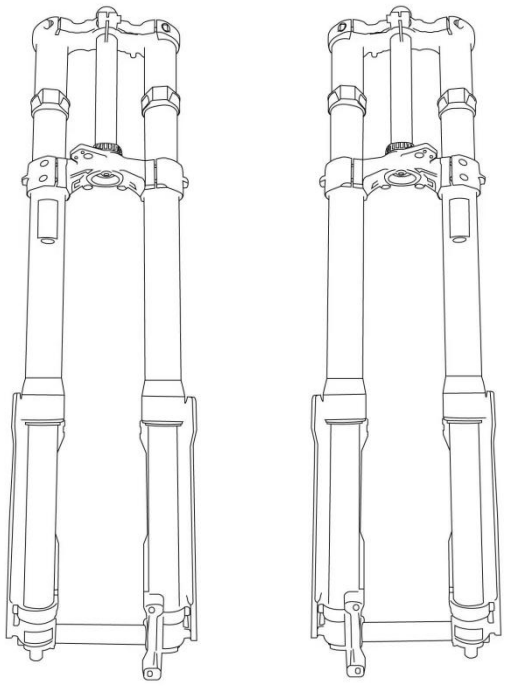
The battery should not be used with non-matching approved devices. Improper usage conditions can damage the battery's performance, reduce its lifespan, and even cause overheating, smoking, deformation, or ignition of the battery.

Other Matters:

The above descriptions can serve as an agreement framework for both the supply and demand sides regarding the performance and inspection rules of the battery product. If there are no new written agreements or change notices, this can be followed. This technical specification is based on customer requirements, cell specifications, and other relevant standards.

Suspension maintenance

Front Forks



Front Fork Inspection:

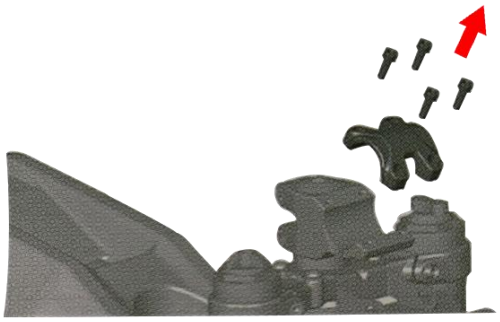
Hold the handlebars and compress the front fork a few times to check if it works smoothly.

Check for any leaks on fork assembly such as oil, scratches, and friction noise on the working area of the front fork legs.

Inspect if there is any mud or sand sticking to the rear shock assembly after riding. If there is, it needs to be cleaned; otherwise, it may cause damage to the oil seal and lead to oil leakage.

Handlebar installation

1. Use a #4 allen wrench to loosen and remove the 4 cover stem cap bolts.



2. Attach the left and right front brake lever assemblies and throttle assembly to the handlebars as shown in the illustration below.

3. Install the handlebars, fix the vertical cover, and adjust the angle and position of the handlebars according to personal riding style.

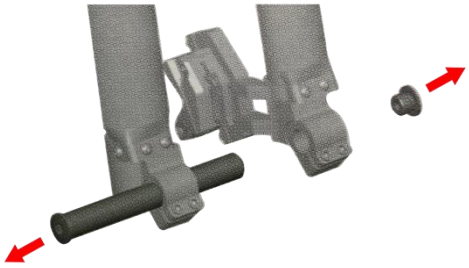
4. Tighten the 4 bolts, and the torque values to 6~8N.m

Secure brake line and cable with tie wrap to the appropriate location.

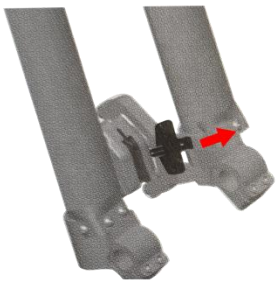
Install Front Wheel:

1.Release the 4 front wheel axle lock bolts at the lower end of the front fork with a # 4 allen wrench.

2.Remove the locking nut on one side of the front wheel through axle with a # 8 allen wrench. Tap gently with a rubber hammer and remove the front wheel axle.



4.Remove the front brake caliper and place the front wheel onto the mounting locations.



⚠Make sure you remove the plastic brake pad insert (shown with red arrow) before installing the front wheel.

5.Install the front wheel axle through the hub so that it passes completely through until completely seated.

⚠ Do not use the front brake before the front wheels are installed.

6.Tighten the left locking nut while securing the right side through axle with a #8 allen wrench.

⚠ Note: After the through axle and nut are securely tightened, the final step is to tighten the four locking bolts with a #4 allenwrench on the axle caps.

7. After front wheel assembly is complete, go back and double check that all fasteners are securely tightened and safe for use.

Install Front Fender:

Remove the 3 bolts from bottom of the fork. Install the front fender and lock the bolts with a # 4 allen wrench to ensure that the front fender is fastened without loosening.

Next chapter:

Starting the bike

DS103 DISPLAY

User Guide

CYC MOTOR LTD
www.cycmotor.com

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DS103 Display User Guide

Product Details

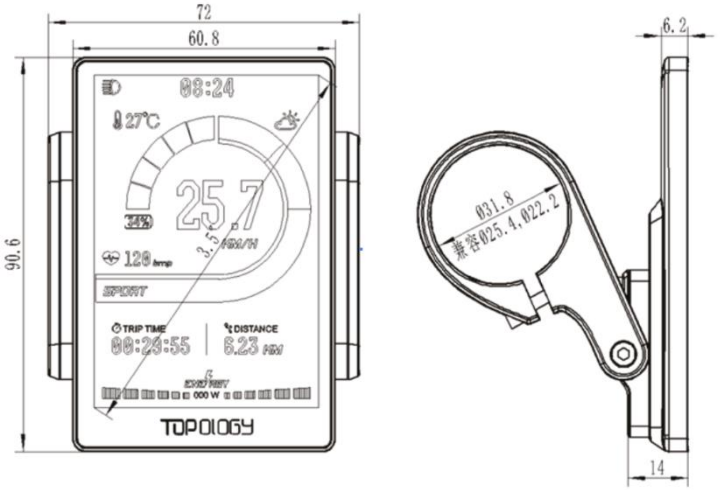
Intelligent LCD display, model: DS103

Firmware: CYC MOTOR LTD specific firmware

Features

- Simple and lightweight, separate installation bracket design
- High brightness, high contrast 3.5 coloured TFT screen
- Clock function (clock is on when the display shutdown)
- Excellent outdoor design with IP65 level waterproof
- Micro USB serial communication port, convenient maintenance services

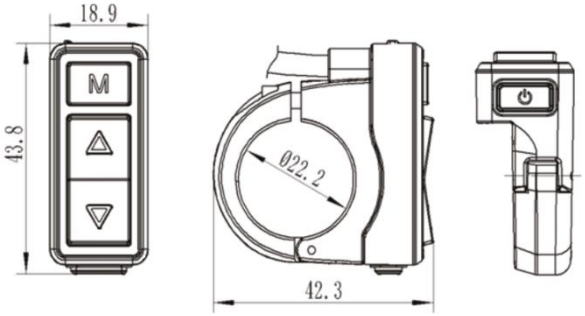
Dimensions & Materials



Materials

Product shell – ABS + PC plastic

Transparent window – Tempered glass



Dimensions

L 72mm x W 14mm x H 90.6mm

Electrical Specifications

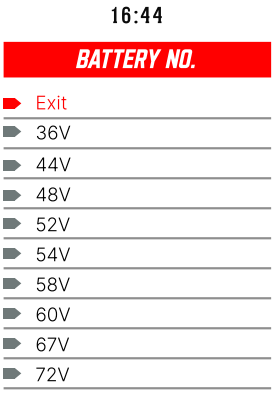
- Power supply: DC 36V/ 48V/ 52V/ 72V
- Rated current: 30ma/36V
- Shutdown leakage current: <1uA
- Screen specification: 3.5” coloured TFT (480*320 pixels)
- Communication method: UART (default)
- Operating temperature: -20°C ~ 60°C
- Storage temperature: -30°C~80°C
- Waterproof level: IP65

Quick Start Guide

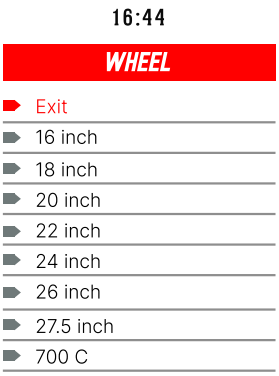
After unboxing and installing your CYC motor system, there are two main things you need to set up.

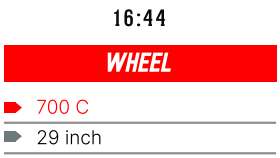
1. Change your Battery No. settings according to your rated voltage.

Upon startup, long press the MENU button within 15 seconds to access the SETTINGS page. Press UP/DOWN to navigate the settings page & MENU to select.

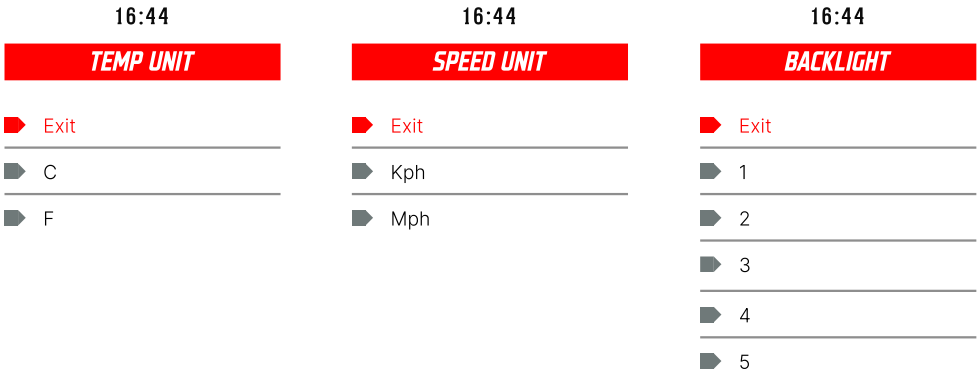


2. Change your Wheel settings according to your bike’s wheel size.





3. You can now set up parameters like temperature and the speed unit as well as the backlight!



Functionalities

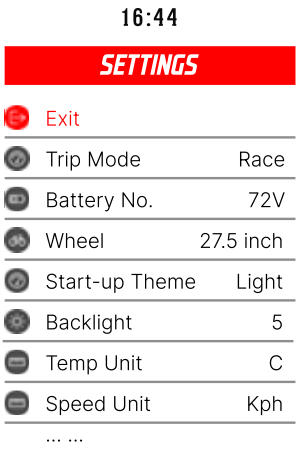
Press and hold the POWER button for 3 seconds to turn the display on/ off.

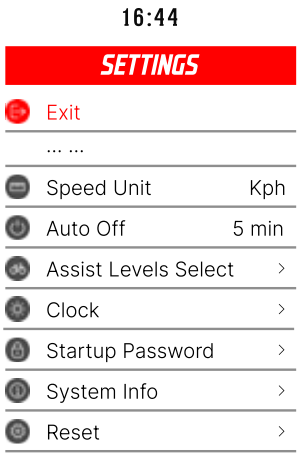
Navigation

The MENU button is used to go into your main settings page & your clear data page. It is also used to enter and select a setting or function.

Settings

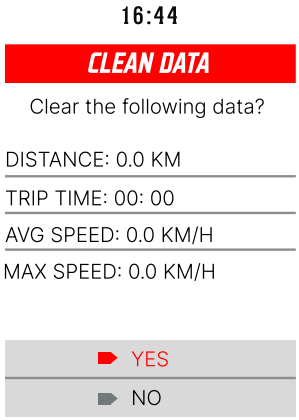
Upon startup, long press the MENU button within 15 seconds to enter the SETTINGS page. Note that once the system is activated for longer than 15 seconds, the motor system will require a restart to enter the settings menu.





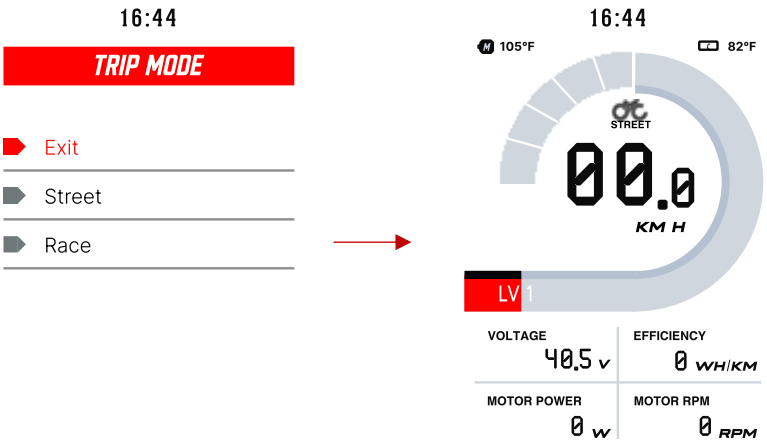
Clean Trip Data

Wait 15 seconds after starting up the motor system to enter the “Clean Data” menu. Long press the MODE button to clear previous trip data. Please note that trip data does not automatically clear once the motor system is restarted. It is a manual process.



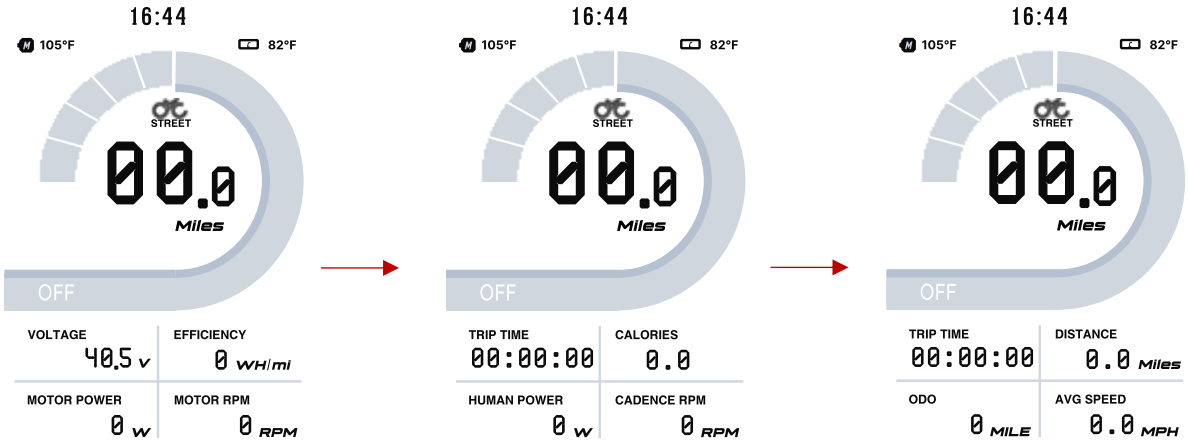
Trip Mode

Upon startup, long press the MENU button within 15 seconds to access the SETTINGS page, then select TRIP MODE to swap between STREET and RACE mode.



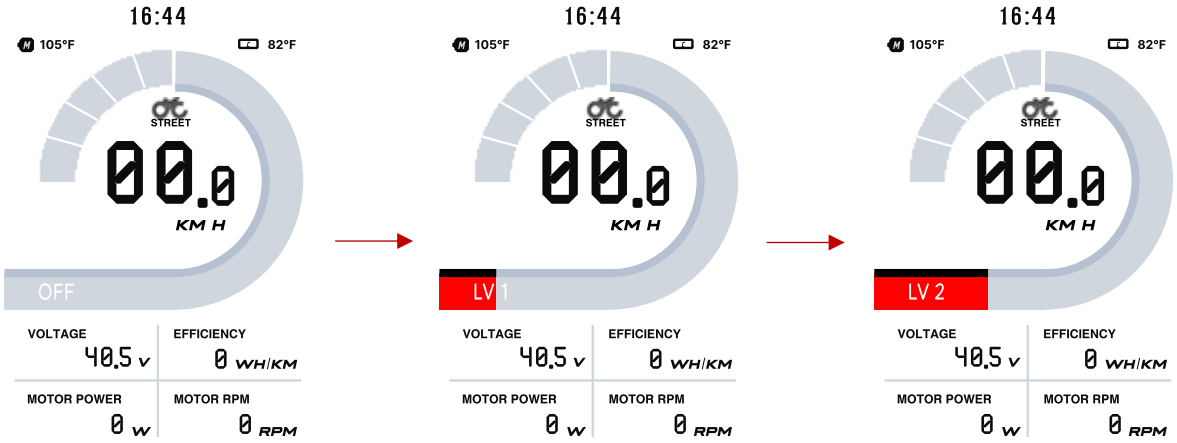
Switch Dashboard

Switch the main dashboard to display different information by pressing the MENU button.

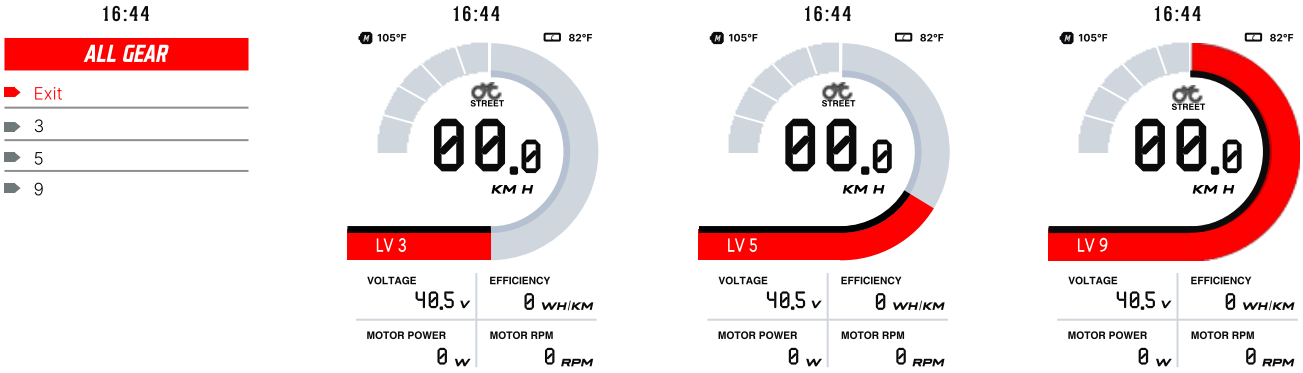


Assist Levels Select

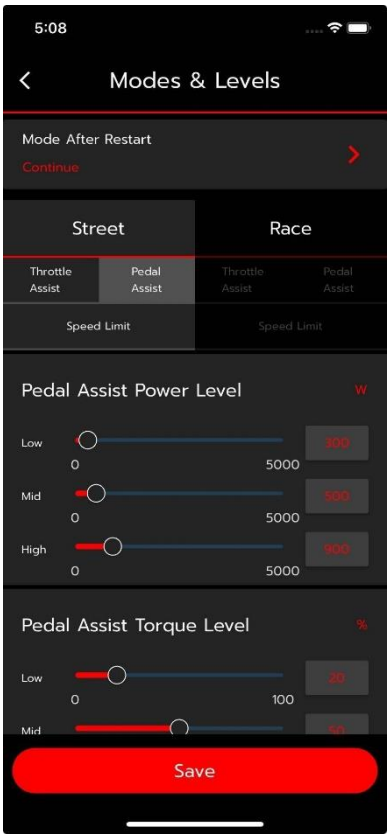
Press the UP/DOWN button to change between assist levels while riding. Note that “OFF” means no motor assistance will be given.



There are 3 sets of assist levels; 3, 5 & 9. To change the assist levels set, long press the MENU button upon within 15 seconds upon startup and access ALL GEAR in the main settings page.



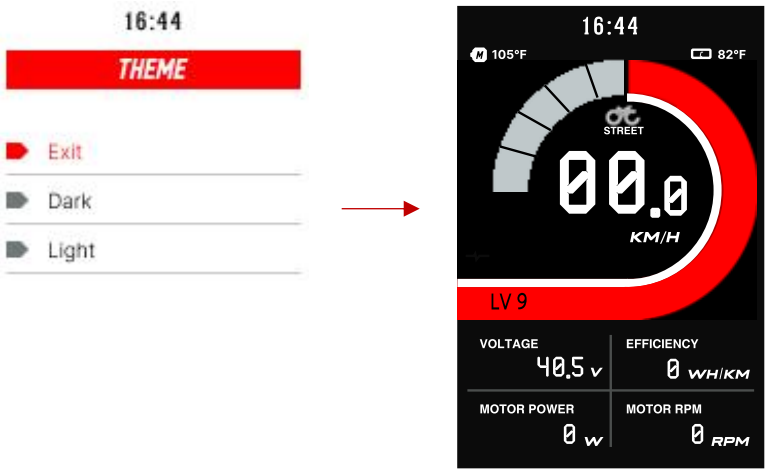
The power output will be distributed evenly across the chosen number of assist levels (or gears) according to the Assist Level Configuration and Speed Limit Assist settings on your Modes & Levels Page on the CYC Ride Control App.



APP ASSIST LEVEL	3 ASSIST LEVELS	5 ASSIST LEVELS	9 ASSIST LEVELS
	0 (Neutral)	0 (Neutral)	0 (Neutral)
1 – 0.3 (30% BY DEFAULT)	1	1	1
			2
		2	3
			4
2 – 0.6 (60% BY DEFAULT)	2	3	5
			6
		4	7
			8
3 – 1 (100% BY DEFAULT)	3	5	9

Dark & Light Theme

Upon startup, long press the MENU button within 15 seconds to access the SETTINGS page, then select THEME to change between light and dark themed dashboards.



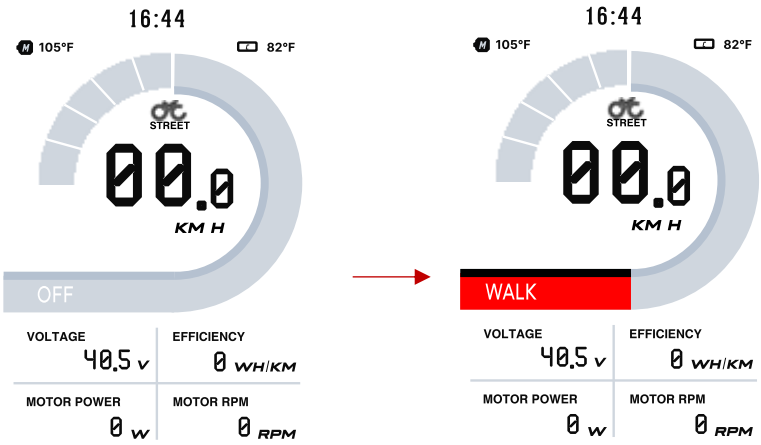
Wheel Size

The following table lists the wheel circumference measurements in millimetres (mm). Learn how to measure your bike tire & wheel circumference with this guide.

Wheel Size (In)	Rim (ISO)	Circumference (mm)
27 x 13/8	35 - 630	2169
27 x 11/4	32 - 630	2161
27 x 11/8	28 - 630	2155
27 x 1	25 – 630	2145
26 x 1.25	32 – 559	1953
26 x 1.5	38 – 559	1953
26 x 1.9	47 – 559	2055
26 x 2.125	54 – 559	2070
29 x 2.1	54 – 622	2288
29 x 2.2	56 – 622	2298
29 x 2.3	60 – 622	2326

Walk Assist

Hold in the DOWN button to activate walk assist. Please note it takes 3 seconds to activate & will deactivate immediately when the button is released.



Error Codes

In certain circumstances, an error code may appear on your display. Contact us for assistance.

Error Code on App & DS103 Display
Controller Over Voltage
Controller Under Voltage
Controller Over Temperature
Hall Sensor Error
Throttle Error
Speed Sensor Error
Controller Internal Error 1
Controller Internal Error 2
Controller Internal Error 3
Controller Internal Error 4
Controller Internal Error 5
Controller Internal Error 6
Controller Internal Error 7
Controller Internal Error 8
Controller Internal Error 9
Controller Internal Error 10

Installation

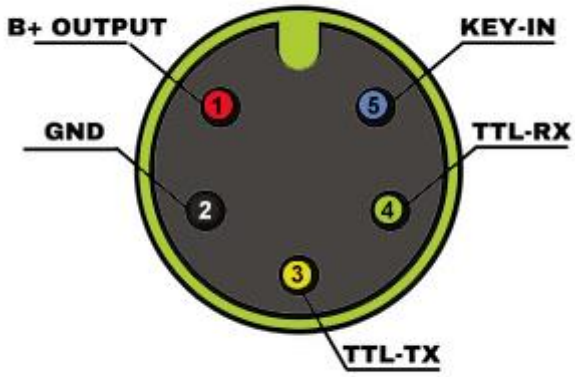
1. Determine if you need to select the corresponding mounting clamp and rubber clip ring according to the diameter of your handlebar (Applicable handlebar specifications: Φ22.2; Φ25.4; Φ31.8).
2. Open the display lock clamp and insert the rubber clip (if applicable) into the correct position of the lock clamp.
3. Set the rubber ring in the bracket (if applicable) then assemble on the middle of the handlebar. You can adjust the angle of the display to make the display screen more visible when riding. After fixing the angle, tighten the screws. The tightening torque is 1N.m.
4. Open lock ring of the switch and set in the appropriate position on the left side of the handlebar. Adjust the angle and position of the switch as needed in order to ensure the switch can be operated easily.
5. Fix and tighten the handlebar fixing screw with the M3 Hex wrench (locking torque is 0.8N.m.)

Note: Damage caused by excessive torque is not covered by warranty.

Compatibility

The clamps are suitable for 3x different handlebar sizes: 31.8mm, 25.4mm & 22.2mm.

Pin Layout



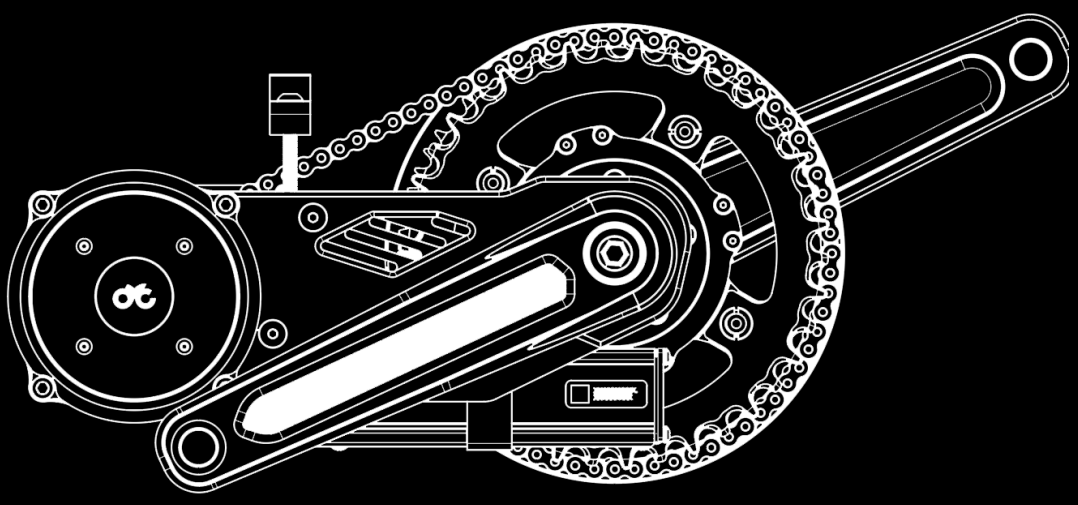
Male 5-Pin Connector

1. **Red Wire:** Anode (36V to 72V)
2. **Black Wire:** GND
3. **Yellow Wire:** TxD (display -> controller)
4. **Green Wire:** RxD (controller -> display)
5. **Blue wire:** Power cord to the controller

Certification

CE / IP65 (waterproof) / ROHS

Be sure to contact us if further assistance is needed. Thank you!



X1 PRO GEN 4

User Manual

CYC MOTOR LTD
support@cycmotor.com

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SAFETY & PRECAUTION

General Safety

Kindly read through the entire user manual. This manual contains important information to reduce user risk as well as instructions for this product's proper use. Do not discard the manual but keep it for reference.

Note that your personal safety remains your responsibility and that the user must contact CYC MOTOR LTD or their official product dealer/distributor directly for any further guidelines or assistance.

Never interfere with the movable parts when the drive unit is connected to a power supply. This could result in serious injury if the system is accidently engaged.

This product is a powerful motor system that is dangerous for children and must be handled by an adult at all times. Small components and accessories may also present a choking hazard. Keep the motor system and accessories out of reach from children.

All components and accessories may only be replaced with identical components directly supplied by CYC MOTOR LTD or an official product dealer/distributor. CYC MOTOR LTD cannot be held liable for any damages as a result of using unapproved parts.

This product only complies with local, state, and federal regulations if speed limits are set accordingly. Ensure that you have set up your X1 Pro kit according to your local, state, and federal regulations when using and registering this drive unit on a public road/area.

Before the Ride

Ensure that the drive unit chain has the proper tension. Incorrect tension could cause jamming of the system and result in injury while riding. Inspect the chain tension regularly.

Ensure that the chains are properly lubricated. Cleaning and lubricating your chain with a regular bicycle chain cleaner, is advised regularly.

When plugging in your kit, please ensure that your peripherals are connected properly as faulty connection could result in damage of the controller or batteries.

Inspect all electrical wires and plugs for damage regularly.

Secure all wires properly. Ensure that the throttle can bet twisted freely without friction and that the throttle can return to its original position without restriction. This is to prevent any uncontrolled response of the system.

Installation & Use

Do not install anything other than the parts and accessories that came with this drive unit. Doing so could damage the product.

The drive system can be activated and deactivated by holding down the ON/OFF button of the display.

Avoid changing the bike gear (note: this is different from the drive unit's assist level) while the drive unit is powering the bike. This may lead to excessive wear on the chain and chain rings or other gear related failure. When changing gears, use human input only. After the gear is changed, you may accelerate again with the throttle or continue using the PAS.

Take off with the appropriate assist level and bike gear.

This product is **splash proof** and **rain proof** but not waterproof. Do not submerge it underwater.

Disclaimer

If you require any more information or have any questions about the user manual disclaimer, kindly contact us by submitting a form here.

All the information contained in this manual is published in good faith and for general informational purposes only. CYC MOTOR LTD does not make any warranties about the completeness of this information and encourages further inquiries If needed. CYC MOTOR LTD will not be held liable for any losses and/ or damages in connection with the use of this product. **The use of this product is at own risk.**

Please contact CYC MOTOR LTD if you are unsure about the assembly instructions or for any further assistance as CYC MOTOR LTD will be held liable for any losses and/ or damages created by the assembly.

The control unit's hardware and software are under the GPL V3 open-source license. VESC® is a trademark of Benjamin Vedder. More information can be found at www.gnu.org/licenses/gpl-3.0.html. CYCMOTOR LTD's source code can be found at www.github.com/CYC-MOTOR. Different firmware can be loaded to this controller.

Warning

Any issues with this product's performance or damages sustained to the product as a result of loading unauthorized firmware, will not be supported, or warrantied by CYC MOTOR LTD or any authorised product dealer.

Modifications of any kind is not advised. Any issues with this product's performance or damages sustained to be the product as a result of modifications will not be supported or warrantied by CYC MOTOR LTD or any authorized product dealer. If the product or its components have been found to be modified, warranty of the product may be limited in the case where troubleshooting and/ or replacement may be needed.

TECHNICAL SPECFICIATIONS

Description

This product is a high-powered electric bike (ebike) drive unit kit which includes a programmed control unit and peripherals. This product is designed to be installed as a conversion system to convert standard bicycles into electric bicycles.

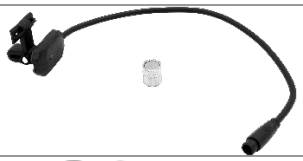
General

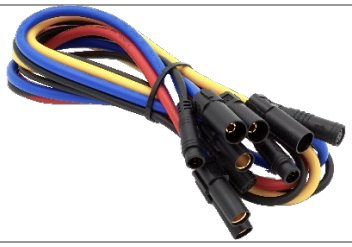
Rated Nominal Voltage	36V – 72V
Rated Power	5000W (CYC X12)
Throttle Max Power	6000W & 100% torque value
PAS Max Power	3000W & 75% torque value
Colour	Anodized Black
Weight of Motor & Controller	3.8 kg
Total Weight with Crank set & BB	7.5 kg
Bracket Materials	7075-T6
Crank Arm Length	165mm or 175mm
Control Method	FOC
Motor Sensor	Hall & Temp. Sensor
Chain ring	32T with 52T motor chainring 38T with 63T motor chainring 40T with 72T motor chainring
Compatibility	68-83mm, 100mm, 120mm, BB92

Controller

Type	X12 Controller
Nominal Voltage	24V – 84V
Max. Input Current	110A (X12 Controller)
Wireless System	Connectivity via speed sensor
Mobile App	CYC Ride Control App for iOS & Android
Mounting Position	Integrated between bottom bracket / mounted separately

Parts List

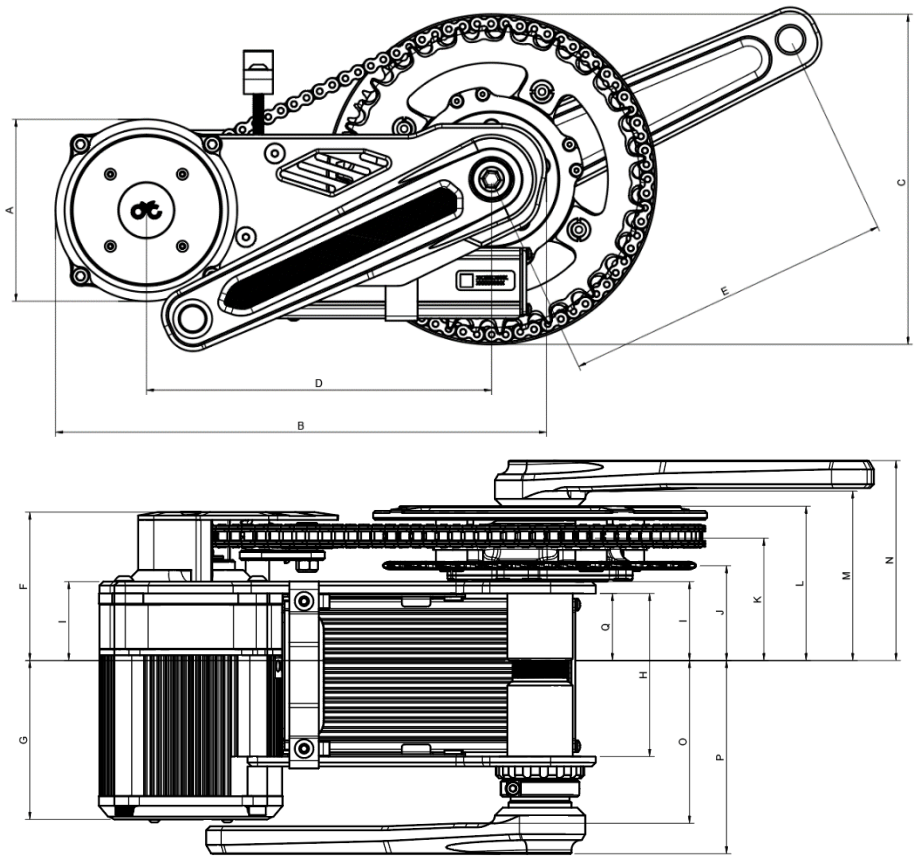
X1 Pro Gen 4 Motor Assembly with Chainring	
SW102 or DS130 Display	 or
Thumb, Half-Twist or Full Throttle	 or  or 
Magnetic Wireless System Speed Sensor	
Bottom Bracket Spacers	
Spindle Spacers	
BB92 to BSA adapters	
Crankarms with Crankarm Bolts	
Left Bottom Bracket Cup	
Mounting Hanger	

Retaining Lock Ring	
Spindle	
(OPTIONAL) Magnetic Brake Sensors	
(OPTIONAL) Controller Extension Wires	

Dimensions

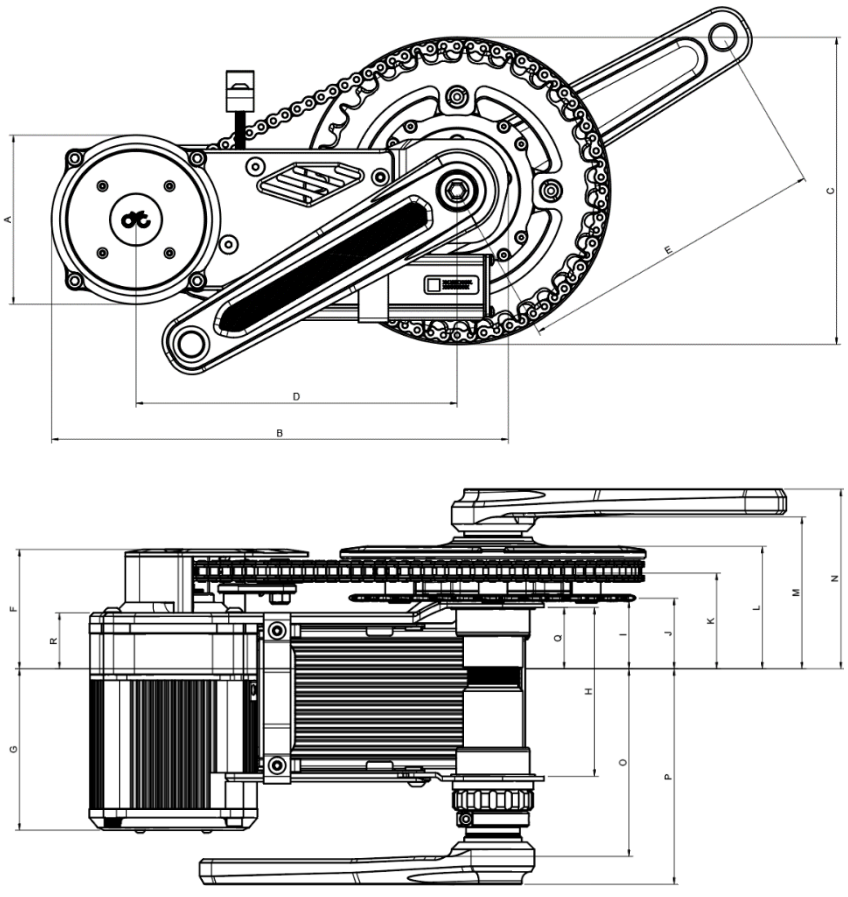
BSA Threaded 68/73/83mm Version

A	93.6mm
B	253.1mm
C	170mm
D	177mm
E	165mm/175mm
F	75.5mm
G	80.9mm
H	83mm
I	40.2mm
J	48.2mm
K	63.3mm
L	78.5mm
M	86.2mm
N	101.7mm
O	82.8mm
P	98.3mm
Q	34.2mm



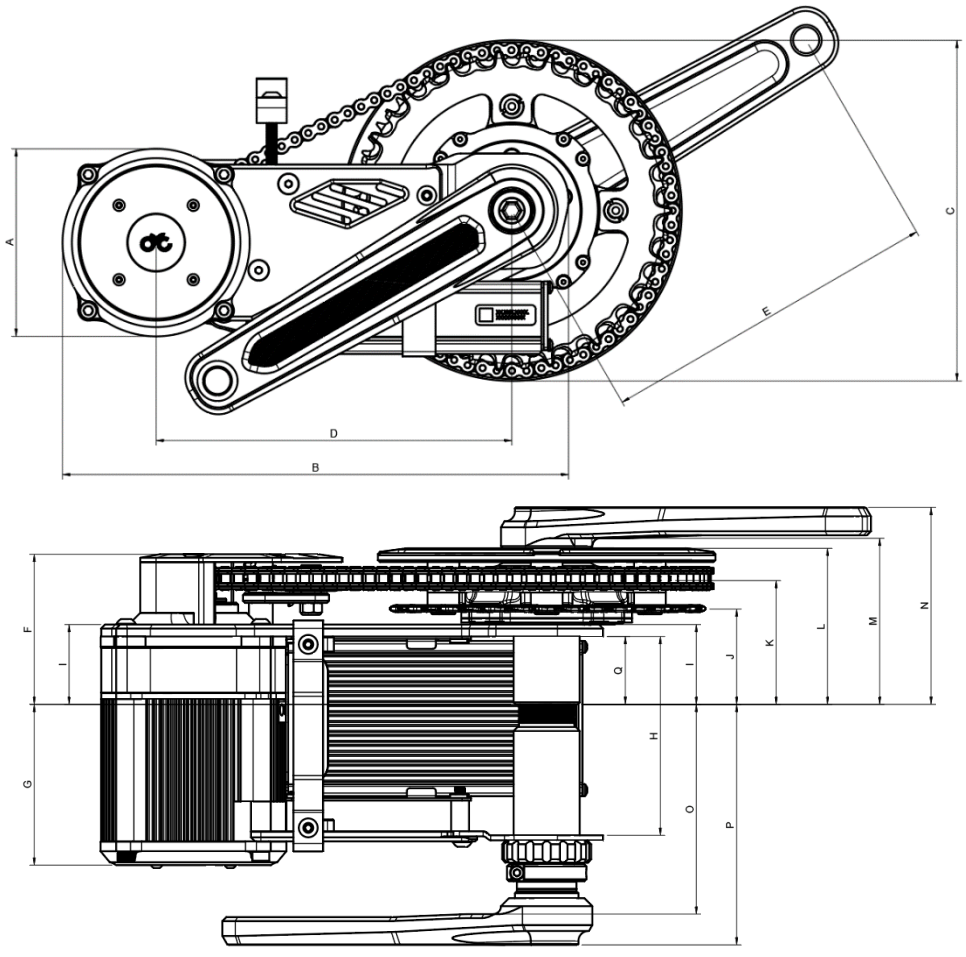
BSA Threaded BB92 Version

A	93.6mm
B	253.1mm
C	170mm
D	177mm
E	165mm/175mm
F	66.5mm
G	89.9mm
H	94mm
I	38.2mm
J	39.45mm
K	54.3mm
L	68.2mm
M	84.6mm
N	100.1mm
O	104.5mm
P	120mm
Q	34.2mm
R	66.5mm



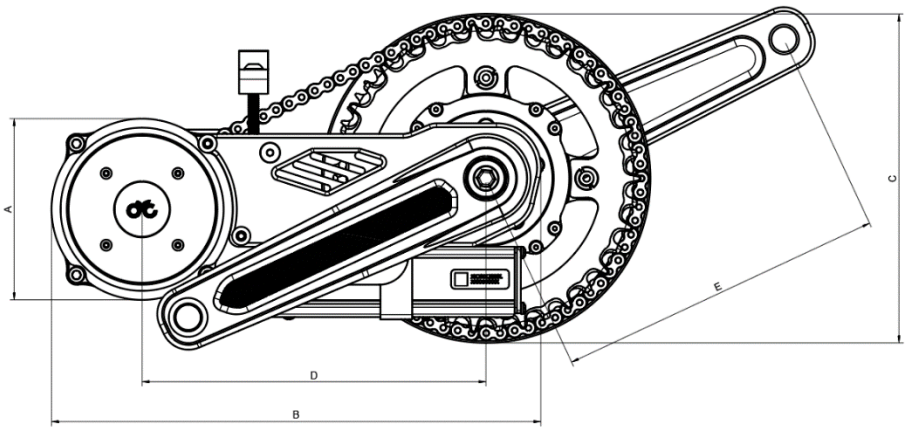
BSA Threaded 100mm Version

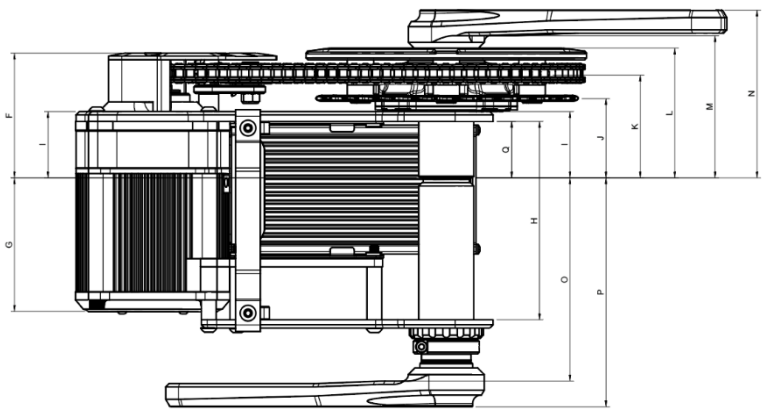
A	93.6mm
B	253.1mm
C	170mm
D	177mm
E	165mm/175mm
F	75.5mm
G	80.9mm
H	100mm
I	40.2mm
J	48.2mm
K	63.3mm
L	78.5mm
M	83.6mm
N	99.1mm
O	105.5mm
P	121mm
Q	34.2mm



BSA Threaded 120mm Version

A	93.6mm
B	253.1mm
C	170mm
D	177mm
E	165mm/175mm
F	75.5mm
G	80.9mm
H	120mm
I	40.2mm
J	48.2mm
K	63.3mm
L	78.5mm
M	86.1mm
N	101.6mm
O	123mm
P	138.5mm
Q	34.2mm





INSTALLATION

Required Tools

Hex Keys (3mm & 8mm)	
Adjustable Wrench	
PressFit Bottom Bracket Removal Tools (Only for BB92 version)	
16 Notch Bottom Bracket Tool	
Crank Puller (for disassembly)	

Operating Notice

RIGHT-HAND and LEFT-HAND sides are determined by the bike handle; Right-hand corresponds to the right handle.

Mounting Options for Controller

The X6 controller can be mounted below the bottom bracket (pre-assembled by default) or mounted elsewhere on the bicycle frame at your discretion using controller extension wires that can be selected upon purchase or bought separately from the CYC online store or an authorized distributor/dealer.

Adjusting the Width of the Bottom Bracket

In order for the CYC kit to fit on various different widths of bottom brackets, there are several spacers that come with the kit. These spacers are designed to provide the bottom brackets with necessary spacing between the motor brackets.

***Please note that the spacers can be adjusted to accommodate different chainlines as needed.**

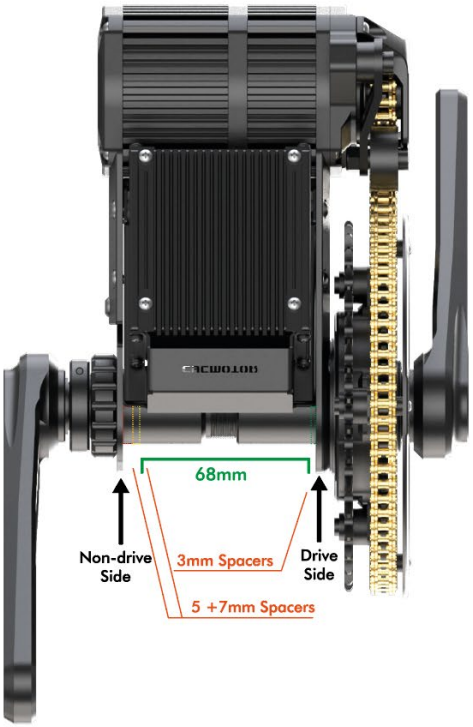
The preferred mounting set-ups are shown on the next page for 68mm and 73mm bottom brackets.

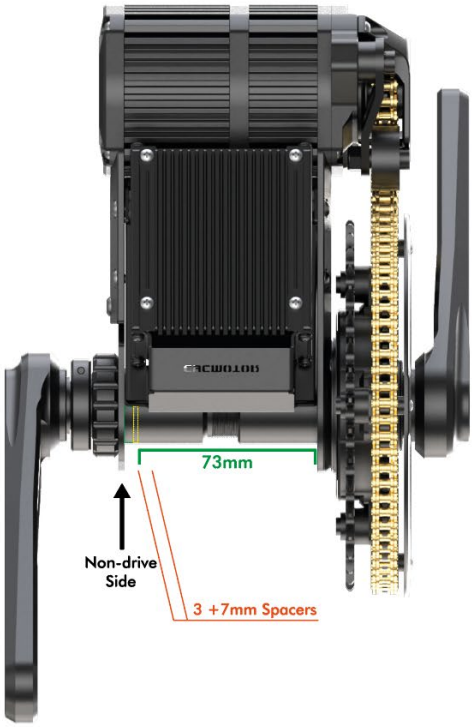
Before you begin, ensure that you have removed the original crank set and bottom bracket from your frame. This includes any bearings and/or cups that might have been fitted previously. To install your CYC kit, you will need a clean bottom bracket shell on your frame.

BB Version	Q Factor	Chainline	Spacer on Left	Spacer on Right	Centre Offset
BSA 68mm	200	51	5 + 7	3	-0.1
BSA 73mm	200	50.5	3 + 7	0	-0.6
BSA 83mm	200	55.5	0	0	4.4
BB92	220	55.8	5	0	0.1
BSA 100mm	220	63	0	0	2.9
BSA 120mm	240	74	0	0	7.4

*68mm bottom brackets require a 7mm and a 5mm spacer on the left (non-drive side) and a 3mm spacer on the right (drive side) as shown.

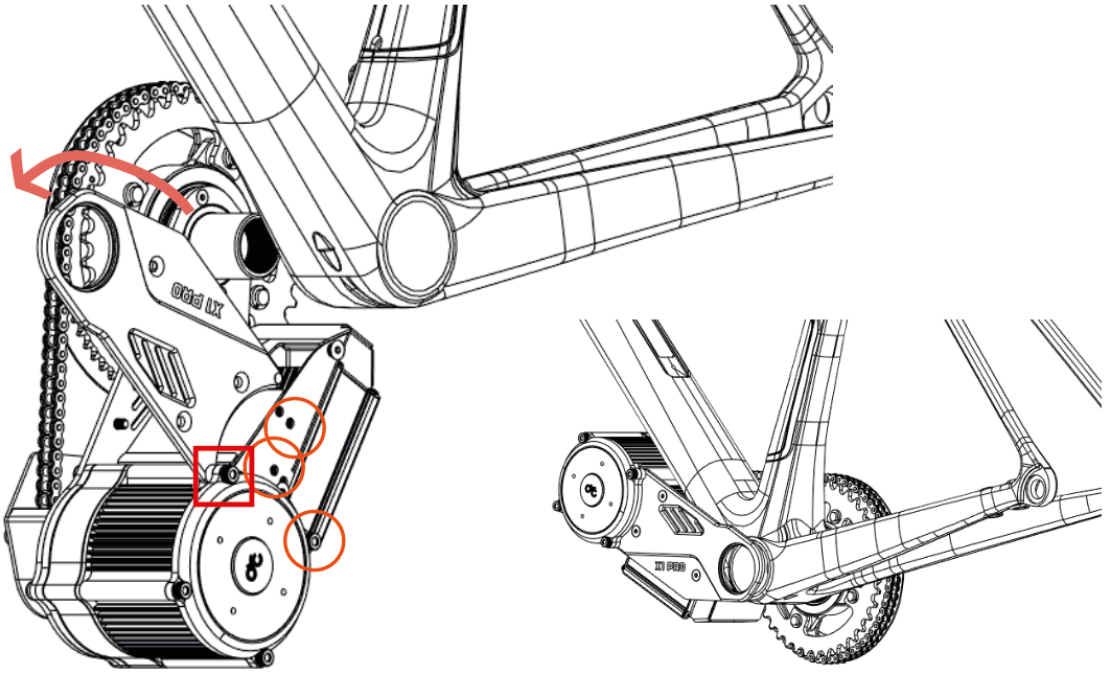
*73mm bottom brackets require a 7mm & 3mm spacer on the left (non-drive side) and no spacer on the right (drive side) as shown.





Installation of 68/73/83mm version

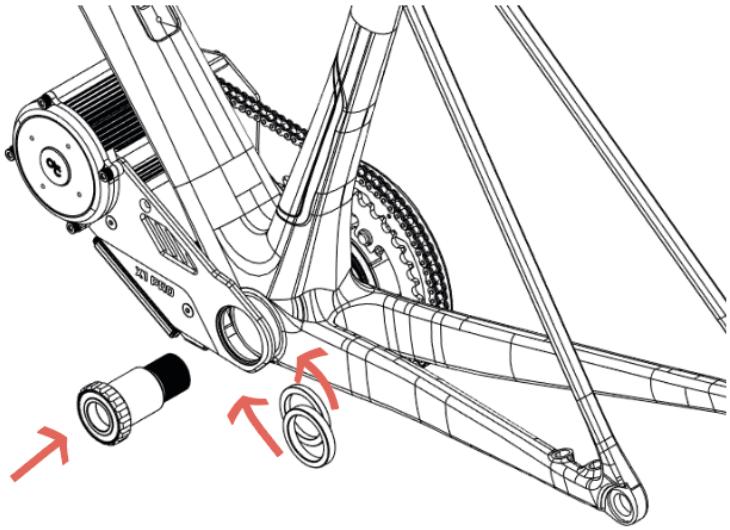
1.
    a. Remove the bolts as indicated within the circles in order to loosen the left (non-drive) side mounting bracket.
    b. Loosen the bolt as indicated within the square Do not remove completely.
    c. Gently swing the left mounting bracket upward and line up the motor body with your frame's bottom bracket shell.
    d. Insert the right (drive) side of the motor into the frame's bottom bracket shell.
    e. Once positioned into the frame's bottom bracket, swing the left mounting bracket back down and retighten all loosened/ removed bolts.



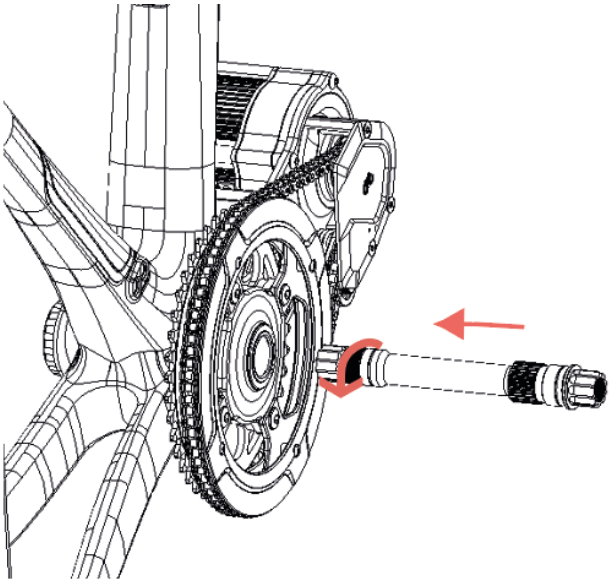
2.
    a. Line up the 3, 5, and/ or 7mm bottom bracket spacer/s provided outside the adapter bracket plate on the left (non-drive) side of the frame (spacer guidelines mentioned below). Add *Loctite 243* before installation.
    b. Thread the left (non-drive) side bottom bracket cup into the frame's bottom bracket shell through the spacer/s and the mounting bracket. Add grease before installation. Rotate clockwise.
        i. For a 68mm bottom bracket shell, place the 5mm & 7mm bottom bracket spacer over the left (non-drive) side bottom bracket cup before inserting it into the frame's bottom bracket shell.
        ii. For a 73mm bottom bracket shell, place the 3mm & 7mm bottom bracket over the left (non-drive) side bottom bracket cup before inserting it into the frame's bottom bracket shell.

iii. For an 83mm bottom bracket shell, there is no need to add in any bottom bracket spacers on the left (non-drive) side.
iv. For 100mm and 120mm version, no spacers are needed.

*Kindly note that the bottom bracket spacer placement mentioned above are provided as guidelines only for most general frames. You may place a spacer/s on either side of the bottom bracket cups according to your desired chainline.

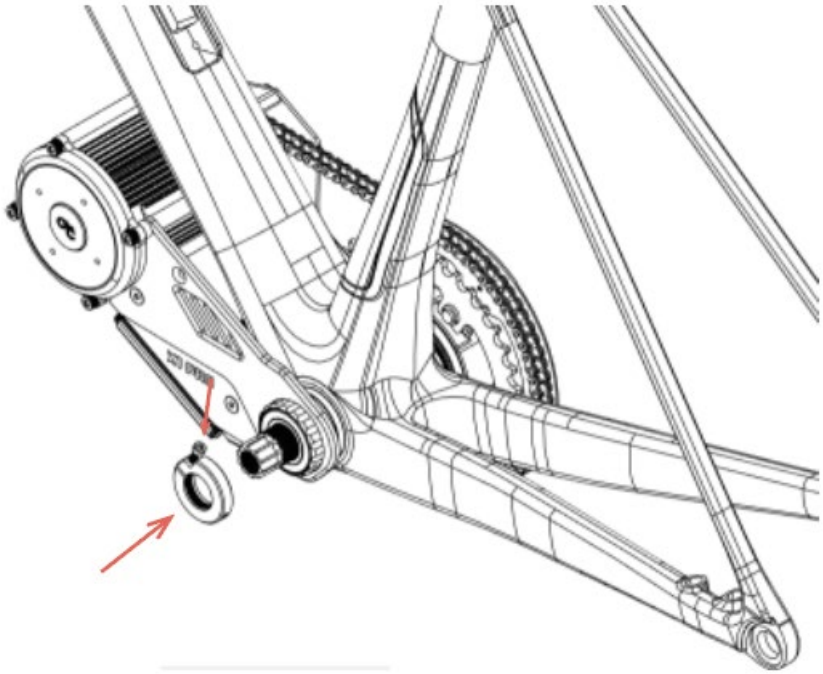


3. Insert the spindle from the right (drive) side. Note that you will need to line up the splines from the chainring assembly. If your spindle does not go through or comes to a hard stop before being fully inserted, rotate the spindle slightly and try again. Once the spindle is lined up, a soft tip hammer may also be used to get the spindle all the way through. Add a little grease on the o-rings and the torque sensor splines.

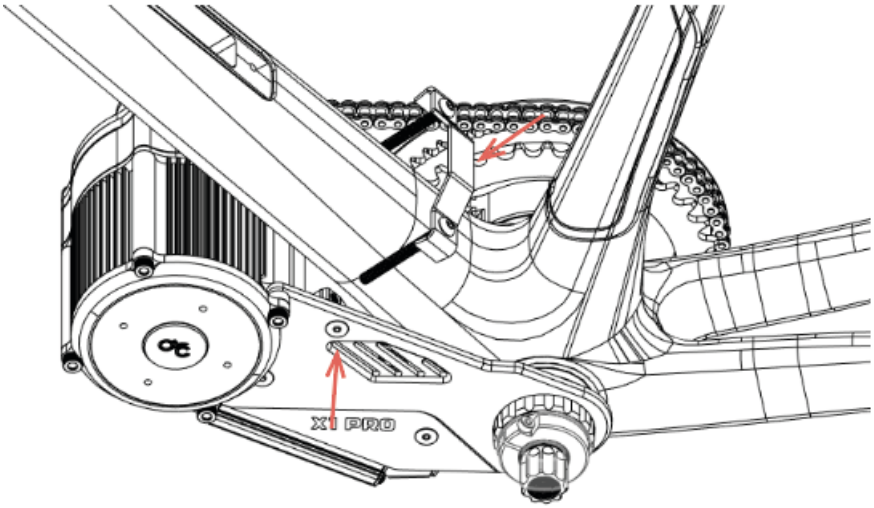


4.
   a. On the left (non-drive) side, thread in the lock ring.
   b. Use a 3mm hex key to lightly thread in the lock ring further. There is a small insertion made on the side of the lock ring for the hex key.

c. Lightly tighten the lock ring. The spindle should not be tensioned too much by the lock ring and should still be able to rotate freely by hand.

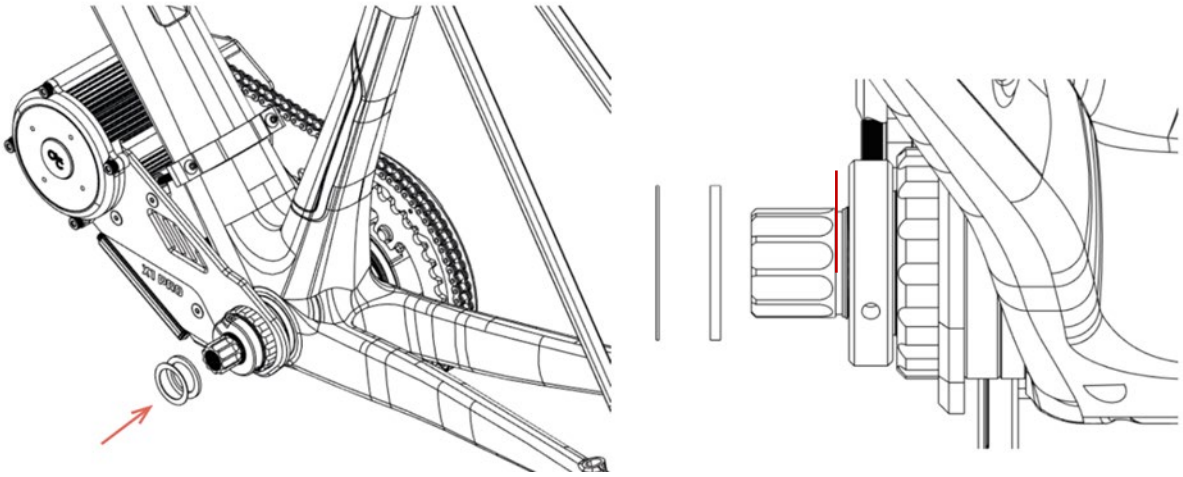


5. Install the motor hanger and place the rubber padding provided in between the motor and the frame.



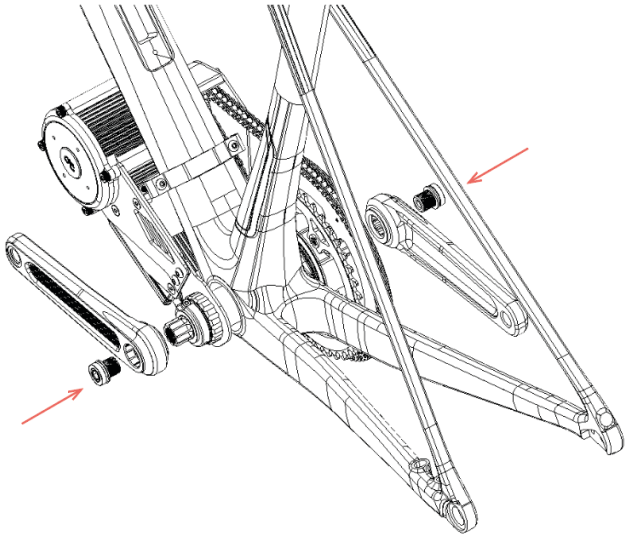
6.

a. Insert spindle spacers over the spindle on the left (non-drive) side. Place spacers accordingly up to the indicated line.



7.

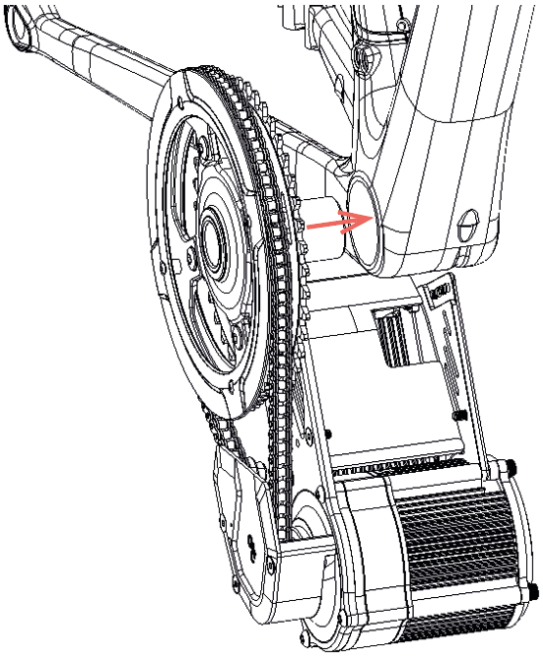
a. Install the left (non-drive) and right (drive) side crank arm according to the **L** and **R** indication on your crank arms.
b. Use the M15 ISIS Crank Arm Screws to tighten and secure the crank arms. Tighten both crank arms until it touches the spindle step on the drive side or the opposed spacers on the non-drive side. Tighten to torque specification. (25 – 30 N.m.)

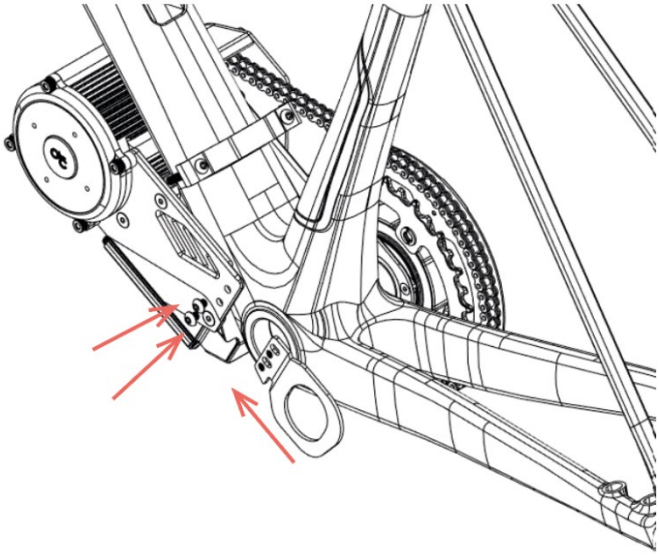


8. Add grease on spindle.
9. Place your bicycle chain over the inner chain ring. Note that you will need to undo the quick link to split your chain.
10. Connect the peripherals and your battery.
11. Test run and have fun! Use responsibly.

Installation of 100mm version

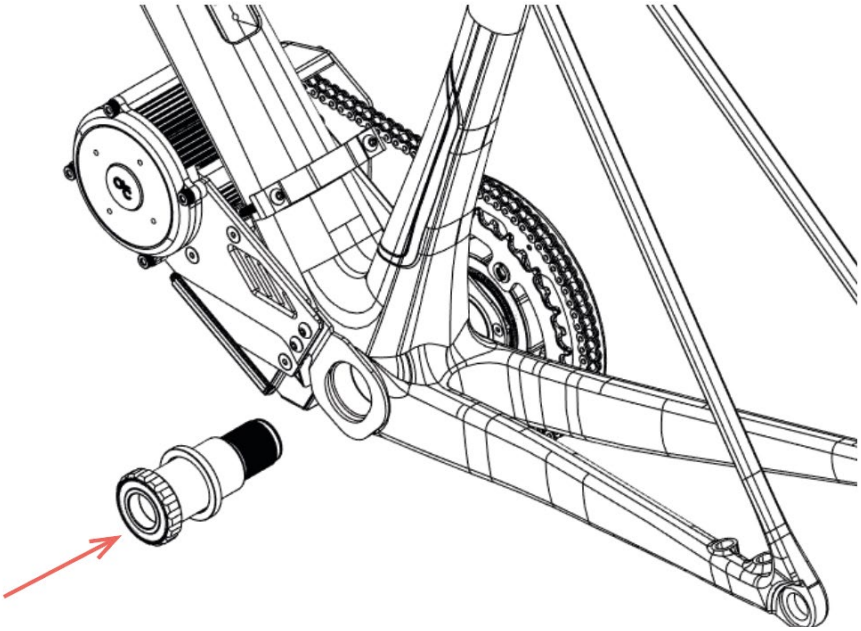
1. Line up the motor body with your frame at the bottom bracket and insert the right (drive) side of the motor into the frame's bottom bracket shell.
2. Add 2 X M5*6 screws into the left (non-drive) side adapter plate and the mounting bracket.



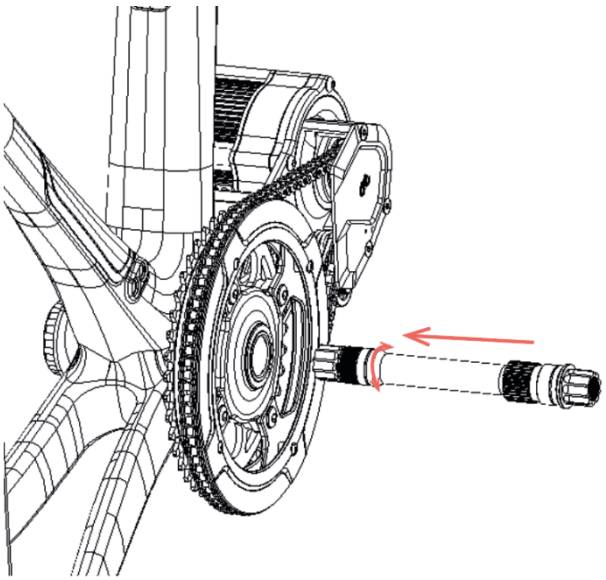


3.

a. Add the 5mm bottom bracket spacer provided outside the adapter bracket plate on the left (non-drive) side of the frame.
b. Thread the left (non-drive) side bottom bracket cup into the frame's bottom bracket shell through the spacer and the adapter bracket plate. Rotate clockwise.

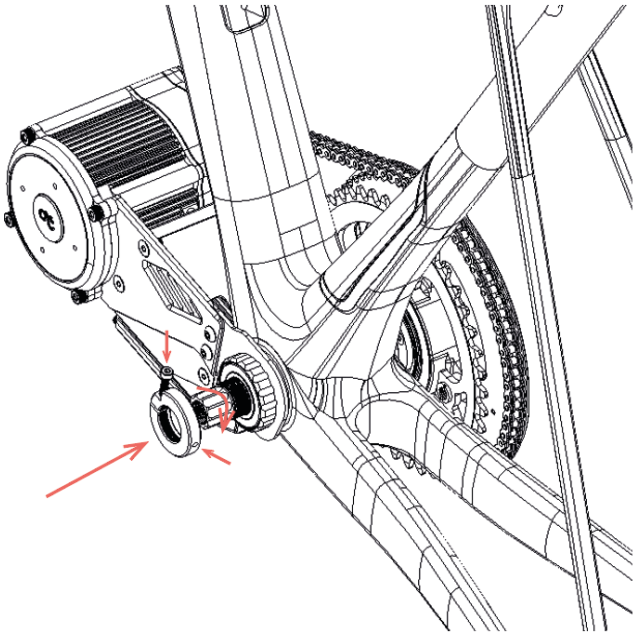


4. Insert the spindle from the right (drive). Note that you will need to line up the splines with the chainring assembly. If your spindle does not go through or comes to a hard stop before being fully inserted, rotate the spindle a bit and try again. Once the spindle is lined up, a soft tip hammer may also be used to get the spindle all the way through.



5.
a. On the left (non-drive) side, thread in the lock ring.
b. Use a 3mm hex key to lightly thread in the lock ring further. There is a small insertion made on the side of the lock ring for the hex key.
c. Lightly tighten the lock ring. The spindle should not be tensioned too much by the lock ring and should still be able to rotate freely by hand.

d. Install the motor hanger (see page 32) and place the rubber padding provided in between the motor and the frame.

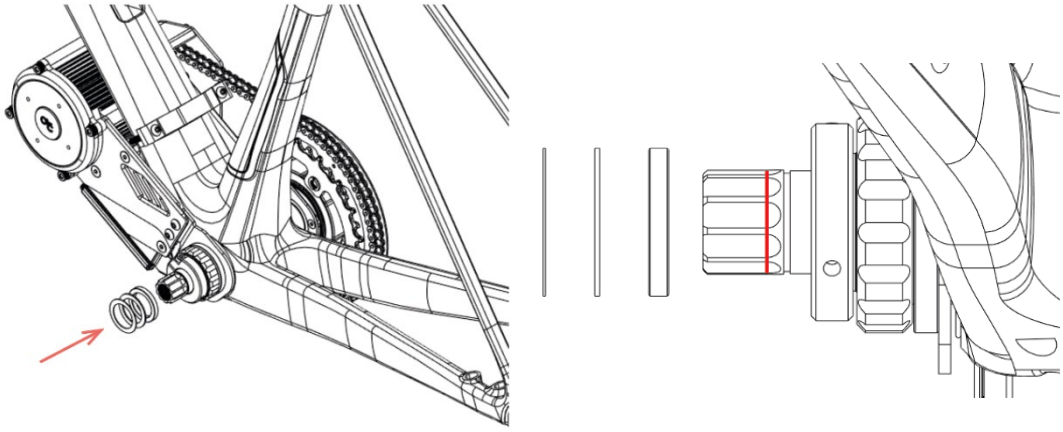


6.

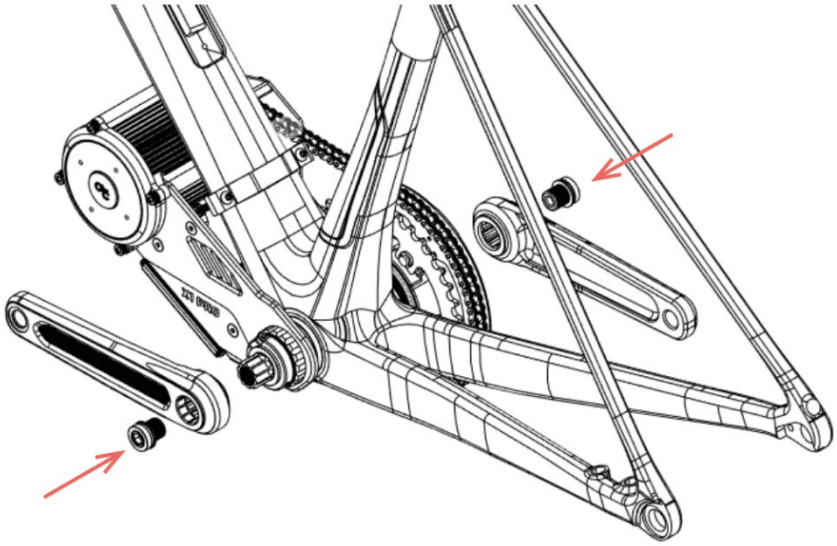
a. Insert spindle spacer over the spindle on the left (non-drive) side. Place spacers accordingly up to the indicated line

7.

a. Install the left (non-drive) and right (drive) side crank arm according to the **L** and **R** indication on your crank arms.
b. Use the M15 ISIS crank arm screws to tighten and secure the crank arms. Tighten both crank arms until it touches the spindle step on the drive side or the opposed spacers on the non-drive side. Tighten to torque specification. (25-30 N.m.)



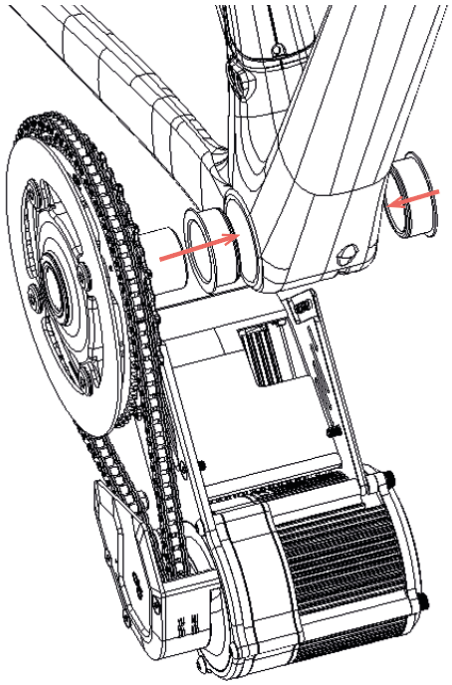
8. Place your bicycle chain over the inner chain ring. Note that you will need to undo the quick link to split your chain.



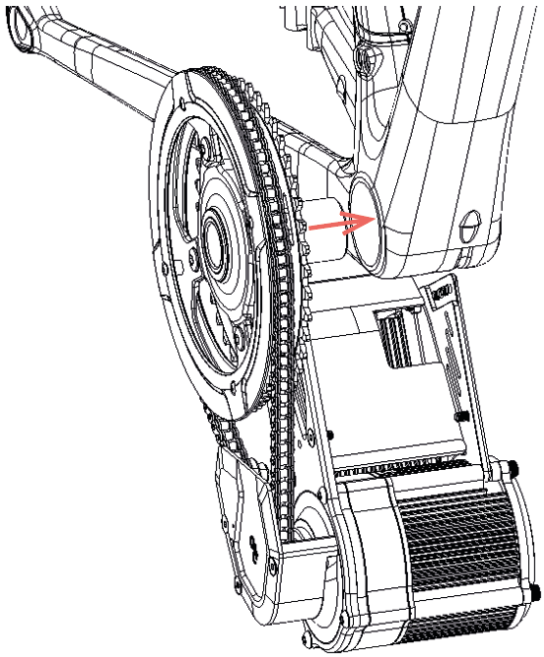
9. Connect the peripherals and your battery.
10. Test run and have fun! Use responsibly.

Installation of BB92 version

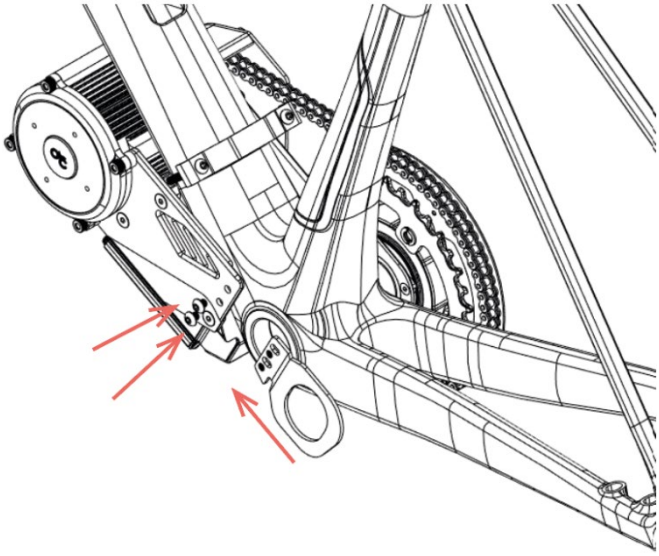
1.
    a. Install the BB92 to BSA adapters provided to the frame's bottom bracket shell. Use a press fit installation tool to insert the adapters, ensure to add grease on the adapters before pressing in.
    b. Add BB92 adapter plate and 2 x M5*6 screws into the left (non-drive) of the plate of the motor system and tighten to torque (see page 38).



2. Line up the motor body with your frame at the bottom bracket and insert the right (drive) side of the motor into the frame's bottom bracket shell.

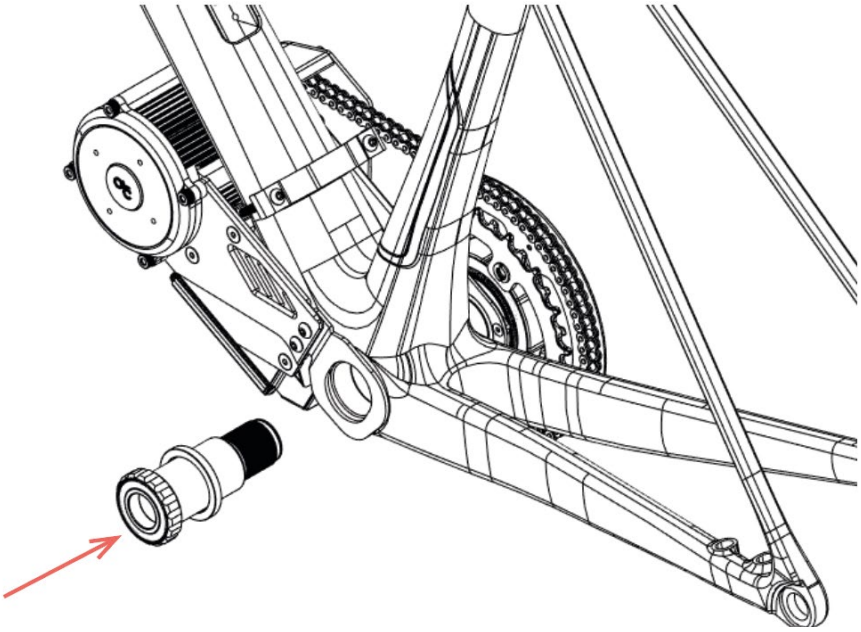


3. Add 2 X M5*6 screws into the left (non-drive) side adapter plate and the mounting bracket.

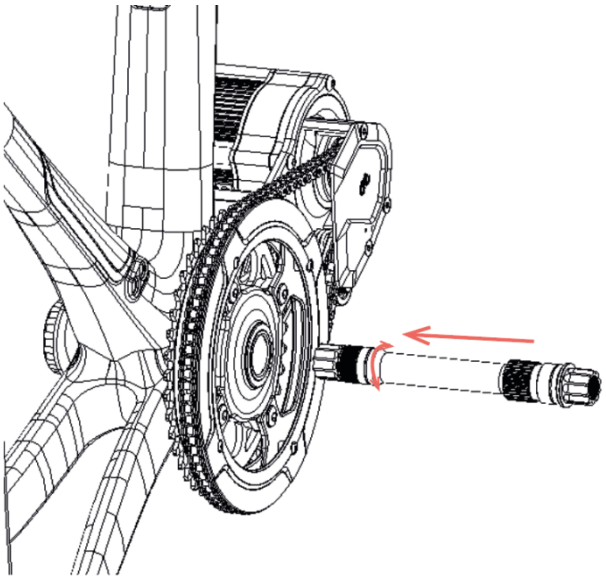


4.

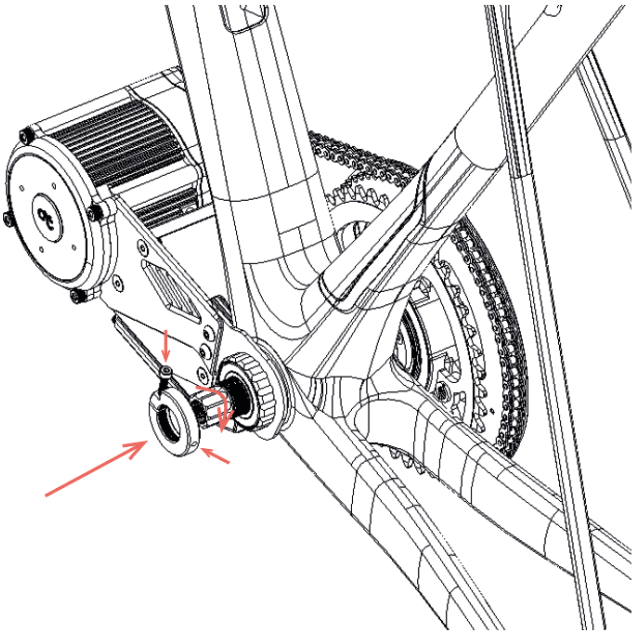
a. Add the 5mm bottom bracket spacer provided outside the adapter bracket plate on the left (non-drive) side of the frame.
b. Thread the left (non-drive) side bottom bracket cup into the frame's bottom bracket shell through the spacer and the adapter bracket plate. Rotate clockwise.



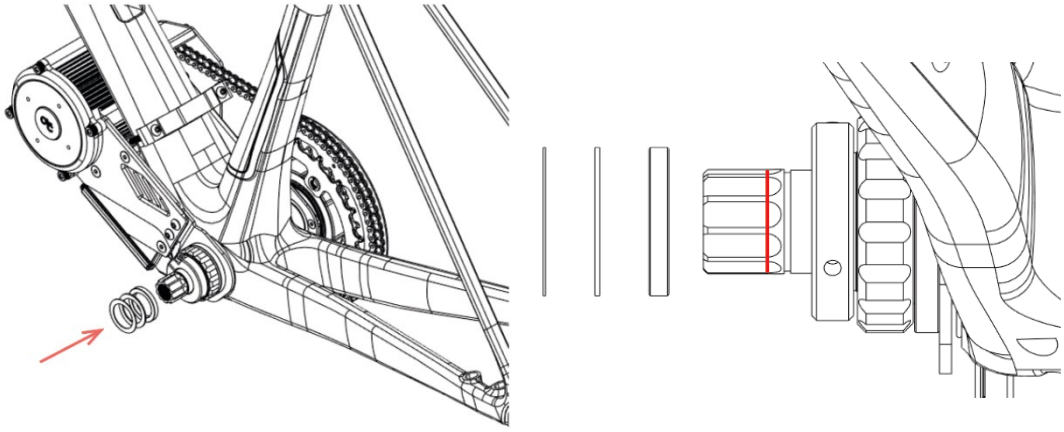
5. Insert the spindle from the right (drive). Note that you will need to line up the splines with the chainring assembly. If your spindle does not go through or comes to a hard stop before being fully inserted, rotate the spindle a bit and try again. Once the spindle is lined up, a soft tip hammer may also be used to get the spindle all the way through.



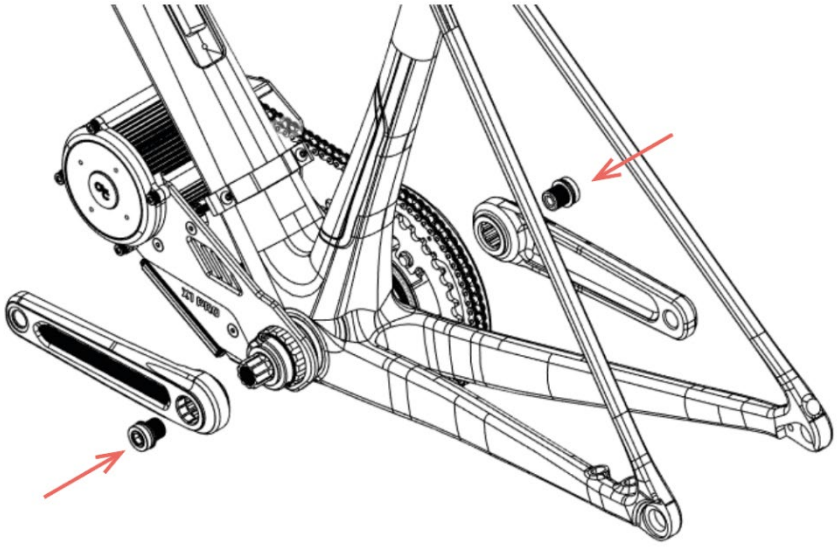
6.
   a. On the left (non-drive) side, thread in the lock ring.
   b. Use a 3mm hex key to lightly thread in the lock ring further. There is a small insertion made on the side of the lock ring for the hex key.
   c. Lightly tighten the lock ring. The spindle should not be tension too much by the lock ring and should still be able to rotate freely by hand.
   d. Install the motor hanger (see page 32) and place the rubber padding provided in between the motor and the frame.



7.
    a. Insert spindle over the spindle on the left (non-drive) side. Place spacers accordingly up to the indicated line.
8.
    a. Install the left (non-drive) and right (drive) side crank arm according to the **L** and **R** indication on your crank arms.
    b. Use the M15 ISIS crank arm screws to tighten and secure the crank arms. Tighten both crank arms until it touches the spindle step on the drive side or the opposed spacers on the non-drive side. Tighten to torque specification. (25 – 30 N.m.)



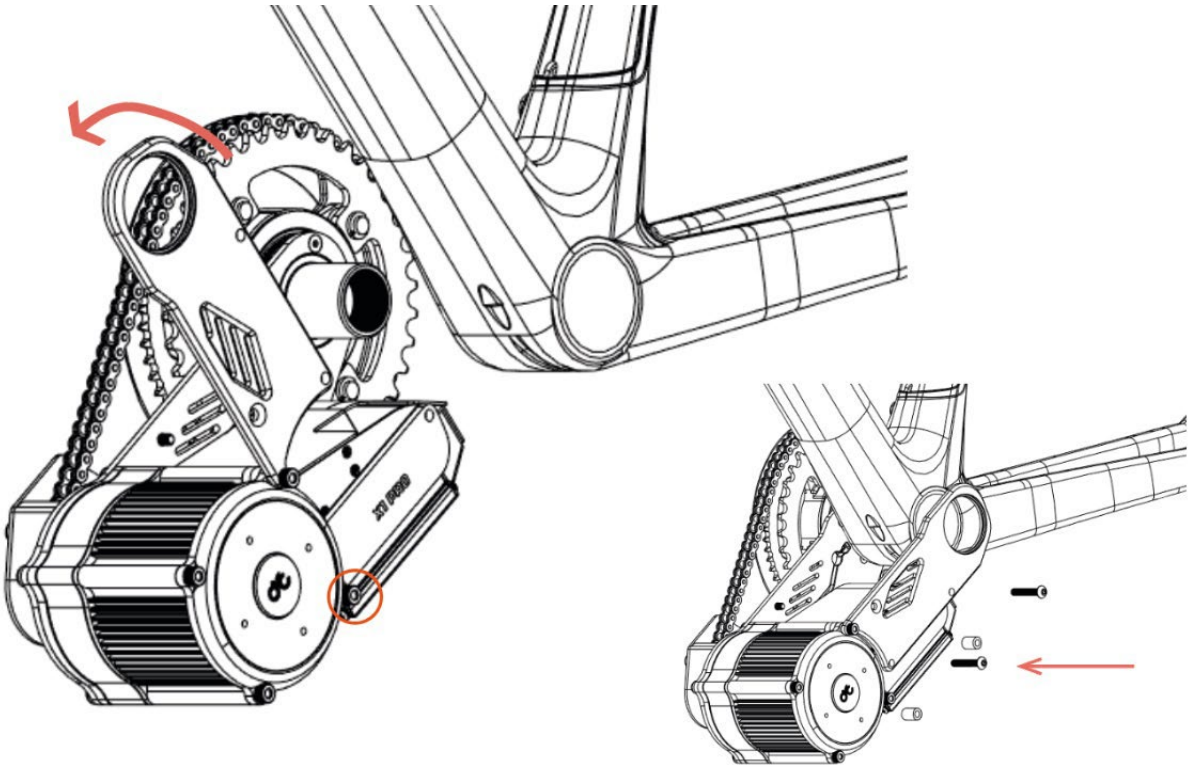
9. Place your bicycle chain over the inner chain ring. Note that you will need to undo the quick link to split your chain.



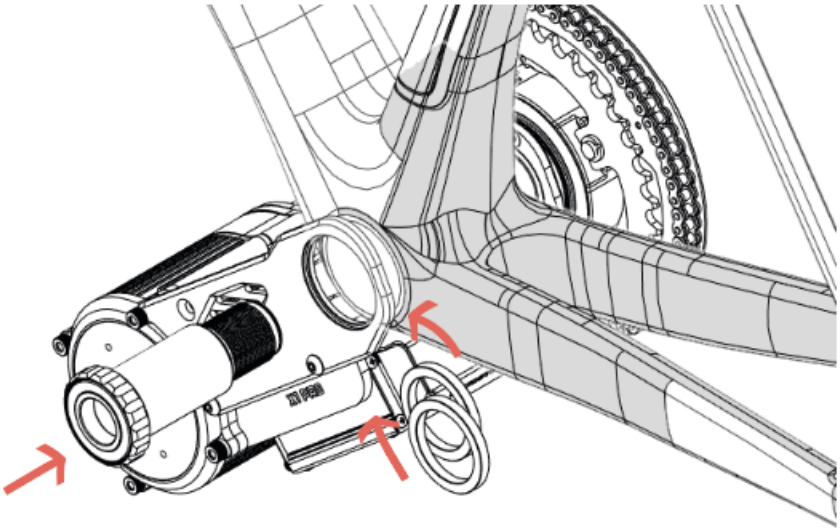
10. Connect the peripherals and your battery.
11. Test run and have fun! Use responsibly.

Installation of 120mm version

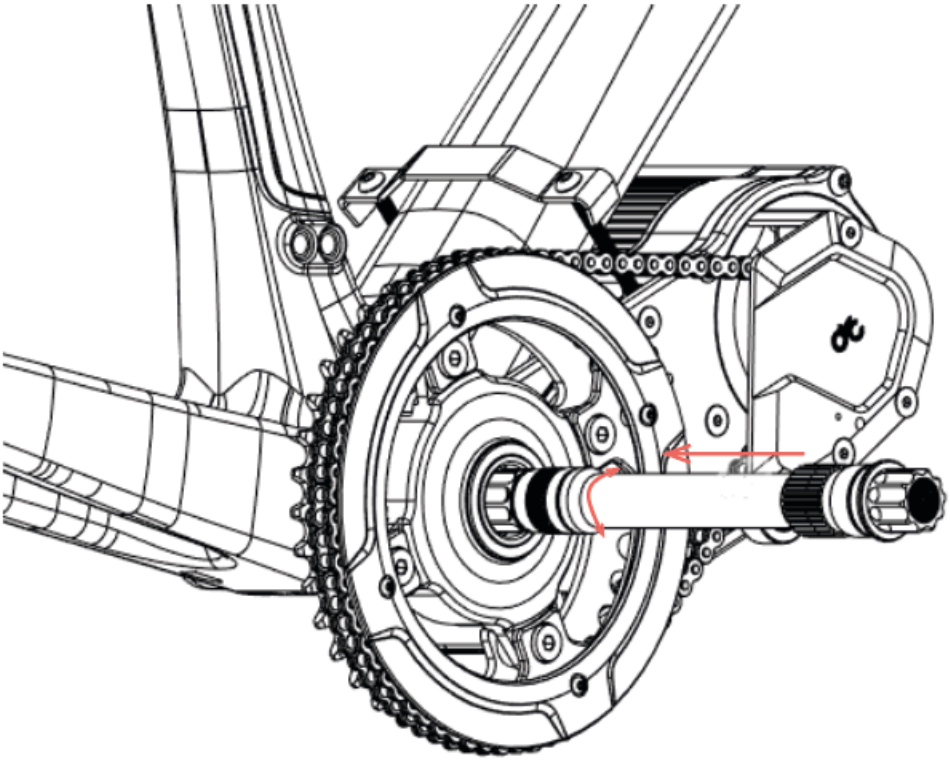
1. Remove the bolts as indicated within the circles in order to loosen the left (non-drive) side mounting bracket, also slightly the remaining bolt holding the side plate so that the plate is able to pivot. Gently swing the left mounting bracket upward and line up the motor body with your frame at the bottom bracket. Insert the right (drive) side of the motor into the frame's bottom bracket shell. Once positioned in the frame's bottom bracket, swing the left mounting bracket back down and reinsert the respective bolts and spacers accordingly. Ensure to tighten each bolt properly.
    a. Add the required spacers if necessary. Thread the left (non-drive) side bottom bracket cup into frame's bottom bracket shell through the spacer/s and the mounting bracket. Rotate clockwise. And tighten to the required torque of 40-50 N.m.



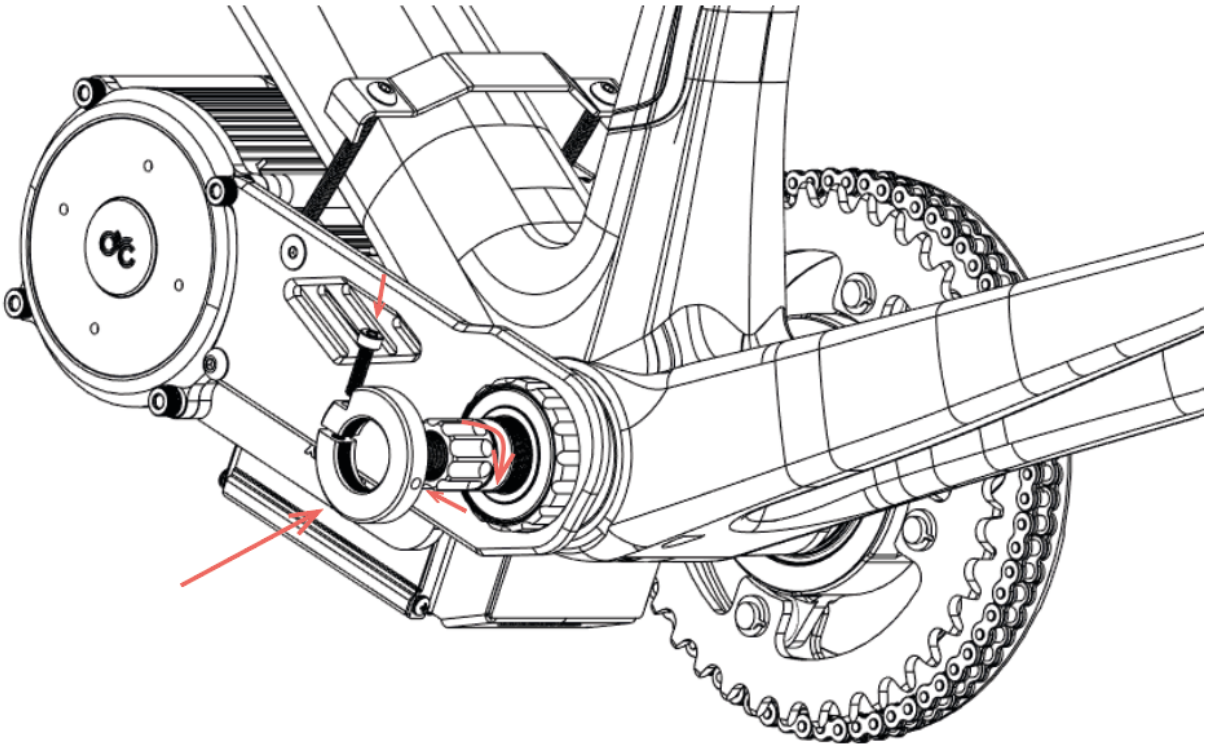
2. Thread the left (non-drive) side bottom bracket cup into the frame's bottom bracket shell through the spacer/s and the mounting bracket. Rotate clockwise.
    a. If applicable, line up the 3,5, and/ or 7mm bottom bracket spacer/s provided outside the adapter bracket plate on the left (non-drive) side of the frame (spacer guidelines mentioned below).
    b. Kindly note that the bottom bracket spacer placement mentioned above are provided as guidelines only for most general frames. You may place a spacer/s on either side of the bottom bracket cup according to your desired chainline.



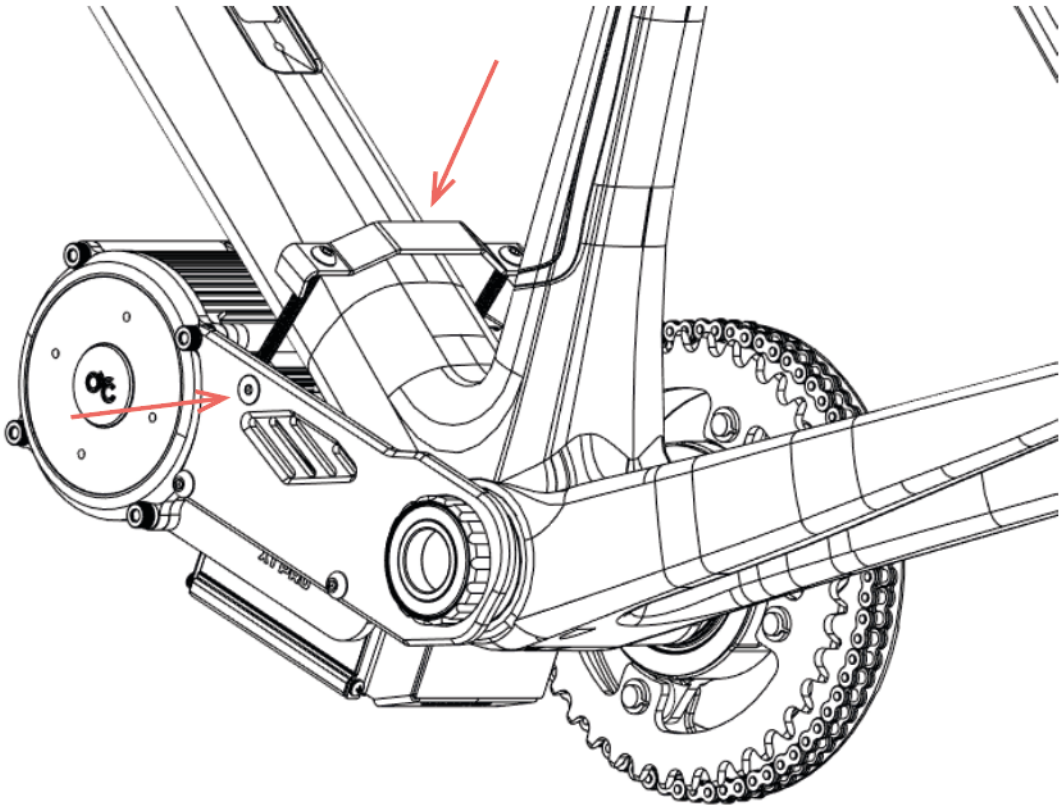
3. Insert the spindle from the right (drive) side. Note that you will need to line up the splines with the chainring assembly. If your spindle does not go through or comes to a hard stop before being fully inserted, rotate the spindle slightly and try again. Once the spindle is lined up, a soft tip hammer may also be used to get the spindle all the way through.



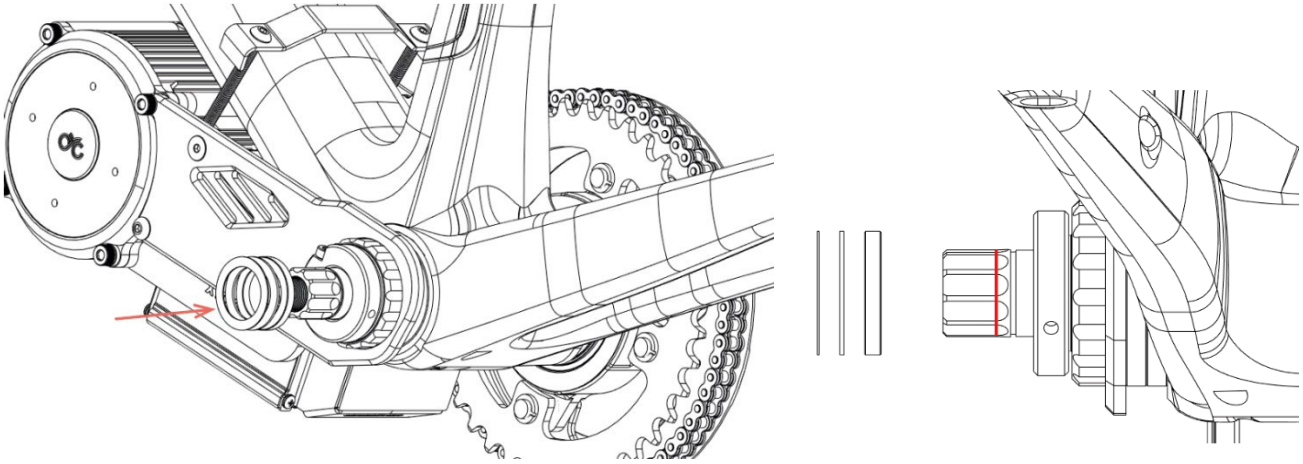
4. On the left (non-drive) side, thread in the lock ring. Use a 3mm hex key to lightly thread in the lock ring further via the small hole. Lightly tighten the lock ring.



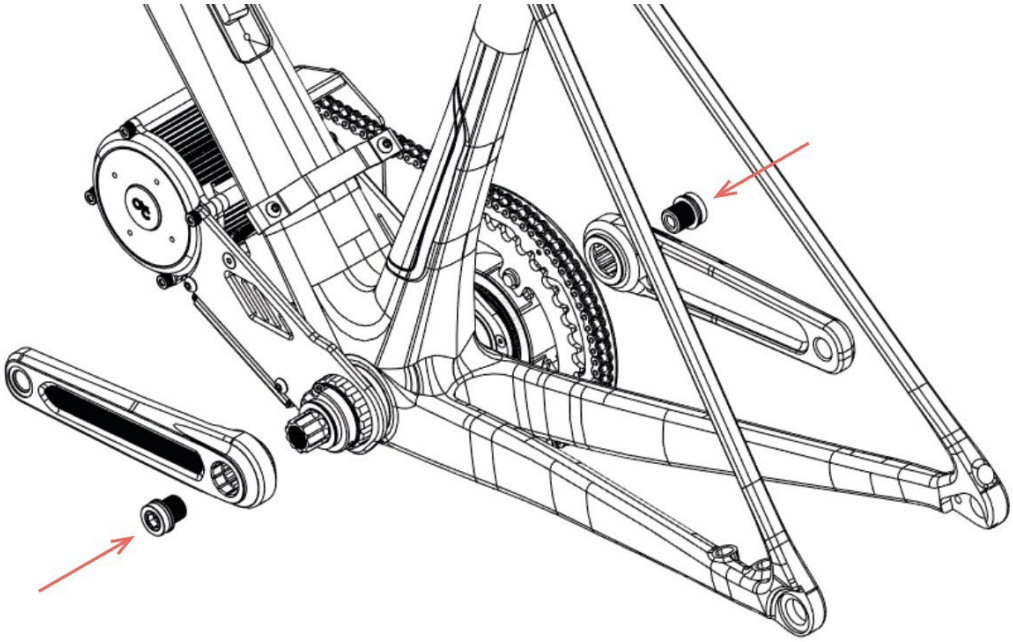
5. Install the motor hanger (see page 32) and place the rubber padding provided in between the motor and the frame.



6. Place the 120mm spindle spacer in between the left (non-drive) side crank arm and the lock ring before installing the crank arms.

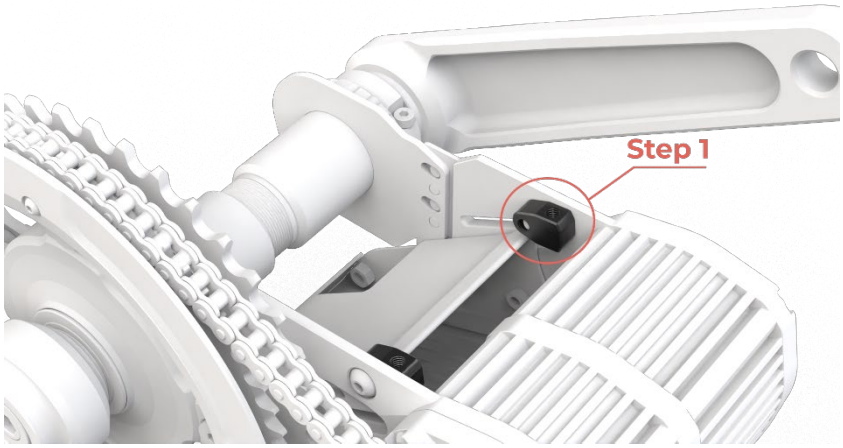


7. Install the left (non-drive) and right (drive) side crank arm according to the **L** and **R** indication on your crank arms. Use the M15 ISIS crank arm screws to tighten and secure the crank arms.
8. Place your bicycle chain over the inner chain ring. Note that you will need to undo the quick link to split your chain.

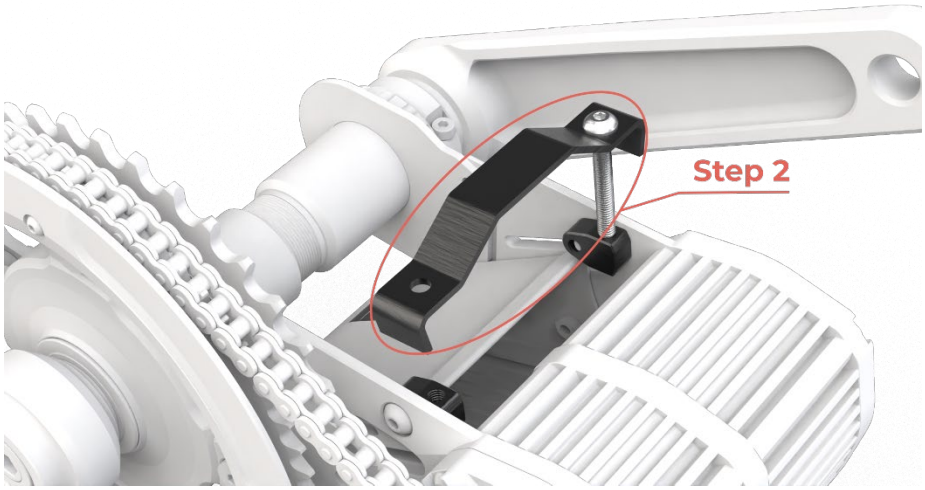


9. Connect to the peripherals and your battery.
10. Test and have fun! Use responsibly.

Mounting the Hanger

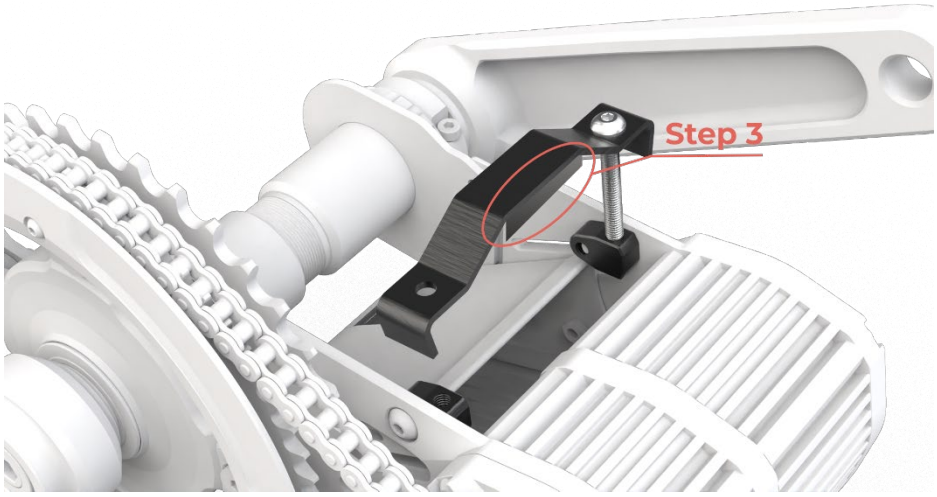


1. Place one of the aluminium joints on the inside of the bracket & screw in the bolt to attach it to the motor's mounting plate.

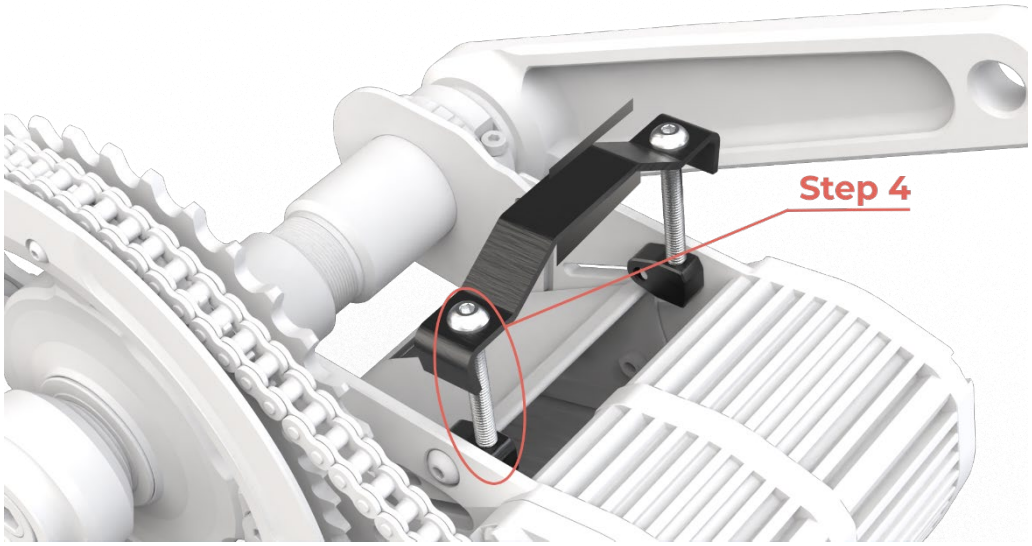


2. Position the hanger over the bike's frame & screw in the hanger to the aluminium joint loosely.

3. Insert the rubber piece provided between the frame & the bracket.



4. Place the second aluminium joint on the other side of the mounting bracket & connect the hanger fully. Tighten the hanger to ensure that the motor is secured.



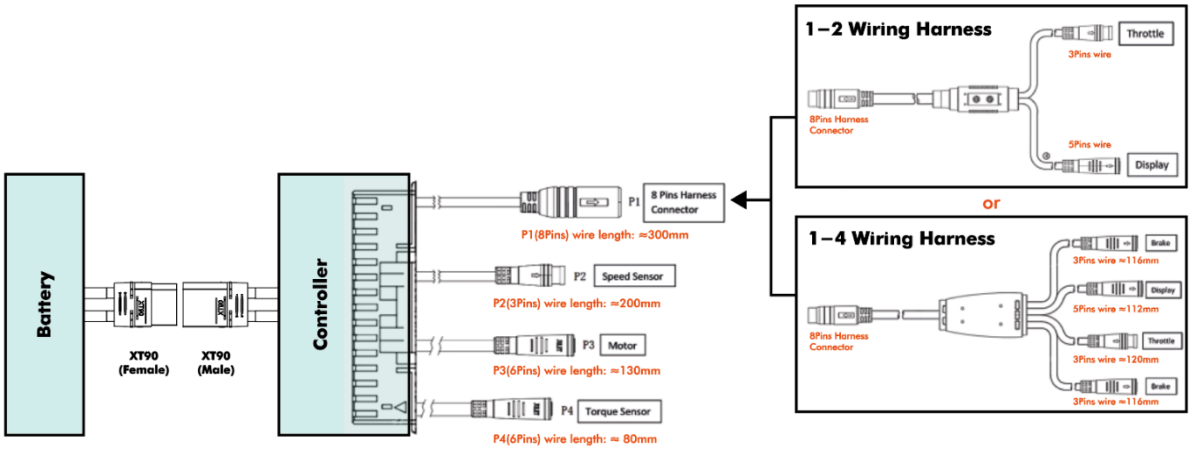
Wiring & Connection

Connect your controller to the following connectors as per below:

1. Connect the peripheral connector (P1) to the 1-2 or 1-4 wiring harness
2. Connect P2 to the speed sensor
3. P3 & P4 will already be connected when the motor is received

For brake sensors:

Please note if you purchased brake sensors separately, you will need to enable them on the CYC Ride Control app.



MOBILE APP & DISPLAY

Download the **display** and **mobile app** user manuals from the link below or by scanning the QR code. All materials listed below are freely available for download on our website.

https://www.cycmotor.com/downloads

Included in the **downloads** page:

- Instruction Card
- User Manual
- Ride Control App User Guide
- SW102 Display App User Guide
- DS103 Display User Guide
- Speed Sensor Installation Guide
- Brake Sensor Installation Guide
- 1.1 printouts for mounting reference
- And much more!

WARRANTY REGISTRATION

Register for warranty by scanning the QR code below and submitting the form or via the link below:

https://wkf.ms/3tMcDa0

GENERAL MAINTENANCE

You are advised to regularly maintain, clean, and check the status of the bike and motor system as dirt will accumulate throughout the rides and additional strain will be taken by the drivetrain due to the powerful motor system. We recommend that users should inspect the bike and motor condition before and after each ride.

Disconnect all power supplies from the drive unit before starting any work (e.g., inspection, repair of the bike, maintenance work etc,) on the bike, transportation, or storage. Unintentional activation of the drive could lead to serious damage or injury.

Never reach into the chains, gears, or any moving parts while the bike is still in operation.

As the drive unit can get hot after use, be sure to give it some time to cool down before performing any maintenance.

Store the bike in a cool and dry place, sheltered from direct sunlight and potential rain.

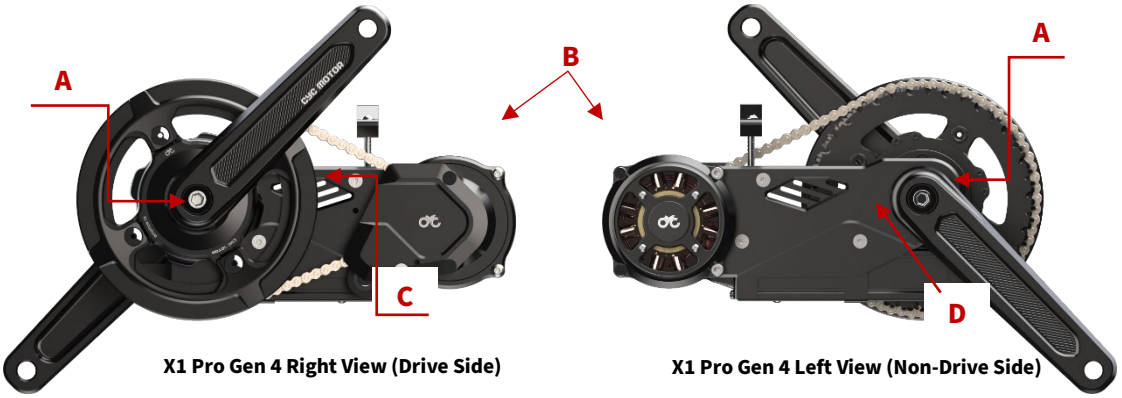
Do not attempt to disassemble or modify the drive unit. The drive unit may only be repaired and maintained by qualified experts and only replaced with original spare parts. This will ensure that the safety/warranty of the drive unit is maintained.

The active moving parts (e.g., chain, gear, speed reducer etc.) should be regularly lubricated to maintain desired performance. In case of any abnormal activity, stop using the drive unit immediately and contact your CYC dealer.

Do not attempt to replace the product parts with the parts that have been found at a local bicycle store as the materials used in the drive unit are specifically designed for their purposes.

All bolts, nuts and screws are required to be tightened to the correct torque, if there is anything loose, stay off the bike. Torque specifications for each bolt and nut is provided.

Torque Requirement for Bolts



X1 Pro Gen 4 Right View (Drive Side)

X1 Pro Gen 4 Left View (Non-Drive Side)

Listing	Component Name	Torque Requirement
A	Crank Arm Bolts	55 N.m.
B	Motor Mounting Bolts	4 – 5 N.m.
C	Chain Ring Bolts	5 N.m.
D	Adapter Plate	4 - 5 N.m.

Bolt Specifications

Listing	Component Name	Used For	Quantity
A	M4*10 Round Hex (Silver)	Controller Mount	3
B	M4*6 Flat Head Hex (Black)	Wire Out Cover	3
C	M2*4 for Torque Sensor	Torque Sensor	4
D	M15 ISIS Crank Arm Screw	Crank Arm	2
E	M4*16 Hex Socket Head	Left Plate, C Clamp	5
F	M3*6 Cup Head Hex (Black)	X6 Controller Mount	4
G	M3*12 Cup Head Hex (Silver)	Sprocket Cover	4
H	M4*55 Round Head Bolts	Gearbox Cover	1
I	M4*60 Round Head Bolts	Gearbox Cover	1
J	M4*65 Round Head Bolts	Gearbox Cover	2
K	M5*12 Round Hex	Dice	2
L	M5*75 Round Hex	Hanger	2
M	6*12*M5 Shoulder Bolt	Tensioner	2

X1 PRO GEN 4

FEATURES

- Advanced torque sensing technology
- Ultimate ebike power up to 5kW
- Next generation electronics
- Instant PAS engagement
- Supreme compatibility
- Up to 280N.m. torque
- Supports 36V - 72V

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CYC RIDE CONTROL

MOBILE APP NOW

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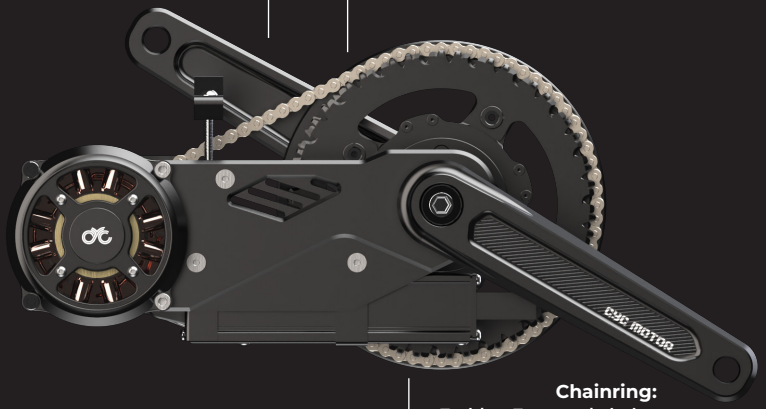
OPTIONS

BSA Threaded Frames:
68-83mm, 100mm, & 120mm

Pressfit Frames:
>121mm (with adaptor)

Crankarms:
165mm or 175mm



Chainring:
32T with 52T motor chainring
38T with 63T motor chainring
40T with 72T motor chainring

QUICK START GUIDE

STEP 1

Scan the QR Code to download the user guide

STEP 2

Install the kit using the user guide as reference

STEP 3

Download the CYC Ride Control mobile app

STEP 4

RIDE!