Sun Bicycles

# E350 Electric-Trike Assembly & User Guide

Revised - July 07, 2025

# Introduction

Congratulations on your purchase of a new Sun Bicycles electric trike!

You've chosen one of the best three-wheeled bicycles on the market, and we're excited to welcome you to the Sun Trike family.

This manual provides essential instructions on final setup, adjustment, and safe operation of your new trike. It is meant to supplement the Sun Bicycles Owner's Manual, and the Sun Bicycles Li-Ion Battery Safety Manual included with your purchase. We strongly encourage you to read each of these manuals in full before your first ride.

Please note, this guide is not intended as a comprehensive repair or maintenance manual. All repairs, service, and in-depth maintenance should be performed by a trained bicycle mechanic at your local Sun Bicycles retailer. We recommend always working with your local Sun Bicycles retailer for any service-related needs.

Thank you for choosing Sun Bicycles. Ride safely and enjoy the journey!

## UPDATES

Periodically, updates and addenda may be issued for this document. To ensure you have the most up-to-date information, please check www.sun.bike or contact customer service at info@sun.bike.

## FIND A RETAILER IN YOUR AREA

sun.bike/pages/store-locator

## FIND US ONLINE

sun.bike

## HAVE A QUESTION

info@sun.bike

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# Quick Reference

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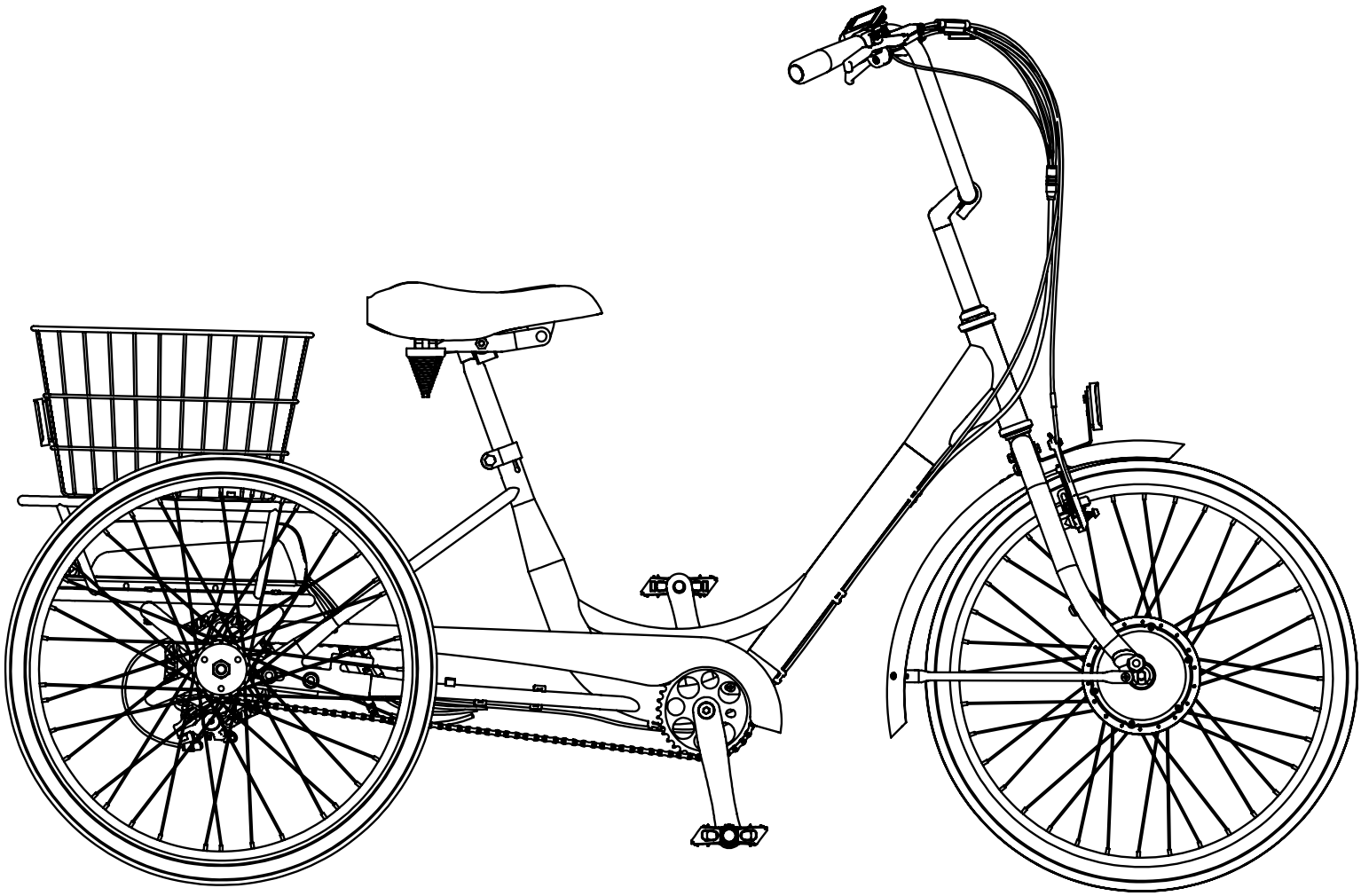

| Bike Details | |
|---|---|
| **Model:** | E350 Electric Trike |
| **Frame Size:** | One Size Fits Most |
| **Wheel Size:** | 24" |
| **Tire Size:** | 24 x 1.75" |
| **Tire Pressure:** | 40 - 65 PSI |
| **Max Tire Width:** | 24 x 1.95" |
| | |
| **Overall Dimensions:** | 72" (L) x 30.3" (W) x 46" (H) / 183 cm (L) × 77 cm (W) × 117 cm (H) |
| **Standover Height:** | 13” (33 cm) Measured from the frame to the ground |
| **Trike Weight:** | 73 lb (33 kg) |
| **Max Rider Weight:** | 250 lb (113 kg) |
| **Max Cargo Weight:** | 50 lb (23 kg) |
| **Max Rider/Cargo Weight:** | 300 lb (136 kg) Combined |
| **Recommended Fit:** | 5'0" - 6'2" (152 - 188 cm) |

# Quick Reference

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| Sun E-350 Trike Specifications | |
|---|---|
| **Frame:** | High Tensile Steel |
| **Frame Rear Unit:** | High Tensile Steel |
| **Fork:** | High Tensile Steel |
| **Headset:** | Steel, Caged Bearings |
| **Handlebar:** | Steel, 700mm Wide x 230mm High |
| **Stem:** | Alloy, 25.4mm x 200mm Quill x 60mm Ext. x 40 Deg. Rise |
| **Grips:** | High Density Foam |
| **Brake Levers:** | Alloy, 3 Finger Levers, Linear Pull w/Parking Lock |
| **Front Brake:** | V-Brake |
| **Rear Brake:** | Mechanical Disc Caliper with 160mm Rotor |
| **Freewheel:** | 20T x 1/2” x 1/8” |
| **Seat Clamp Bolt:** | Integrated, Bolt / Nut |
| **Seat Post:** | Steel, 27.2mm x 12” |
| **Saddle:** | Sun Saddle |
| **Crankset:** | Alloy, Three-Piece, 165mm |
| **Chainwheel:** | Steel, 36T x 1/2” x 1/8” |
| **Bottom Bracket:** | Sealed Cartridge with Speed Sensor |
| **Chain:** | 1/2” x 1/8” |
| **Chainguard:** | Steel |
| **Pedals:** | Nylon Platform, 9/16” |
| **Rear Hub:** | Steel, Large Flange, with Sealed Cartridge Bearings |
| **Rims:** | Alloy Single Wall, 24” x 1.75” Wide x 36H |
| **Front Wheel / Motor:** | 24” x 1.75” x 36H x 13G Alloy-Trike, Bolt-On, Bafang 350w 48V |
| **Rear Wheel:** | 24” x 1.75” x 36H x 14G Alloy-Trike, Bolt-On |
| **Spokes:** | Front 13G and rear 14G stainless steel with CP Brass Nipples |
| **Tires:** | 24” x1.75”, Wire Bead |
| **Inner Tubes:** | 24” x 1.75”, Schrader Valve |
| **Front Fender:** | Steel with Stainless Steel Finish |
| **Basket:** | Steel Wire, Vinyl Coated, 21” Long x 15” Wide x 9” High |

| E-System | |
|---|---|
| **Front Wheel Motor:** | Bafang 48V x 350 Watt Front Hub Motor, (45 N·m Max Torque) |
| **Pedal Assist Sensor:** | Bafang Bottom Bracket Integrated Cadence Sensor |
| **Brake Sensor:** | Inline Brake Cable Power Cutoff, Front & Rear Brake Levers |
| **Display:** | Bafang TFT Color Display with Bluetooth 5.0 & Integrated USB-C Charging Port |
| **Throttle:** | Removable Thumb Throttle |
| **Battery:** | Bafang 48V / 10.5AH (504 Watt Hours) Li-ion Battery |
| **Charger:** | Bafang 48V / 2Amp Smart Charger (6-7 hours to fully charge from empty) |
| **Speed:** | 10 MPH Maximum Motor Assisted Speed |
| **Range:** | Up to 35 Miles (Range varies with weight, terrain, wind, pedaling, and throttle use) |

## Welcome to Your Sun Electric Trike Owner's Manual

This manual is intended to be read carefully before your first ride — and referred to often — so you can enjoy your new electric trike with confidence, comfort, and safety. It contains important information, specific warnings, and operating instructions tailored for electric three-wheeled trikes, which handle differently from both bicycles and non-electric trikes.

An electric trike is both a vehicle and a powered machine. While it offers increased comfort, stability, and motor-assisted performance, it also introduces additional safety considerations. Riding an e-trike carries inherent risk, including the possibility of injury or even death. By riding this trike, you voluntarily assume that risk. Our goal is to help you minimize it through awareness and responsible operation.

- **Trikes Are Not Bicycles:** A trike differs from a bicycle in both design and handling. This manual includes details that are specific to electric tricycles. A three-wheeled design offers more stability at low speeds, but it does not balance like a bicycle and may handle differently when turning, stopping, or riding on uneven surfaces. Take time to become familiar with how your e-trike behaves — especially under motor power.

- **Be Aware Of Your Width & Position:** The widest part of an adult trike is at the rear wheels, not the front. Just because the front wheel clears an obstacle doesn't mean the rear will. Allow ample side clearance when riding near curbs, pedestrians, or roadside objects. When passing or turning, keep in mind the added width behind you. Use caution around potholes, soft shoulders, or debris that could cause a loss of control — especially with added motor power.

- **Age Restrictions & Helmet Use:** This electric trike is not intended for riders under the age of 16. Additionally, age restrictions and helmet laws for e-bike use may vary by state or locality. Always consult your local regulations to ensure proper, legal, and safe operation.

- **Know Your Local Laws:** Electric tricycles may fall under different regulations than traditional bicycles or trikes. Many municipalities have specific rules governing motorized cycles, speed limits, and where they can be ridden. It is your responsibility to research and follow all applicable local, state, and federal laws. Your local Sun Bicycles retailer can assist with this information.

- **Ride Defensively:** Stay alert to your surroundings and always be prepared for sudden hazards — from cars and pedestrians to uneven pavement or unpredictable traffic behavior. The additional weight and speed of an electric trike means you may need more time and distance to stop safely.

# Pre-Ride Safety Check

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## ATTENTION!

Before your first ride and before each subsequent ride, perform the safety check below as well as any additional verifications outlined in the Owner's Manual to ensure your electric trike is safe to ride. Failure to do so could result in serious injury.

- **Fastener Check:** Ensure all fasteners, including nuts, bolts, and screws, are appropriately tightened for the seatpost, stem, and handlebar. Check their tightness by securing the trike between your legs and attempting to twist, push, and pull the handlebar and saddle. If any component moves, realign it, increase bolt tension, and repeat until there is no movement.

- **Seatpost & Saddle Adjustment:** Adjust the seatpost to the correct height for comfortable riding, ensuring it is inserted below the minimum insertion line and securely tightened.

- **Wheels & Tires:** Check that all three wheels spin freely without wobbling and are properly aligned. Ensure that the axle nuts or bolts are securely fastened. Maintain proper tire pressure by inflating each tire to the recommended PSI using an accurate gauge. If you're unsure about wheel alignment or tire pressure, refer to the Sun Bicycles Owner's Manual or consult a Sun Bicycles Retailer.

- **Chain & Drivetrain:** Ensure the chain is clean, lubricated, and properly tensioned, with the rear cog and chainring securely fastened and free from excessive wear.

- **Hand Brake Functionality:** Squeeze the brake lever(s) to ensure firm engagement without excessive travel, check that pads contact the rims (or rotors) evenly without rubbing, confirm cable and anchor bolt(s) are securely tightened, verify brake arms return evenly, and perform a low-speed test for smooth stopping. If the brakes feel weak or slip, and if unsure about the brake's performance, seek help from a Sun Bicycles Retailer.

- **E-System Check:** Ensure the battery is fully charged and securely locked into place. Inspect the battery housing for any signs of physical damage, such as cracks, swelling, or corrosion near the terminals. Check that the battery connectors are clean, dry, and free from rust or debris, and confirm that all connections are tight and properly seated. Verify that the power switch and display turn on and respond correctly. Ensure that both the assist levels and throttle function as expected. Listen for unusual motor noises and feel for smooth engagement during a test ride. Inspect all wiring and connectors along the frame for any fraying, pinching, or exposed wires. If anything seems out of the ordinary with the battery or e-bike system, stop riding and contact a Sun Bicycles Retailer for assistance.

# Precautions and Warnings

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## Important Safety & Handling Information:

Riding a trike differs from a bicycle; you cannot lean into turns as with two-wheeled bikes. Always keep all three wheels on the ground, making turns slowly and carefully to prevent tipping. Sudden direction changes can destabilize the trike, leading to accidents. When learning, maintain low speeds and take time to familiarize yourself with the trike's handling and turning characteristics. If unsure, slow down. With practice, you'll gain confidence in riding and stopping safely.

## ⚠ Warning – Usage Limitations & Rider Requirements:

- This trike is intended for **paved surfaces only** and is not designed for off-road use. It is intended for one rider only, aged **16 or older**, with a maximum **rider weight of 250 lb (113 kg)**. The rear basket supports up to **50 lb (23 kg)** of cargo and is **not designed to a child, pet, or passenger.**

## ⚠ Warning – Turning & Tipping Hazards:

- **Sharp Turns & Speed:** Turning too sharply or at speeds **above 5 MPH** can cause the trike to tip, leading to serious injury. Always take turns slowly and smoothly to maintain stability.

- **Hands On The Handlebars:** Always keep both hands on the handlebars while riding. Riding with no hands can cause instability, leading to a tip-over and potential injury or death.

## ⚠ Warning – Hill Climbing & Motor Use:

- **Hill Climbing & Motor Use:** Your ability to climb hills will depend on several factors, including terrain grade, rider weight, pedal input, and momentum. Do not rely solely on motor assist. For best results, use a combination of motor power and pedaling.

## ⚠ Warning – Speed Limitations:

- **Maximum Assisted Speed:** For safety, the electric trike's power-assisted speed is limited to 10 MPH; exceeding this can compromise control and increase accident risk.

## ⚠ Warning – Riding In Low Visibility Conditions:

- **Night Riding & Legal Compliance:** Avoid riding at night or in low-visibility conditions. If nighttime riding is necessary, equip your trike with a white front light and a red rear light, as reflectors alone are insufficient. Most municipalities legally require proper lighting; consult your local bike shop to ensure compliance with local regulations.

## ⚠ Warning – Rear Basket Safety:

- **Cargo Limitations:** The rear basket is designed for light cargo only. **Never place a child, pet, or any passenger in the basket,** as it is not intended to support or protect passengers.

- **Injury Or Death Risk:** Placing passengers in the basket exposes them to moving parts and turning wheels, presenting serious dangers. A fall from the basket could be fatal. This trike is designed for one rider only.

# Precautions and Warnings

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## ⚠ Warning — Charger & Battery Charging Safety:

- **Only Use The Charger Provided With Your Trike**: Using an incompatible charger can cause overheating, fire, or permanent battery damage and will **void your warranty**.
- **Inspect Charger Before Use:** Do not use the charger if the flexible power cord or output cable is frayed.
- **Charging Environment:** Never charge the battery unattended or near flammable materials. Always charge in a dry, well-ventilated area.
- **Charging Temperature:** The battery is intended to be charged when the ambient temperature is between **32°F and 104°F (0°C and 40°C)**. Never charge the battery if ambient temperature is outside this range.

## ⚠ Warning — Water Exposure:

- **Wet Weather Caution:** This trike is water-resistant, not waterproof; avoid riding in heavy rain or through deep puddles, as prolonged exposure to water can **damage electrical components** and reduce braking performance.

## ⚠ Warning — Throttle & Acceleration Awareness:

- **Mounting & Dismounting:** Exercise caution during mounting, dismounting, or when walking the trike. Accidental throttle activation can cause the trike to lurch forward unexpectedly.
- **Handling The Trike:** Always power off the trike or disable the throttle before handling the trike while not riding.

## ⚠ Warning — Maintenance & Modifications:

- **Power Cut-Off Before Service:** Always turn off the power and remove the battery before performing any maintenance, adjustments, or transport.
- **Unauthorized Modifications:** Do not disassemble, modify, or attempt to repair any electrical components of the e-trike, including the motor, controller, battery, charger, throttle, or wiring harness. Unauthorized actions can lead to hazardous conditions including electric shock, void the warranty, and may cause serious injury or death. **For all service-related needs, contact your local Sun Bicycles retailer.**
- **Electrical System Integrity:** Do not attempt to modify the electrical system, install non-OEM accessories, or bypass the speed limiter. Unauthorized modifications may result in fire, loss of control, or void your warranty.

**WARNING! – This trike is intended for riders 16 years of age and older.**
**WARNING! – Maximum rider weight limit is 250 lb (113 kg).**
**WARNING! – Maximum cargo weight limit is 50 lb (23 kg).**
**WARNING! – Never place a child, pet, or any passenger in the basket.**

## ■ Starting Your Ride:

- **Take it Slow at First:** Practice in a safe area before venturing out onto busy roads or paths.
- **Stay Visible:** Wear bright clothing and use your lights when riding at night or in low-light conditions.
- **Check Local Regulations:** Laws regarding e-bike usage vary, so ensure you're familiar with the rules in your area.

If you're new to electric trikes, begin in (E) Eco Mode and take time to get familiar with the trike's handling, Power Assist System, and braking performance.

The Power Assist System (PAS) responds to your pedaling. The trike's sensor in the bottom bracket detects pedal rotation and sends a signal to the motor to provide power assistance based on the selected assist level, regardless of how hard the rider is pedaling.

**Adjust the Power-Assist Levels:** Use the (+) Plus and (-) Minus buttons to adjust between PAS Modes. Choose from (O) Off for no power assist to (B) Boost mode for maximum assistance.

## ■ Understanding The 6 Power Assist System (PAS) Modes:

**Power Assist System (PAS) modes** on an electric trike are designed to control the level of motor assistance while pedaling. Each mode offers varying levels of support to suit different terrains, riding styles, and energy needs. Here's a breakdown of the purpose of each typical PAS mode:

### O (Off) Mode:

**Purpose:** In this mode, the motor is completely disengaged, and you ride the e-bike like a traditional bicycle. It's useful when you want a full workout or conserve all of the battery for later use.

**Best For:** When the rider wants no motor assistance or to conserve battery power entirely.

### E (Eco) Mode:

**Purpose:** This mode provides minimal motor assistance, allowing you to rely more on your pedaling effort. It is ideal for flat terrain, leisurely rides, or conserving battery life over long distances.

**Best For:** Riders who want to extend their range and use the e-bike primarily for light exercise or casual rides.

### T (Tour) Mode:

**Purpose:** This mode offers moderate assistance, balancing pedal power, and motor assistance. It is perfect for riding in slightly hilly areas or for a consistent level of support without using too much battery.

**Best For:** Daily commuting, recreational rides, and mixed terrain where you need moderate help but still want to maintain a reasonable battery life.

## S (Sport) Mode:

**Purpose:** This mode provides higher levels of assistance, making it easier to climb hills or maintain higher speeds with less effort. This mode is helpful for covering ground faster or tackling more challenging terrain.

**Best For:** Hilly routes, quicker commutes, or when you want more assistance for a relaxed ride at higher speeds.

## S+ (Sport+)  Mode:

**Purpose:**  Delivers even more powerful assistance than Sport mode, designed for more aggressive riding. It's ideal for steeper climbs or situations where quick acceleration and maximum responsiveness are needed.

**Best For:**  Steep hills, spirited rides, or when you want peak performance and a more dynamic, sportier feel.

## (B) Boost Mode:

**Purpose:** Delivers maximum motor assistance with minimal pedaling effort required. It's ideal for steep inclines, difficult terrain, or when you're in a hurry and want to get to your destination quickly.

**Best For:** Very steep hills, strong headwinds, or when you need the most power output from your e-bike for tough conditions.

## ■ Braking / Stopping:

The **E350 Electric Trike** features a robust braking system designed for enhanced safety and control. Riders are advised to practice braking in a safe, controlled environment to become accustomed to the trike's responsive stopping power before navigating busy roads or paths. This preparation ensures a safer and more confident riding experience.

**Brake Application Technique:** Apply both front and rear brakes simultaneously with even pressure to maintain stability. Avoid sudden braking by decelerating gradually to prevent skidding and maintain control, especially on wet or slippery surfaces.

## ■ Estimated Range

The estimated range of your electric trike can vary depending on several factors such as rider weight, terrain, riding style, and assist level. Based on the battery capacity, here is an approximate range.

- **Eco Mode** (low assist, flat terrain): **25-35 miles**.
- **Normal Mode** (mixed assist, light hills): **18-25 miles**.
- **High Assist** (throttle only): **12-18 miles**.
- **Important:** Battery performance will naturally decline over time as the battery ages.

## USER GUIDE

## HMI. DPC.080

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# Display (HMI) Table of Contents

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# Display (HMI) Specifications

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| | |
|---|---|
| **Brand:** | Bafang |
| **Model:** | HMI \ DP C080.CB |
| **Rated Voltage:** | 36V / 48V / 52V DC power supply |
| **Communication:** | CAN |
| **Water Resistance:** | IPX7 |
| **Certificates:** | CE\ROHS\EN 15194 EPAC |
| **Operating Temperature** | -4°F ~ 113°F or -20°C ~ 45°C |
| **Features:** | Current Speed, Average Speed, Maximum Speed,<br>Odometer, Trip Odometer, Trip Time, Backlit Display, Walk Assist Mode, Battery Level Indicator, Adjustable Assist Level, Error Code |
| **User Manual:** | For complete details on the operation and use of this<br>display refer to the Bafang User Manual included with your new trike |

# Display (HMI) Parameters

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| | |
|---|---|
| **Power Supply** | 36V / 48V / 52V DC power supply |
| **HMI rated power consumption:** | 0.29W |
| **Power OFF leakage current:** | < 1uA |
| **Operating temperature:** | -4°F ~ 113°F or -20°C ~ 45°C |
| **Storage Temperature:** | -4°F ~ 140°F or -20°C ~ 60°C |
| **Storage Humidity:** | 30 - 70% |
| **Protection rating** | IPX7 |

# Product Identification

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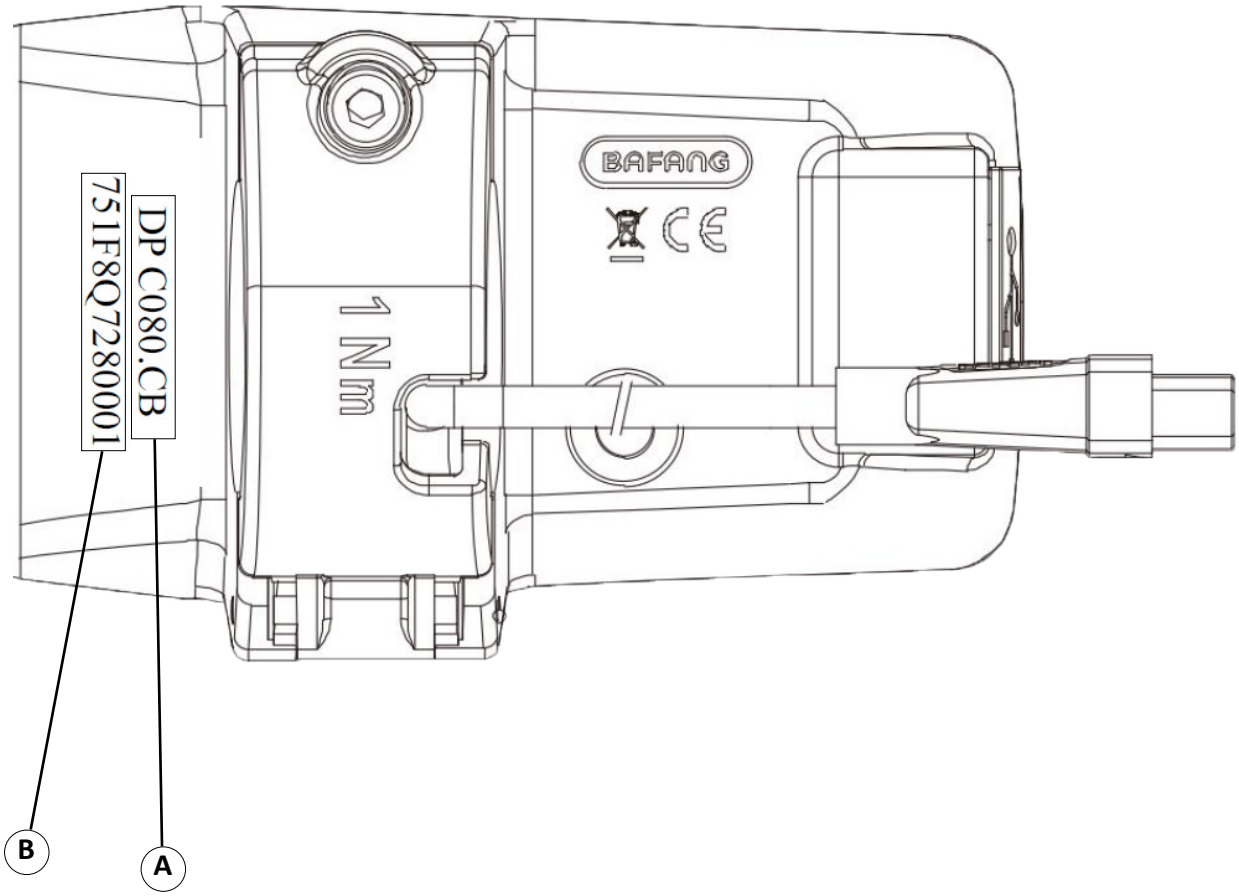
- **Numbering on the back of the product:** The model and serial number is printed in two centered lines on the back of the display.




A. **Model:** DP C080.CB
B. **Serial Number:** 751F8Q7280001

# Install the Display (HMI)

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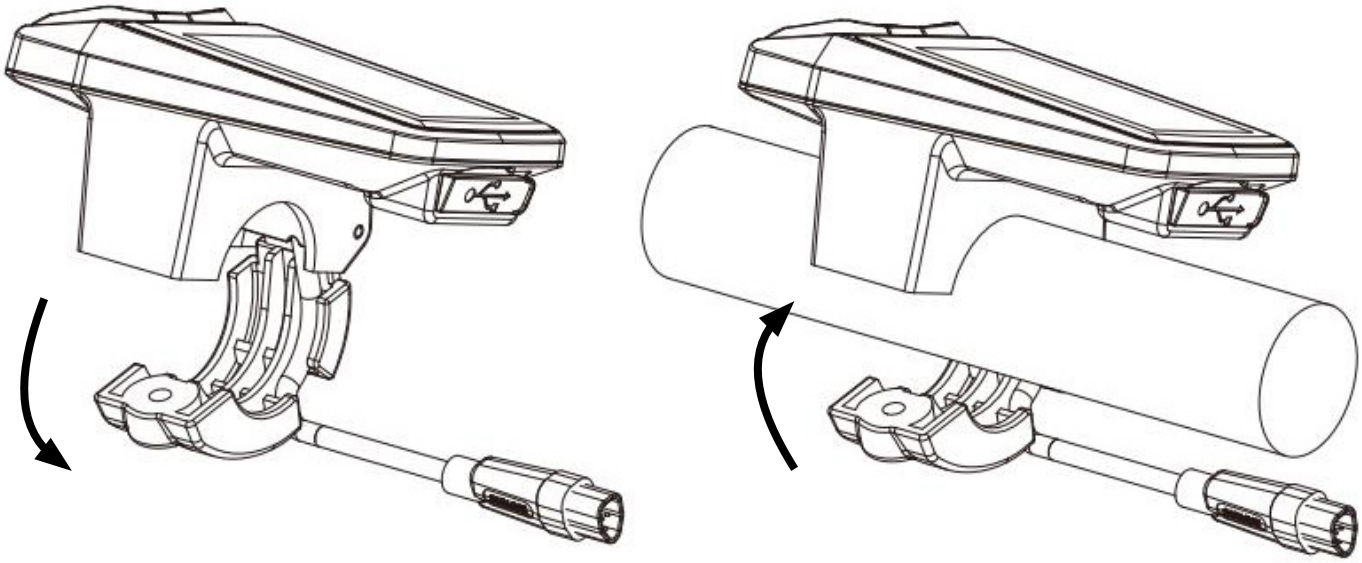
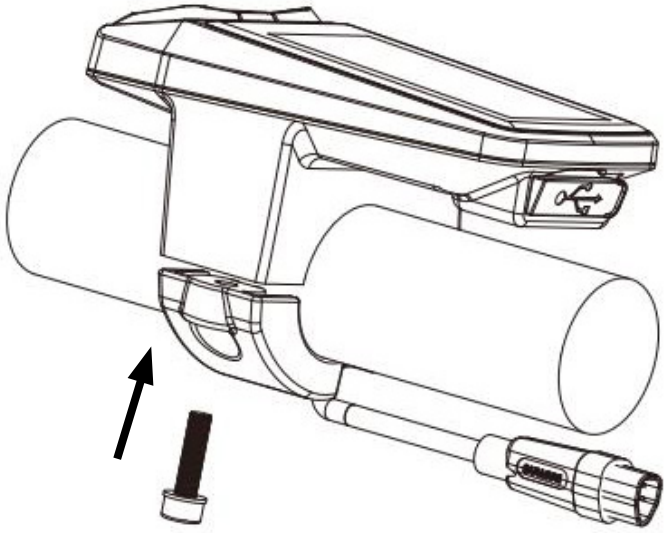
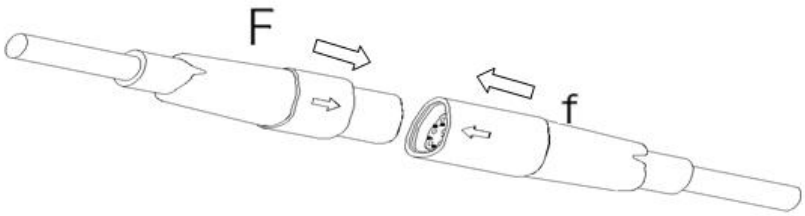


- Open the clamp band, put the cable into the slot, and adjust the HMI to the position suitable for operation.
- (Applicable to Φ22.2mm outer diameter handlebar)

- Adjust the angle for better visibility of the HMI screen while riding.
  - Tighten the M3*12 screw using a 2.5mm hex wrench.
  - [Tightening torque: 1 N.m]



- Connect the HMI with EB-BUS according to the symbols: F. HMI male connector; f. EB-BUS female connector.



# Display Interface

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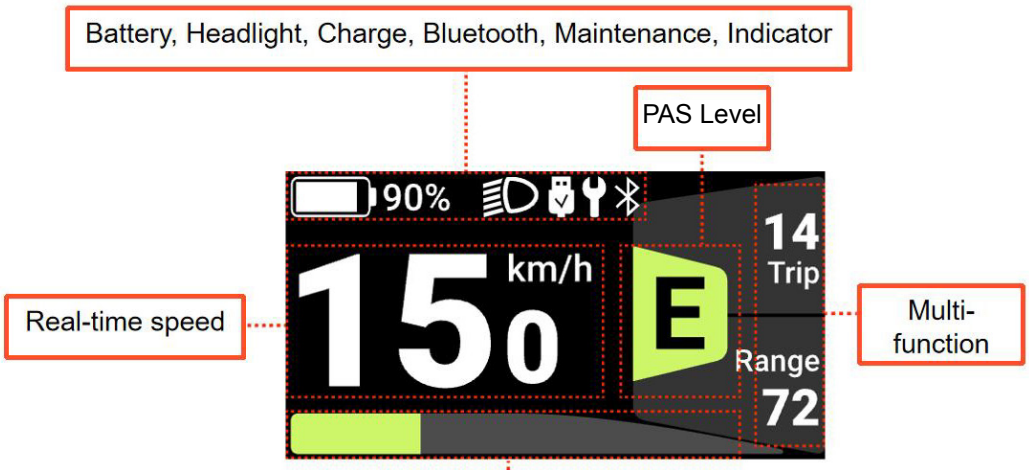
- The display on your **E350 electric trike** serves as a central hub of information and control, enhancing your riding experience by providing key data and allowing you to adjust various settings.


- **Display Interface Overview**

- **Trip & Range:** Shows single-trip mileage (TRIP) and remaining riding distance (RANGE).
- **Power Assist Mode:** Displays the current assist level: 0, E, T, S, S+, B (from no assist to Boost mode).
- **Headlight Indicator:** Displays a headlight symbol when the headlight is turned on, and disappears when turned off.
- **Charging Indicator:** Displays a charging symbol when the USB port is actively charging a device.
- **Maintenance Reminder:** Displays a maintenance icon when total riding distance reaches 3,107 miles (5,000 km).
- **Bluetooth Connection:** Displays a Bluetooth symbol when connected via Bluetooth.
- **SOC Indicator:** Shows the battery's State of Charge (SOC) as a percentage.
- **Real-Time Speed:** Shows the current riding speed on the display.
- **Motor Power Bar:** Indicates the current motor output power level.



# Powering On Your E-Trike

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- **To turn on,** Press the **Power button** on the handlebar-mounted display for at least 2 seconds until the display lights up. The display will default to the main screen, which shows the Battery Level, Current Speed, Power Assist Mode, Trip Distance, and Estimated Range

- **To turn off,** Press the **Power button** on the handlebar-mounted display for at least 2 seconds until the display goes dark.


- **Note:** When your e-trike is powered on, the throttle remains disabled until you switch the Power Assist System (PAS) mode from **Off to Eco, Tour, Sport, Sport +, or Boost** mode.

# Adjusting The Power Assist Level

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- **Adjust the Power Assist System (PAS) Levels**: Select your preferred level of motor assistance, from **0 (no assist)** to **Boost mode** for maximum support. Use the **( + ) Plus and ( – ) Minus buttons** to increase or decrease the assistance level based on your riding needs.



- (Walking Bike Icon) Walk
- (O) Neutral
- (E) Eco Mode
- (T) Touring Mode
- (S) Sport Mode
- (S+) Sport Plus Mode
- (B) Boost Mode

# Viewing Ride Data

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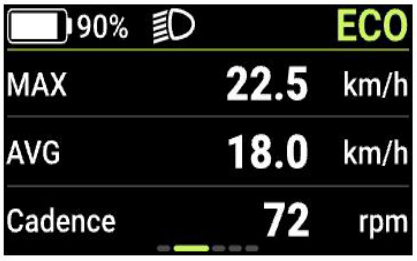
- **To switch between ride data screens,** press the power button.

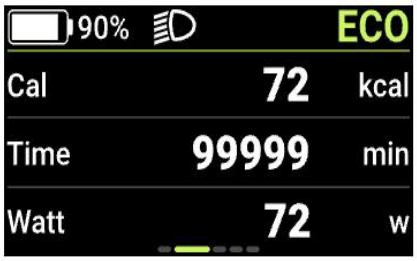
- **Main View (Screen 1):**
  - Battery level
  - Light-on indicator
  - Current speed
  - Current (PAS) level
  - Trip distance
  - Estimated range
  - Motor power bar


- **Additional ride data (Screen 2):**
  - Current speed
  - Trip distance
  - Odometer


- **Additional ride data (Screen 3):**
  - Max speed
  - Average speed
  - Cadence




- **Additional ride data (Screen 4):**
  - Calories
  - Time
  - Watts



# Powering On/Off Lights

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- **To turn on,** press the **(+) button** on the handlebar-mounted display for at least 2 seconds. The lights will turn on and a **headlight symbol** will appear on the display.

- **To turn off,** press the **(+) button** on the handlebar-mounted display for at least 2 seconds. The lights will turn off, and the **headlight symbol** will disappear from the display.


- **Note:** The display screen will dim when the lights are powered on and return its original brightness when the lights are powered off.

- **Note:** Not all e-bikes are equipped with lighting.

# Using Walk Assist Mode

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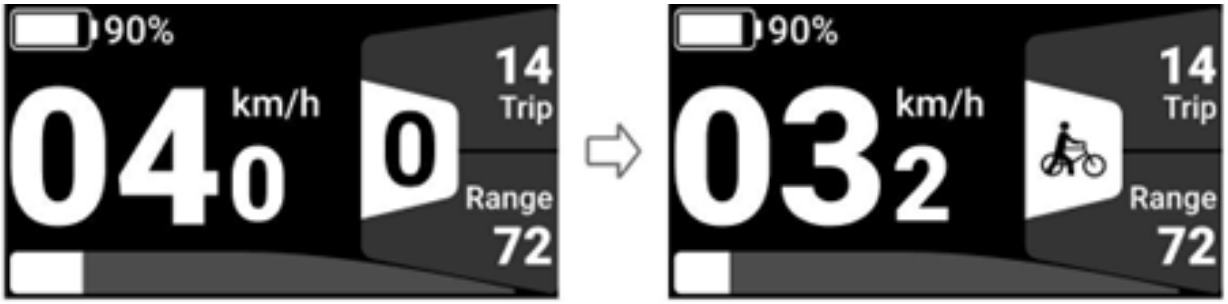
- **Using Walk Assist Mode:**
- Set the pedal assist level to (0) using the **(-) Minus button** and prepare to start walking.
- Next set the pedal assist level to “Walk Mode” using the **(-) Minus button**
- Then press and hold the **(-) Minus button** to engage Walk Assist.
  - The walking mode icon will flash when walk assist is active
  - The bike will move forward at 1.5 mph
  - Release the **(-) Minus button** to exit walking mode
  - The assist level will automatically revert to PAS (0) after 5 seconds of no movement.

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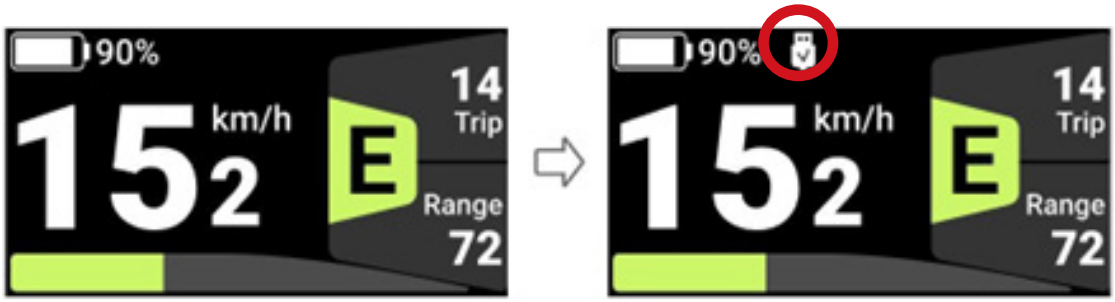
The Bafang DP C080 display features a built-in **USB Type-C charging port**, suitable for charging devices such as your cell phone.

- Maximum output voltage: 5V
- Maximum output current: 500 mA
- Note: Charging cable is not included


**Charging Port Location**

**Charging Disconnect/Connect Icon**




**WARNING! – USB Type-C charging port is not intended to charge the e-trike battery.**

# Bluetooth

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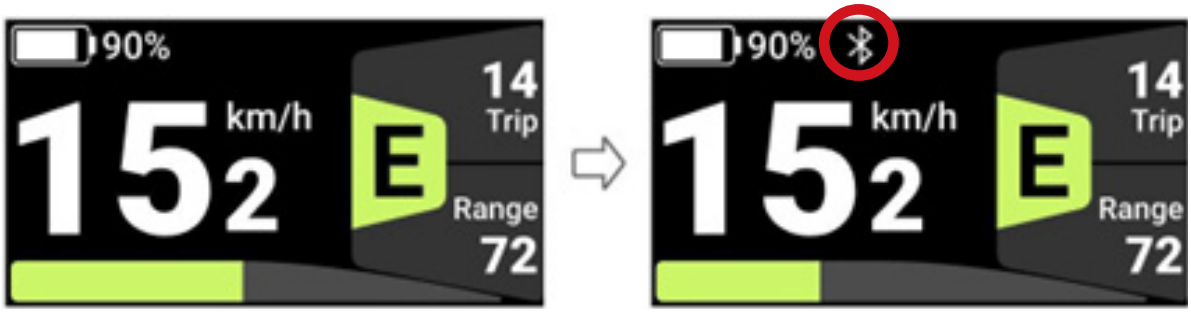
The Bafang DP C080 display seamlessly pairs with the Bafang Go+ companion app via Bluetooth. This versatile app, designed for both iOS and Android devices, can be easily downloaded from the Google Play Store or Apple App Store.

Scan the QR code below to install the app.

GET IT ON Google Play

Download on the App Store

**Bluetooth Disconnect/Connect Icon**



# Settings

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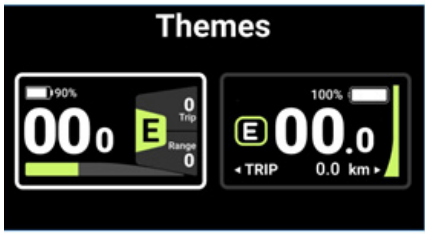
- **To enter Setting Mode**: Press and hold the (+) plus and (-) minus buttons simultaneously to enter the Settings Screen

- **To select desired Setting:** Press the (+) plus or (-) minus button to switch between the different Settings and press the power button to enter

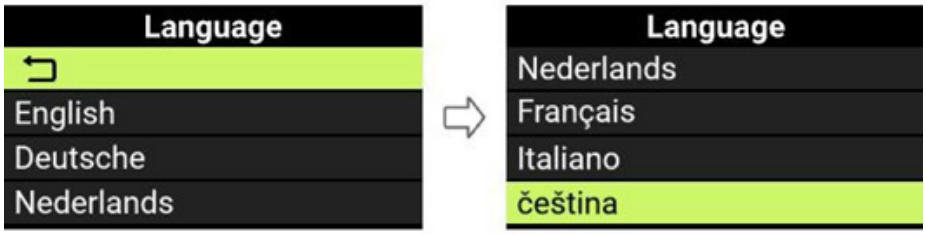

- **HMI Settings**
  - Unit
  - Service tips
  - Auto off
  - Trip reset
  - Brightness
  - AL sensitivity


- **Information**
  - HMI Info
  - Controller Info
  - Sensor Info
  - Battery Info
  - Error Code
  - Warn Code


- **Themes**
  - Style 1
  - Style 2




- **Languages**
  - English
  - German
  - Dutch
  - French
  - Italian
  - Czech



# Settings

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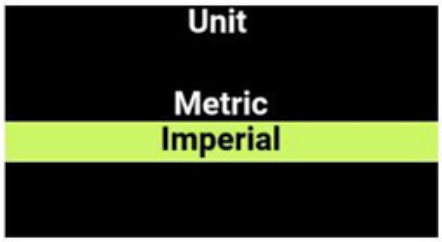
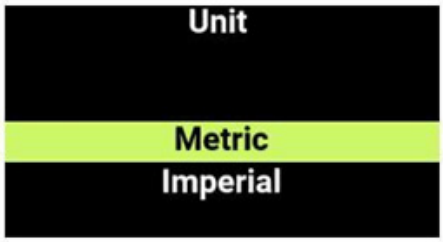
- **Change Units:**
  - Select between Imperial and Metric
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press the **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"Unit"**
  - Press **"Power button"** to enter **"Unit"** mode
  - Press (+) or (-) to select **"Metric"** or **"Imperial"**
  - Press the **"Power button"** to confirm your selection and return to **"Unit"**
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

- **Note:** All information on the main interface of metric system is metric system, and the same for the Imperial system.
- **Note:** "Metric" means metric units / "Imperial" means English units




- **Change Automatic Shut Off Time:**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"Auto Off"**
  - Press the **"Power button"** to enter **"Auto Off"** mode
  - Press (+) or (-) to select **"Off", "1Min", "2Min", "3Min", 4Min", "5Min", "6Min", "7Min", "8Min", "9Min",** or **"10Min"**
  - Press **"Power button"** to confirm your selection and return to "Auto Off"
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**



# Settings

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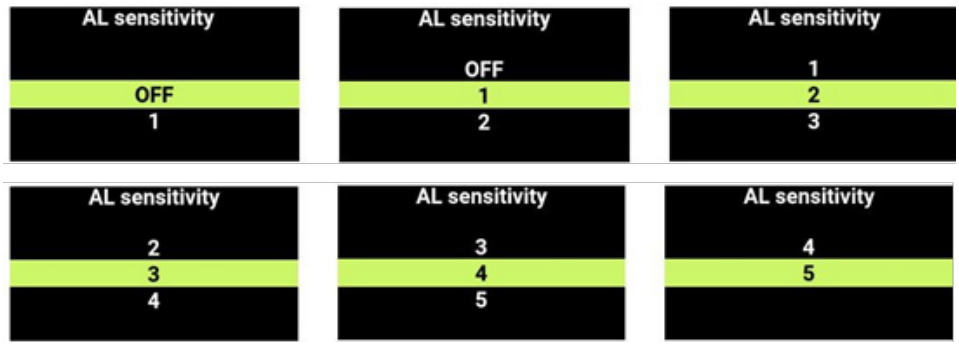
- **Change Screen Brightness**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"Brightness"**
  - Press the **"Power button"** to enter **"Brightness"** mode
  - Press (+) or (-) to select **"25%", "50%", "75%",** or **"100%"**
  - Press **"Power button"** to confirm your selection and return to "Brightness"
  - Press (+) and (-) for 2 at least seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**


- **Change AL Sensitivity**
  - Adjusts how sensitive the automatic headlight feature is to ambient light. Higher settings cause the lights to turn on in brighter conditions, while lower settings require darker environments to activate the lights.
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"AL Sensitivity"**
  - Press the **"Power button"** to enter **"AL Sensitivity"** mode
  - Press (+) or (-) to select **"OFF", "1", "2", "3", "4",** or **"5"**
  - Press **"Power button"** to confirm your selection and return to "Brightness"
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**



- **Reset Single Trip Mileage**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"Trip Reset"**
  - Press the **"Power button"** to enter **"Trip Reset"** mode
  - Press (+) or (-) to select **"YES",** or **"NO"**
  - Press **"Power button"** to confirm your selection and return to "Trip Reset"
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note: "Trip Reset"** also clears **"Trip Time"** at the same time

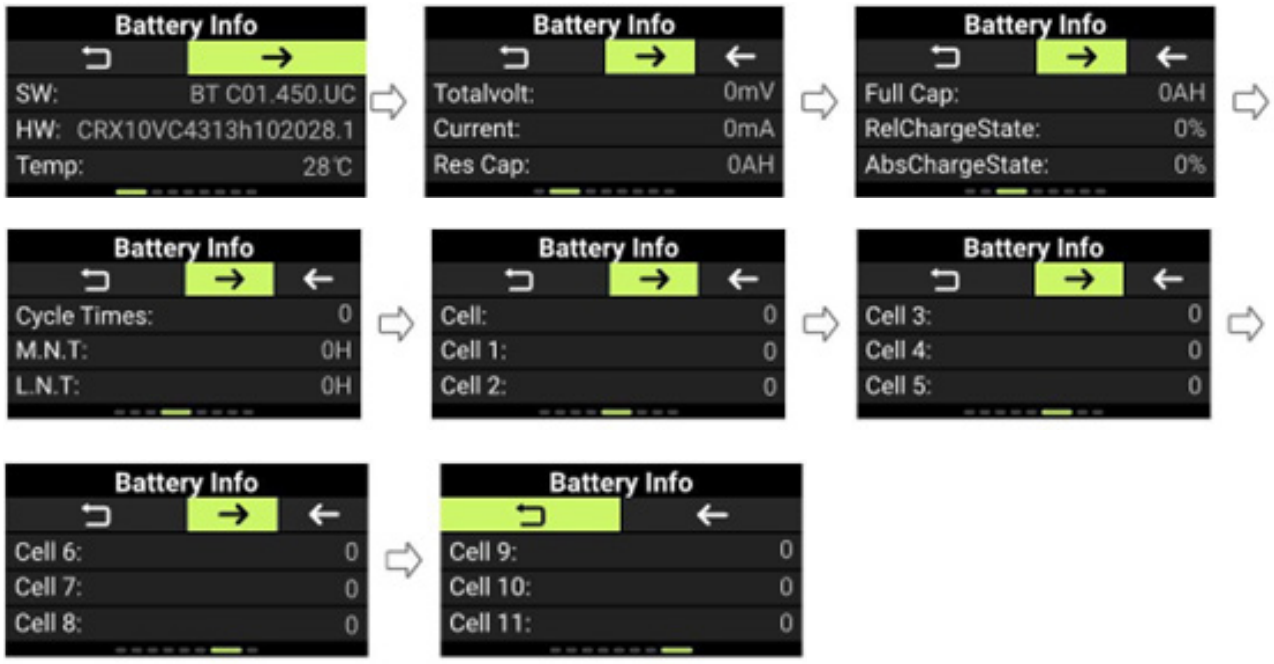


- **Turn On/Off the Maintenance Prompt**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"HMI Setting"**
  - Press **"Power button"** to enter **"HMI Setting"** mode
  - Press (+) or (-) to select **"Service Tips"**
  - Press the **"Power button"** to enter **"Service Tips"** mode
  - Press (+) or (-) to select **"YES",** or **"NO"**
  - Press **"Power button"** to confirm your selection and return to "Service Tips"
  - Press (+) and (-) for 2 at least seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note: The maintenance prompt function is turned off by default. When it is turned on and the accumulated mileage of the e-trike exceeds 5,000 km / 3,107 miles, the "Service" symbol will appear on the display.**


- **View Battery Details**
  - **Battery Software / Hardware Version and Status Information**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"Information"**
  - Press **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"Battery Info"**
  - Press the **"Power button"** to enter **"Battery Info"** mode
  - Press (+) or (-) to select **"→"**
  - Press **"Power button"** to confirm your selection
  - Press **"Power button"** to scroll through the **"Battery Info"** screens
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press **"Power Button"** to return to "Battery Info" and then press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** Battery info is for reference only and cannot be modified



# Settings

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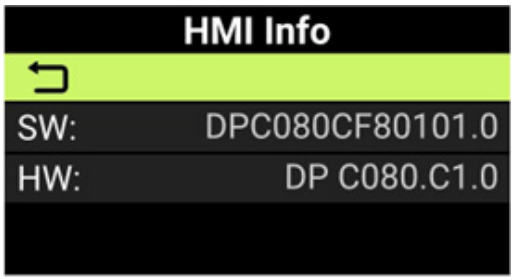
| | | |
|---|---|---|
| **SW:** | Software | |
| **HW:** | Hardware | |
| **Temp:** | Current temperature | °C |
| **Totalvolt:** | Total voltage | mV |
| **Current:** | Average current | mA |
| **Res Cap:** | Remaining capacity | Ah |
| **Full Cap:** | Full capacity | Ah |
| **RelChargeState:** | Relative charge state | % |
| **AbsChargeState:** | Absolute charge state | % |
| **CycleTimes:** | Total number of full charge cycles | times |
| **M.N.T:** | Maximum time since last charge (in hours) | Hour |
| **L.N.T:** | Last uncharged time | Hour |
| **Cell:** | Qty. of battery cells | |
| **Cell 1:** | Cell 1 voltage | mV |
| **Cell 2:** | Cell 2 voltage | mV |
| **Cell 3:** | Cell 3 voltage | mV |
| **Cell 4:** | Cell 4 voltage | mV |
| **Cell 5:** | Cell 5 voltage | mV |
| **Cell 6:** | Cell 6 voltage | mV |
| **Cell 7:** | Cell 7 voltage | mV |
| **Cell 8:** | Cell 8 voltage | mV |
| **Cell 9:** | Cell 9 voltage | mV |
| **Cell 10:** | Cell 10 voltage | mV |
| **Cell 11:** | Cell 11 voltage | mV |
| **Cell 12:** | Cell 12 voltage | mV |
| **Cell 13:** | Cell 13 voltage | mV |

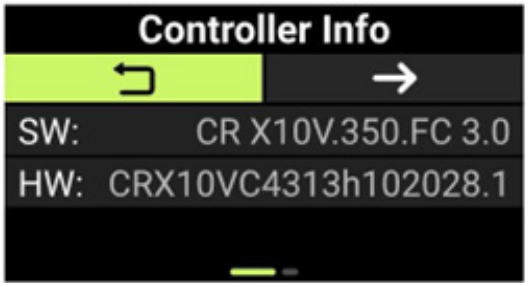
- **View HMI Details**
  - HMI Software and Hardware version
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press the **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"HMI Info"**
  - Press the **"Power button"** to enter **"HMI Info"**
  - Press the "Power button" again to return to **"Information"** menu
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** HMI info is for reference only.  Software cannot be modified or updated from the Display (HMI).



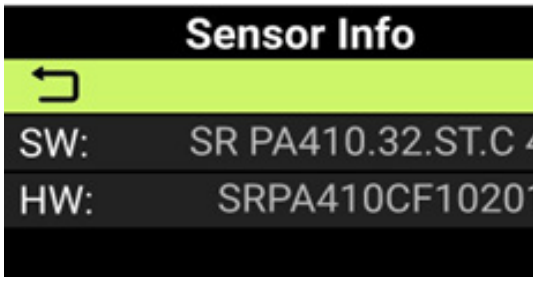

- **View Controller Details**
  - Controller Software and Hardware version
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"Controller Info"**
  - Press the **"Power button"** to enter **"Controller Info"**
  - Press the "Power button" again to return to **"Information"** menu
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** Controller info is for reference only.  Software cannot be modified or updated from the Display (HMI).



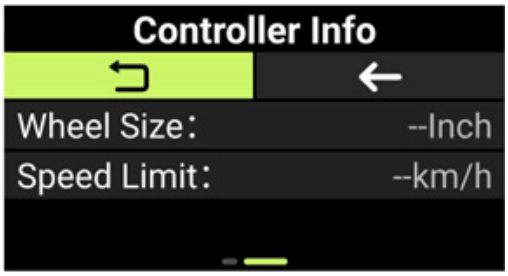
- **View Sensor Details**
  - Sensor Software and Hardware version
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"Sensor Info"**
  - Press the **"Power button"** to enter **"Sensor Info"**
  - Press the "Power button" again to return to **"Information"** menu
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** Sensor Info is for reference only. Software cannot be modified or updated from the display (HMI).




- **View Wheel Size and Speed Limit**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"Information"**
  - Press **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"Controller Info"**
  - Press the **"Power button"** to enter **"Controller Info"** mode
  - Press (+) or (-) to select **"→"**
  - Press **"Power button"** to confirm your selection
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** Wheel size and speed limit are for reference only and cannot be modified from the display (HMI).



# Settings

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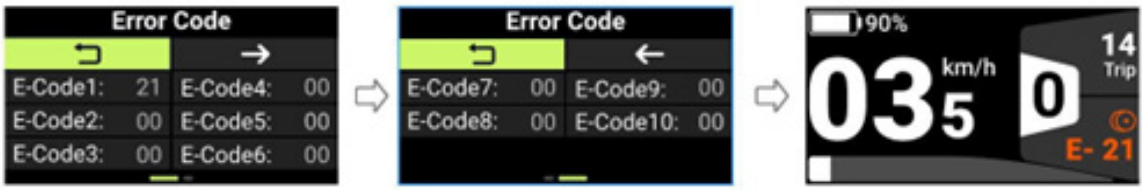
- **View Historical Error Codes**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"Information"**
  - Press **"Power button"** to enter **"Information"** mode
  - Press (+) or (-) to select **"Error Code"**
  - Press the **"Power button"** to enter **"Error Code"** mode
  - Press (+) or (-) to select **"→"**
  - Press **"Power button"** to confirm your selection
  - Press **"Power button"** to scroll through the error code screens
  - Press (+) and (-) for at least 2 seconds to return to the main screen
  - Or Press (+) or (-) to select **"Back"** and then Press **"Power Button"** to return to **"Information"** menu and then press (+) or (-) to select **"Exit"** and then press the **"Power button"** to confirm **"Exit"**

  - **Note:** Error codes are for reference only. Contact your local Sun Bicycles retailer for assistance.
  - Note: You can only view the last 10 error messages.




- **Change Themes**
  - Press (+) and (-) for at least 2 seconds to enter the **"Setting"** mode
  - Press (+) or (-) to select **"Themes"**
  - Press **"Power button"** to enter **"Themes"** mode
  - Press (+) or (-) to select the desired theme
  - Press the "Power button" to confirm your selection

  - **Note:** A confirmation screen will appear with the following instructions:
    - The HMI will restart after confirmation to apply the new theme.
    - Press the **"Power button"** to accept.

## Copyright Statement

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BAFANG

POWER YOUR LIFE

# Error Code Troubleshooting

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## Bafang hub motor equipped

## ERRORS & WARNINGS

The drive system's parts are automatically monitored in real time. If a part is abnormal, the corresponding error or warning code is displayed on the Display (HMI).

| Code | Cause | Troubleshooting<br>Hub Motor System |
|---|---|---|
| **Error 4** | Throttle voltage abnormality detected | 1. Turn the power OFF and then ON again.<br>2. Check whether the throttle is in place.<br>3. Disconnect the throttle and restart to check again.<br>4. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 5** | Throttle abnormality detected when starting | 1. Turn the power OFF and then ON again.<br>2. Check whether the throttle is in place.<br>3. Disconnect the throttle and restart to check again.<br>4. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 6** | System voltage too low | 1. Connect the charger and check whether the charger works properly.<br>2. Charge the battery to full power.<br>3. Install the battery onto the e-bike and turn it ON.<br>4. Make sure the correct model of battery is installed on your e-bike.<br>5. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 7** | System voltage too high | 1. Turn the power OFF and then ON again.<br>2. Make sure the correct model of battery is installed on your e-bike.<br>3. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 8** | Motor hall signal abnormality detected | 1. Check whether the motor cable is connected correctly or the cable is damaged.<br>2. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 9** | Motor phase abnormality detected | 1. Check whether the motor cable is connected correctly or the cable is damaged.<br>2. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| **Error 10** | Motor overtemperature | 1. Turn the power OFF, leave the drive unit in a cool location without direct sunlight until the internal temperature of the drive unit has decreased sufficiently, and turn the power ON again.<br>2. If the error persists, stop use, and contact your place of purchase for assistance. |

# Error Code Troubleshooting

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| Code | Cause | Troubleshooting<br>Hub Motor System |
|---|---|---|
| Error 11 | Motor temperature sensor abnormality detected | 1. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| Error 12 | Abnormality detected in the controller | 1. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| Error 13 | Abnormality detected in the controller | 1. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |
| Error 14 | Controller overtemperature | 1. Turn the power OFF, leave the drive unit in a cool location without direct sunlight until the internal temperature of the drive unit has decreased sufficiently, and turn the power ON again.<br>2. If the error persists, stop use, and contact your place of purchase for assistance. |
| Error 15 | Controller temperature sensor abnormality detected | 1. If the error persists, stop use, and contact your place of purchase or dealer to replace the controller. |
| Error 18 | Motor stall | 1. Turn the power OFF and then ON again, and test again with the walk assistance mode.<br>2. If the error persists, stop use, and contact your place of purchase or dealer for assistance. |

**NOTE! – Periodically, updates and addenda may be issued for this document. To ensure you have the most up-to-date information, please check www.sun.bike or contact customer service at info@sun.bike.**

**WARNING! – In order to protect the electric parts, before disconnecting parts, please turn the power OFF first and then disconnect the power cable of the disconnected part. When installing the parts, please connect the parts first, then connect the power cable of the parts, and finally turn the power ON.**

# Motor Specifications

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| | |
|---|---|
| **Brand:** | Bafang |
| **Model:** | FM G020.350.D Front Hub Motor |
| **Rated Voltage:** | 48V DC |
| **Rated Power:** | 350W Efficiency (%): >80 Noise Grade: < 55dB |
| **Max Torque:** | 45 N·m |
| **Water Resistance:** | IPX5 |
| **Certificates:** | RoHS / CE |
| **Operating Temperature:** | -4°F ~ 113°F (-20°C ~ 45°C) |
| **Weight:** | 7.3 lb |

# Throttle Specifications

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| | |
|---|---|
| **Brand:** | Wuxing |
| **Model:** | 300X |
| **Rated Voltage:** | Working Voltage 5v / Output Voltage 0.8-4.2V |
| **Water Resistance:** | IPX5 |
| **Certificates:** | RoHS / REACH |
| **Operating Temperature:** | -13°F ~ 149°F (-25°C ~ 65°C) |
| **Weight:** | 35g |


**WARNING! – Use caution when mounting, dismounting, or walking the trike — accidental throttle activation may cause sudden forward movement.**

# Battery Specifications

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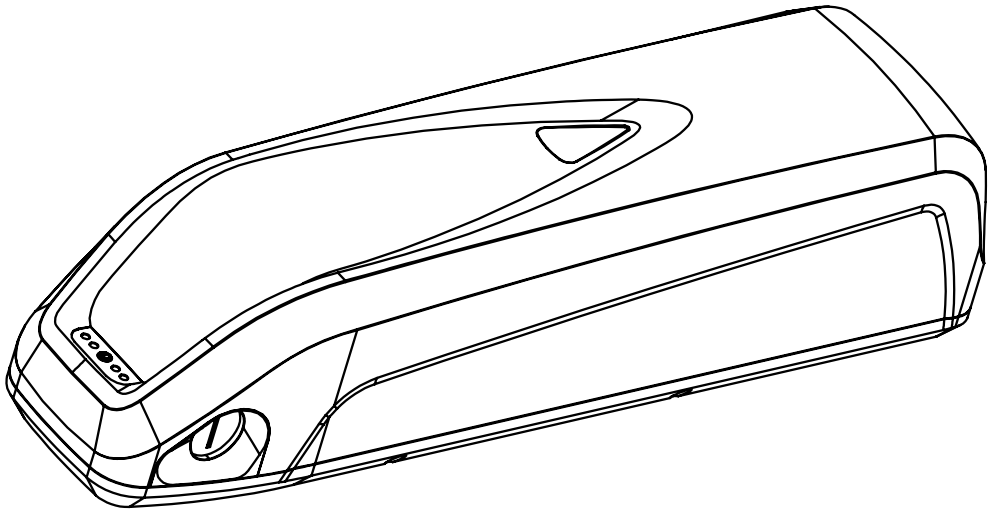
| | |
|---|---|
| **Brand:** | Bafang |
| **Model:** | BTF150 |
| **Pack Dimensions:** | 367.4mm (L) x 90.3mm (W) x 91.5mm (H) |
| **Communication:** | CAN Protocol |
| **Pack Configuration:** | 13S3P |
| **Cell Type:** | LG INR18650MJ1 |
| **Rated Energy:** | 504 Wh |
| **Rated Voltage:** | 48V DC |
| **Capacity:** | 10.5 Ah |
| **Water Resistance:** | IPX6 |
| **Certificates:** | UL 2271 |
| **Operating Temperature:** | Charge: 32°F ~ 113°F (0°C ~ 45°C) |
| **Operating Temperature:** | Discharge: 4°F ~ 140°F (-20°C ~ 60°C) |
| **Storage Temperature:** | Up to 1 Month: 4°F ~ 140°F (-20°C ~ 60°C) |
| **Storage Temperature:** | Up to 2 Months: 4°F ~ 113°F (-20°C ~ 45°C) |
| **Storage Temperature:** | 3 Months or more: 4°F ~ 77°F (-20°C ~ 25°C) |
| **Storage Humidity:** | Under 65% |
| **Storage Charge Level:** | 60%~80% |
| **Standard Charge:** | 2A CC Charge until 54.6V, 200mA CV cut-off |
| **Maximum Charge Current:** | 5A |
| **Weight:** | 5.95 lb (2.7 kg) |



**WARNING! – Only charge with original charger included with this trike.**
**WARNING! – Lock the battery before riding, and remove the key to prevent loss.**
**WARNING! – This trike is designed for use only with 48V / 10.5Ah OE battery.**

# Battery Specifications

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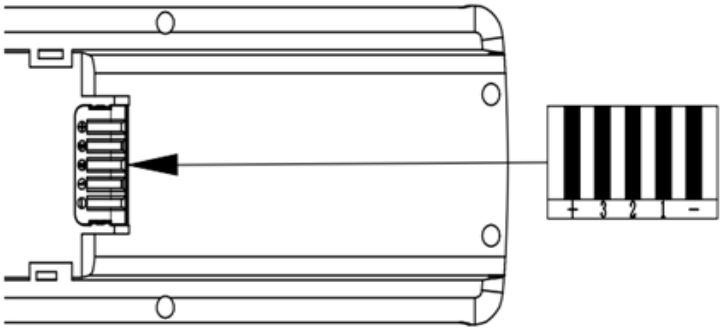
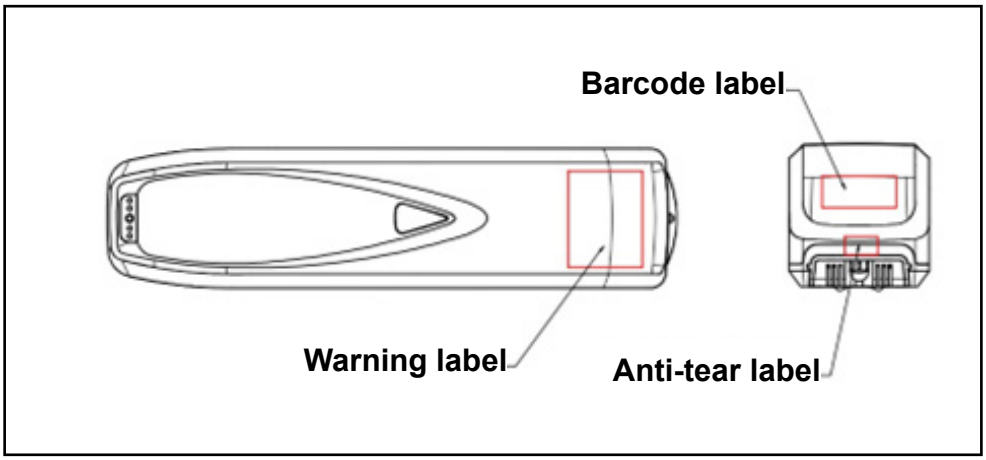
## Battery Discharge Port Definition




| | |
|---|---|
| Pin + | PACK+ |
| Pin - | PACK- |
| Pin 1 | CAN L |
| Pin 2 | CAN H |
| Pin 3 | SW- |

## Battery Label Description and Location

| Label definition | | | |
|---|---|---|---|
| | Label 1 | Label 2 | Label 3 |
| Definition | Barcode label | Warning label | Anti-tear label |
| Size | 40*25mm | 70*55mm | 20*15mm |




Label Position


Warning label

# Battery

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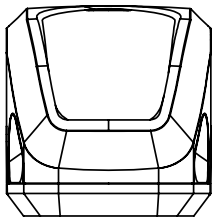
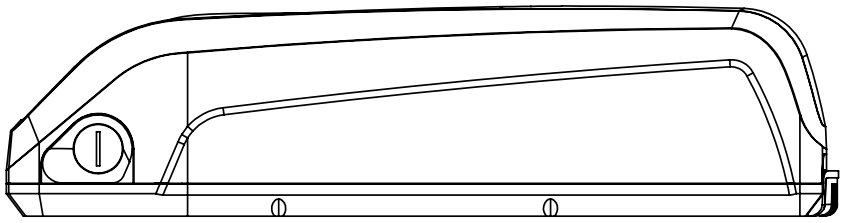
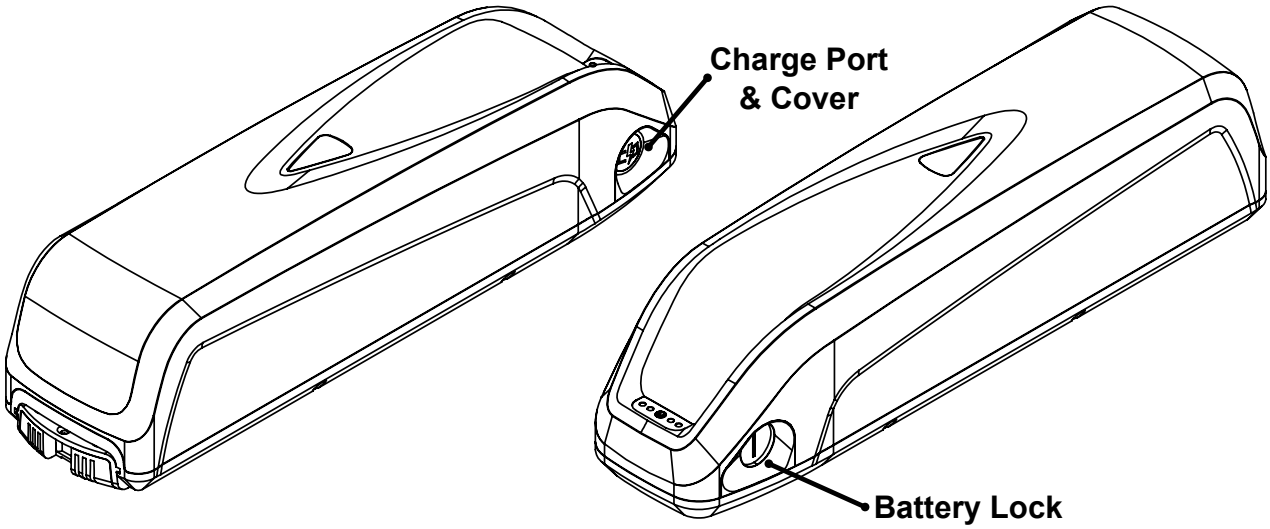
## Battery Features

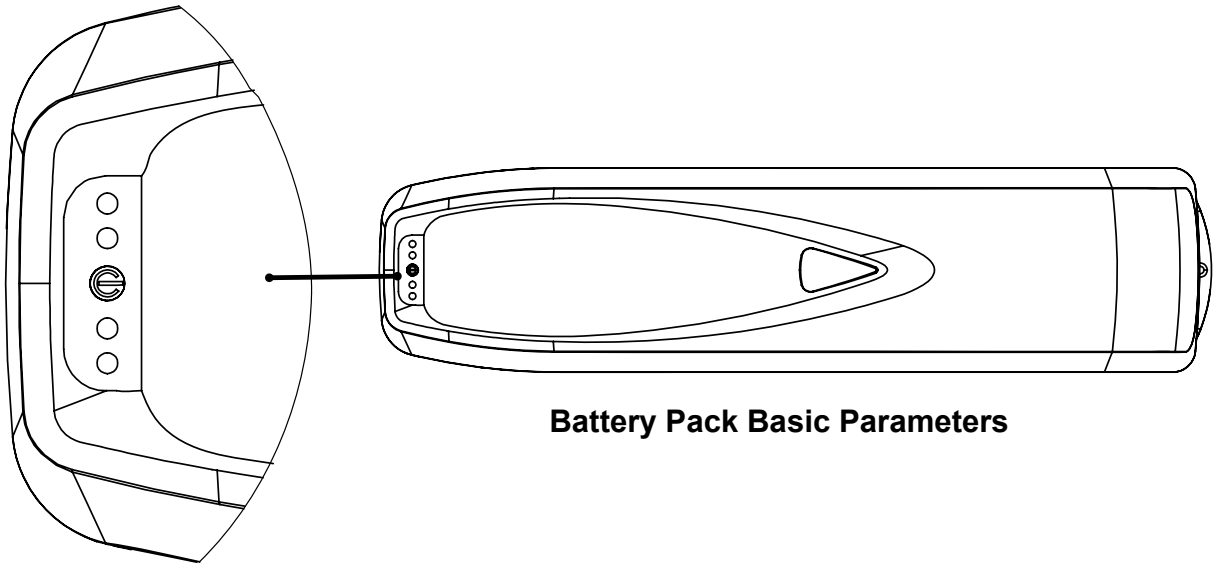


Front View



Side View



Battery Pack Basic Parameters

Battery Level Indicator

# Battery

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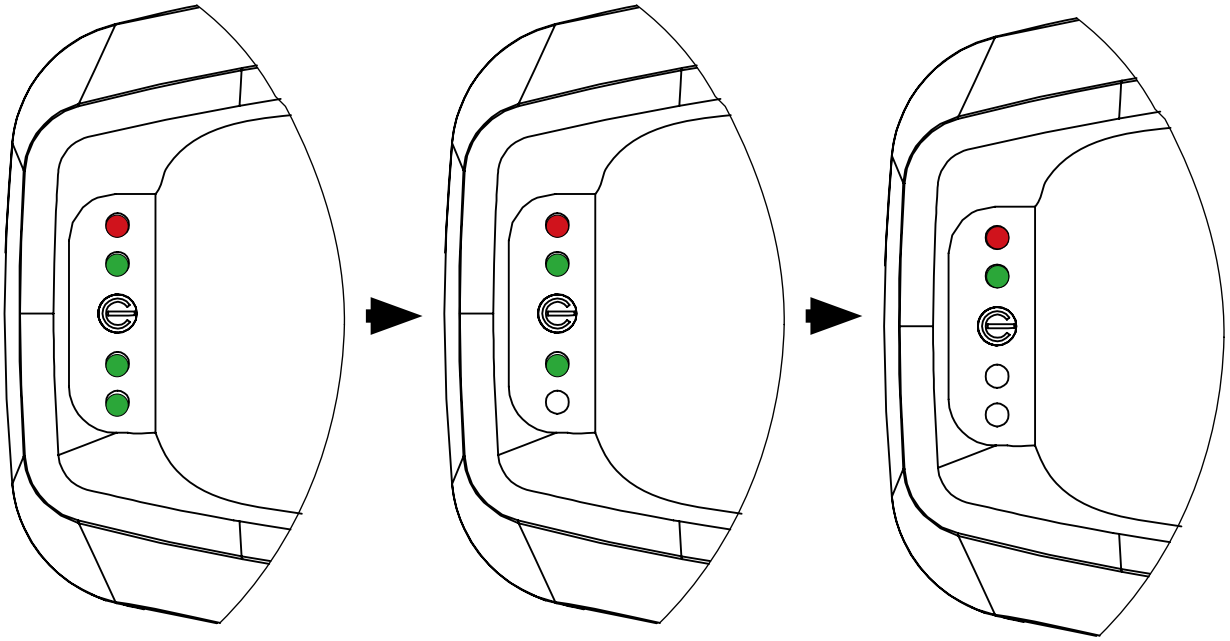
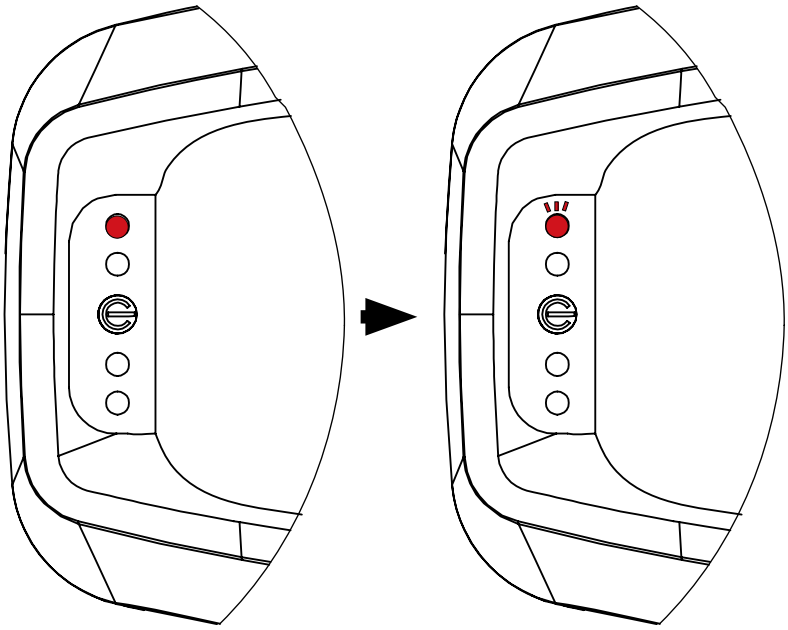
## Battery Power Button and LED Display



**Red + Full Green**
**75%~100%**

**Red +2 x Green**
**50%~74%**

**Red +1 x Green**
**25%~49%**



**Red Light On**
**5%~24%**

**Red Light Flashing**
**<5%**

| Battery Sleep/Wake Functions | |
|---|---|
| **Item** | **Details** |
| **Sleep Mode** | **Battery will enter sleep mode when any of the following conditions are met:** |
| | Press and hold the Power Button for 10 seconds |
| | State of Charge (SOC) ≥ 80% |
| | State of Charge (SOC) ≥ 40% for 30 days |
| | State of Charge (SOC) ≥ 10% for 14 days |
| | State of Charge (SOC) ≥ 14% for 8 hours |
| | State of Charge (SOC) ≥ 1% for 10 minutes |
| (Battery will go to sleep automatically) | |
| | |
| **Waking the Battery - Off the Trike** | **Battery will wake when any of the following occur:** |
| | Press and hold the Power Button for 3 seconds |
| | Connect the battery to the charger |
| | |
| **Waking the Battery - On the Trike** | Remove the battery, press the Power Button for 3 seconds and then reinstall |
| | Or connect the charger while it's still on the trike to wake it. (Applies to low or dormant battery) |
| | |
| | |
| **Charging** | The charging port carries no voltage until the charger is connected. |
| | Charger will only output power if it detects the correct identification resistor |

**NOTE! – Battery sleep and wake functions vary by model. The details here apply only to the Bafang BTF150 battery used with the Sun E350 Electric Trike.**

| Battery Troubleshooting | | |
|---|---|---|
| Fault status | Cause of failure | Troubleshooting |
| Output failure | The battery pack output line is not connected | Connect the battery pack output line correctly according to the instructions |
| | Battery is empty | Charge the battery |
| | The battery string is dormant. Procedure | Charge or press the button |
| | Power lock is not open | Open the power lock or on |
| Charge failure | Charger output plug | Check the connector is connected |
| | Battery is full | Battery works |
| Note: for more questions, please contact Veken technical or service personnel | | |

# Battery Precautions & Warnings

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**Read Before Use:**
- Carefully read all safety instructions and labels on the battery before using it.
- Only use the battery in safe, appropriate environments. Keep it away from extreme temperatures, high-voltage areas, and other hazardous conditions.

**Keep Away from Heat and Children:**
- Do not expose the battery to heat sources or open flames.
- Keep the battery out of reach of children, and never throw or misuse the battery.

**Avoid Short Circuits and Disassembly:**
- Do not short-circuit the battery terminals (anode and cathode).
- Never disassemble or tamper with the battery, and avoid exposing it to moisture, which can increase the risk of damage or failure.

**Storage Guidelines:**
- If storing the battery for a long period:
  - Keep it in a cool, dry place.
  - Store it at approximately 60–80% charge.
  - Use non-conductive packaging to avoid contact with metal objects or other batteries.

**Proper Disposal:**
- Dispose of used or damaged batteries responsibly.
- Do not throw them into fire or water. Follow local regulations for battery recycling or disposal.

**Use Only with Approved Devices:**
- Do not use this battery in devices it was not designed for.
- Improper use can reduce battery life or cause dangerous reactions, including overheating, smoke, deformation, or fire.

**Built-in Safety Features:**
- This battery includes a protection circuit to help prevent dangerous conditions.
- Do not disassemble the battery, as this can disable the safety system and lead to overheating, smoke, fire, or deformation.

**Avoid Metal Contact:**
- Never allow the battery terminals (electrodes) to touch metal objects.
- Do not store or transport the battery with metal items (e.g., tools or coins), as this can cause a short circuit, resulting in high current flow, which may lead to overheating, smoke, fire, or deformation.

**Keep Away from Heat and Flames:**
- Do not heat, burn, or expose the battery to open flames.
- Excessive heat can damage internal components, causing the battery to overheat, smoke, deform, or catch fire.

**Temperature Limits:**
- Never use or store the battery near heat sources or in environments over 75°C (167°F).
- High temperatures may lead to internal short circuits and cause the battery to overheat, smoke, deform, or ignite

# Battery Precautions & Warnings

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**Avoid Water Exposure:**

- Do not expose the battery to water or high humidity.
- Moisture can damage the internal protection circuit and cause abnormal chemical reactions, leading to overheating, smoke, deformation, or fire.

**Charge Safely:**

- Do not charge the battery near fire or in direct sunlight.
- Only use the charger designed for this battery. Using an incorrect charger can disable safety features and result in dangerous overheating or fire.

**Do Not Damage the Battery:**

- Never crush, puncture, strike, or otherwise damage the battery.
- Any physical damage may cause internal failure, leading to heat, smoke, fire, or deformation.

- **Do Not Plug Directly Into a Wall Outlet:**
- Never connect the battery directly to a power outlet.
- This can result in high voltage and current flow, which may severely damage the battery and create a fire hazard.

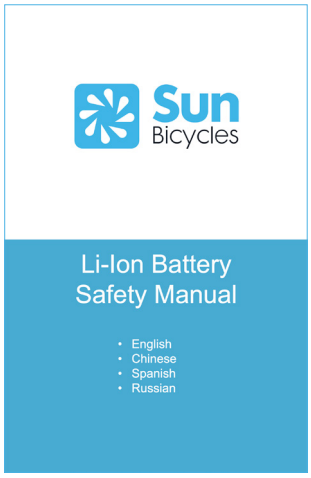
**Use Only with Approved Devices:**

- Do not use this battery in devices it was not designed for.
- Improper use can reduce battery life or cause dangerous reactions, including overheating, smoke, deformation, or fire.

**⚠ IMPORTANT - READ BEFORE FIRST USE ⚠**

- **Before operating or charging your E350 Electric Trike, you must read the included Sun Bicycles Li-Ion Battery Safety Manual. This manual contains critical safety instructions essential for the safe operation and charging of your trike's battery.**
  - The printed version is provided in English, Chinese, Spanish, and Russian.
  - A digital version is also available in 13 languages for easy access and reference.

**Print Version**




**Digital Version**

# Charger Specifications

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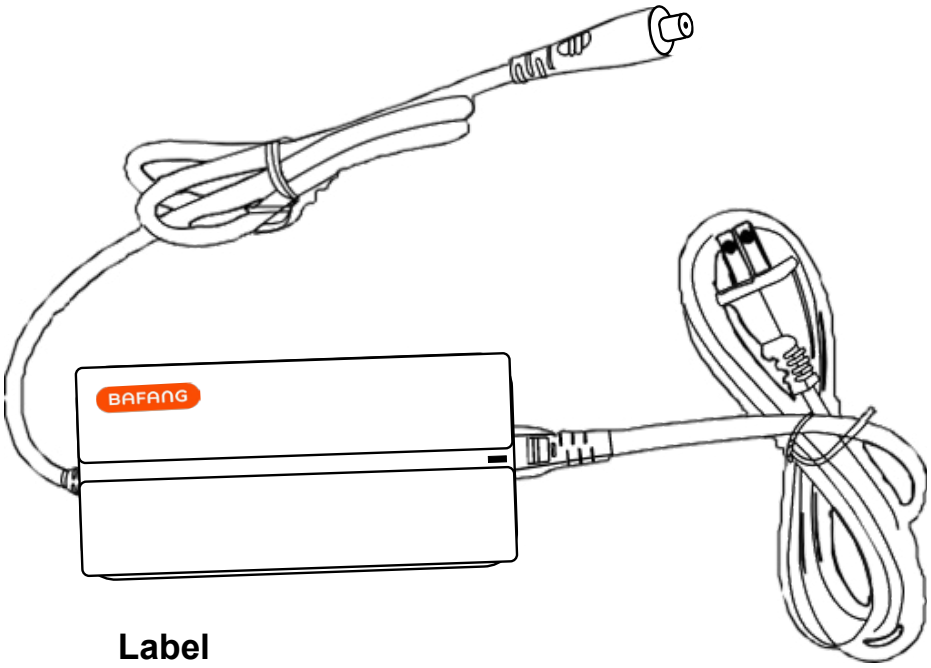
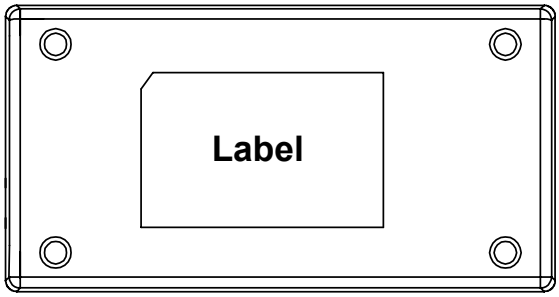
| | |
|---|---|
| **Brand:** | Bafang |
| **Model:** | BC U302 |
| **Input Voltage:** | 100-240V AC ~ 2.0A (50/60Hz) |
| **Output Voltage:** | 54.6V DC ~ 2.0A |
| **Operating Temperature:** | 23°F ~ 176°F (-5°C ~ 80°C) |
| **Storage Temperature:** | 77°F ~ 95°F (25°C ~ 35°C) |
| **Storage Humidity:** | 55% ~ 65% |
| **Charging Mode:** | **Red Light** - Battery is charging |
| | **Green Light** - Battery is fully charged |
| **Charge Time:** | Approximately 6-7 hours from empty to full |




**Label**


**WARNING! – Charging port and charger may become hot during use – handle with care.**

# Warning Labels

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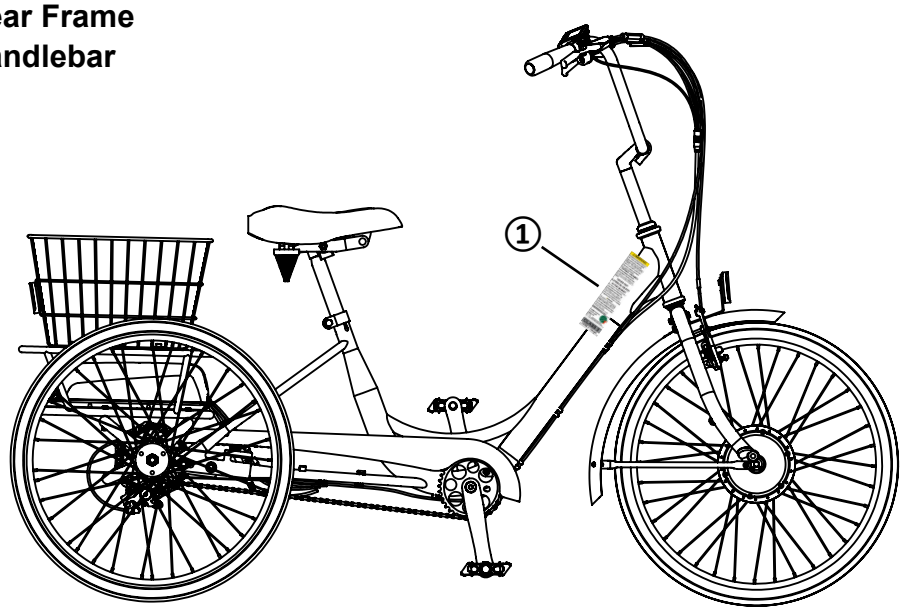
1. **Frame Top Tube**
2. **Rear Frame**
3. **Handlebar**

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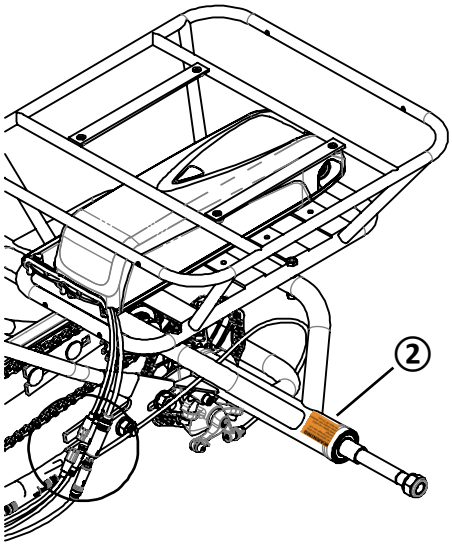
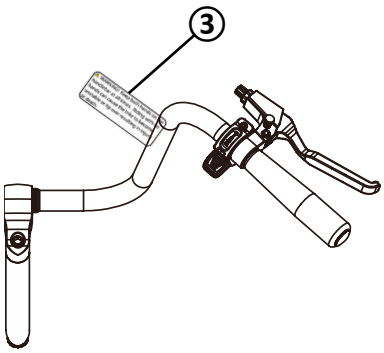



②

**WARNING**

Over tightening non-drive nut will damage rear unit bearings!
Slowly tighten nut until it makes contact with washer, then back off 1/4 turn.




③

⚠ WARNING! Keep both hands on the handlebar at all times. Riding with no hands can cause the trike to become unstable or tip over resulting in injury or death.

# E-System Diagram

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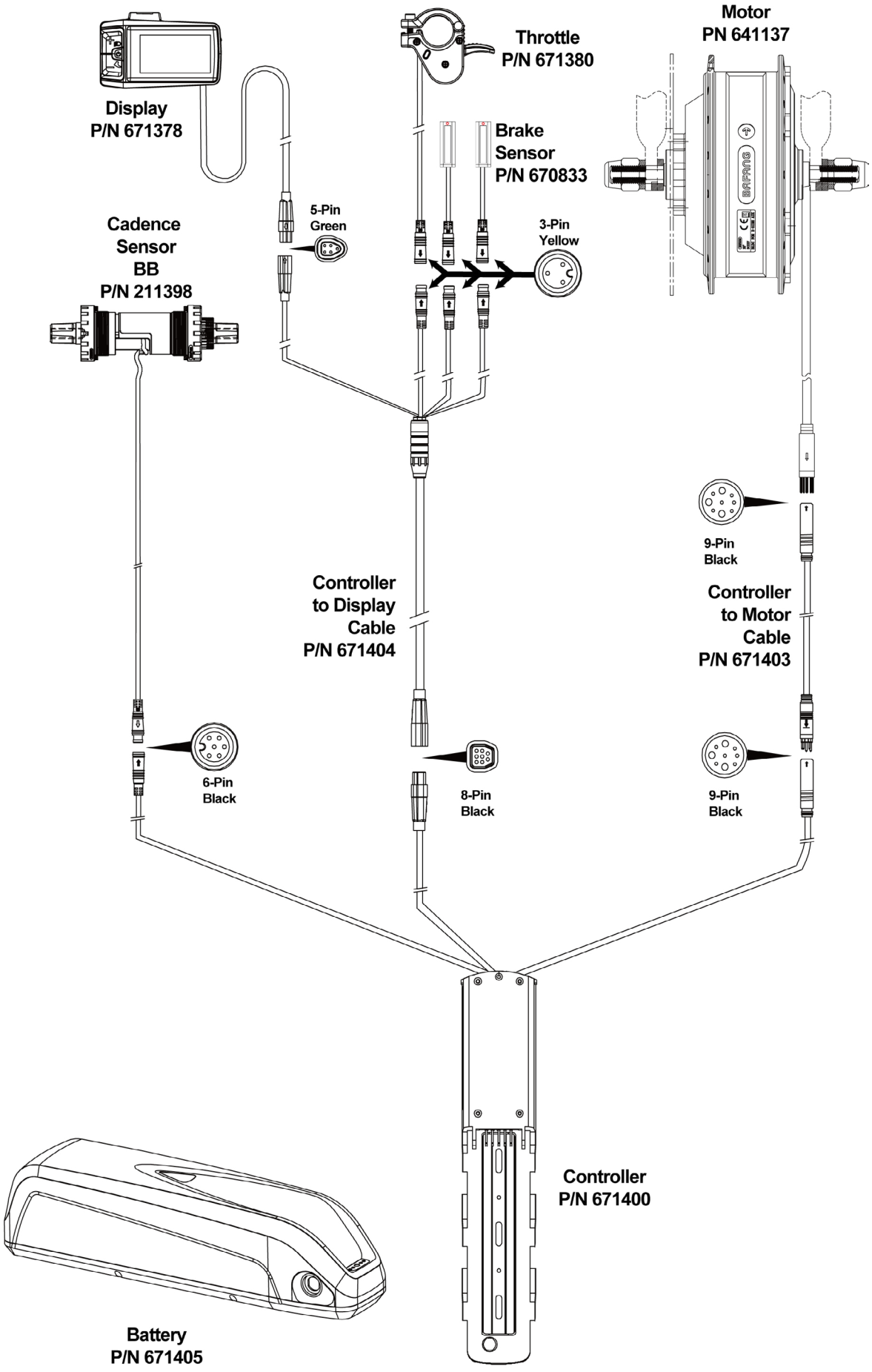

# E-System Components

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| Part Number: | Description |
|---|---|
| **671378** | Display |
| **671380** | Throttle |
| **670833** | Brake Sensor (Front or rear) |
| **641137** | Motor |
| **211398** | Bottom Bracket |
| **671400** | Integrated Controller / Battery Mount |
| **671405** | Battery |
| **671403** | Cable – Controller to Motor |
| **671404** | Cable – Controller to Display, Throttle, & Brake Sensors |

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

**WARNING! – In order to protect the electric parts, before disconnecting parts, please turn the power OFF first and then disconnect the power cable of the disconnected part. When installing the parts, please connect the parts first, then connect the power cable of the parts, and finally turn the power ON.**

## ASSEMBLY

Your new Sun Bicycles trike should arrive fully assembled, adjusted, and fitted to you by your retailer. If your trike arrived unassembled, please return it to the authorized Sun Bicycles retailer where you purchased it for professional assembly and fitting. Proper assembly by trained professionals ensures safety, optimal performance, and compliance with warranty terms. Attempting self-assembly without proper expertise may lead to improper setup and potential safety risks. For more information, refer to the Sun Bicycles Owner's Manuals.

## UPDATES

Periodically, updates and addenda may be issued for this document. To ensure you have the most up-to-date information, please check sun.bike or contact customer service at info@sun.bike.

## FIND A RETAILER IN YOUR AREA

sun.bike/pages/store-locator

## FIND US ONLINE

sun.bike

## HAVE A QUESTION

info@sun.bike

# Assembly Table of Contents

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**Note:** The Table of Contents in interactive. Click any section to navigate directly to that part of the guide.

# Preparing For Assembly

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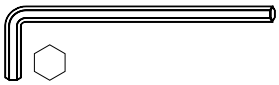
- **Gather all tools required for assembly**
  - The following tools and supplies are recommended for proper assembly.


**15mm Pedal Wrench**

**Pliers / Cutters**

**Flat Blade Screwdriver**

**Phillips Screwdriver**

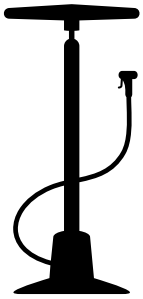


**Metric Hex Wrench Set**

**Torque Wrench**

**Metric Sockets**

**Adjustable Wrench**



**Air Pump**


**Bicycle Grease**

- **Select your work area**
  - A well-lit area, like a garage or outside space, is ideal
  - Make sure you have plenty of space to move around
  - Protect your work surface to prevent accidental damage, such as to carpet or wood floors

# Quick Reference

Back to Table of Contents

| Fastener Torque Specifications | Tool | Torque |
|---|---|---|
| | | |
| **Front Wheel Axle Nuts** | 19mm wrench | 60 N·m |
| **Seatpost Clamp Bolt** | 13mm wrench | 20 N·m |
| **Seatpost Rail Clamp Bolts** | 14mm wrench | 20 N·m |
| **Stem - Quill Bolt** | 6mm hex wrench | 17 N·m |
| **Stem - Handlebar Bolt** | 6mm hex wrench | 12 N·m |
| **Brake Levers** | 5mm hex wrench | 5 N·m |
| **Display** | 2.5mm hex wrench | 1 N·m |
| **Throttle** | 3mm hex wrench | 2 N·m |
| **V-Brake Cable Anchor Bolt** | 5mm hex wrench | 6-8 N·m |
| **Disc Brake Cable Anchor Bolt** | 5mm hex wrench | 6-8 N·m |
| **Disc Brake IS Mount Bolts** | 5mm hex wrench | 6-8 N·m |
| **Disc Rotor Bolts** | T25 torx wrench | 4-6 N·m |
| **Crank Arm Bolts** | 8mm hex wrench | 38-42 N·m |
| **Pedals** | 15mm wrench | 35 N·m |
| **Rear Unit Mounting Bolts** | 17mm wrench | 20 N·m |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# Unpacking The Trike

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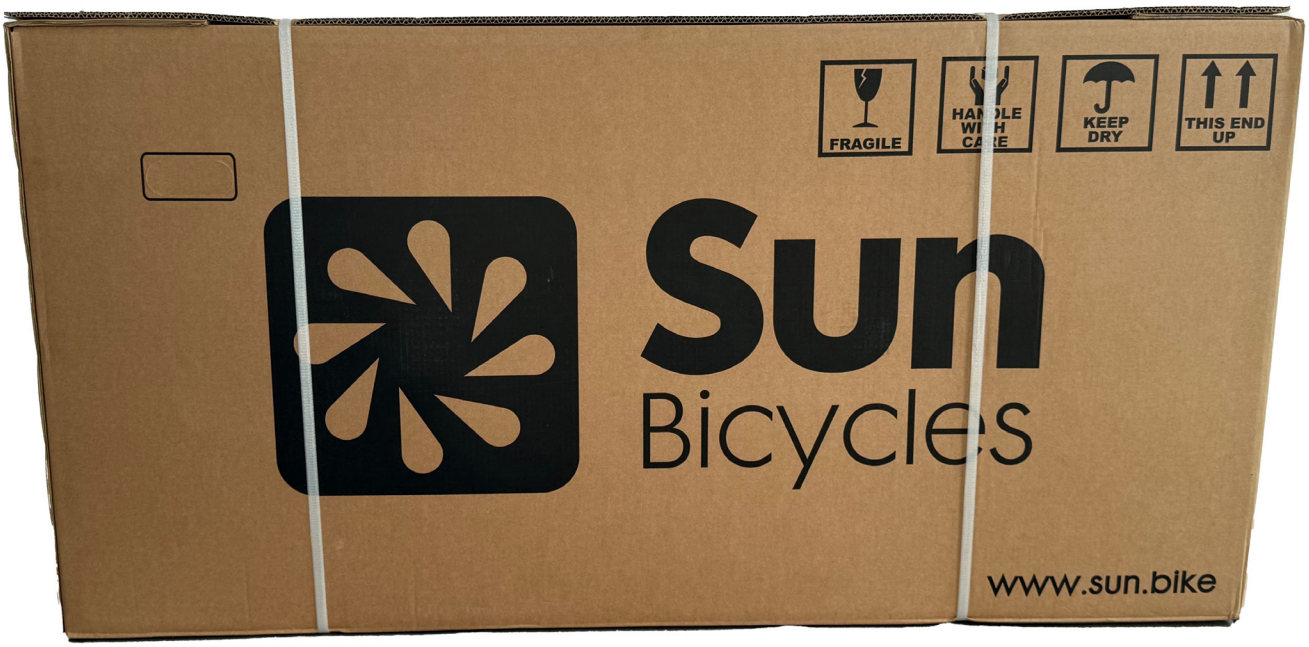
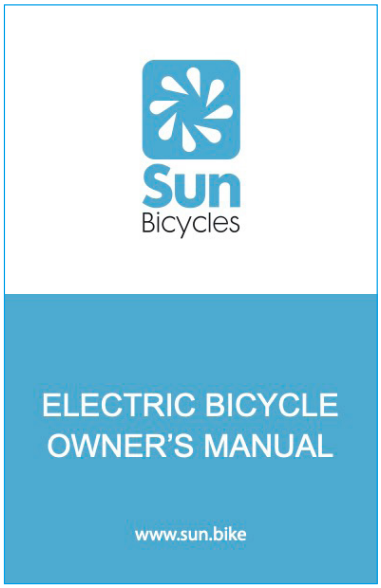


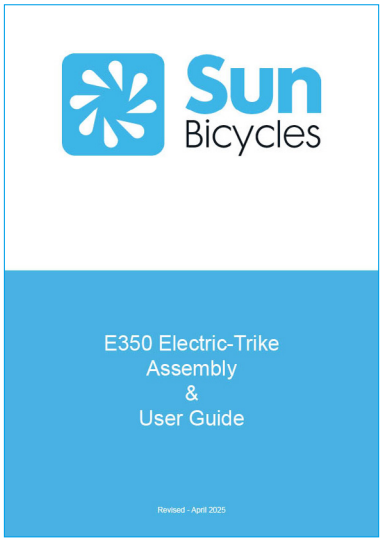

- **Opening the carton**
  - Remove the staples from the top of the carton with pliers or a flat-blade screwdriver and open box top flaps.
  - **Warning!** The staples have sharp edges and should be disposed of in a safe manner to ensure they do not become a hazard to yourself and others.

- **Lift your new trike and all parts out of the carton**
  - It's recommended to have a second person assist when lifting the trike from the carton
  - Double-check the carton to ensure you have removed all contents.

- **Remove all packaging from your new trike**
  - First, cut the zip ties securing the front wheel, handlebar, and seat assembly from the rest of the trike and set to the side.
  - Be mindful not to cut the spokes, brake cables, and e-system wiring during this step.
  - Next, remove all remaining foam and cardboard packaging.




**Electric Bicycle Owner's Manual**




**E350 Assembly & User Guide**


**Battery Safety Manual**

# What's In The Box

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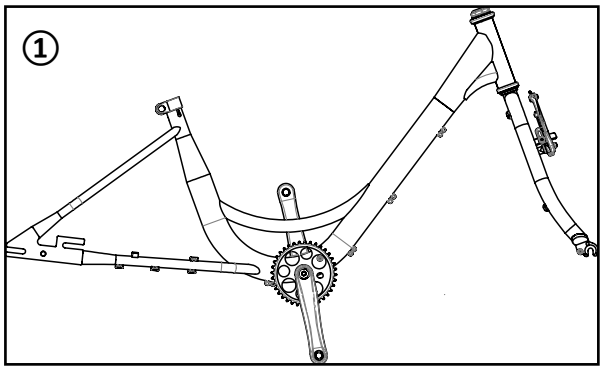
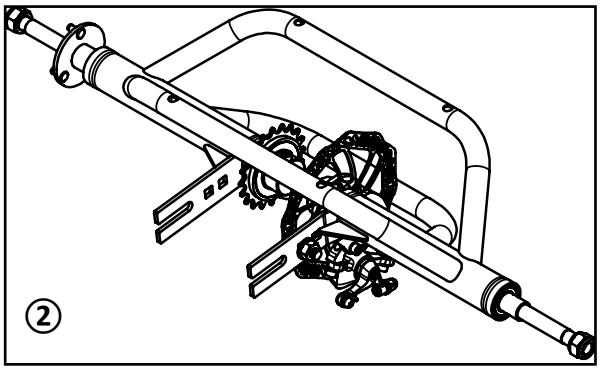
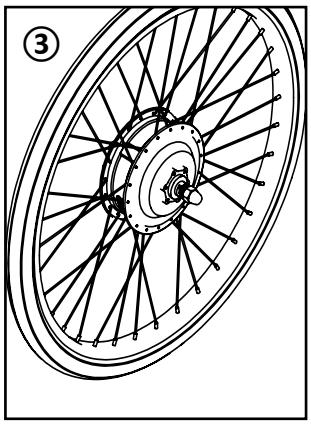
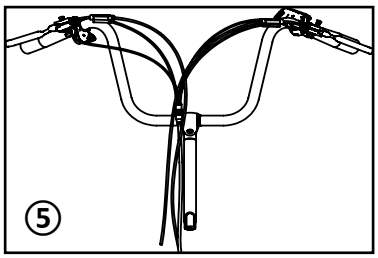
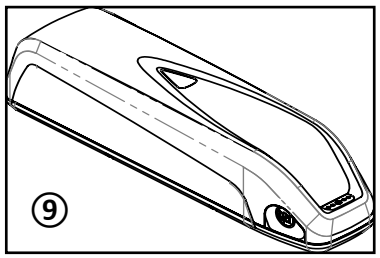
| ITEM | ASSEMBLY PART | QTY |
|---|---|---|
| 1 | Front Frame Assembly | 1 |
| 2 | Rear Frame Assembly | 1 |
| 3 | Front Wheel Motor Assembly | 1 |
| 4 | Rear Wheel Assembly | 2 |
| 5 | Handlebar Assembly | 1 |
| 6 | Battery Bracket Assembly | 1 |
| 7 | Rear Basket | 1 |
| 8 | Chain Guard | 1 |
| 9 | Battery | 1 |
| 10 | Front Fender Assembly | 1 |
| 11 | Seat Assembly | 1 |

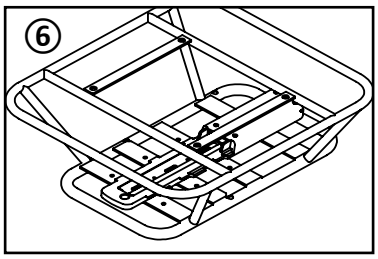


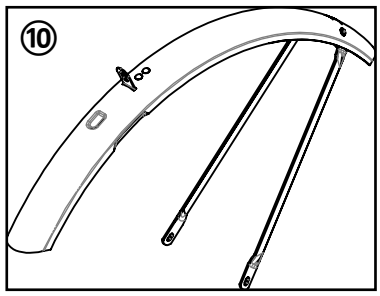



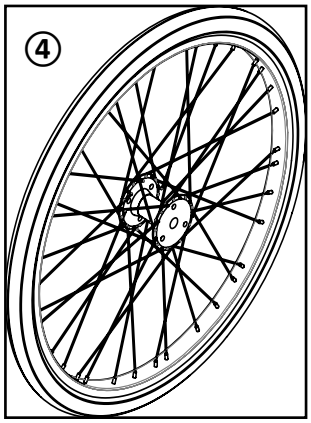



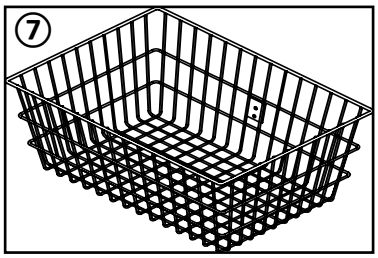



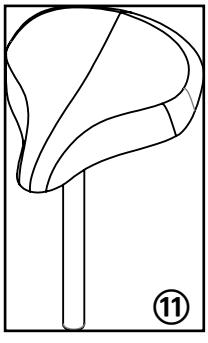



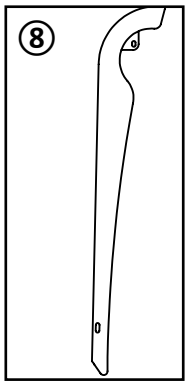



# What's In The Box

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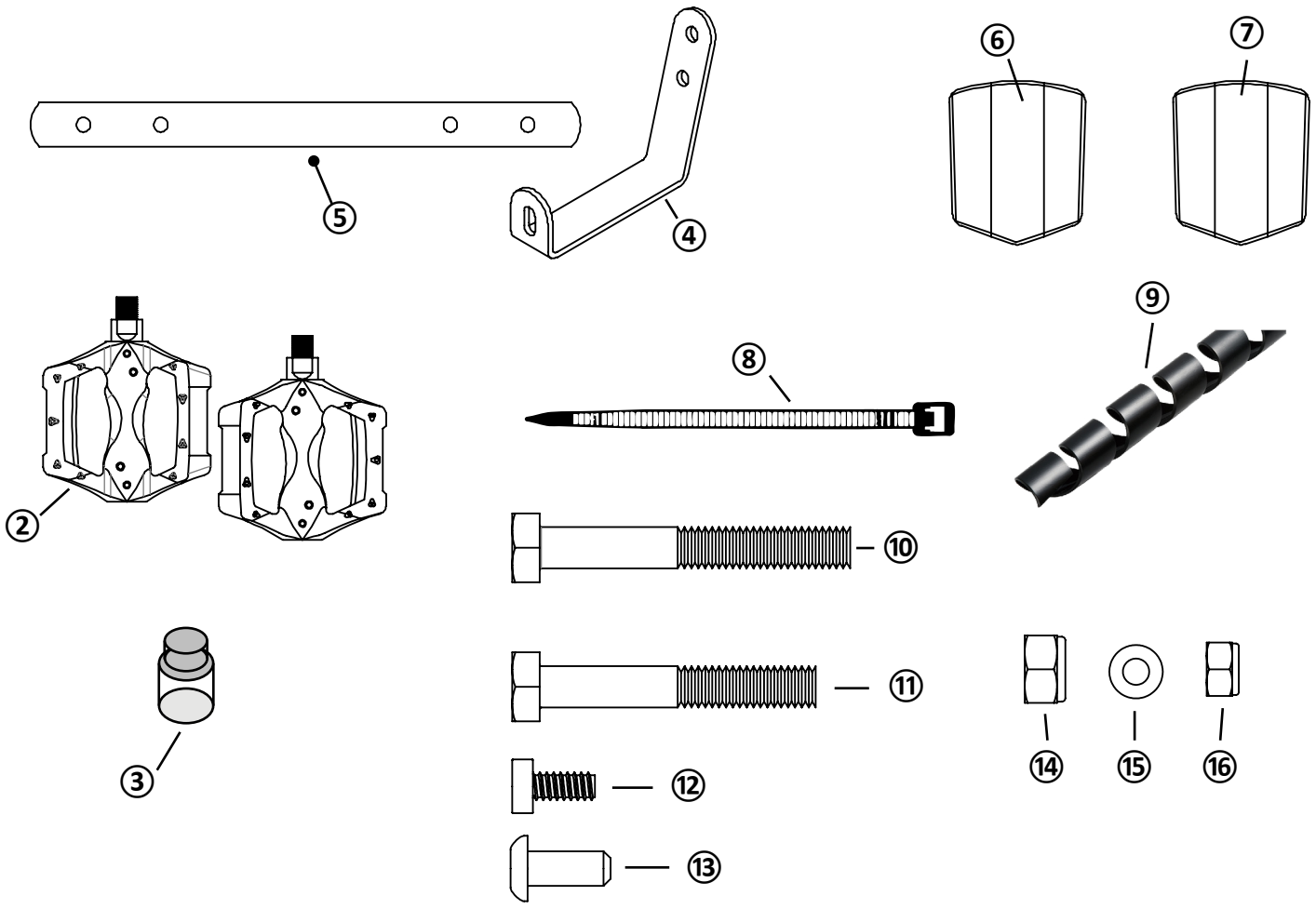
| ITEM | PARTS BOX | QTY |
|---|---|---|
| 1 | Owner's Manual, Battery Safety Manual, and Assembly and User Guide | 3 |
| 2 | Left & Right Side Pedal | 1 |
| 3 | Touch-Up Paint | 1 |
| 4 | Reflector Bracket, Front | 1 |
| 5 | Rear Basket Plate (x2) | 2 |
| 6 | Rear Reflector (Red) | 1 |
| 7 | Front Reflector (White) | 1 |
| 8 | Zip Ties | 3 |
| 9 | Spiral Wrapping | 1 |
| 10 | M6x45L Hex Head Bolts | 1 |
| 11 | M6x40L Hex Head Bolts | 4 |
| 12 | M4x8L Hex Head Bolts | 2 |
| 13 | M5x12L Button-Head Socket Screws | 3 |
| 14 | M6 Nylon Nuts | 5 |
| 15 | M6 Washer | 5 |
| 16 | M5 Nylon Nut | 1 |



# E350 Trike Overview

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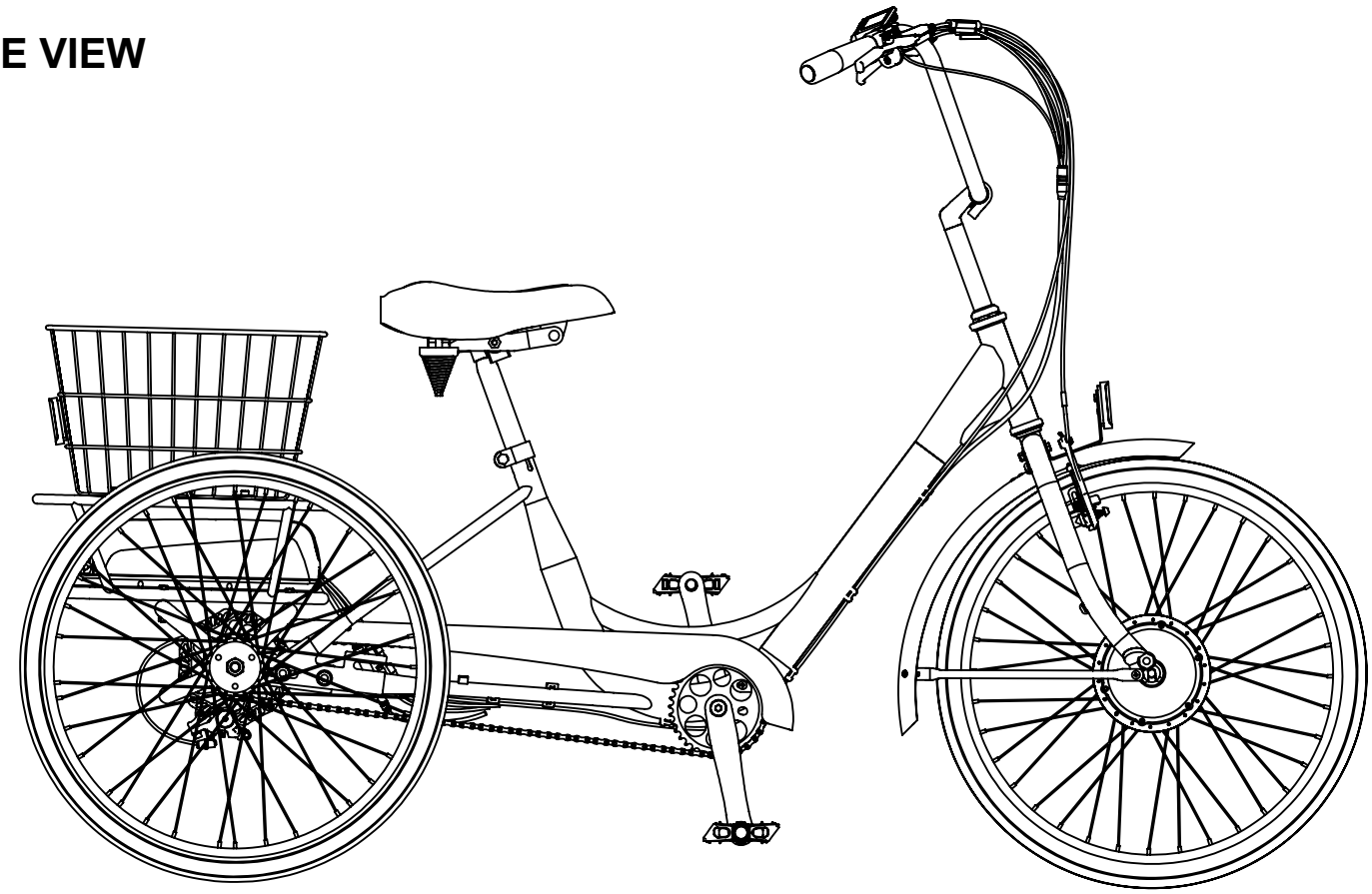
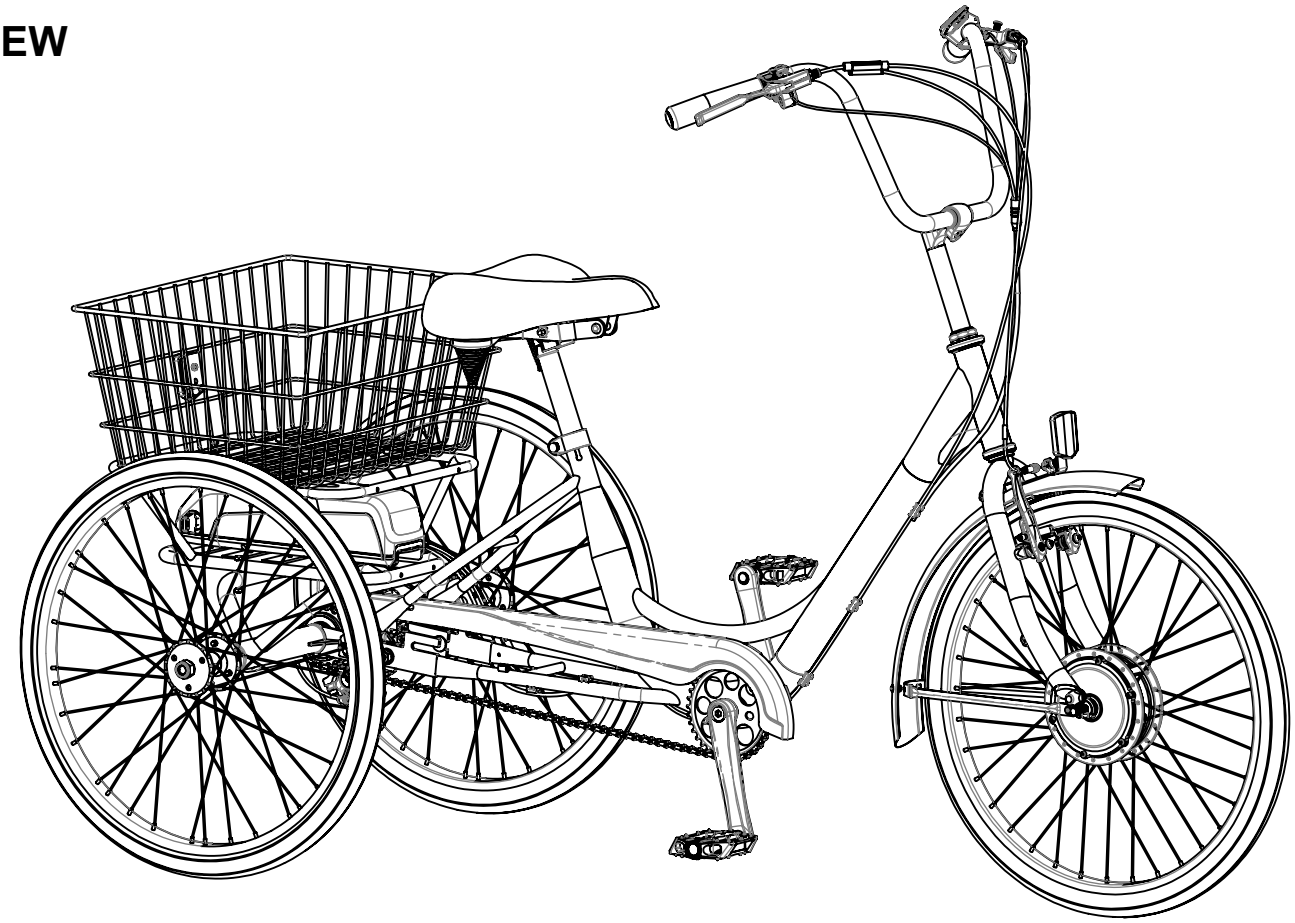
## SIDE VIEW



## 3/4 VIEW



# Parts Identification

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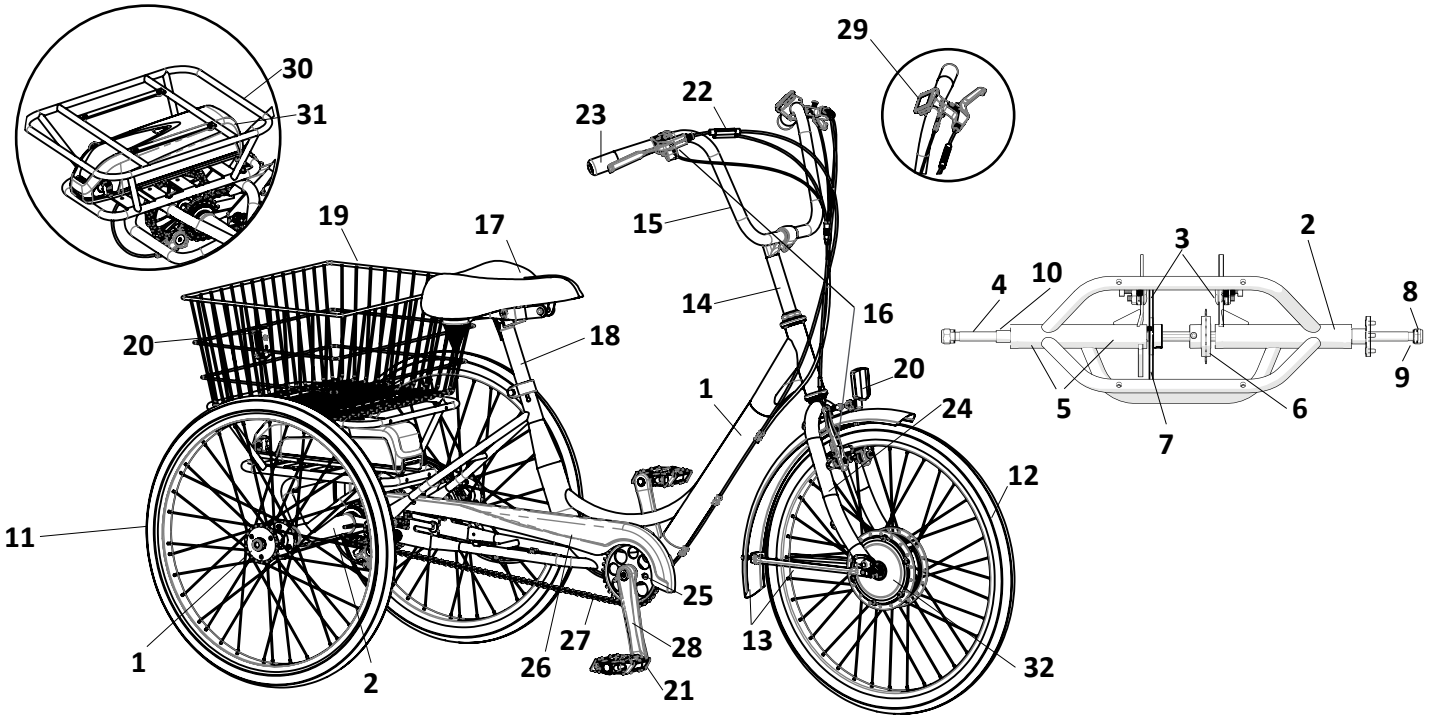


| SUN TRIKE PARTS LIST | | |
|---|---|---|
| **ITEM** | **DESCRIPTION** | **QTY** |
| **1** | Main Frame Assembly | 1 |
| **2** | Rear Unit Assembly | 1 |
| **3** | Rear Unit Hardware Set (2x long carriage bolts, 2x short carriage bolts, nuts & washers) | 1 set |
| **4** | Rear Unit Axle Assembly (15mm OD with 4mm keyway) | 1 |
| **5** | Rear Unit Bearings (35mm OD x 15mm ID for 15mm axle) | 6 |
| **6** | Freewheel (20T with keyed adapter for 15mm axle) | 1 |
| **7** | Rear Wheel Disc Brake (160mm with 6-bolt style keyed adapter for 15mm axle) | 1 |
| **8** | Rear Wheel Nyloc Retaining Nut (M14) | 2 |
| **9** | Rear Wheel Washer (M15 x 2mm) | 2 |
| **10** | Rear Wheel Spacer (alloy, 23mm) | 1 |
| **11** | Rear Wheel (Including tire, tube, and rim strip) | 2 |
| **12** | Front Wheel (Including tire, tube, and rim strip) | 1 |
| **13** | Front Fender with Brace | 1 |
| **14** | Handlebar Stem | 1 |
| **15** | Handlebar | 1 |
| **16** | Front Brake Assembly with Locking Lever | 1 set |
| **17** | Saddle | 1 |
| **18** | Seat Post | 1 |
| **19** | Trike Basket (hardware set includes 2x straps, 4x bolts, nuts & washers - not pictured) | 1 |
| **20** | Reflector Set | 1 set |
| **21** | Pedals (9/16”) | 1 pair |
| **22** | Brake Sensors | 2 |
| **23** | Grips | 1 pair |
| **24** | Fork | 1 |
| **25** | Bottom Bracket | 1 |
| **26** | Chain Guard | 1 |
| **27** | Drive Chain (1/2” x 1/8”) | 1 |
| **28** | Crank | 1 |
| **29** | LCD Display | 1 |
| **30** | Battery Holder | 1 |
| **31** | Battery | 1 |
| **32** | Motor | 1 |

# Rear Unit Installation

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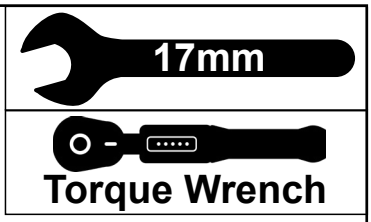
**Parts List**

- 1 - Carriage Bolt (4 pcs)
- 2 - Washer (4 pcs)
- 3 - Hex Nut (4 pcs)
- 4 - Rear Unit Assembly
- 5 - Main Frame Assembly




Installing the rear unit to the main frame is a simple matter of attaching two pairs of long & short carriage bolts. Proceed as follows:

- **Position the Rear Unit Assembly (4)** onto the **Main Frame Assembly (5)**
- **Loosely attach** the Rear Unit using the provided **Rear Unit Hardware (items 1, 2, and 3)**
- Use **four carriage bolts** at the rear of the trike. Insert the **carriage bolt heads from the inside** of the frame, and secure them from the outside using a **washer and nut** on the Main Frame Assembly
- Ensure that the **drive flange on the Rear Unit Axle is positioned on the right side** of both the Rear Unit and the Main Frame
- Confirm that the **basket mounting holes are facing upward**, as these will be used to attach the trike basket in a later step

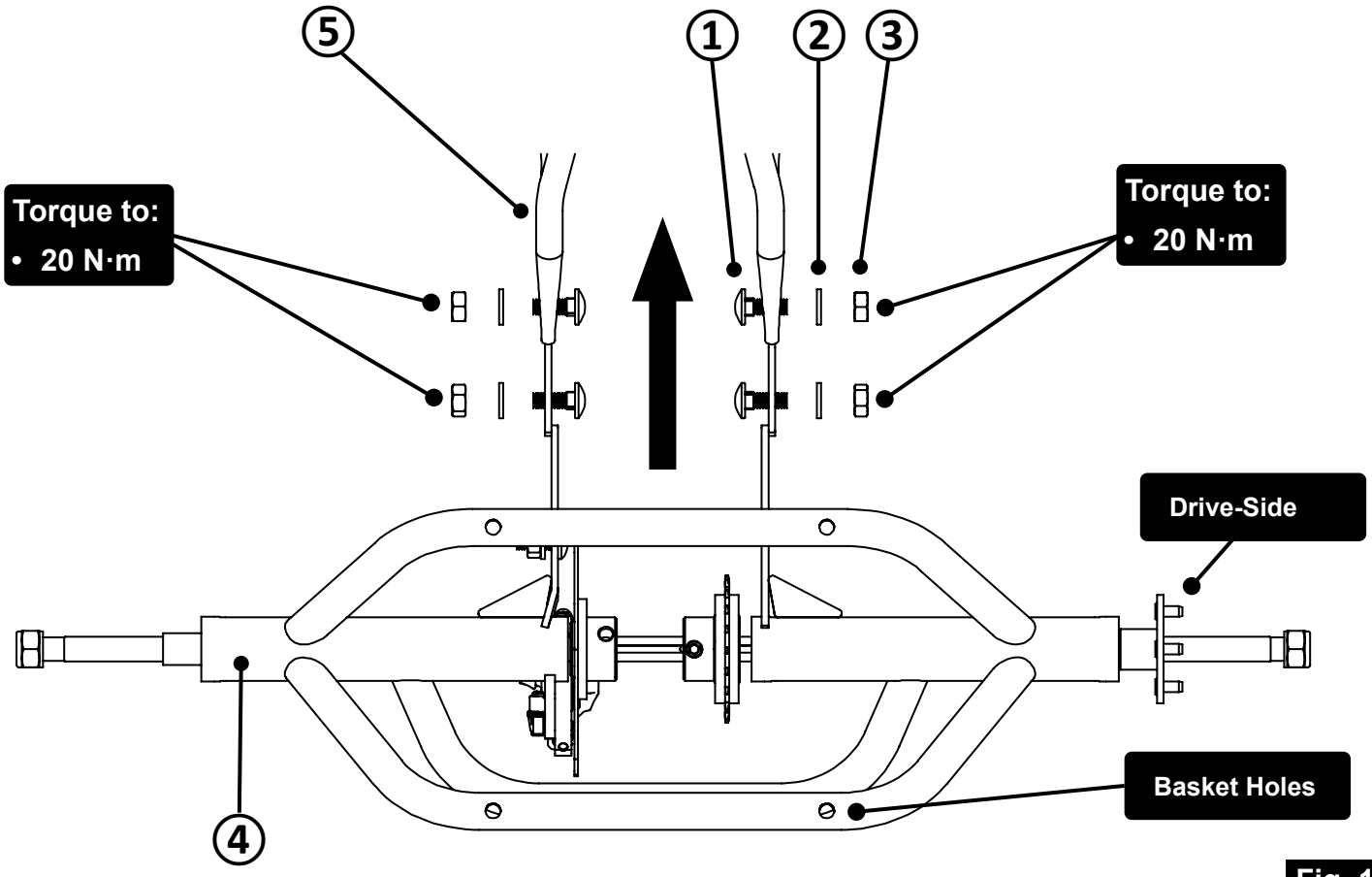



Fig. 1

# Chain Installation

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**Parts List**

- 1 - Chain
- 2 - Master Link

- Install the **Chain (1)** onto **front chainring** and the **rear freewheel** and
- Connect the **Chain (1)** using the **Master Link (2) - Fig. 2.1 and Fig. 2.2**
- Once in place, **pull the Rear Unit Assembly toward the rear** to remove slack from the chain - **Fig 3**
- If needed, **loosen and reposition the rear freewheel** to optimize the chain line for smooth operation

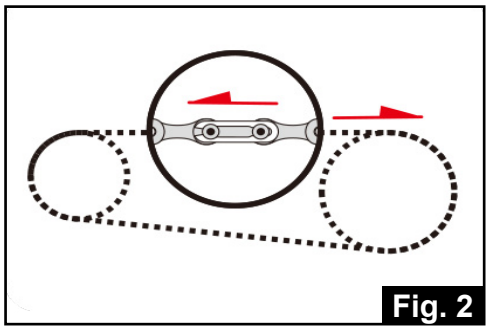

Fig. 2

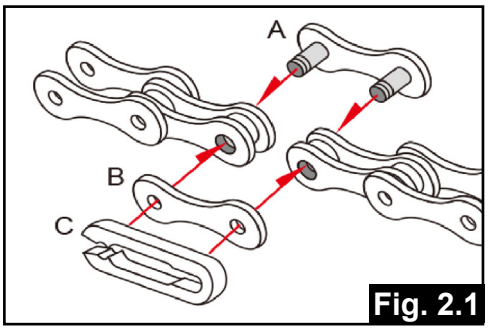


Fig. 2.1

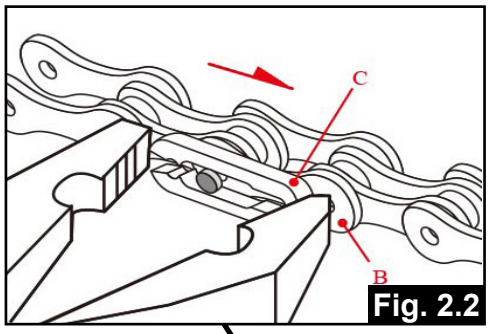


Fig. 2.2

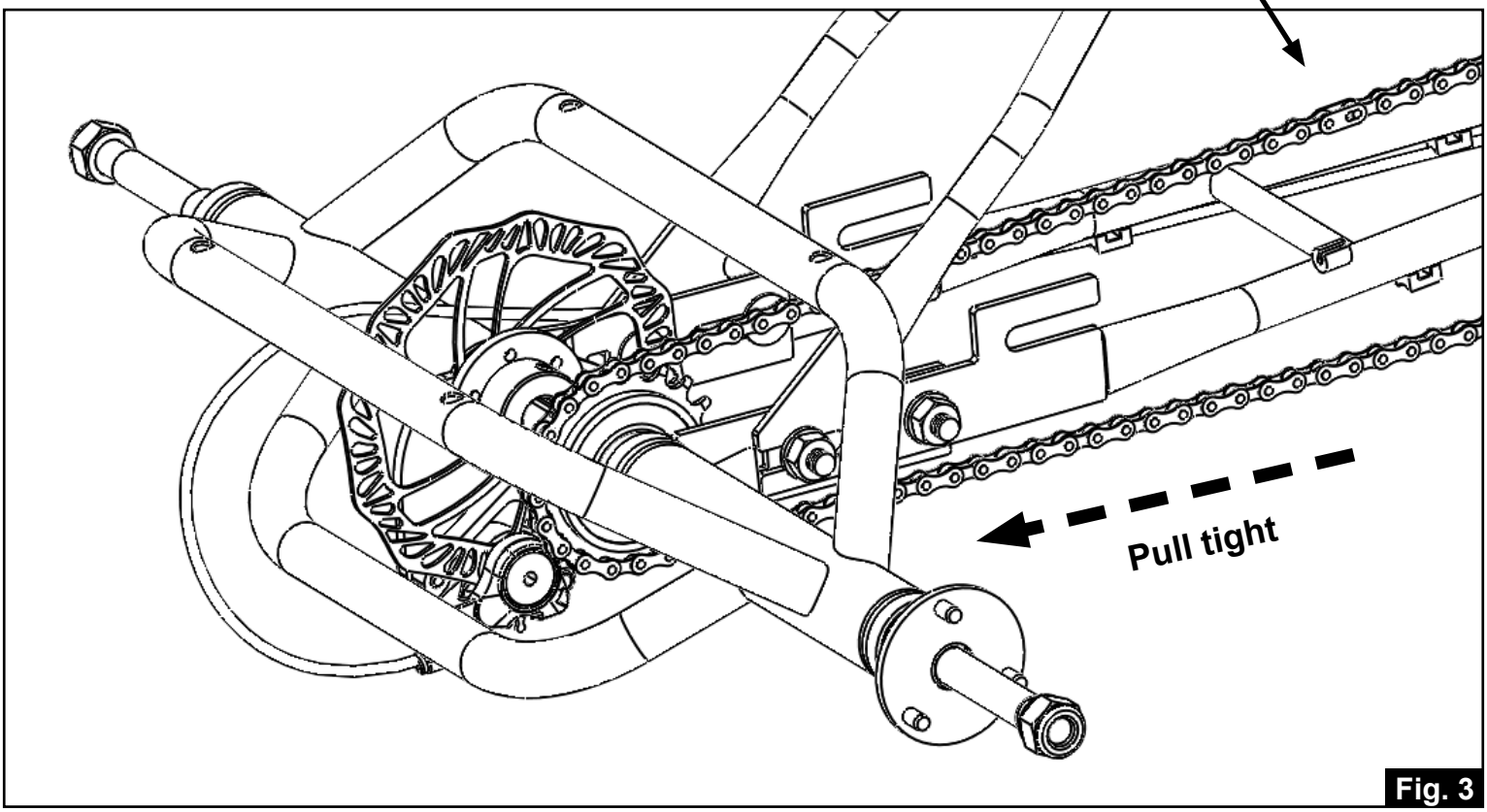


Fig. 3

# Rear Wheel(s) Installation

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**Parts List**

- 1 - Rear Frame Assembly - Drive Side
- 2 - Rear Wheel
- 3 - Flat Washer
- 4 - Nyloc Nut


- Slide the **Rear Wheel (2)** onto the **drive-side rear axle** followed by the **Flat Washer (3)** and then the **Nyloc Nut (4)** - **Fig. 4**

- **NOTE: Do not overtighten** the nut**.** Tighten it just until slight play is detected, then **back off by ½ turn** to allow approximately **1mm of side play** in the wheel

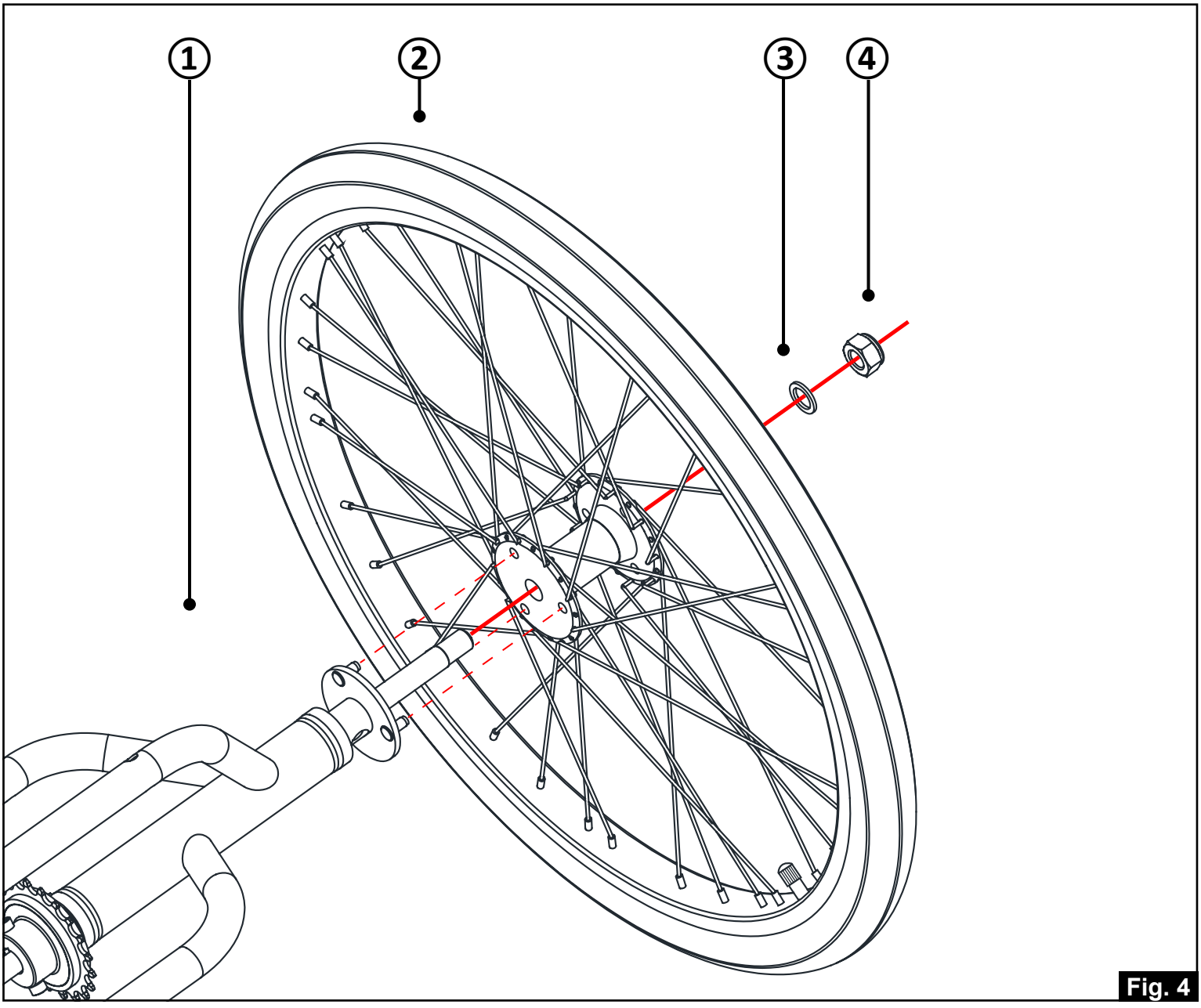


**Fig. 4**

# Rear Wheel(s) Installation

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**Parts List**

- 1 - Rear Frame Assembly - Non Drive-Side
- 2 - Spacer Washer
- 3 - Rear Wheel
- 4 - Flat Washer
- 5 - Nyloc Nut


- Slide the **Spacer Washer (2)** onto the **non drive-side rear axle** followed by the **Rear Wheel (3)** and then the **Flat Washer (4)** and finally the **Nyloc Nut (5)** - **Fig. 5**

- **NOTE: Do not overtighten** the nut**.** Tighten it just until slight play is detected, then **back off by ½ turn** to allow approximately **1mm of side play** in the wheel

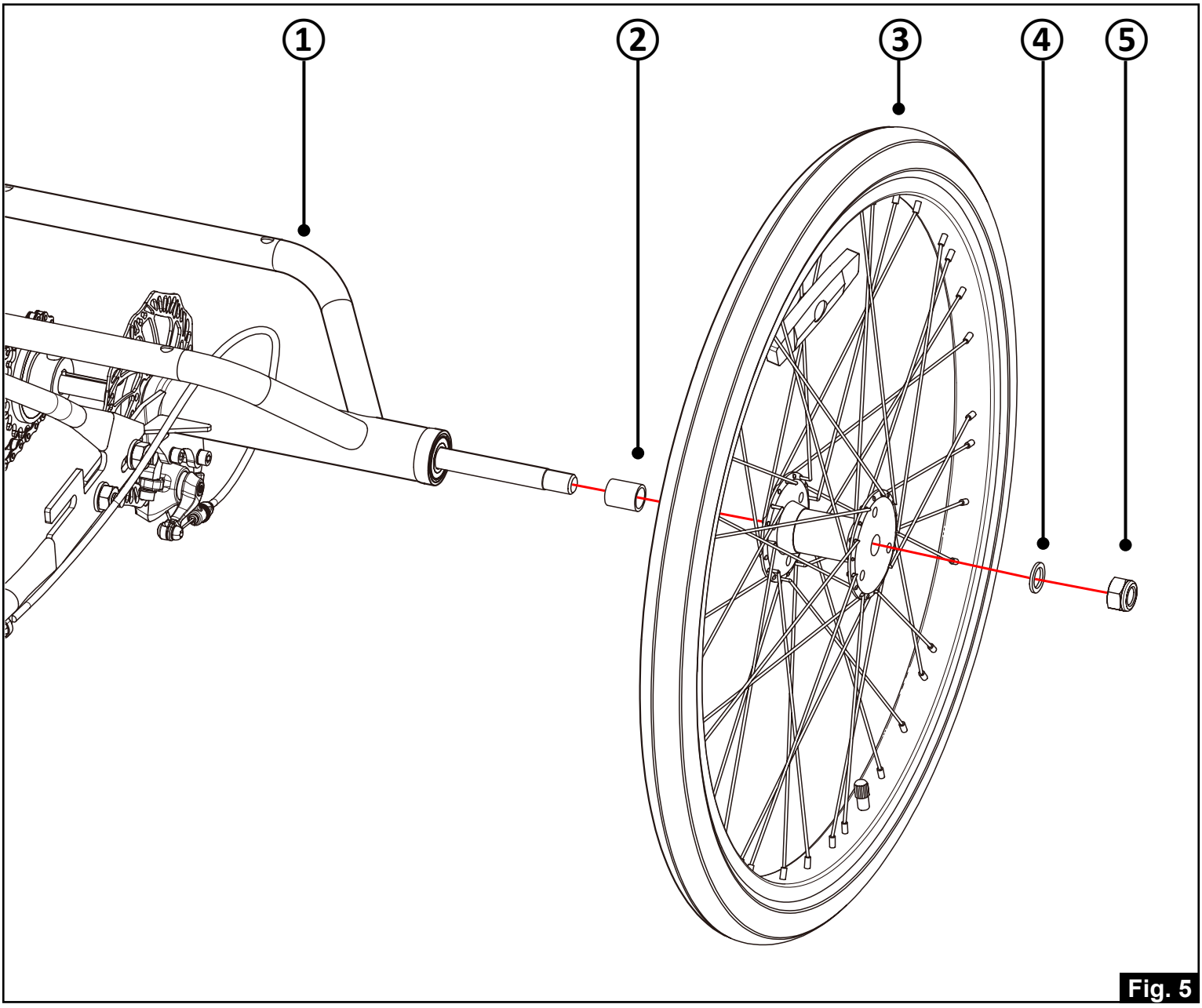


**Fig. 5**

# Front Fender Installation

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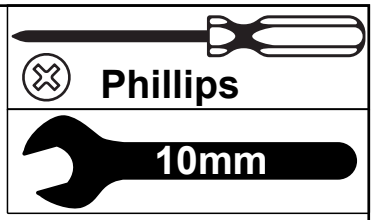
**Parts List**

- 1 - Fender & Strut Assembly
- 2 - Fender Strut Bolts (2 pcs)




- Position the **fender (1)** between the fork legs, aligning the **top bracket** with the **rear of the fork crown**
- Insert the **Hex Head bolt (4)** from the front, making sure the **reflector bracket (2)** is in place on the front side. Attach the **washer (5)** and **Nyloc Nut (6)** on the back, then tighten securely - **Fig. 7**
- Install and securely tighten the **Fender Strut Bolts (2) - Fig 6**

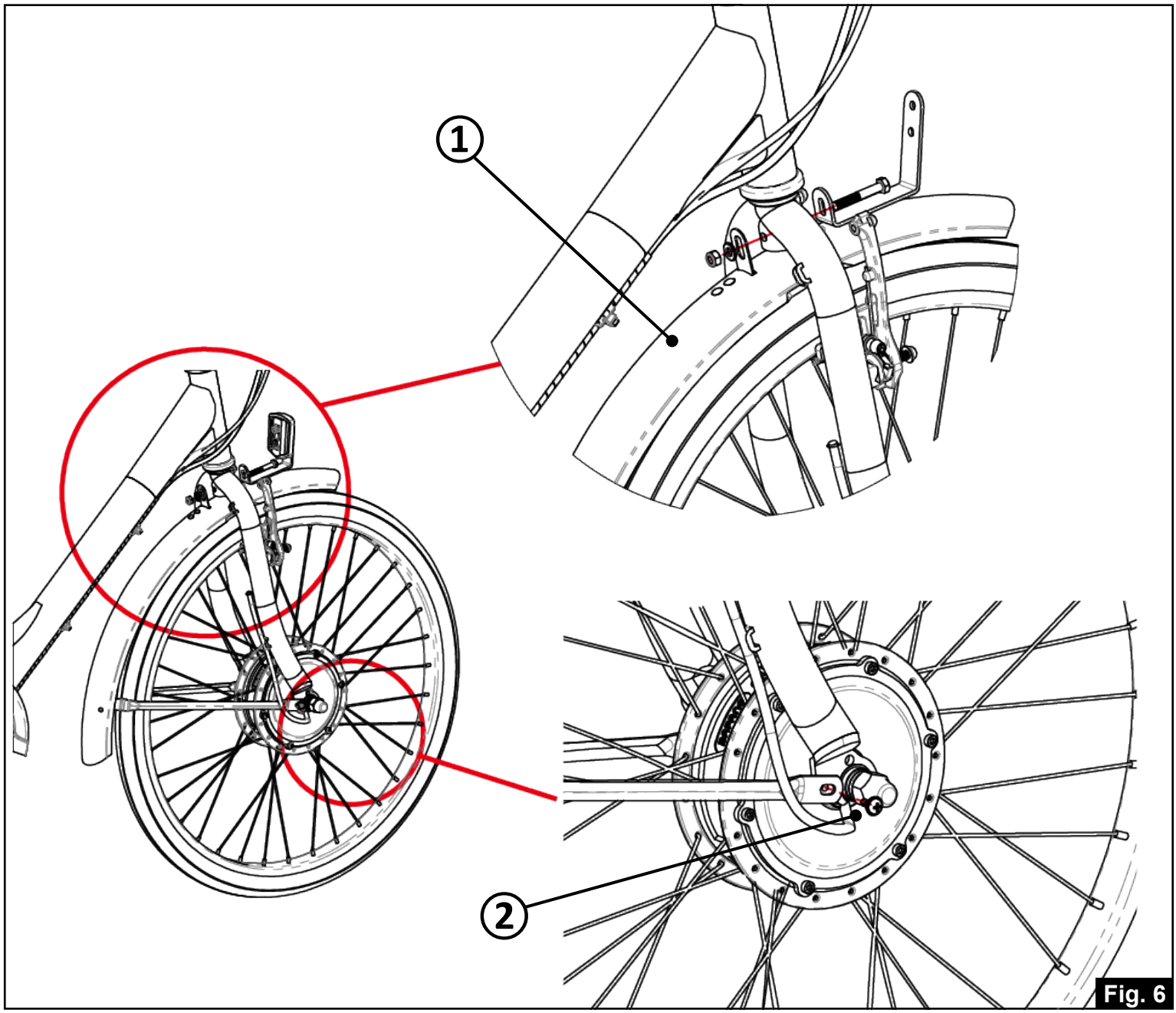



Fig. 6

# Front Fender Installation

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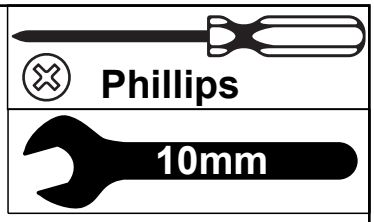
**Parts List**

- 1 - Front Reflector (White)
- 2 - Reflector Bracket
- 3 - Hex Head Screw
- 4 - Hex Head Bolt
- 5 - Flat Washer
- 6 - Nyloc Nut




- Mount the **Front Reflector (1)** to the **Reflector Bracket (2)** using the short **Hex Head Screw (3) - Fig 7**

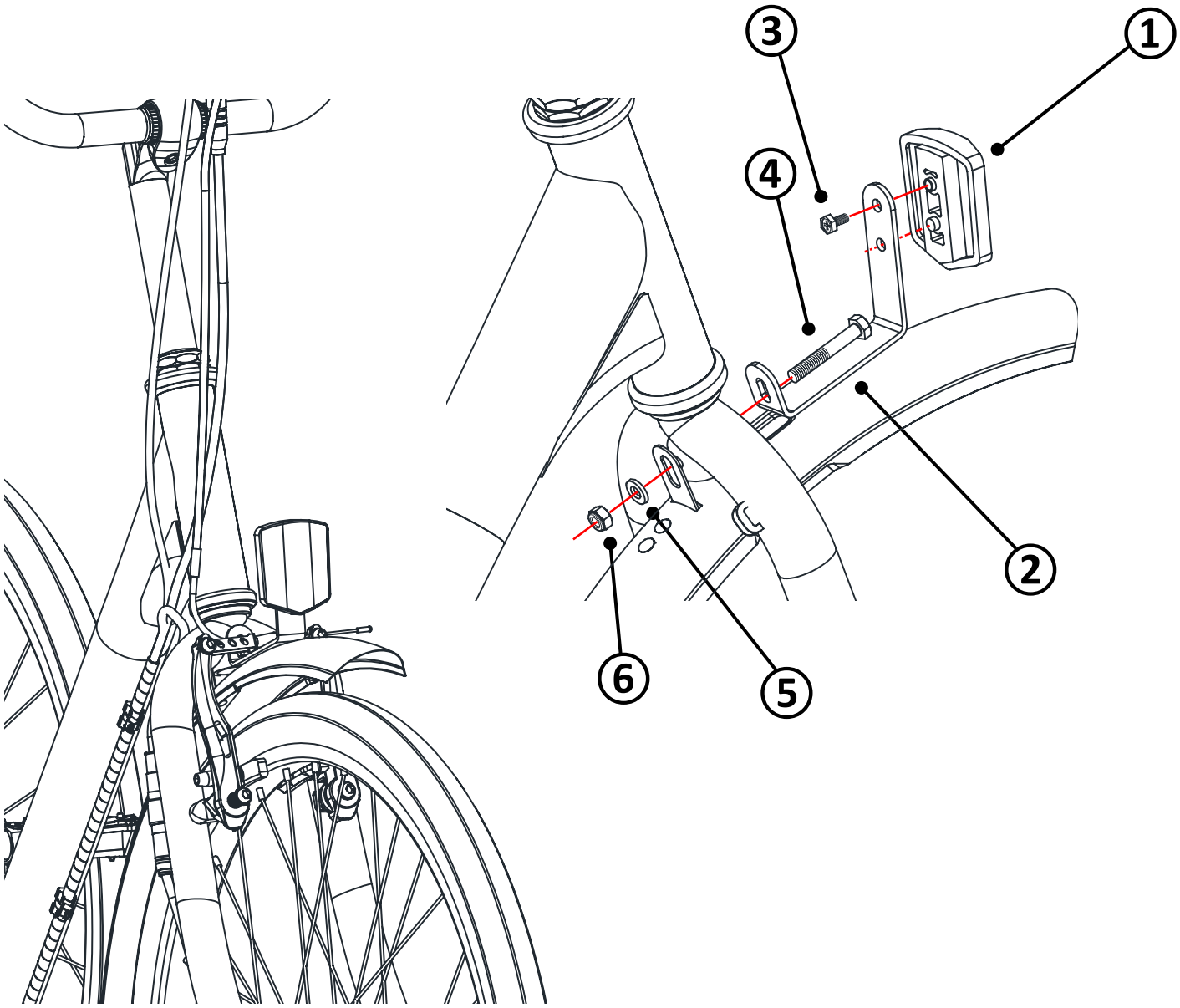



Fig. 7

# Front Wheel Installation

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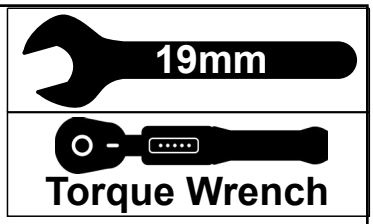
**Parts List**

- 1 - Non-Turn Washer (2 pcs)
- 2 - Flat Washer (4 pcs)
- 3 - Cap Nut x (2 pcs)
- 4 - Front Wheel Assembly




- Insert **Front Wheel Assembly (4)** into the fork dropouts
- Install **Non-Turn Washers (1), Flat Washers (2), and Cap Nuts (3)** according to the order below
- **Note:** the Non-Turn Washer on the non cable-side goes on the inside of the dropout but on the cable side goes on the outside of the dropout - **Fig. 8**
- Make sure front wheel is centered in fork and then tighten both Cap Nuts to the recommended torque spec

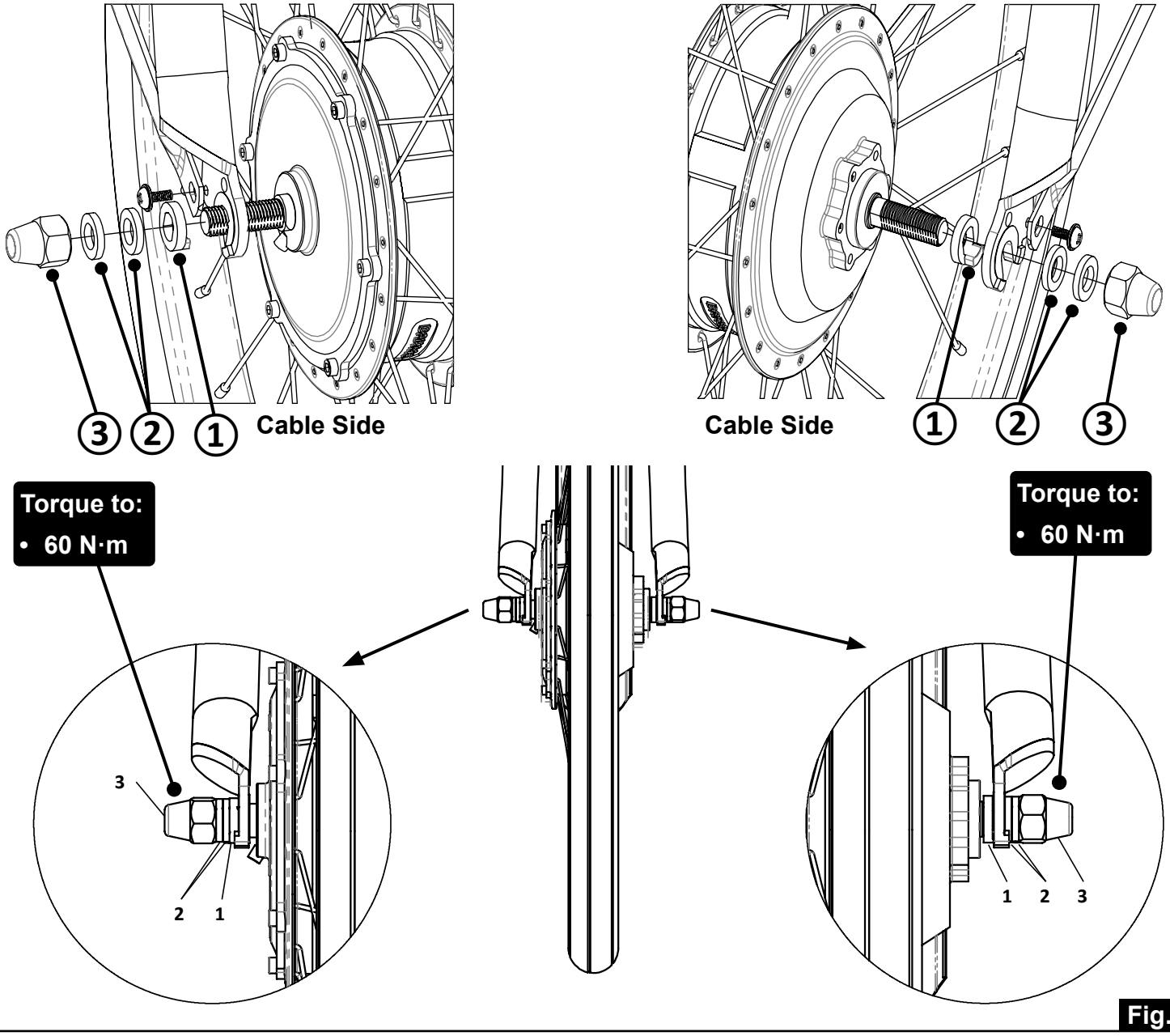



Fig. 8

# Motor Cable Connection

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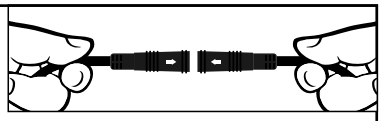
**Parts List**

- 1 - Motor Cable connector coming from the motor
- 2 - Motor Cable connector coming from the controller



- Align the arrows on both connectors and push the connectors together **firmly but gently** until fully seated
- Use zip ties to fasten the cable neatly along the fork or frame
- Make sure to leave a little slack near the axle and head tube to allow for steering movement - **Fig. 9**

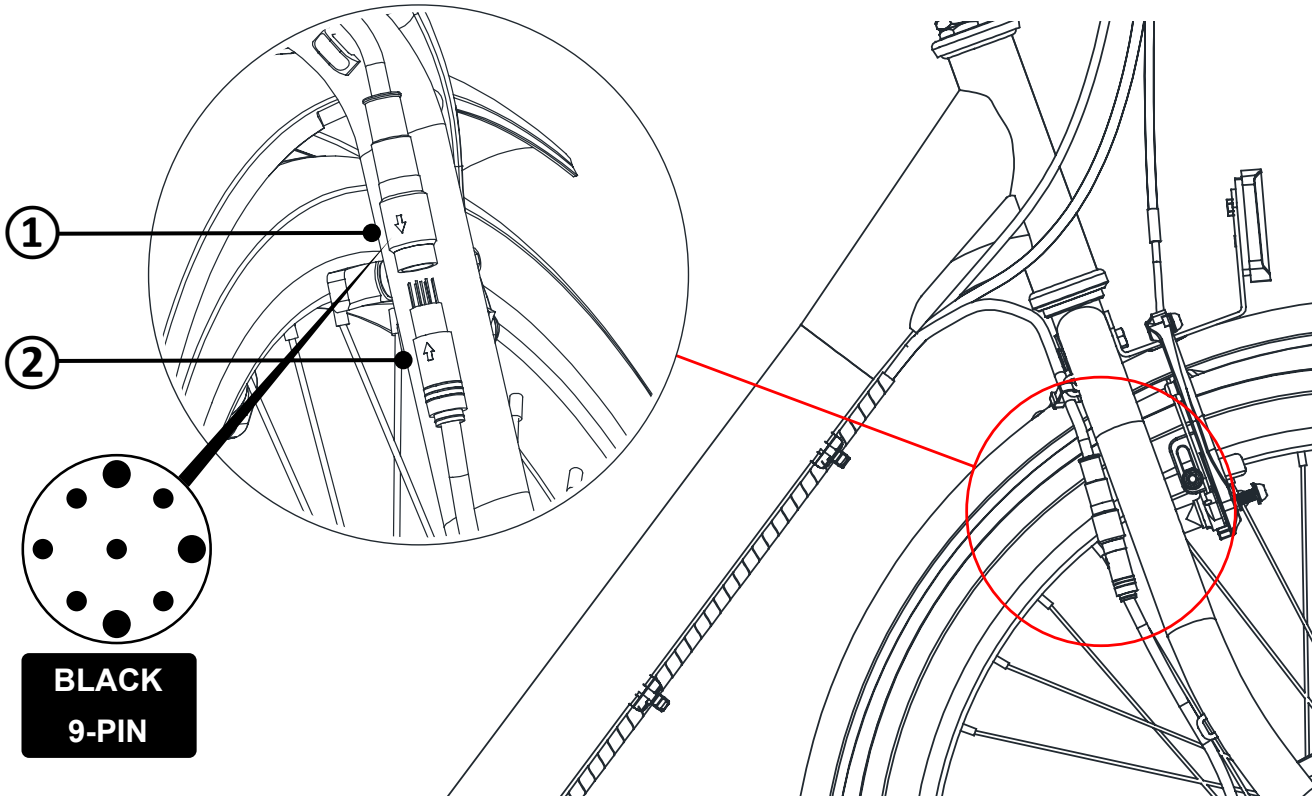



**Fig. 9**

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

# Wheel Reflector Installation

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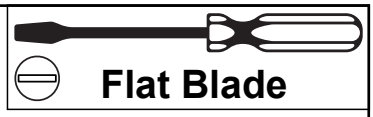
**Parts List**

- 1 - Wheel Reflector, White (3 pcs)
- 2 - Front Wheel
- 3 - Rear Wheel (Right Side)
- 4 - Rear Wheel (Left Side)




- Position the reflector between two spokes, ideally opposite the valve stem for better balance. Slide it toward the rim and securely fasten it using the provided plastic clip and a flat blade screwdriver.
- **NOTE**: the plastic clip will lock in place by twisting clockwise approximately 1/4-turn

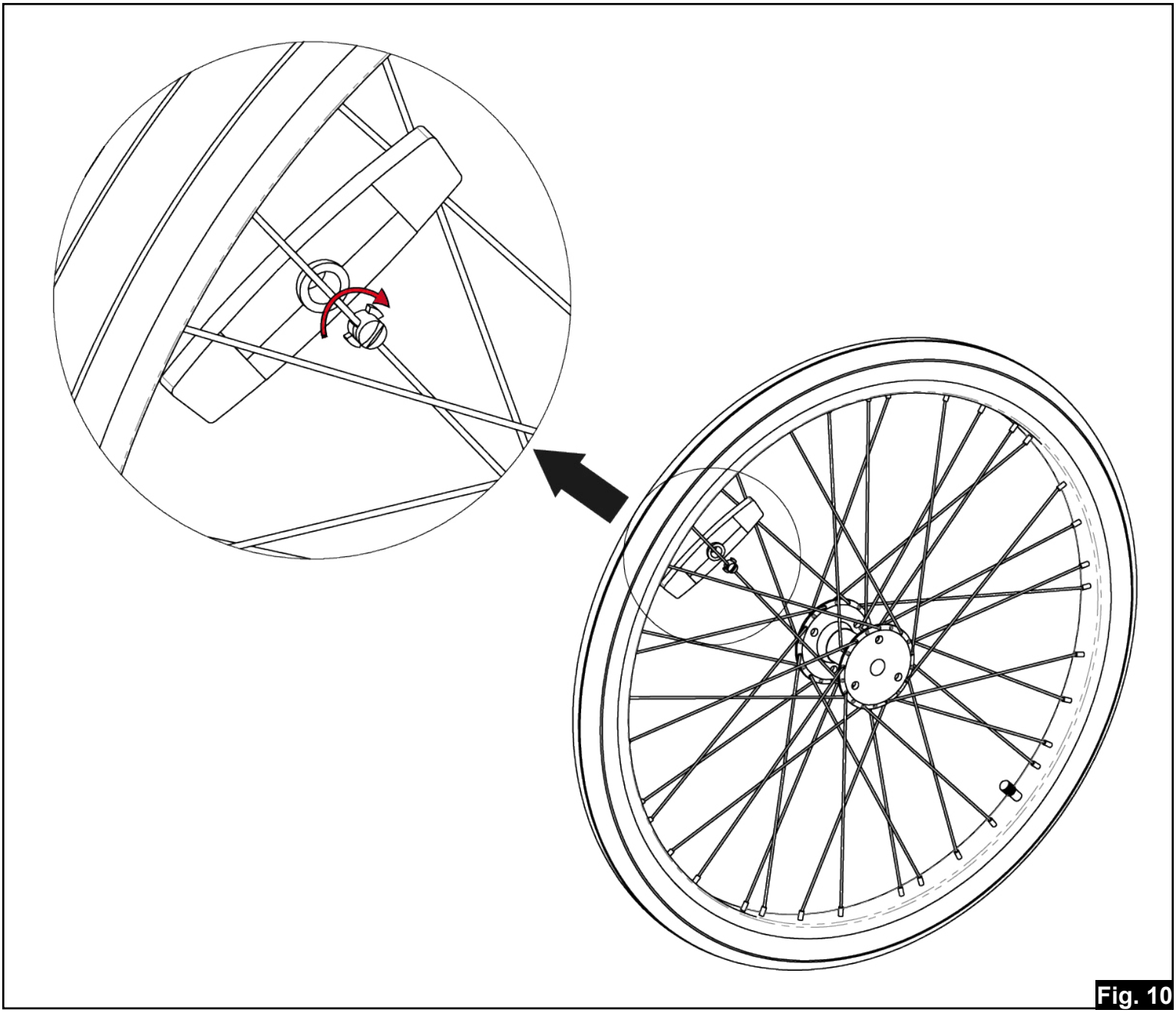


Fig. 10

# Chain Guard Installation

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**Parts List**

- 1 - Chain Guard
- 2 - Phillips Head Bolt (2 pcs)


- Loosely attach the front bracket of the chain guard to the frame, then align and loosely install the rear bolt onto the seat stay mount.
- Position the guard to cover the top and outer side of the chainring without interfering with the crank or chain, then securely tighten both bolts.

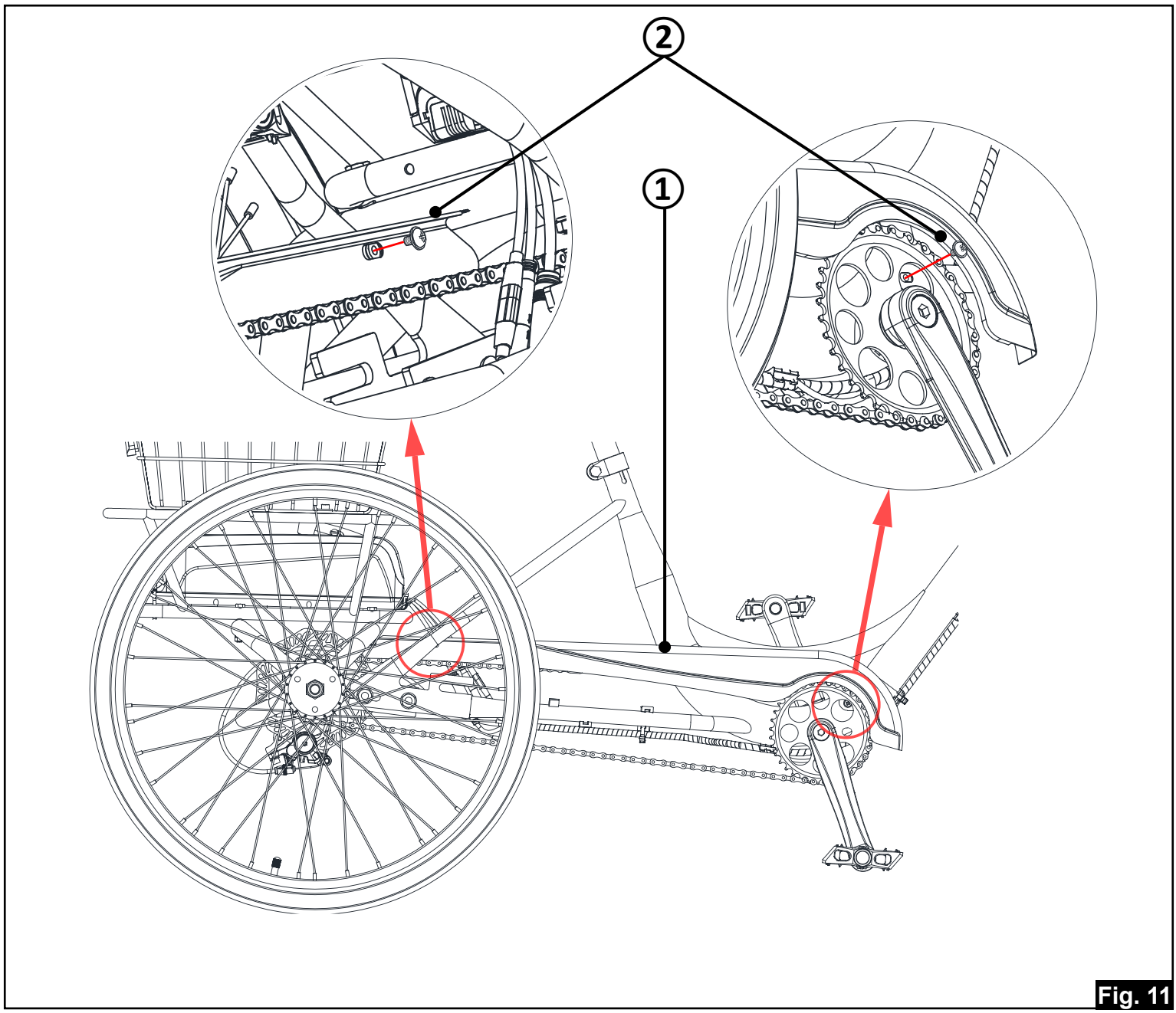


Fig. 11

# Pedal Installation

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**Parts List**

- 1 - Right Side Crank-Arm
- 2 - Right Pedal


- **Identify the right pedal:** It's marked with an "R" (on a sticker or stamped on the spindle end), has a smooth spindle, and uses a right-hand thread (tightens clockwise)
- A**pply bicycle grease** to the pedal threads before installation
- **Hand-thread the pedal into the right crank-arm** (drive side) by turning it clockwise, ensuring it starts smoothly and doesn't cross-thread
- Once properly threaded, **tighten with a 15mm pedal wrench** until it contacts the crank arm, then give it an additional 1/16 turn (torque to 30–40 N·m) - **Fig.12**
- The pedal should be **secure but not overtightened**, allowing for future removal without excessive force
- If you're uncertain about the proper pedal tightness, have the pedal tightness checked by a trained mechanic at a bike shop before riding

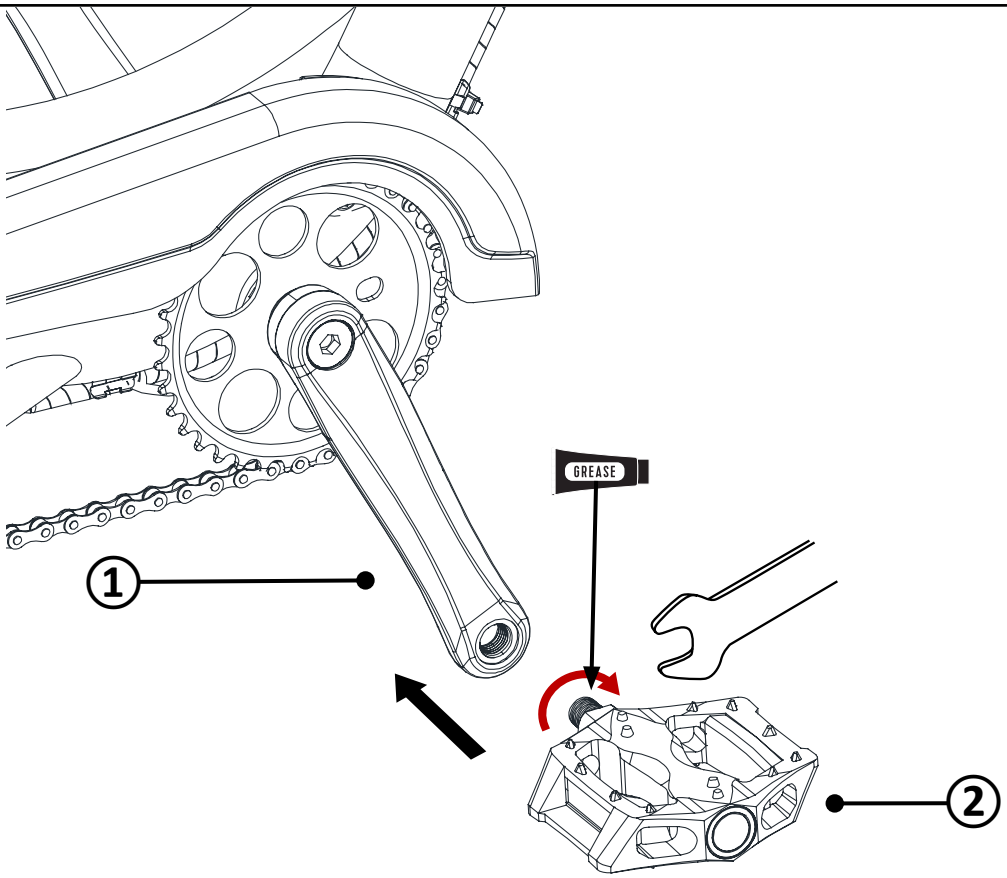


Fig. 12

**WARNING! – The right and left pedals are not interchangeable.**

# Pedal Installation

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**Parts List**

- 1 - Left Side Crank-Arm
- 2 - Left Pedal


- **Identify the left pedal:** It's marked with an "L" (on a sticker or stamped on the spindle end), has ridges on the spindle, and uses a left-hand thread (tightens counterclockwise)
- A**pply bicycle grease** to the pedal threads before installation
- **Hand-thread the pedal into the left crank-arm** (non-chain side) by turning it counterclockwise, ensuring it starts smoothly and doesn't cross-thread
- Once properly threaded, **tighten with a 15mm pedal wrench** until it contacts the crank arm, then give it an additional 1/16 turn (torque to 30–40 N·m) - **Fig. 13**
- The pedal should be **secure but not overtightened**, allowing for future removal without excessive force
- If you're uncertain about the proper pedal tightness, have the pedal tightness checked by a trained mechanic at a bike shop before riding

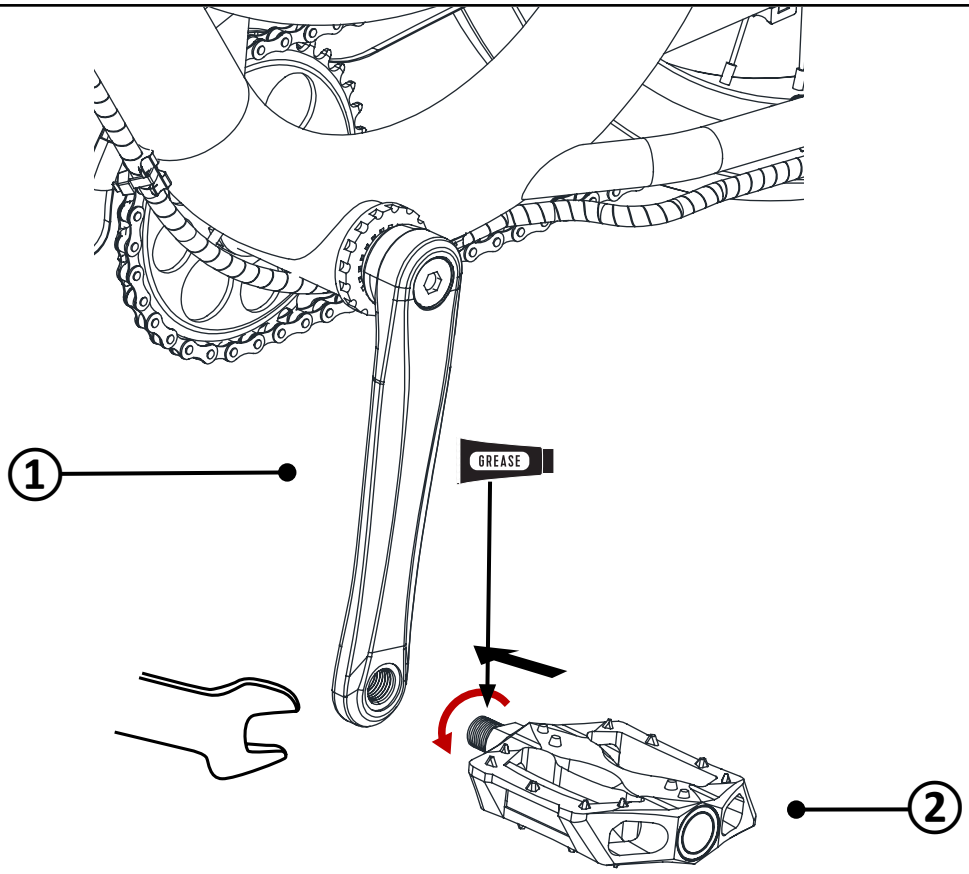


**Fig. 13**

**WARNING! – The right and left pedals are not interchangeable.**

# Seatpost & Saddle Installation

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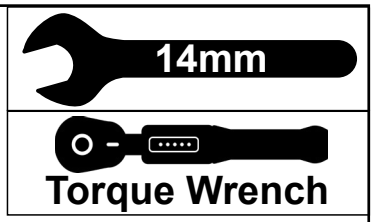
**Parts List**

- 1 - Saddle
- 2 - Seatpost




- Position the **saddle (1)** onto the **seatpost (2)**, ensuring it is fully seated into the clamp.
- Tighten the 14mm nuts evenly on both sides of the clamp, adjusting tilt as needed.

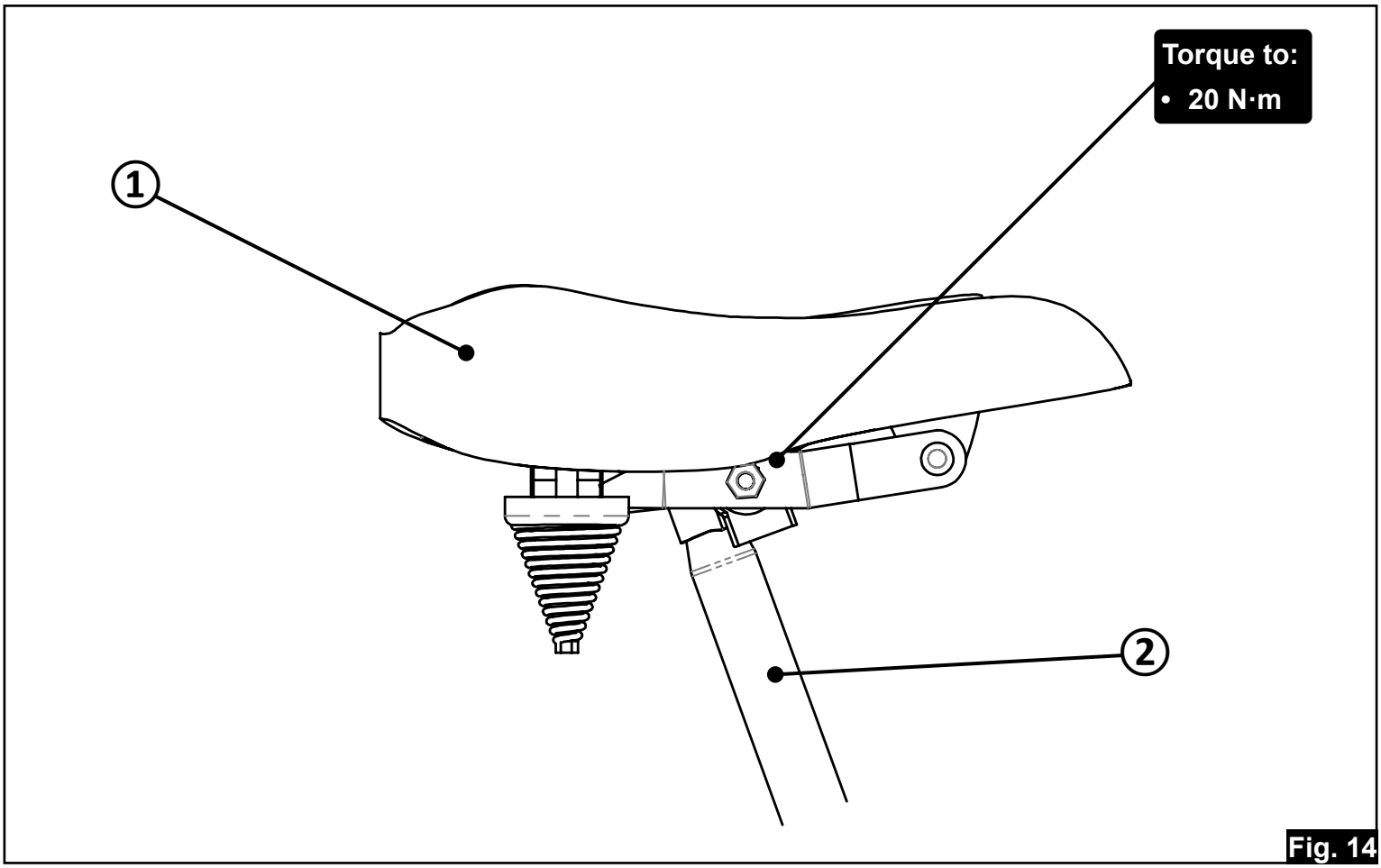



Fig. 14

# Seatpost & Saddle Installation

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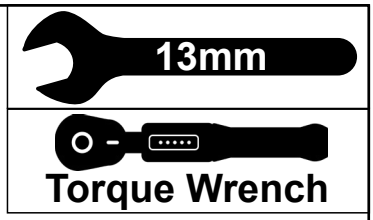
**Parts List**

- 1 - Saddle and Seatpost assembly
- 2 - Trike Seat Tube




- Apply a small amount of bicycle grease to the inner surface of the seat tube
- Applying bicycle grease reduces friction for easier seat height adjustment and prevents the seatpost from getting stuck due to friction or corrosion.
- Insert the seatpost below the Minimum Insertion line to avoid damage and safety risks. If the line is visible, lower the post.
- Tighten (clockwise) the seatpost clamp nut with a 13mm wrench to the recommended torque.
- **FINAL CHECK:** Confirm the seatpost and saddle are secure by twisting and pulling; if either moves or slips while riding, retighten the seatpost clamp and seat rail clamp.

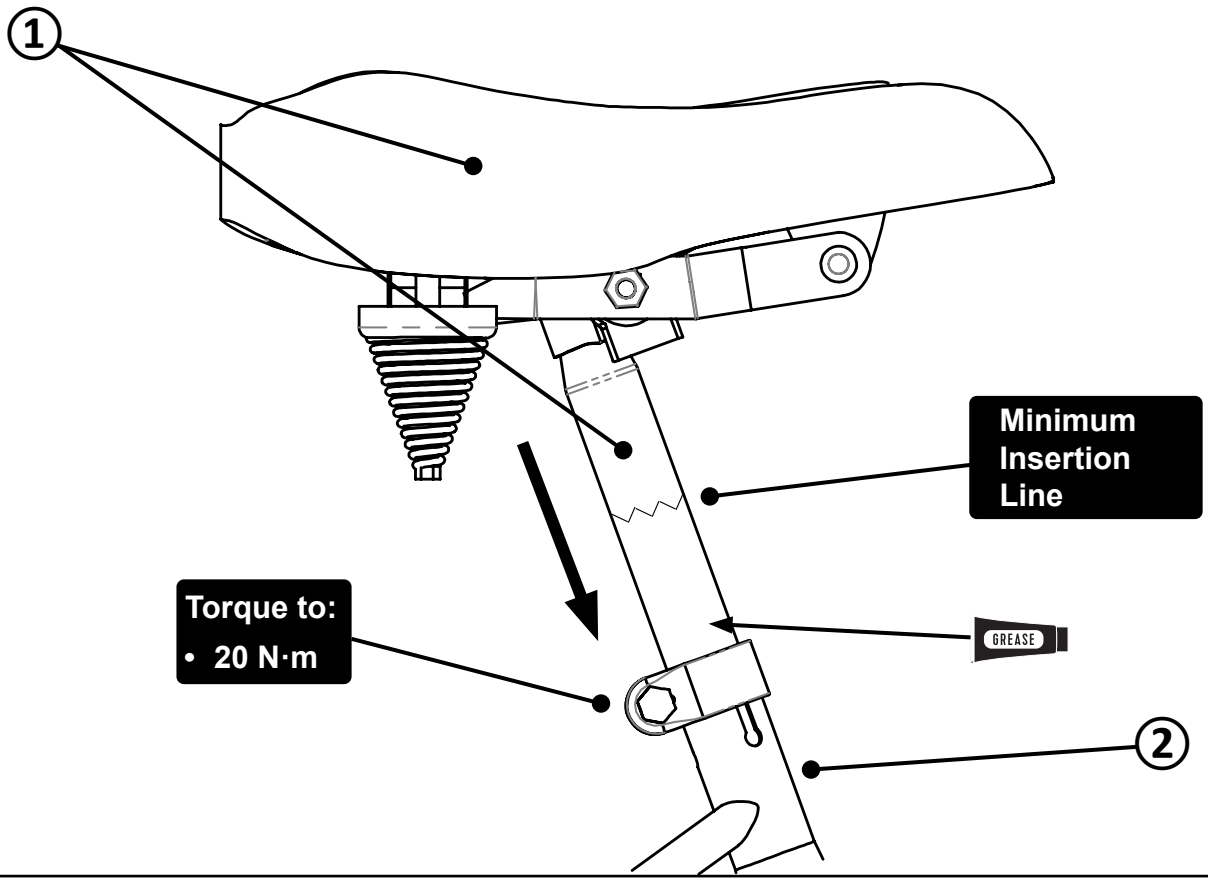



Fig. 15

**WARNING! – Seatpost minimum insertion mark must be below the edge of the seat tube.**

# Stem & Handlebar Installation

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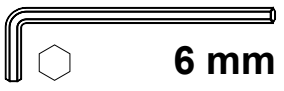
**Parts List**

- 1 - Handlebar
- 2 - Stem
- 3 - Frame (Headtube)




Torque Wrench

- Ensure the fork steerer tube is clean and free of debris and then lightly apply grease to the inside edge of the steerer tube as well as between the quill wedge and stem, after loosening the quill (expander) bolt to ensure the wedge moves freely.
- Insert the **stem (2)** into the **steerer tube (3)**, ensuring it slides smoothly, and adjust the stem height, making sure the minimum insertion line is fully inside the steerer.
- Align the stem with the front wheel, keeping it centered and tightening the quill bolt using a 6mm allen wrench to secure the stem.
- **FINAL CHECK:** Confirm the stem is secure and does not twist under force, ensure the handlebars are properly aligned with the front wheel and tightened, and test for any play by applying pressure to the handlebars and rocking the bike back and forth, rechecking the quill bolt if movement is detected, while also ensuring the handlebar does not slip and fine-tuning its angle if necessary for optimal positioning.

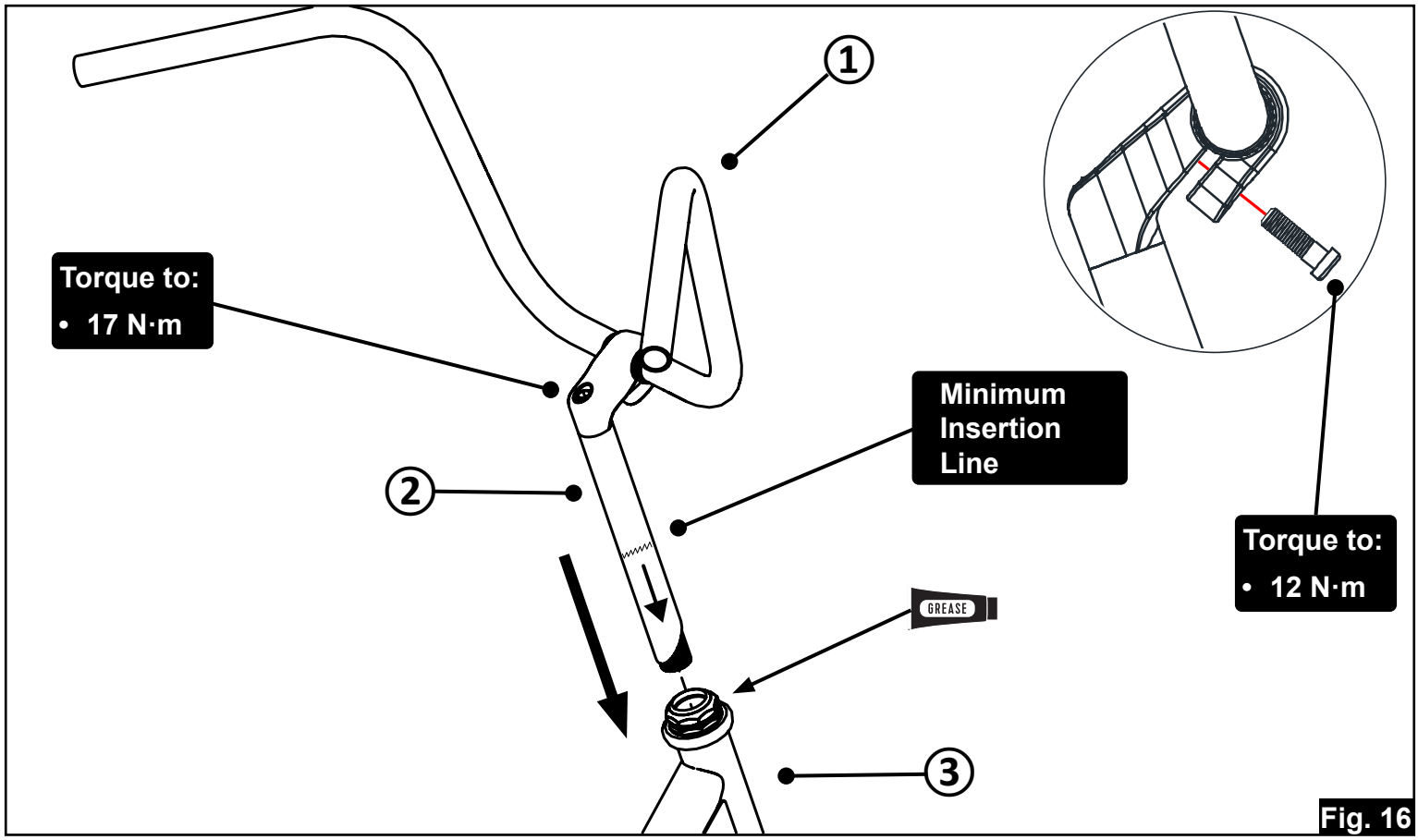



Fig. 16

**WARNING! – Overtightening the stem quill bolt (3) can damage the fork assembly, leading to unexpected failure, loss of control, and possible injury.**
**WARNING! – Stem minimum insertion mark must be below the headset locknut.**

# Controls Installation

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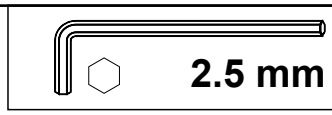
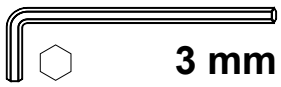
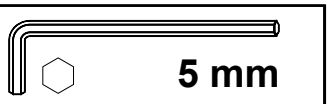
**Parts List**

- 1 - Grip Cap
- 2 - Grip
- 3 - Brake Lever
- 4 - Display
- 5 - Throttle




Torque Wrench

- Handlebar Assembly can be rotated a slight amount forward or rearward for desired comfort.
- Once handlebar position is set you can now adjust the brake and shift controls for comfort. See Figure G for recommended torque values.

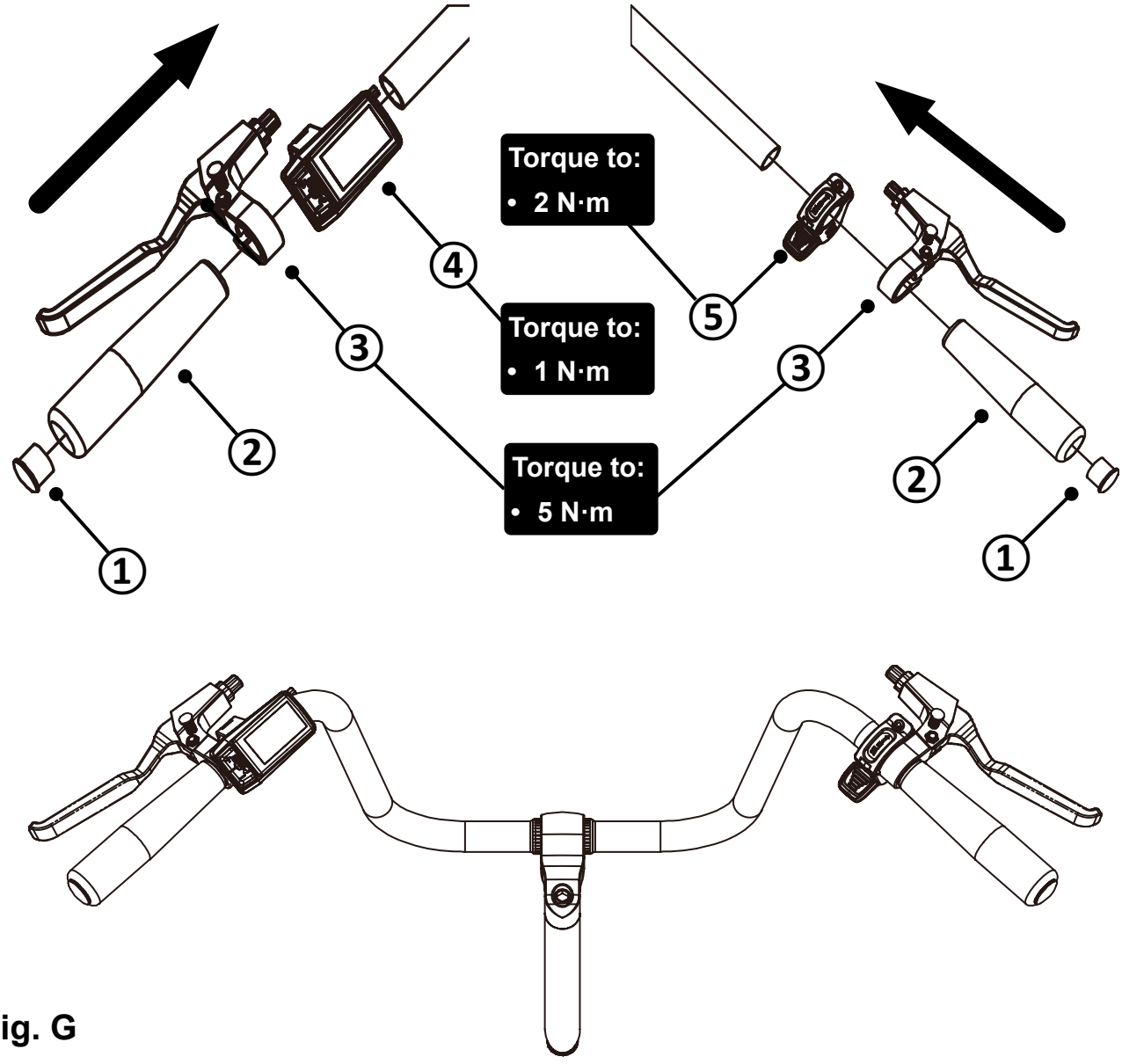



Fig. G

Fig. 17

# Brakes & Adjustment

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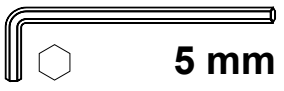
**Parts List**

- 1 - Front brake cable and housing
- 2 - Boot
- 3 - Noodle
- 4 - Cable end cap





- **Insert the cable** into the brake lever, routing it through the housing and down toward the front V-brake.
- **Slide the cable through the noodle** (the curved metal tube) and into the cable anchor bolt on the brake arm.
- **Ensure the noodle is seated** into the noodle holder (the small cradle on the opposite brake arm).
- **Pull the cable tight** (but not overly tight) while squeezing the brake arms together so the pads are close to the rim.
- **Tighten the cable anchor bolt** using a 5mm Allen wrench to the recommended torque.
- **Trim excess cable** if needed, and add a cable end cap to prevent fraying.

## Front V-Brake

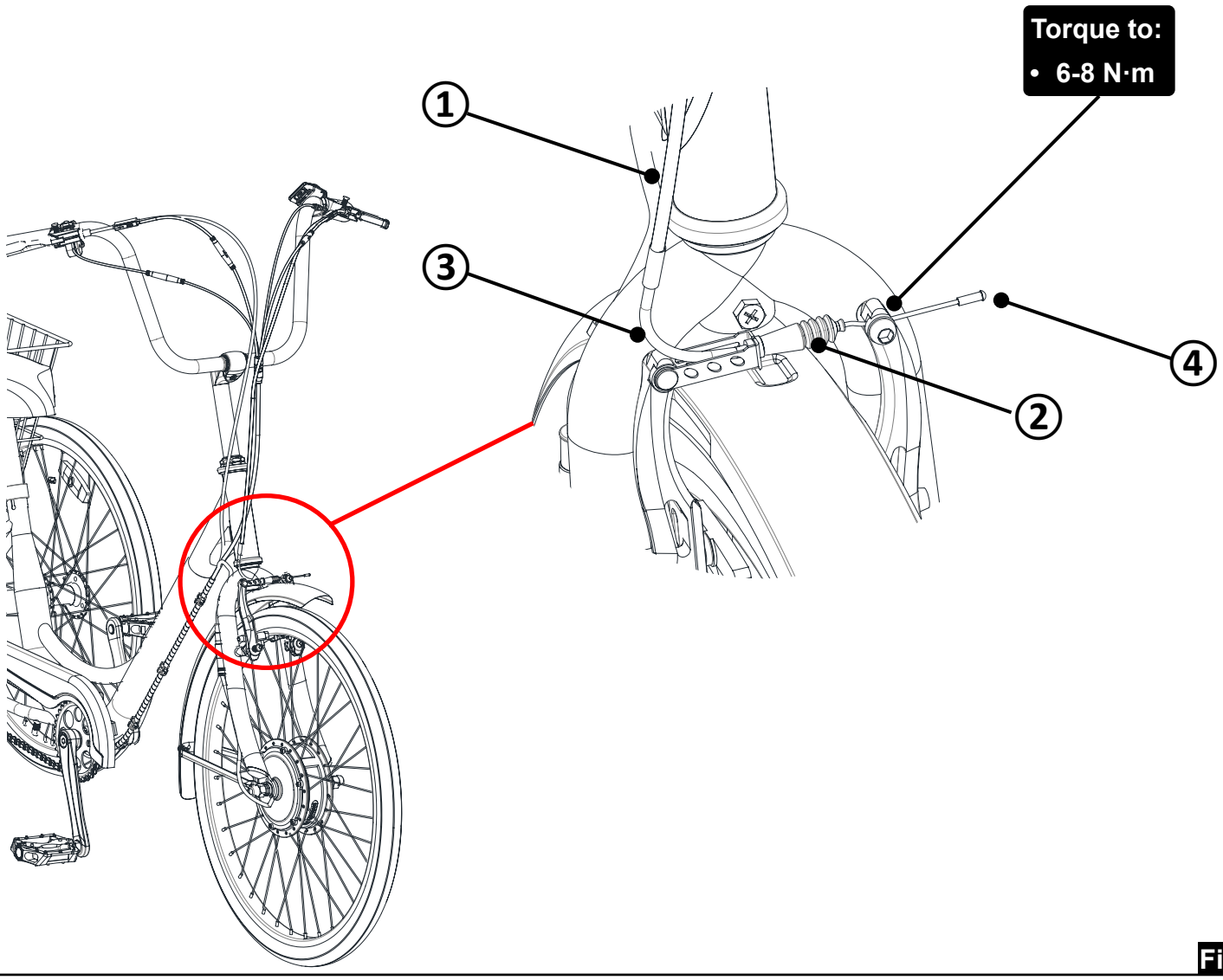



Fig. 18

# Brakes & Adjustment

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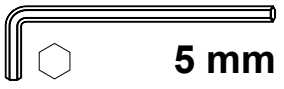
**Parts List**

- 1 - Rear brake cable and housing
- 2 - Cable end cap





- **Insert the cable** into the brake lever, routing it through the housing and down toward the rear disc brake.
- **Slide the cable** into the cable anchor bolt on the brake arm.
- **Pull the cable tight** (but not overly tight) while rotating the caliper arm slightly so the pads are close to the rotor.
- **Tighten the cable anchor bolt** using a 5mm Allen wrench to the recommended torque.
- **Trim excess cable** if needed, and add a cable end cap to prevent fraying.

## Rear Disc Brake

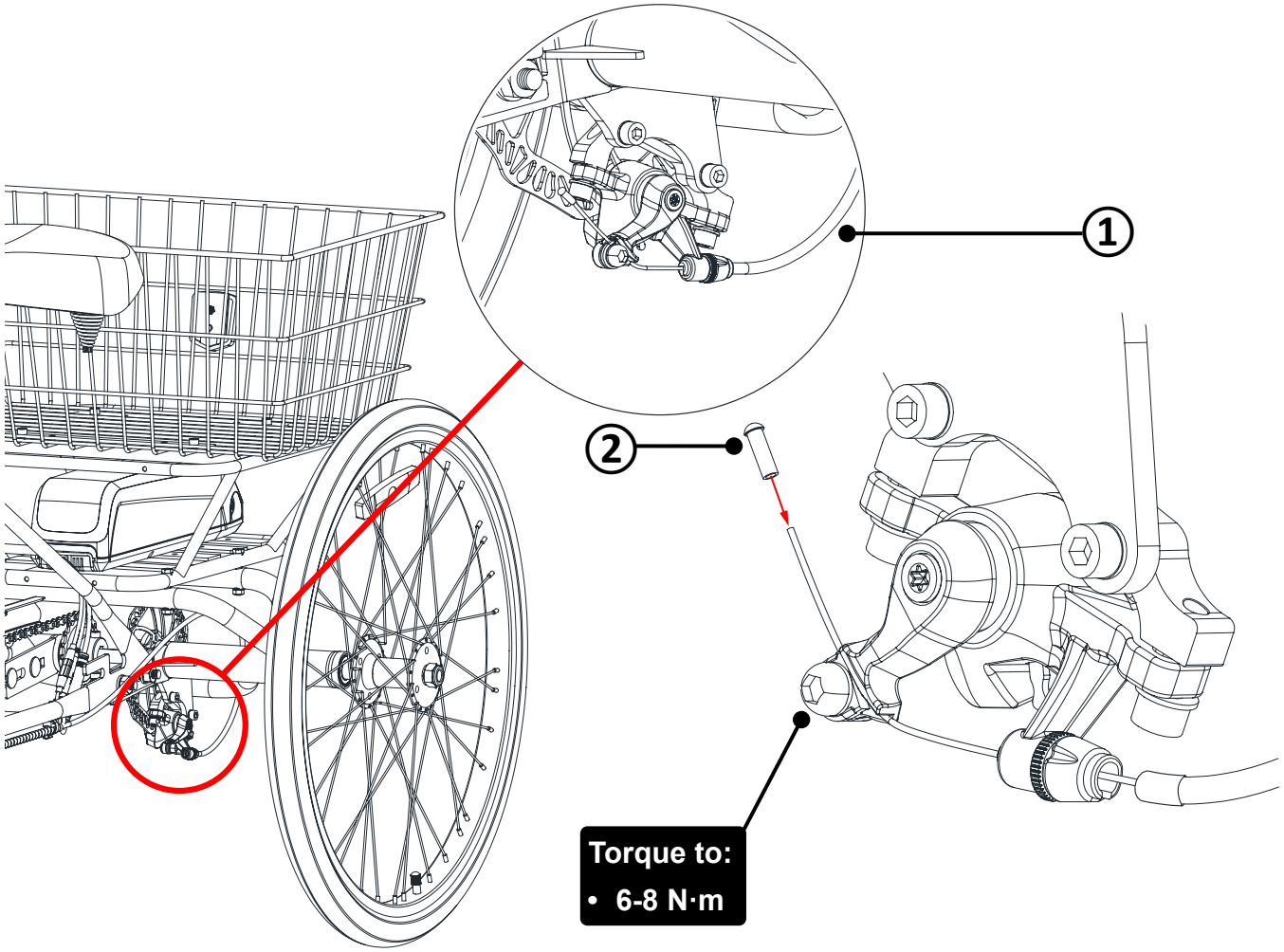



Fig. 19

## Front V-Brake Adjustment Tips!

- **Check the brake pads:**
  - **Check Alignment** - The pads should contact the rim evenly and fully without touching the tire or sitting too low on the rim
  - **Test Pad Contact** - Squeeze the brake lever and ensure both pads hit the rim at the same time. If not, adjust the spring tension screws on the brake arms with a phillips screwdriver. Clockwise adds spring tension, counterclockwise reduces spring tension

- **Adust the brake cable:**
  - Squeeze the brake lever to check how far it pulls before engaging
  - **Adjust cable tension** - Loosen (counterclockwise) the cable anchor bolt with a 5mm hex wrench
  - **For tighter brakes** - Pull the cable slightly and retighten cable anchor bolt
  - **For looser brakes** - Release some cable and retighten the cable anchor bolt
  - Recommended torque: 6-8 Nm
  - Tighten brake pad bolt with a 5mm allen wrench

**FINAL CHECK: Squeeze the brake lever to ensure firm engagement and even pad contact. Check for wheel clearance, secure cable tension (6-8 Nm), and smooth brake arm movement. Adjust spring tension if needed, then spin the wheel and road test for smooth, noise-free stopping without excessive lever travel.**

## Rear Disc-Brake Adjustment Tips!

- **Check the caliper:**
  - **Align the caliper** - Loosen the two caliper mounting bolts slightly, squeeze the brake lever to center the caliper over the rotor. While still holding the lever, retighten the caliper bolts. Release the lever and spin the wheel to check for rotor rub.
  - **Test Pad Contact** - Squeeze the brake lever and ensure both pads hit the rotor at the same time. If not, adjust the fixed (non-moving) pad by inserting a 5mm allen wrench into the pad adjustment port on the inside of the caliper and turn clockwise to bring the pad closer to the rotor, or counterclockwise to bring the pad farther away from the rotor.

- **Adust the brake cable:**
  - Squeeze the brake lever to check how far it pulls before engaging
  - **Adjust cable tension** - Loosen (counterclockwise) the cable anchor bolt with a 5mm hex wrench
  - **For tighter brakes** - Pull the cable slightly and retighten cable anchor bolt, or use the barrel adjuster (on the lever or inline) to fine-tune cable tension.
  - **For looser brakes** - Release some cable and retighten the cable anchor bolt, or use the barrel adjuster (on the lever or caliper) to fine-tune cable tension.
  - Cable anchor bolt recommended torque: 6-8 Nm

  - **FINAL CHECK:** Squeeze the brake lever to ensure firm and consistent engagement. The rotor should spin freely without rubbing when the brake is released. If there is any drag or the lever feels loose, fine-tune the cable tension and adjust the caliper or fixed pad as needed. Recheck all bolts to ensure they are tight and secure.

# Brake Sensor Cable Connection

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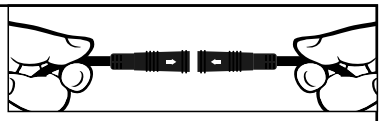
**Parts List**



- 1 - Brake cable connector from front brake lever sensor
- 2 - Brake cable connector from rear brake lever sensor
- 3 - Brake cable connector from controller to front brake lever sensor
- 4 - Brake cable connector from controller to rear brake lever sensor

- Align the arrows on both connectors and push the connectors together **firmly but gently** until fully seated
  - **Front Brake Sensor Cable**
  - **Rear Brake Sensor Cable**

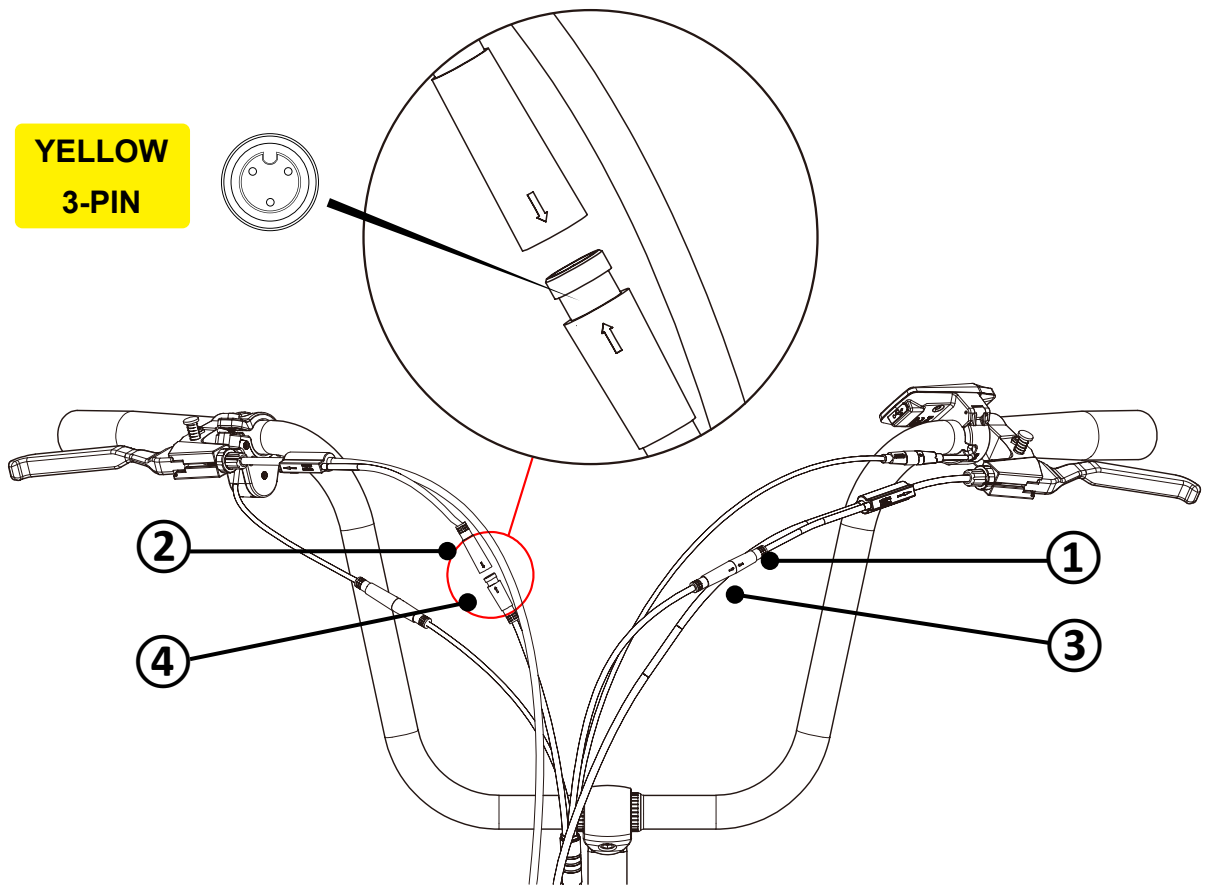



Fig. 20

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

# Display Cable Connection

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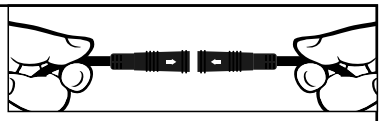
**Parts List**

- 1 - Display cable connector coming from the display
- 2 - Display cable connector coming from the controller



- Align the arrows on both connectors and push the connectors together **firmly but gently** until fully seated
  - **Display Cable**

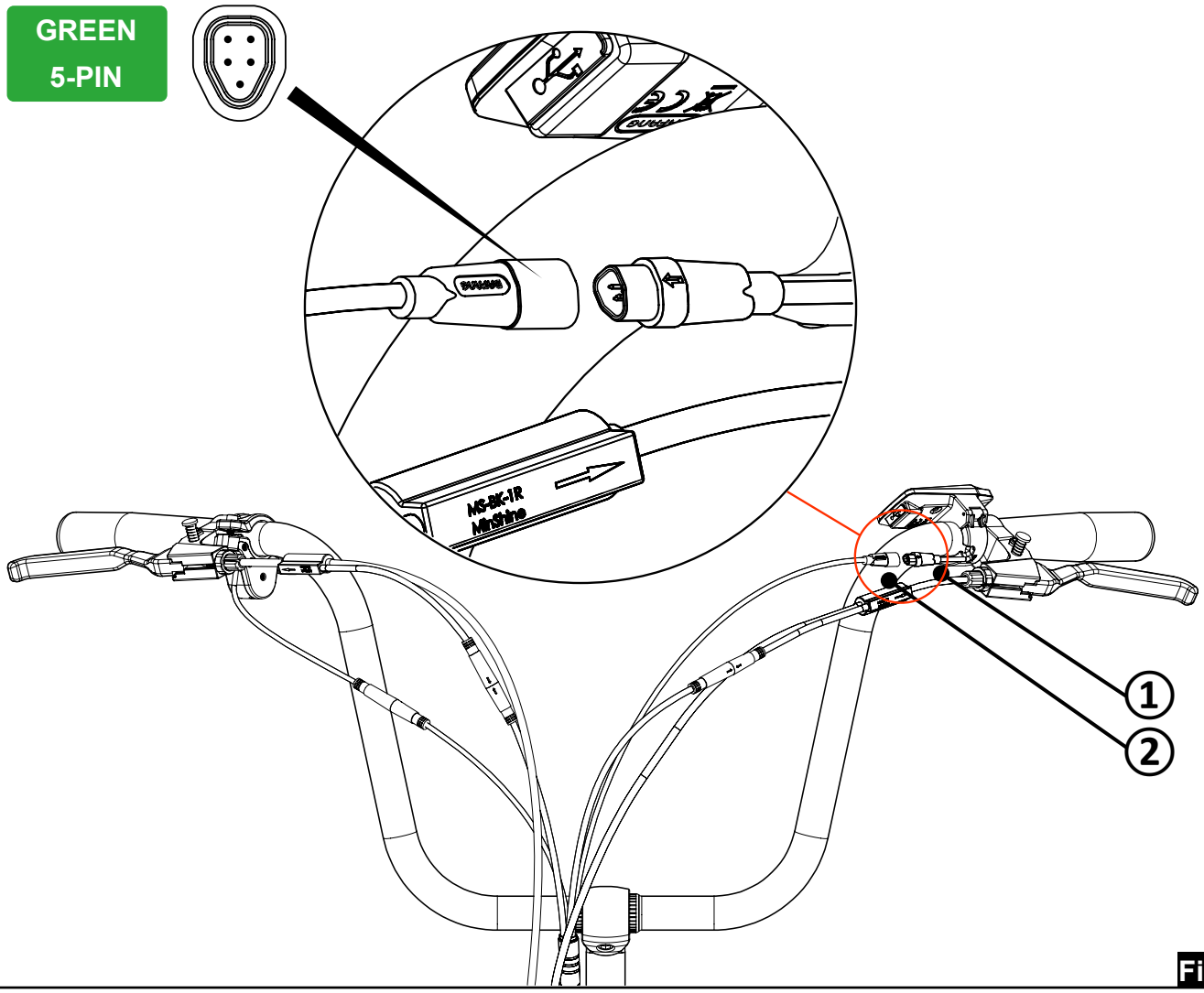



Fig. 21

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

# Throttle Cable Connection

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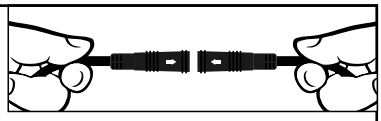
**Parts List**

- 1 - Throttle cable connector coming from the throttle
- 2 - Throttle cable connector coming from the controller



- Align the arrows on both connectors and push the connectors together **firmly but gently** until fully seated
  - **Throttle Cable**

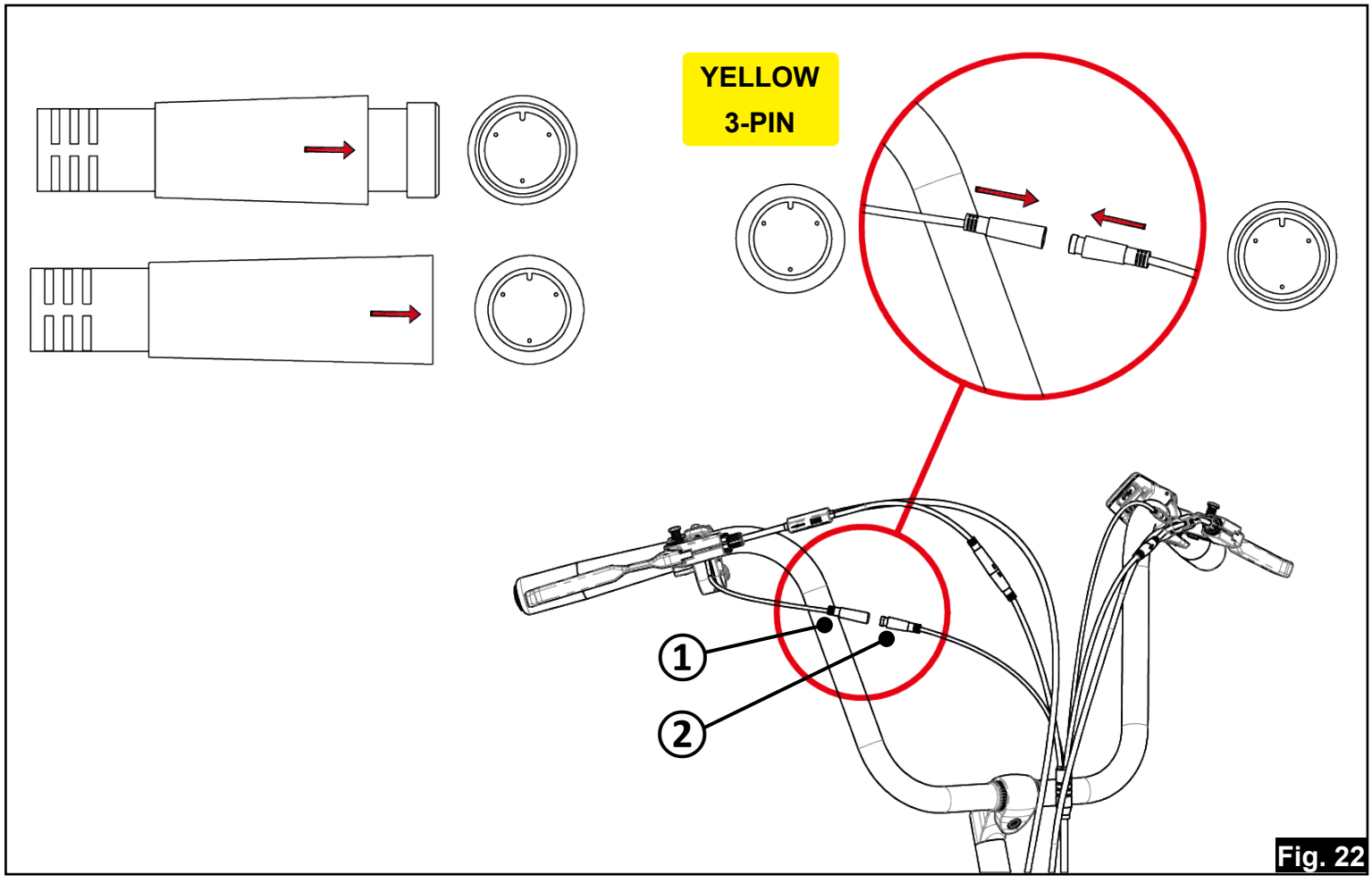



Fig. 22

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

# Battery Cage Installation

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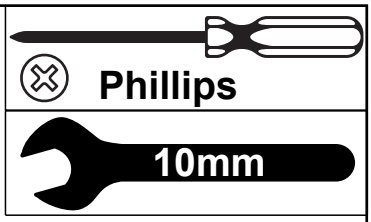
**Parts List**

- 1 - Battery Cage
- 2 - Hex Head Bolt (4 pcs)
- 3 - Flat Washer (4 pcs)
- 4 - Split Washer (4 pcs)
- 5 - Nyloc Nut (4 pcs)




- Place the **Battery Cage (3)** over the **Rear Unit Assembly** aligning the mounting holes. The battery tray should face an open toward the **rear of the trike.**
- Install a **Flat Washer (2)** onto each **Hex Head Bolt (1)**, then insert the bolt through the aligned holes in the Battery Cage and Rear Unit.
- Attach a **Split Washer (4)** and **Nyloc Nut (5)** on the opposite side and tighten securely with a Phillips screwdriver and 10mm wrench or two 10mm wrenches.

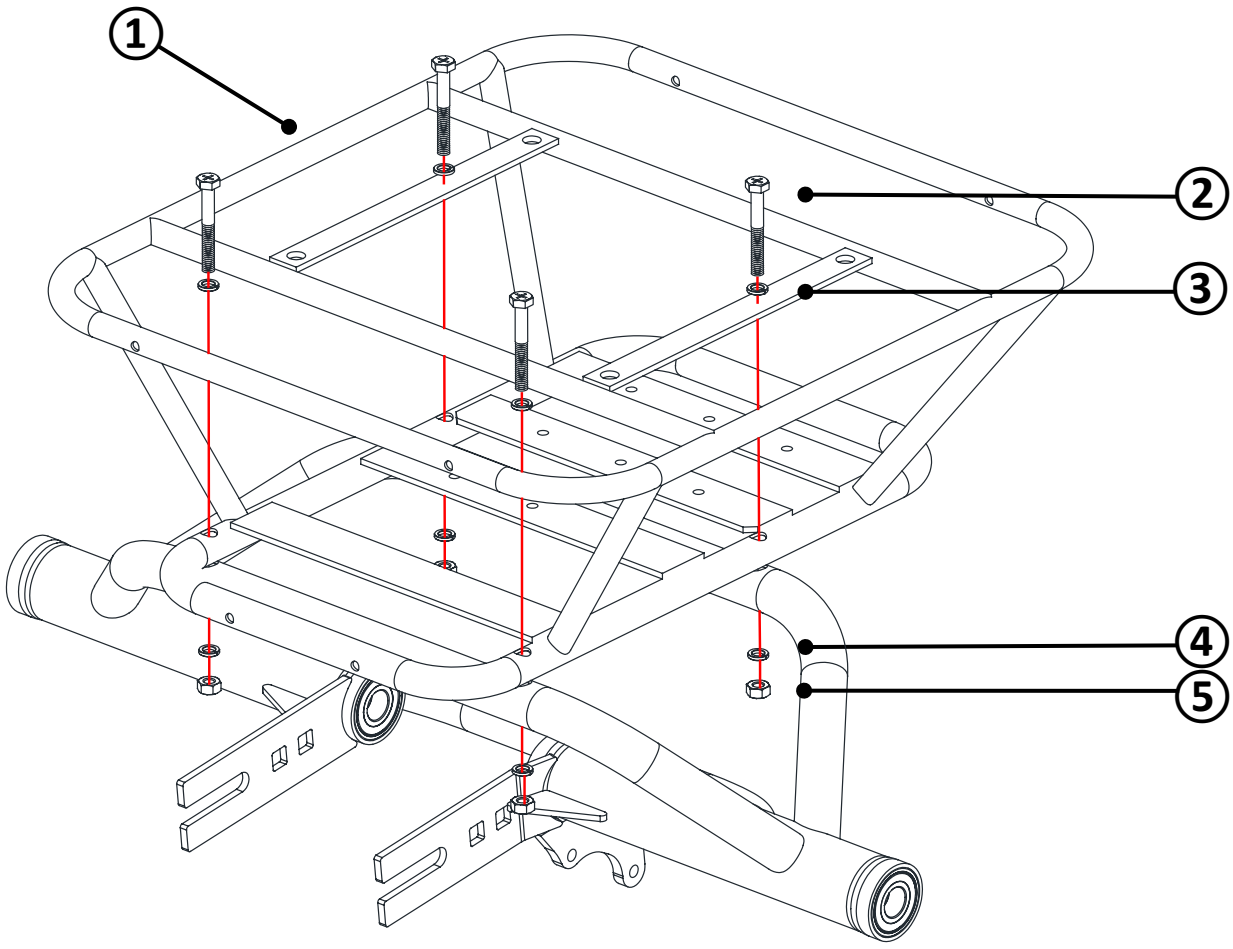



Fig. 23

# Controller Connections

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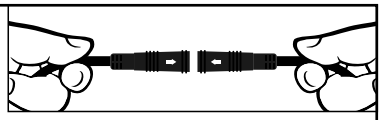
**Parts List**

- Controller cable ends (Bottom Bracket, EB-BUS, and Motor)
- EB-BUS cable end
- Bottom Bracket cable end
- Motor Power cable end



- Align the arrows on both connectors and push the connectors together **firmly but gently** until fully seated
  - **EB-BUS Data Cable**
  - **Bottom Bracket Sensor Cable**
  - **Motor Power Cable**

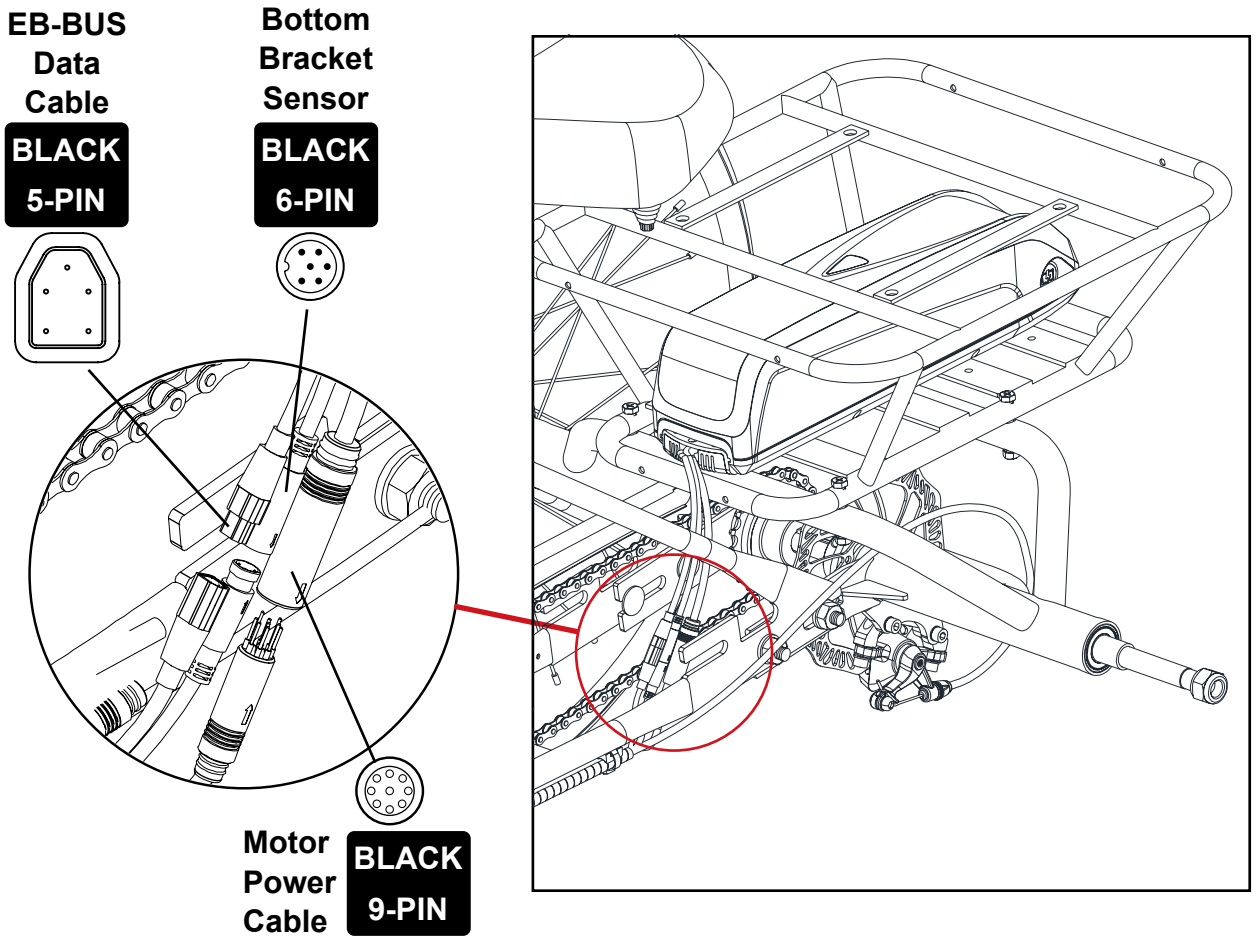



Fig. 24

**WARNING! – E-bike connectors—especially motor, display, and sensor plugs—are precision components and can be easily damaged if forced. Always align the arrows or keyways before connecting. Insert gently and straight, without twisting or angling the plug. Forcing a misaligned connector may bend pins, break seals, or cause electrical failure.**

# Basket Installation

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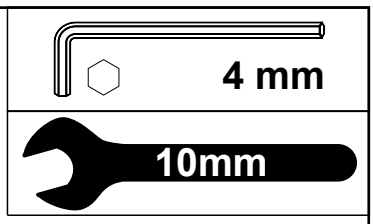
**Parts List**

- 1 - Basket Plate (2 pcs)
- 2 - Hex Head Bolt (4 pcs)
- 3 - Flat Washer (4 pcs)
- 4 - Hex Head Nut (4 pcs)
- 5 - Trike Basket
- 6 - Battery Cage




- Place and center the **Trike Basket (5)** onto the top of the **Battery Cage (6)**
- Align the **Basket Plates (1)** over the holes of the **Battery Cage (6)**
- Install the **Hex Head Bolts (2)** and **Flat Washers (3)** from the top and **Hex Head Nuts (4)** from the bottom
- Center or re-position the basket as needed and then securely tighten - **Fig 25**

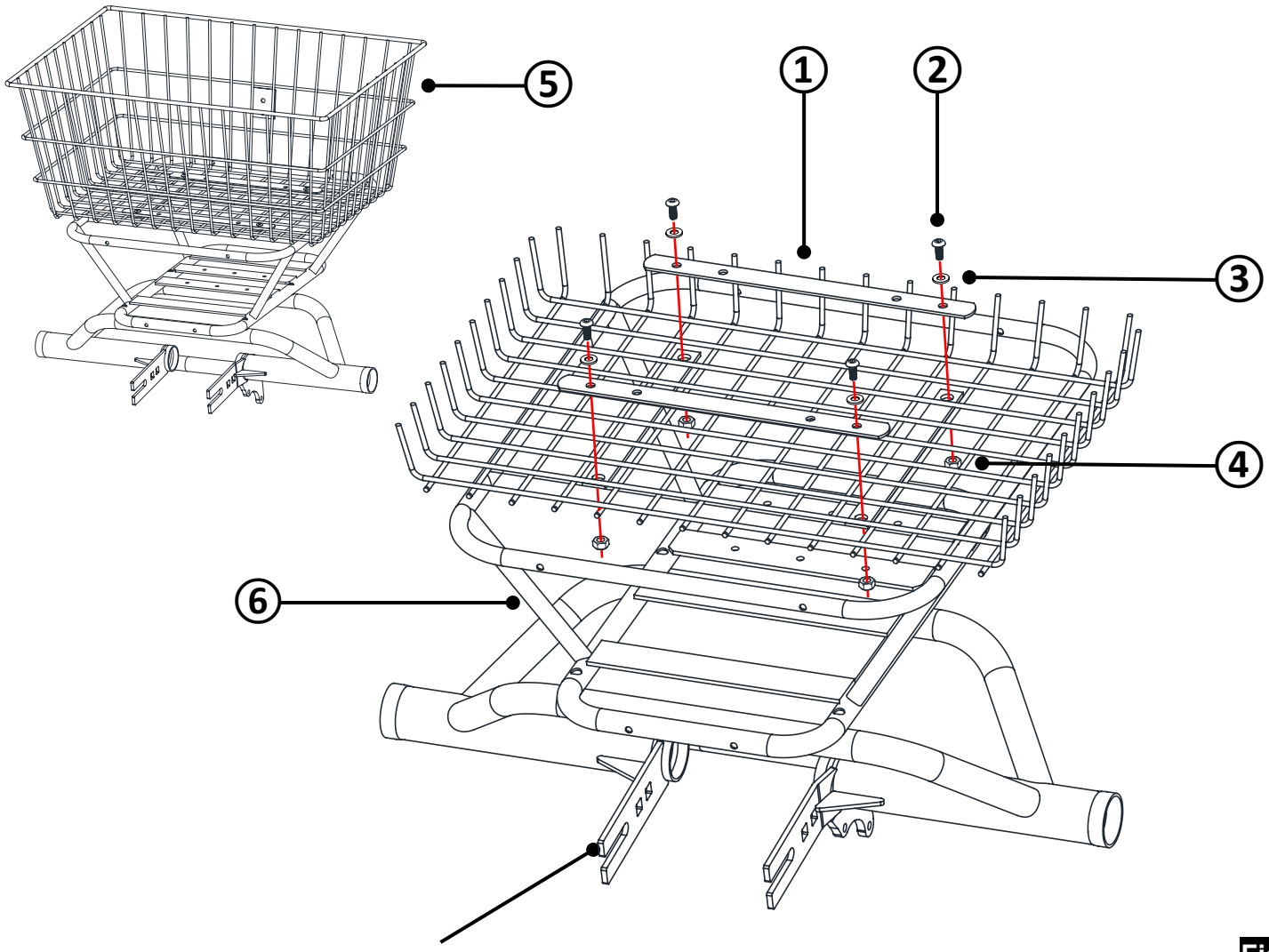



Fig. 25

**WARNING! – Never place a child, pet, or any passenger in the basket.**

# Basket Installation

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**Parts List**

- 1 - Rear Reflector (Red)
- 2 - Hex Head Screw


- Attach the **rear red reflector (1)** to the **integrated reflector plate** on the back of the trike basket using the **screw (2).** Tighten securely with a Phillips screwdriver - **Fig. 26**

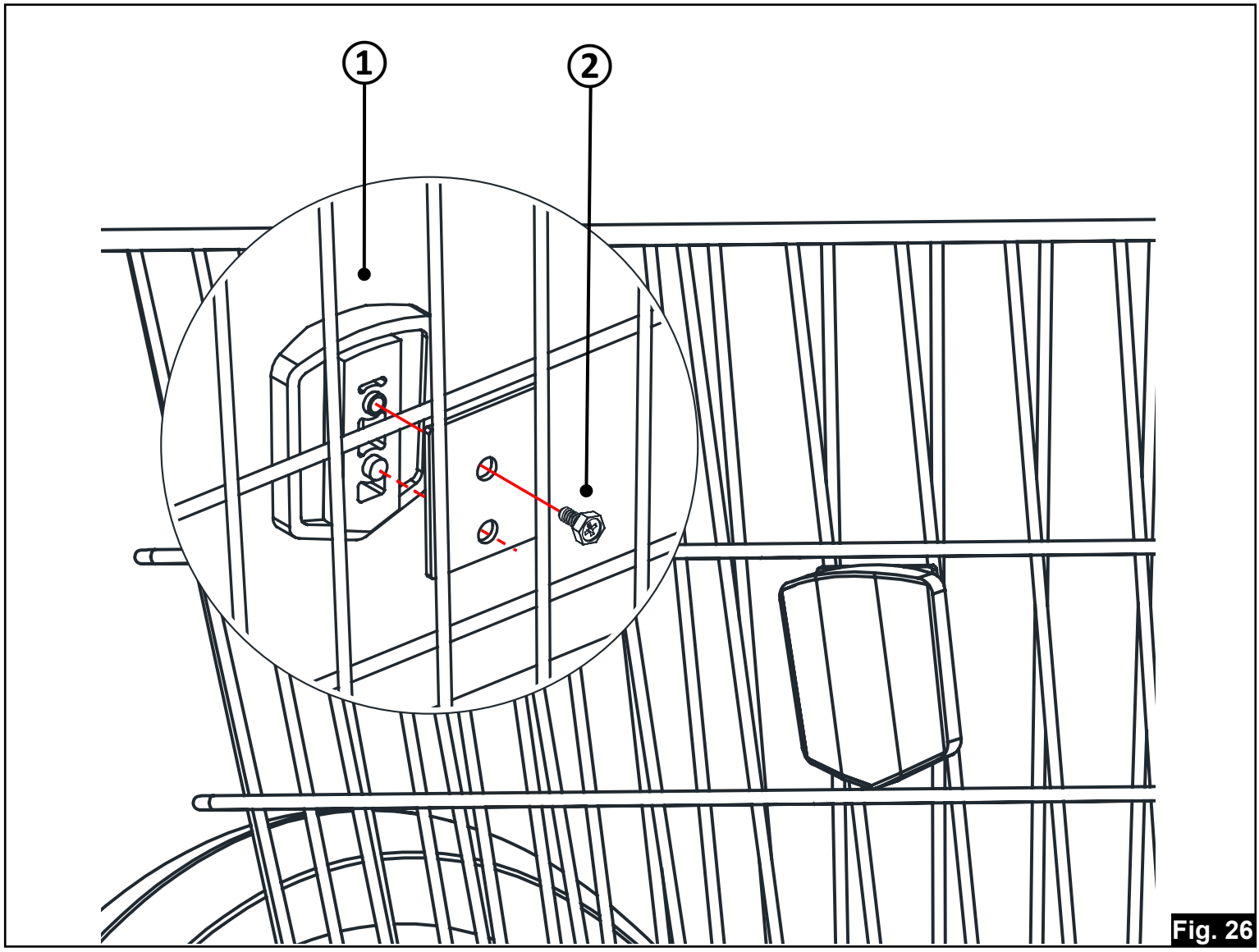


Fig. 26

**WARNING! – Never place a child, pet, or any passenger in the basket.**

# Battery Installation

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**Parts List**

- 1 - Battery
- 2 - Battery Tray

- To insert, align battery with the mounting plate guides and push battery rearward until it is locked into the base. Lock the battery in place using the supplied key set.
- Keep battery locked when trike is in use to prevent sudden power loss and possible damage from battery disconnection - **Fig. 27**

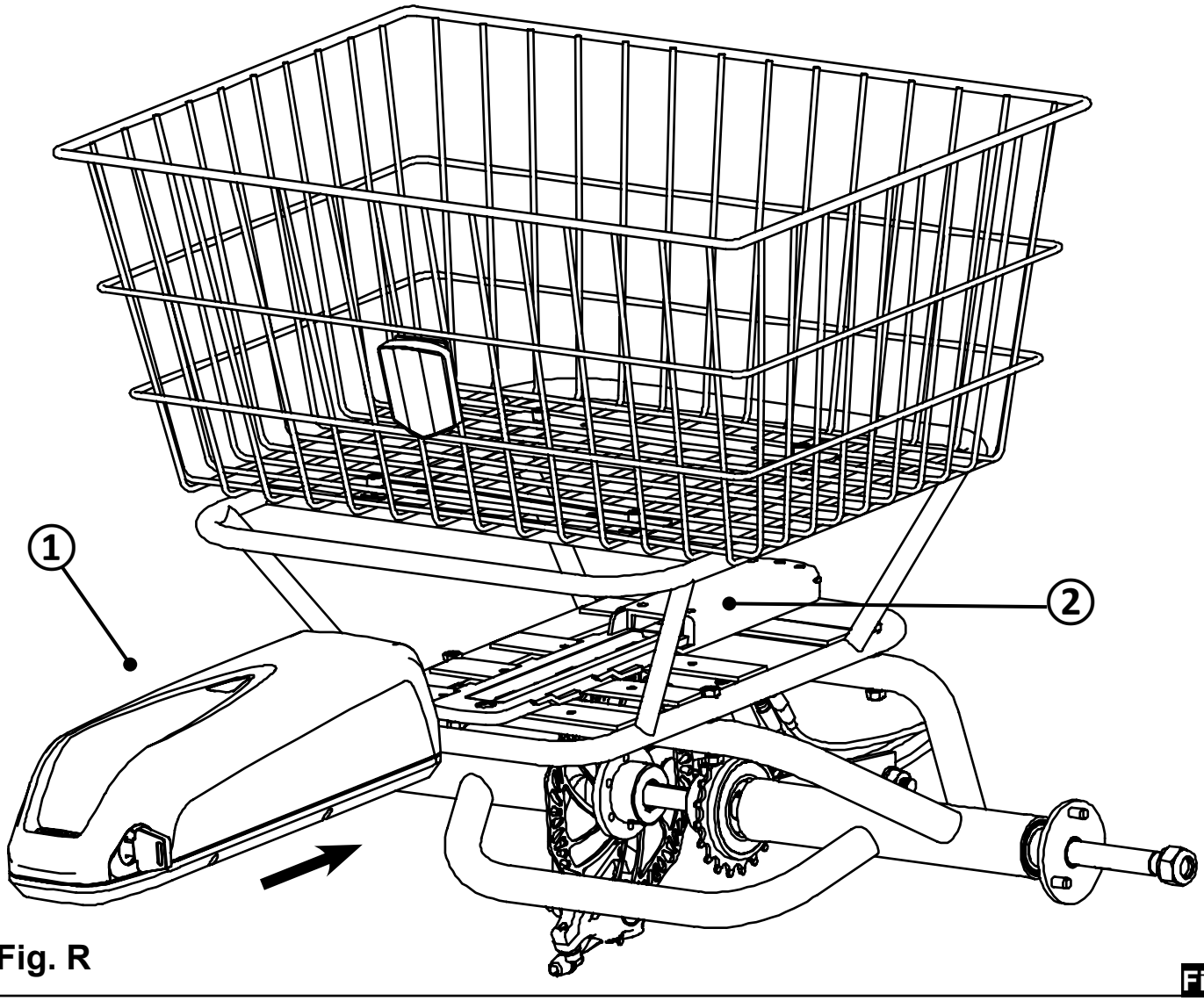


Fig. R

Fig. 27

**WARNING! – Lock the battery before riding, and remove the key to prevent loss.**

# Tire Inflation

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**Parts List**

- 1 - Bicycle pump with pressure gauge

- Rotate your wheel so the valve is positioned at the 6 o'clock position
- Remove the valve cap by turning it counterclockwise
- Attach the pump head and inflate to the recommended tire pressure
- Remove pump head
- Replace valve cap
- Recommended tire pressure:  40-65 PSI

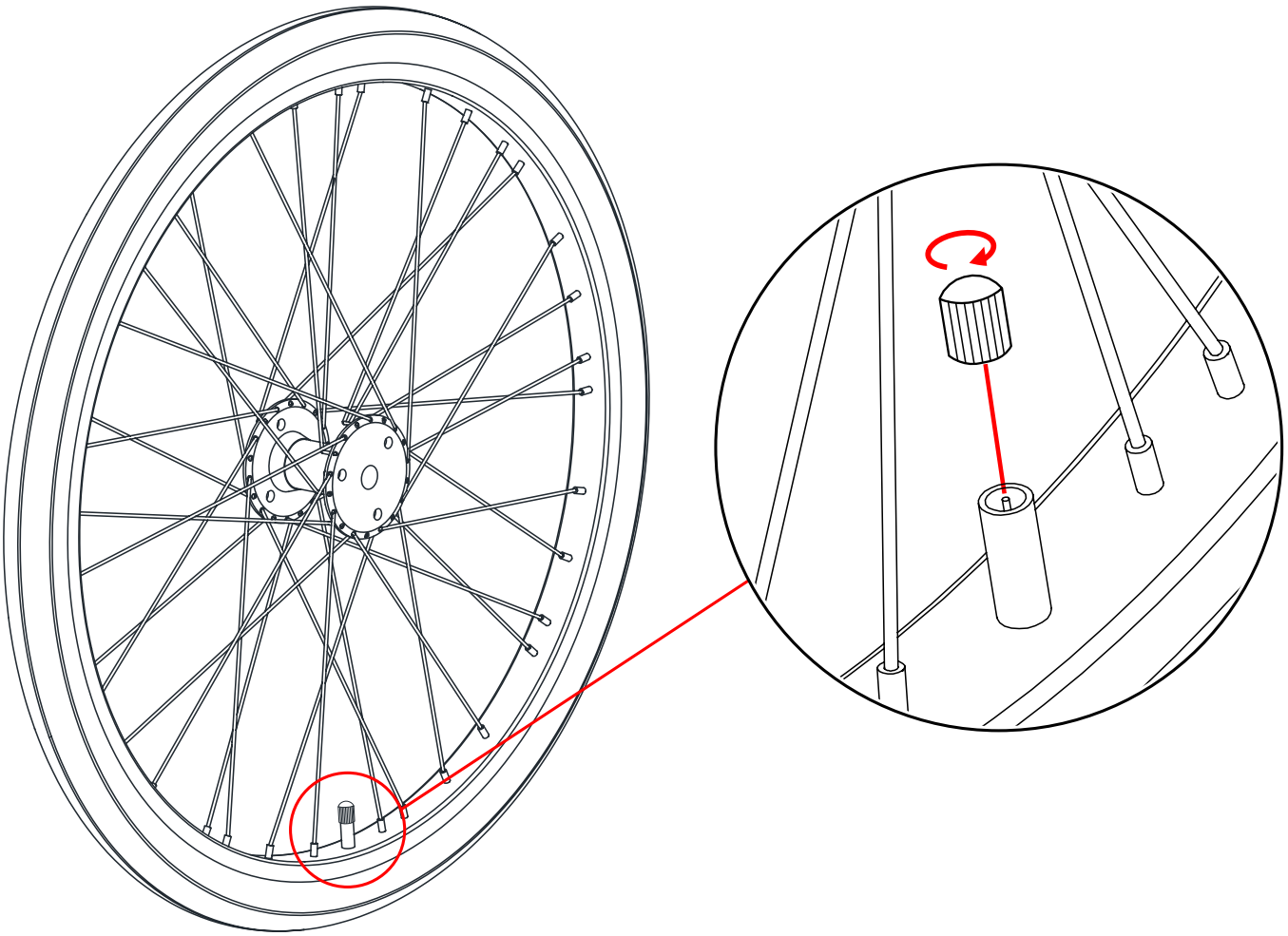

Fig. 28

Sun Bicycles

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