

# **X1 Stealth**

## User Manual



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## 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 the user's personal safety remains the user's responsibility and that the user must contact CYC Motor Ltd or their official product dealer 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 accidentally 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. CYC Motor Ltd cannot be held liable for any damage 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 Stealth 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 regular bicycle chain cleaner, is advised regularly.

When connecting a power supply, make sure the power supply is completely connected. Faulty connection could result in a short circuit and damage the controller or batteries.

Inspect all electrical wires and plugs for damage regularly.

Secure all wires properly. Ensure that no loose wires are dangling from the bike that could be jammed into any moving parts.

Before turning on the system, ensure that the throttle can be 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 on 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 gear, 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 & bike gear.

This product is splash proof and rain proof but NOT WATER PROOF. Do not submerge it underwater.

## Disclaimer

If you require any more information or have any questions about the user manual disclaimer, please feel free to contact us via email at [support@cycmotor.com](mailto:support@cycmotor.com) or call +852 3690 8938.

All the information contained in this user 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 as stated above 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 the user's own risk.

Notice: Please contact CYC Motor Ltd if unsure about the assembly instructions or for any further assistance as CYC Motor Ltd will not be held liable for any losses and/ or damages caused by the assembly.



## 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.

## Specifications

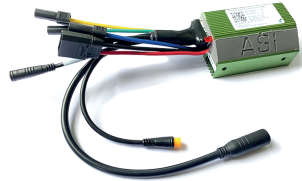
|                                  |   |
|----------------------------------|---|
| Rated Voltage                    | 36- 72V (normal) (10- 20S batteries)  |
| Max. RPM at Crank                | 150 - 300 RPM   |
| Rated Power                      | 1500W   |
| Max. Rated Torque at Crank       | 150 N.m.  |
| Overall Efficiency               | > 90%   |
| Colour                           | Anodized Black  |
| Weight of Motor & Controller     | 2.7kg   |
| Total Weight with Crank set & BB | 4.5kg   |
| Bracket Materials                | 7075-T6   |
| Crank Arm Length                 | 165mm or 170mm  |
| Q Factor                         | 190mm   |
| Control Method                   | FOC   |
| Motor Sensor                     | Hall & Temp. Sensor   |
| Chain ring                       | 11/53T option with 32T bike chain ring<br>11/63T option with 38T bike chain ring      |
| Compatibility                    | BSA threaded bottom brackets with 68/ 73/ 83mm width<br>BB92 press-fit bottom bracket |



## Parts List



- X1 Stealth Motor System



- ASI BAC855 controller  
(with water sealed adaptor cable)



or



- 500c or 750c APT Colour Display



- Thumb, Half-Twist or Full throttle



- Magnetic Speed Sensor



3mm 5mm 7mm



2mm (2pcs)

- Bottom Bracket Spacers  
(3, 5 & 7mm for BSA version;  
2mm (2pcs) for BB92 version)



- Magnetic Brake Sensor  
(optional)



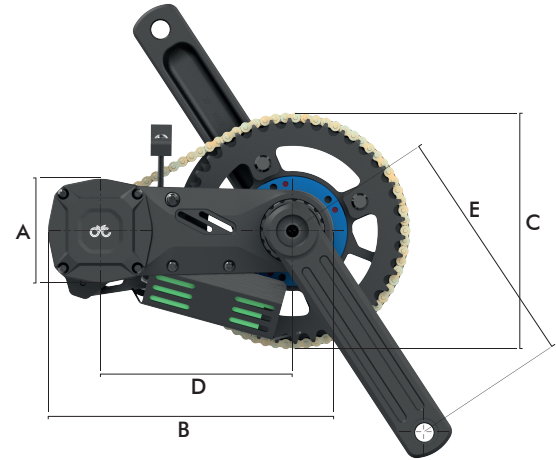
- Extension Wire for Controller  
(optional)



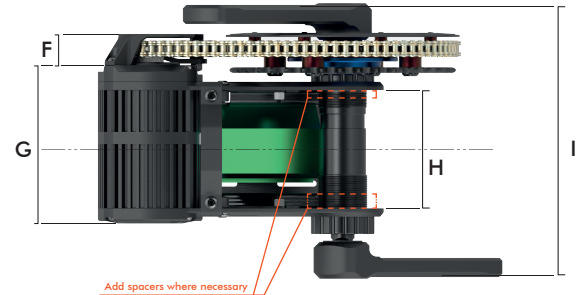
## Dimensions

### BSA Threaded 83mm Version

|   |                     |
|---|---------------------|
| A | 74mm                |
| B | 202mm               |
| C | 140mm/ 165mm/ 190mm |
| D | 135.5mm             |
| E | 165mm/ 170mm        |
| F | 22mm                |
| G | 115.5mm             |
| H | 83mm                |
| I | 190mm               |



\*\*\* For BSA Threaded 68mm & 73mm Version:  
 Bottom Bracket Spacers (3/ 5/ 7mm) needs to be added.  
 (Refer to 03-Installation: Adjusting the Width of Bottom Bracket)

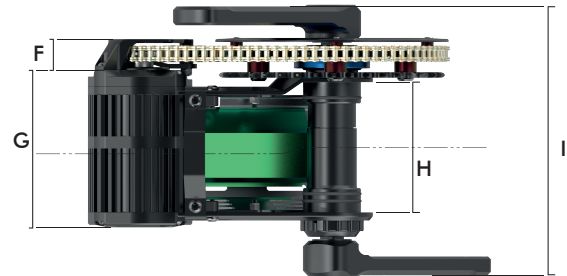
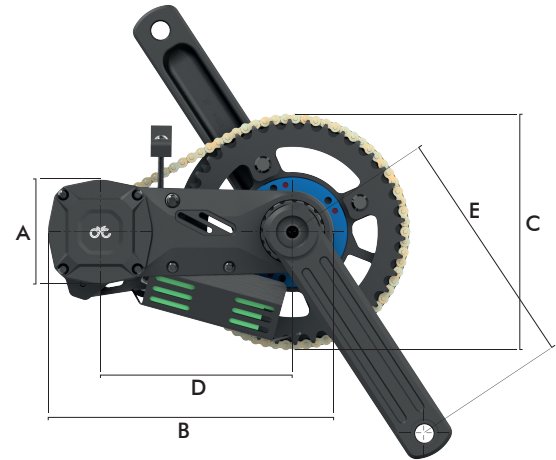




## Dimensions

### BB92 Version

|   |                     |
|---|---------------------|
| A | 74mm                |
| B | 202mm               |
| C | 140mm/ 165mm/ 190mm |
| D | 135.5mm             |
| E | 165mm/ 170mm        |
| F | 22mm                |
| G | 115.5mm             |
| H | 92mm                |
| I | 190mm               |



\*\*\* Bottom Bracket Spacers (2mm x2pcs) included if necessary





### Motor

|                       |                           |
|-----------------------|---------------------------|
| Motor Type            | BLDC Out-runner           |
| No-load Motor Kv      | 150                       |
| Stator Lamination     | 0.2mm                     |
| Magnet                | N45UH ( > 180°C )         |
| Efficiency (at 2N.m.) | > 93%                     |
| Rated RPM (at 2N.m.)  | > 9000 RPM                |
| Epoxy sealed          | Black Epoxy Potted Stator |

### Controller

|                    |   |
|--------------------|---|
| Type               | ASI BAC855  |
| Rated Voltage      | 36V - 72V   |
| Max. Input Current | 65A   |
| Bluetooth          | BLE   |
| Mobile App         | CYC MOTOR (BAC) App for iOS & Android                 |
| Mounting Position  | Integrated between Bottom Bracket/ Mounted Separately |

### Gearbox

|  |   |
|--|---|
| First Stage Reduction Ratio                  | 1: 6 Planetary Gear<br>Harden Steel Sun & Ring Gear |
| Second Stage                                 | 219H Chain  |
| Overall Reduction Ration<br>(Motor to Crank) | 1: 28.9 (11/53T)<br>1: 34.4 (11/63T)                |



## Required Tools



- Hex Keys ( 2.5mm & 10mm)



- Adjustable Wrench



- Crank Puller



- Press Fit Bottom Bracket Removal Tools  
Only for BB92 version



- Ø44mm, 16 Notch Bottom Bracket Tool



- 20 spline bottom bracket tool



### 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 BAC855 controller can be mounted below the bottom bracket (pre-assembled by default) or mounted elsewhere on the bicycle frame at the user's discretion using the controller extension wire that can be selected upon purchase or purchased separately from the CYC online store or an authorized dealer.

**NOTE:** The controller comes pre-assembled at the bottom bracket between the mounting plates.

### Adjusting the Width of Bottom Bracket

In order for the X1 Stealth 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 X1 Stealth brackets.

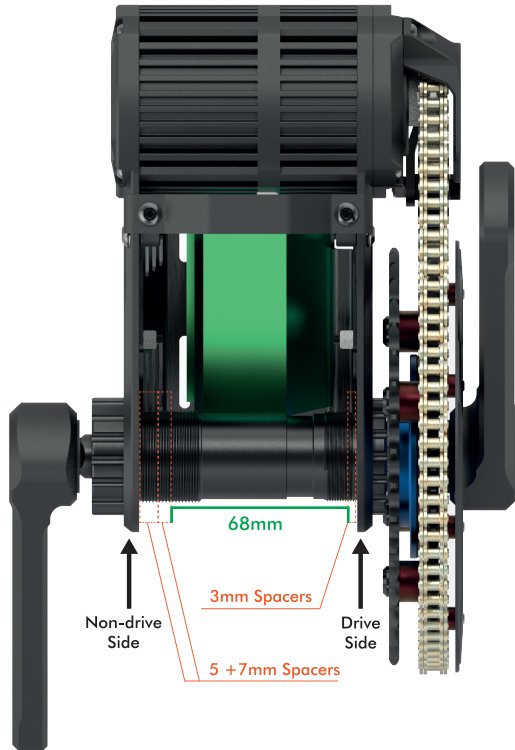
The preferred mounting set-ups are shown on the next page for 68mm and 73mm bottom brackets. Note that the spacers can be adjusted to accommodate different chain lines as needed.

Before mounting the motor body to your bike frame, the existing crank system and bottom bracket must be removed.

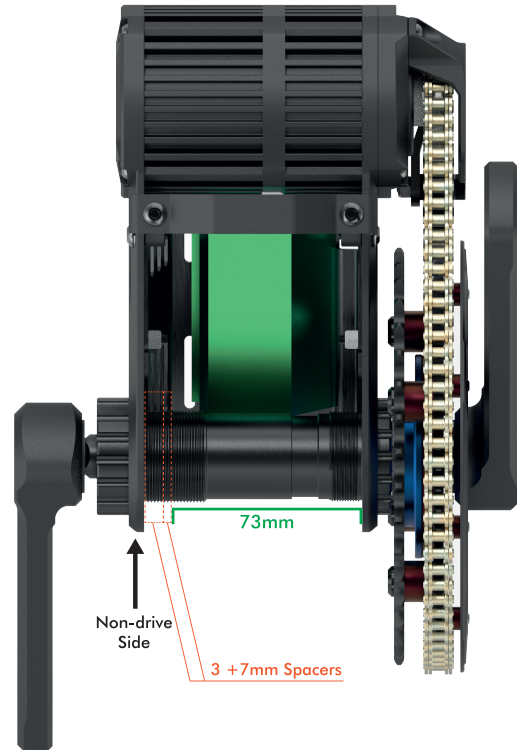
# 03 INSTALLATION



\*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.



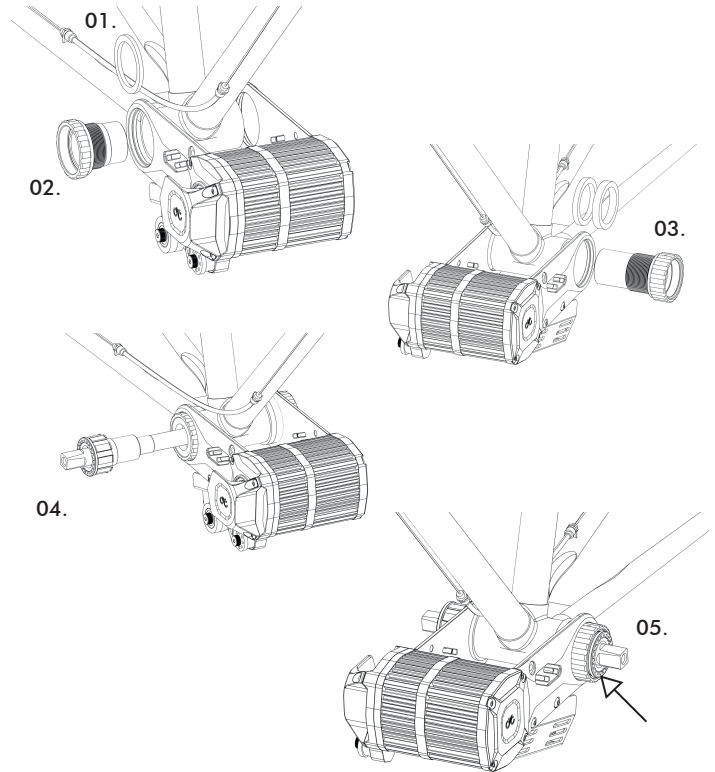
\*73mm bottom bracket requires a 7mm & 3mm spacer on the left (non-drive side) and no spacer on the right (drive side) as shown.





## Installation of 68/73/83mm version

01. Line up the motor body with your bike at the bottom bracket. For a 68mm bottom bracket width, place the 3mm spacer between the mounting brackets & the bottom bracket shell as needed & shown on previous page. For 73mm & 83mm bottom bracket widths, no spacer is needed.
02. Thread in the right (drive side) bottom bracket cup through the hole on the right mounting plate & into the bike's bottom bracket shell. Note the thread direction is anti-clockwise.
03. Thread in the left (non-drive side) bottom bracket cup through the hole on the left mounting plate (and spacers for 68mm & 73mm bottom bracket widths) into the bike's bottom bracket shell. Note the thread direction is clockwise.
04. Insert the spindle from the right (drive-side) side of the rear mounting bracket hole through to the left side of the rear mounting bracket hole.
05. Screw on the left (non-drive side) bottom bracket cap.

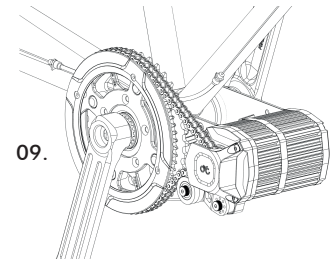
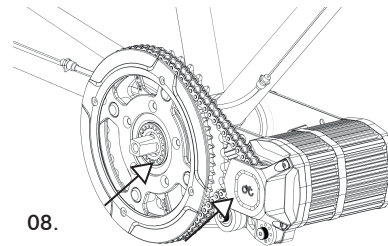
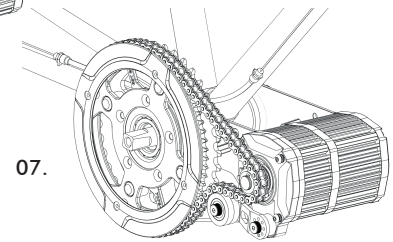
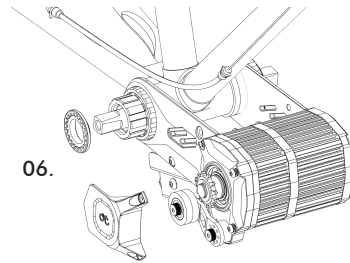


Kindly note that there are installation videos available at <https://www.cycmotor.com/x1-stealth>



## Installation of 68/73/83mm version

06. Remove the right (drive side) bottom bracket cap & the front chain ring cover.
07. Place the chain over the outer chain ring (note that the bike's chain ring will be placed on the inner chain ring & hang the chain ring with the chain over the spindle. Push the tensioner down to place the chain over the sprocket.
08. Slide the chain ring in place (over the spindle), screw on the right (drive side) bottom bracket cap & install the front chain ring cover again as shown.
09. Install the left & right crank arm and screw on with the crank bolt.

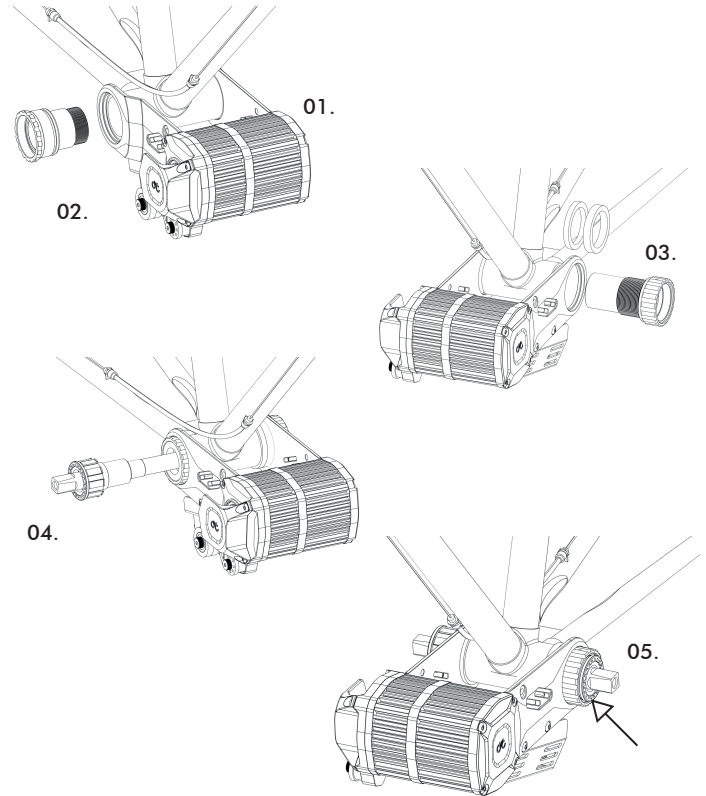


Kindly note that there are installation videos available at <https://www.cycmotor.com/x1-stealth>



## Installation of BB92 version

01. Line up the motor body with your bike at the bottom bracket.
02. Insert the right (drive side) bottom bracket cup through the hole on the right mounting plate into the bike's bottom bracket shell. Use press-fit bottom bracket tool to insert.
03. If any spacers are needed, place the spacer/s between the bracket & the bottom bracket shell on the left (non-drive side). Insert the left bottom bracket cup through the hole on the left mounting plate into the bike's bottom bracket shell. Rotate clockwise and tread into drive side bottom bracket cup. Tighten well.
04. Insert the spindle from the right (drive-side) side of the rear mounting bracket hole through to the left side of the rear mounting bracket hole.
05. Screw on the left (non-drive side) bottom bracket cap.

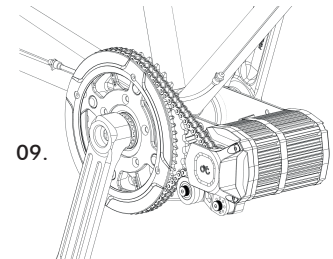
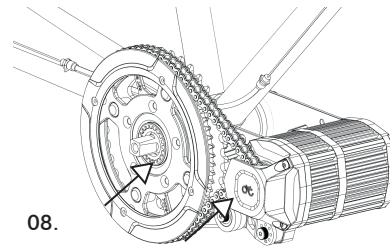
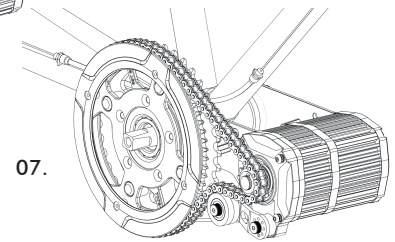
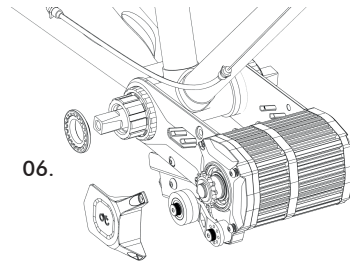


Kindly note that there are installation videos available at <https://www.cycmotor.com/x1-stealth>



## Installation of BB92 version

06. Remove the right (drive side) bottom bracket cap & the front chain ring cover.
07. Place the chain over the outer chain ring (note that the bike's chain ring will be placed on the inner chain ring & hang the chain ring with the chain over the spindle. Push the tensioner down to place the chain over the sprocket.
08. Slide the chain ring in place (over the spindle), screw on the right (drive side) bottom bracket cap & install the front chain ring cover again as shown.
09. Install the left & right crank arm and screw on with the crank bolt.

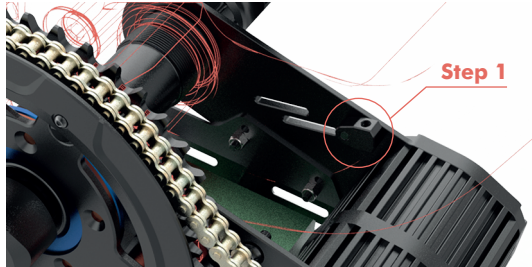


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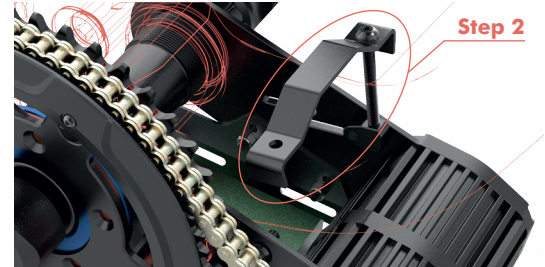




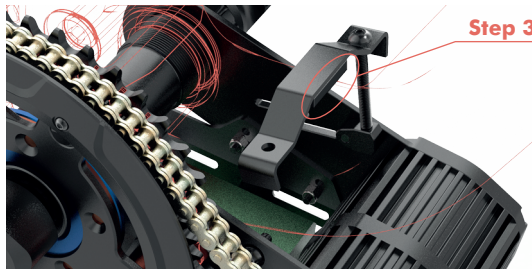
## Mounting the Hanger



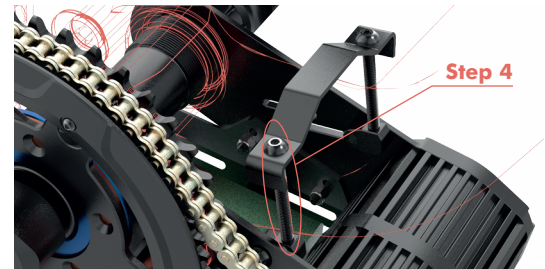
01. Place 1 of the aluminium joints on the inside of the brackets & screw in the bolt to attach it to the motor's mounting plate.



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



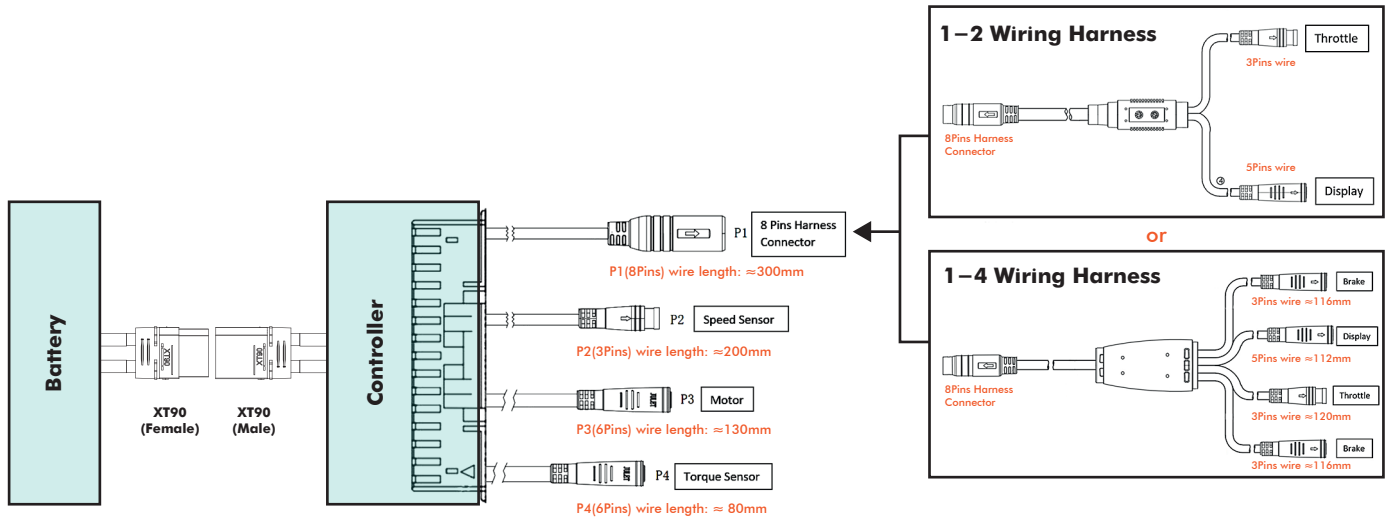
03. Insert the rubber between the frame & the bracket.



04. Place the 2nd 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





Kindly download the display & mobile app user manuals from the link below or scan the QR code. All materials listed below are freely available for download on the CYC website.

<https://www.cycmotor.com/x1-pro-gen-2#comp-kkxfisjz>

Included in this link:

- Brochure
- User Manual
- Mobile App Guide
- APT 500c Display User Manual
- APT 750c Display User Manual
- Speed Sensor Installation Guide
- Brake Sensor Installation Guide
- 1:1 printouts for mounting reference





## STEP 1

Ensure that all wires are properly connected & that your system can switch on by long pressing the display's power button. Check that the display shows your battery voltage & level. Should your display briefly show Error 30H upon start-up, this is normal as the system takes a moment to connect. Should your battery voltage & level not display, refer to step 3.

## STEP 2

Ensure that your pedal assist & throttle are working correctly. To test this, connect to the app & change to Assist Level 0 on your display. You can test the PAS by looking at the app's dashboard & turning the crank set. If your Average Pedal RPM reading changes, then your PAS is working. To test the throttle, open your throttle & check that your Throttle In voltage changes.

**Ensure that you test the PAS & throttle in Assist Level 0 as to prevent your bike from thrusting forward.**

## STEP 3

Set up the correct information on your display. You will need to enter your wheel diameter, battery voltage (if incorrect), & your preferred number of assist levels. Kindly see your display's user manual for instructions.



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 drive train 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 unit could lead to serious damage or injury.

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

The drive unit can get quite hot after use, be sure to give it some time to cool down before doing 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.

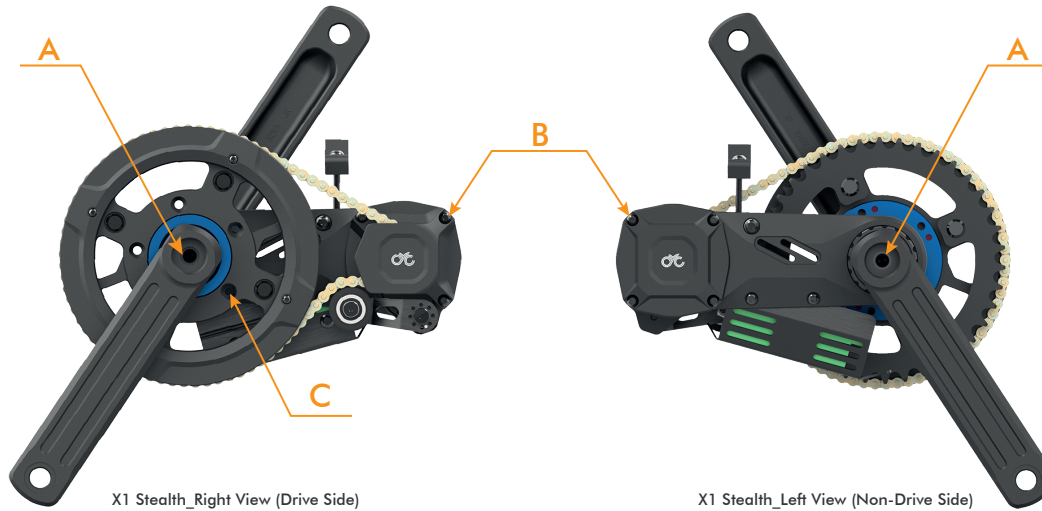
The active moving parts (e.g., chain, gear, speed reducer etc.) should be regularly lubricated to maintain desired performance. In case of any abnormal activity, stop using the drive unit immediately and contact your CYC dealer.

Do not attempt to replace the X1 PRO 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 below.



## Torque Requirement for Bolts



| Listing | Component Name       | Torque Requirement |
|---------|----------------------|--------------------|
| A       | Crank Arm Bolts      | 25- 30 N.m.        |
| B       | Motor Mounting Bolts | 4- 5 N.m.          |
| C       | Chain ring Bolts     | 5 N.m.             |



## Warranty

We offer a 1-year warranty for the battery and charger. Man-made failure and other parts are excluded from our warranty.

For any replacement parts, please visit the CYC Motor Ltd official online store at [www.cycmotor.com/shop](http://www.cycmotor.com/shop) or an official product dealer.

## Contact Information

### [support@cycmotor.com](mailto:support@cycmotor.com)

For customer support, including

- shipping;
- quotes, and
- sales

### [technical\\_support@cycmotor.com](mailto:technical_support@cycmotor.com)

For technical support, including

- build assistance;
- recommendations;
- troubleshooting, and
- product related queries

### Office Hours

Monday to Friday

9am - 6pm

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Tel: +852 3690 8938




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