



Sun E-350 Trike Supplemental Owner's Manual



Contents

1. Introduction.....	2
2. Specifications.....	2
3. Overview.....	3
4. Assembly Guide.....	4-13
5. Read Before Riding.....	14
6. Preride Checklist.....	15
7. Precautions & Warnings.....	16
8. Motor.....	17
9. Display.....	18
10. King-Meter Display User Guide.....	19-31
11. Battery.....	32-39
12. Charger.....	40
13. Troubleshooting.....	41
14. Maintenance.....	41

Introduction

CONGRATULATIONS!

Congratulations, and welcome to the Sun Trike family! You have selected one of the best three-wheeled bicycles on the market. Please read this manual before riding your Sun Trike. In this manual, you will find that we cover the basics for setting up and understanding your new trike.

IMPORTANT:

This manual is only a supplement to the main Sun Bicycle/Tricycle Owner's Manual. Please read it before you take the first ride on your new bicycle/tricycle, and keep it for reference.

NOTE:

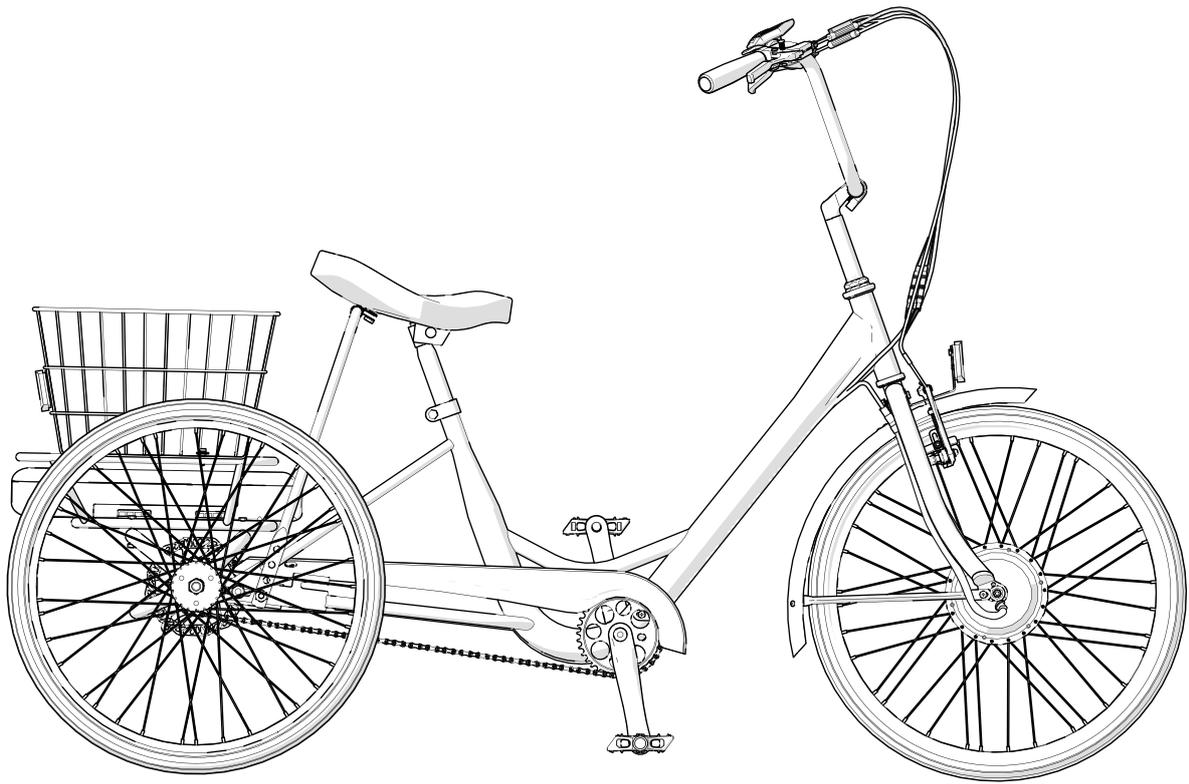
This manual is not intended as a comprehensive use, service, repair, or maintenance manual. Please see your dealer for all service, repairs, or maintenance. Your dealer may also be able to refer you to classes, clinics, or books on bicycle use, service, repair, or maintenance.

Sun E-350 Trike Specifications

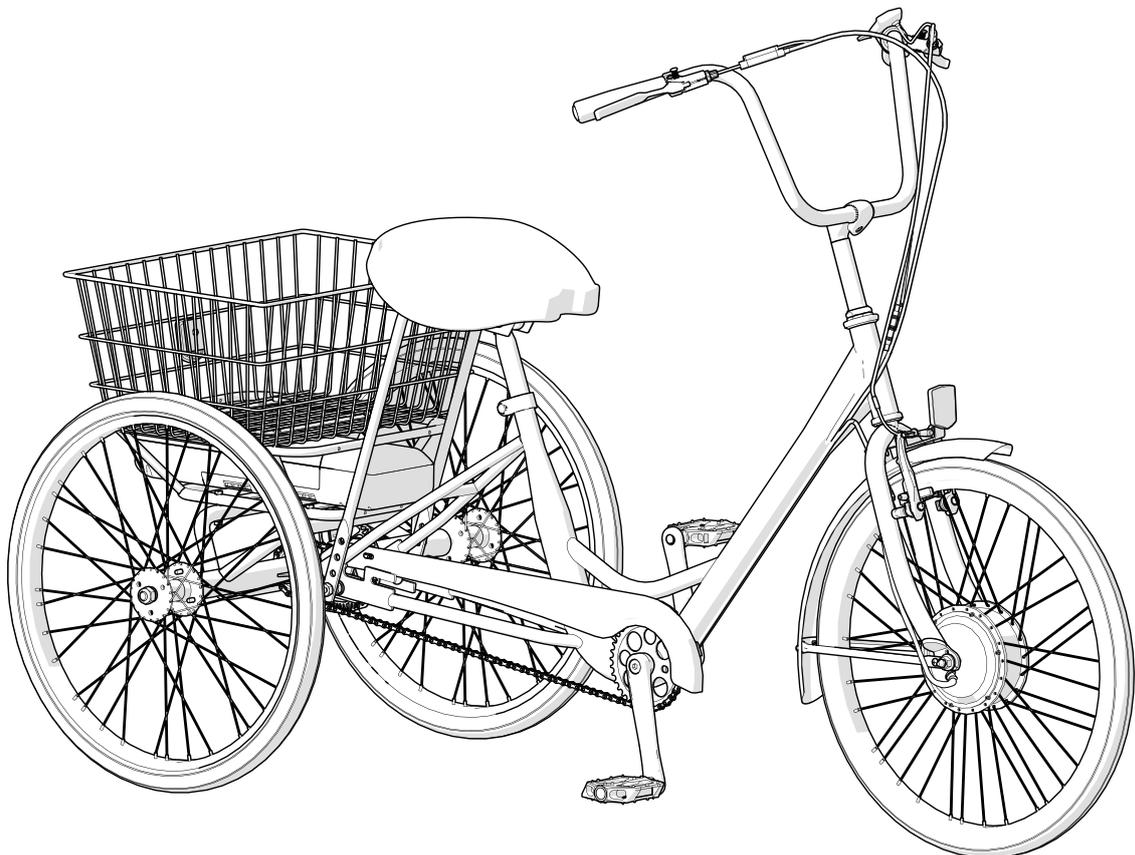
Model:	E-350 Trike
Style:	Adult Trike
Frame:	High Tensile Steel
Frame Rear Unit:	High Tensile Steel
Headset:	Steel, Caged Bearings
Handlebar:	Steel, 700mm Wide x 230mm High
Stem:	Alloy, 25.4mm x 200mm Quill x 60mm Ext. x 40 Deg. Rise
Grips:	High Density Foam
Brake Levers:	Alloy, 3 Finger Levers, Linear 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 / Binder Bolt:	Integrated, Bolt / Nut
Seat Post:	Steel, 27.2mm x 12"
Seat Support Bar:	Steel, 19"
Saddle:	Sun Saddle, Padded with Steel Base
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, w/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
Rear Wheel:	24" x 1.75" x 36H x 14G Alloy-Trike, Bolt-On
Spokes:	Front 13G Stainless w/ CP Brass Nipples, Rear 14G Stainless w/ CP Brass Nipples
Tires:	24" x 1.75", 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
Trike Weight:	73 lbs
Weight Limit (Rider and Cargo Combined):	250 lbs
Overall Dimensions:	71.5" Long x 30.5" Wide
Standover Height:	13" (Measured from the ground to low step-through point on the frame)

Sun Trike Overview

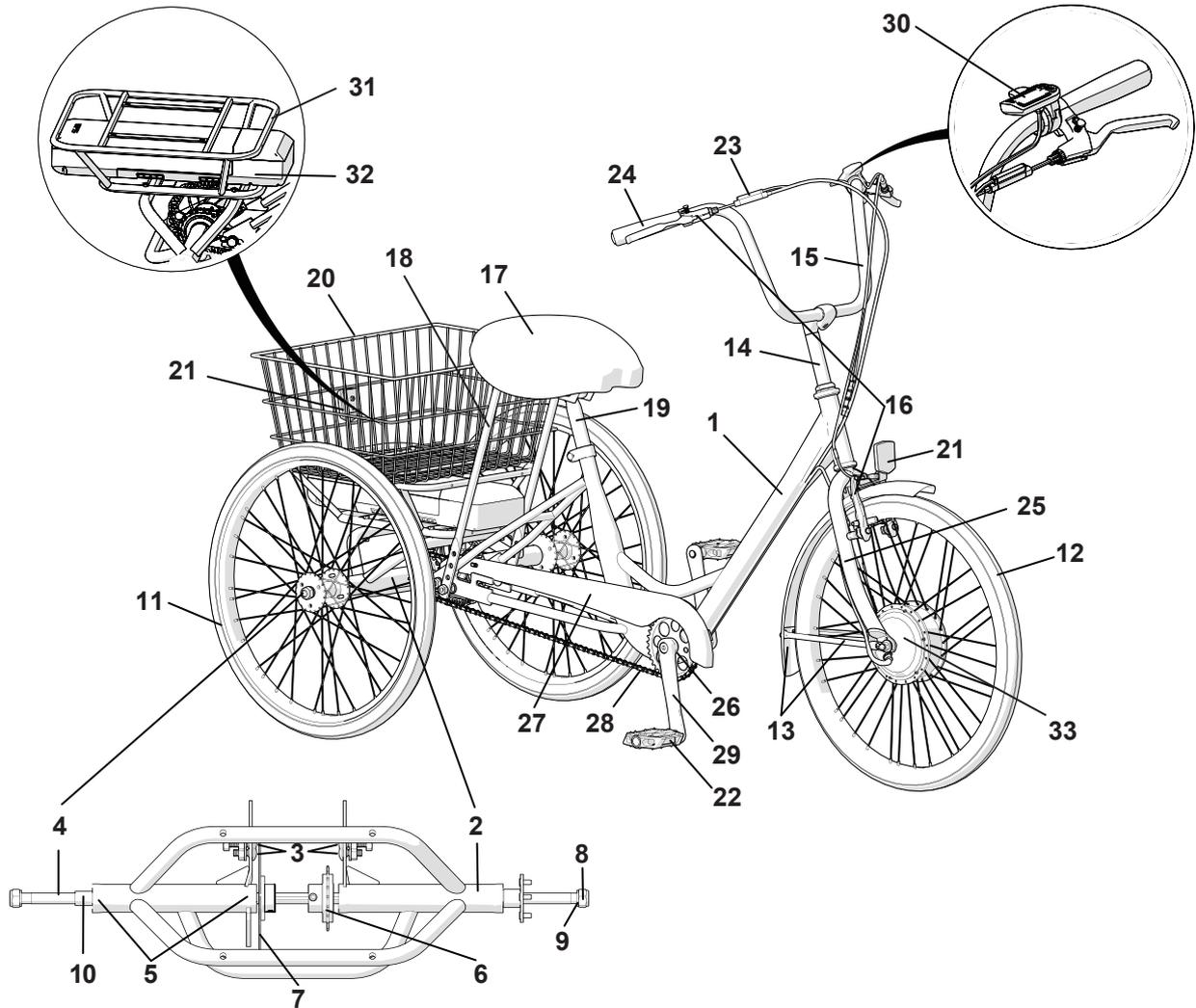
Side View



3/4 View



Assembly Guide



Sun Trike PARTS LIST
DESCRIPTION

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 Disk 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	Western Saddle	1
18	Seat Brace for Western Saddle (hardware set includes 2x nuts & washers, 2x round bar clips - not pictured)	1 set
19	Seat Post	1
20	Trike Basket (hardware set includes 2x straps, 4x bolts, nuts & washers - not pictured)	1
21	Reflector Set	1 set
22	Pedals (9/16")	1 pair
23	Brake Sensors	2
24	Grips	1 pair
25	Fork	1
26	Bottom Bracket	1
27	Chain Guard	1
28	Drive Chain (1/2" x 1/8")	1
29	Crank	1
30	LCD Display	1
31	Battery Holder	1
32	Battery	1
33	Motor	1

Rear Unit Installation

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

Loosely install #2 Rear Unit Assembly onto #1 Main Frame Assembly using #3 Rear Unit Hardware. Use the longest carriage bolts to the front of the trike, carriage heads inside the frame. These two long bolts will be used to support #18 Seat Brace in future steps.

Use shorter carriage bolts to the rear of trike, carriage heads also inside the frame, finished by washer and nut to outside of #1 Main Frame.

Be sure that the drive flange on #4 Rear Unit Axle is to the right side of the rear unit and frame. #2 Rear Unit must be installed with drilled support bars up so that the #20 Trike Basket can rest on them. See Figure A

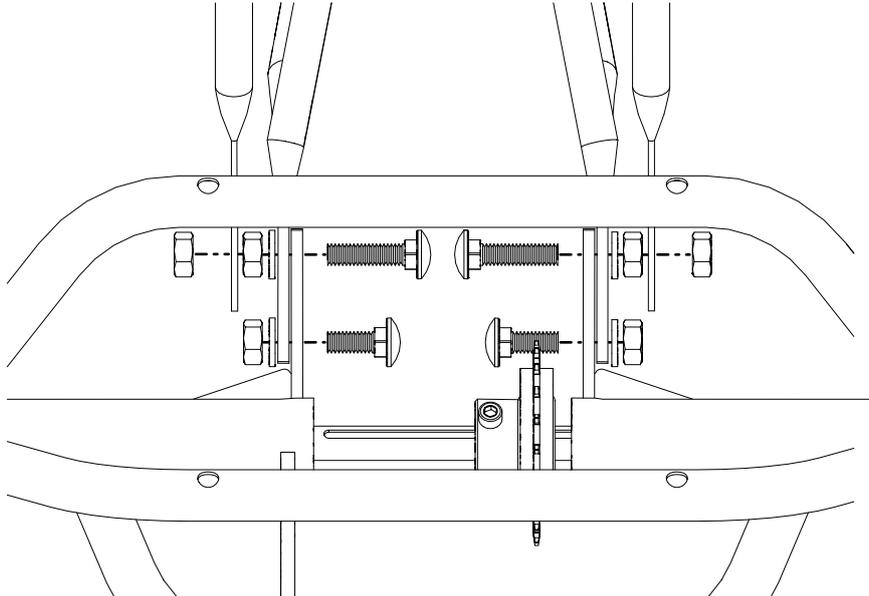


Fig A

Chain Installation

Install #28 Drive Chain onto #6 20T Freewheel. Once installed, pull #2 Rear Unit Assembly rearward to remove slack in the #28 Drive Chain.

Loosen and move #6 20T Freewheel to improve the chain line if necessary. Retighten #6 20T Freewheel. See Figure B

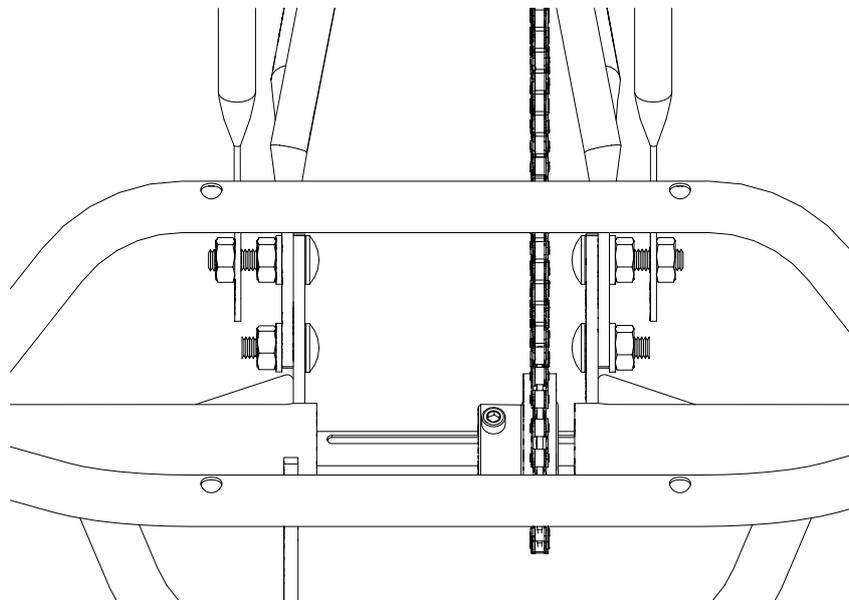


Fig B

Final Tightening Of Rear Unit

Tighten #2 Rear Unit Hardware to 18-20 Nm (160-175 in. lbs.)

Rear Wheel Installation

Assemble #11 Rear Wheel Assembly, #9 Rear Wheel Washer, and #8 Rear Wheel Nylock Retaining Nut onto the right side (drive side) rear axle. See Figure C

Assemble #10 Rear Wheel Spacer, #11 Rear Wheel Assembly, #9 Rear Wheel Washer and #8 Rear Wheel Nylock Retaining Nut onto left side (non-drive side) rear axle.

NOTE: DO NOT OVERTIGHTEN the #8 Rear Wheel Nylock Retaining Nut on the LEFT side (non-drive side). The nut should be tightened then backed off ½ turn to leave approximately 1 to 2mm of side play.

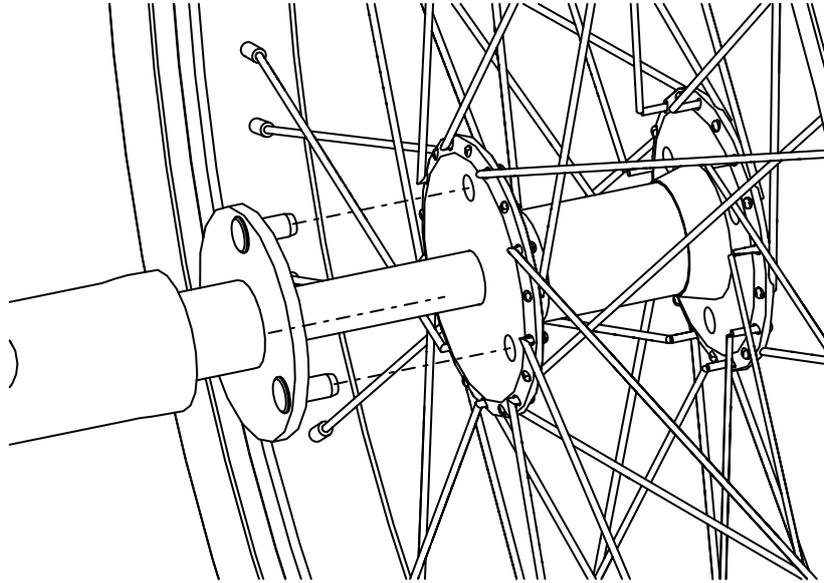


Fig C

Front Wheel Installation

Install #13 Front Fender beneath front fork using hardware in #21 Reflector Kit. Install front reflector bracket to the front of the fork, upper fender tab to the rear of the fork. Install front fender strut legs to rear tabs on each side of the fork. See Figure D

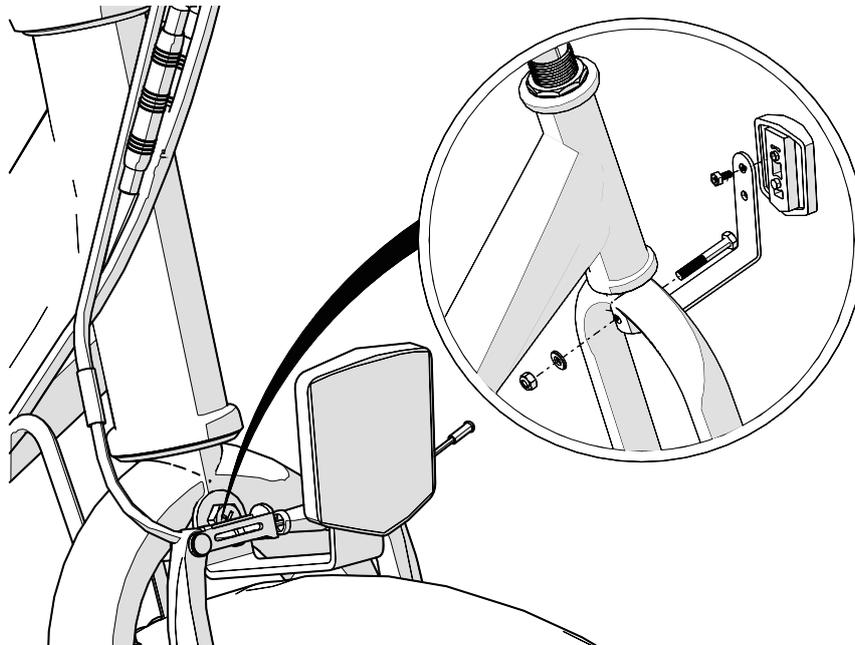


Fig D

Front Wheel Installation

Insert #12 Front Wheel Assembly into the fork dropouts. Check to make sure front wheel is centered in fork, tighten securely. See Figure E

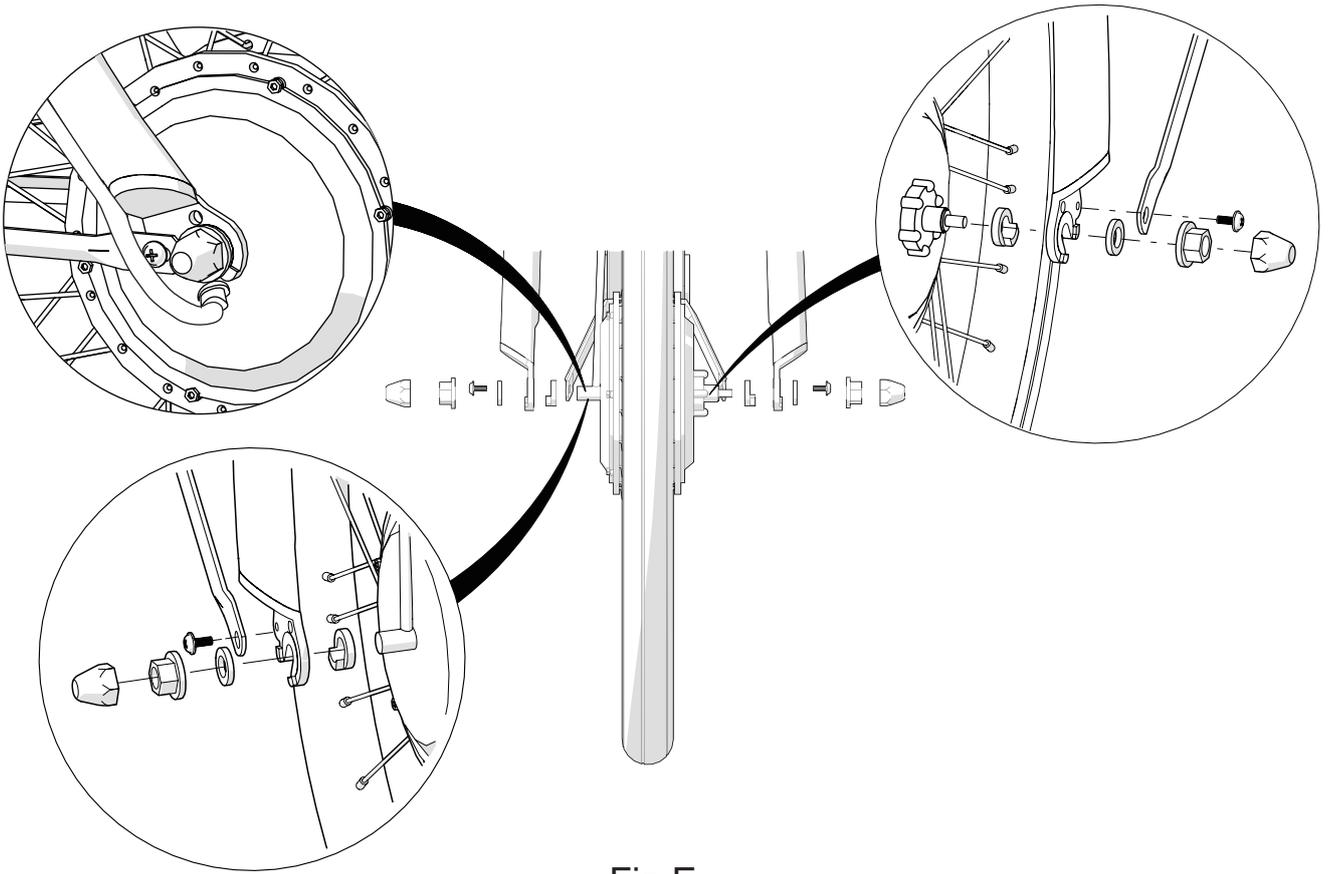


Fig E

Handlebar Stem Installation

Lubricate inside of fork steer tube with heavy grease. Install #14 Handlebar Stem into fork steer tube. See Figure F

WARNING! THE STEM MINIMUM INSERT MARK MUST BE BELOW THE HEAD TUBE.

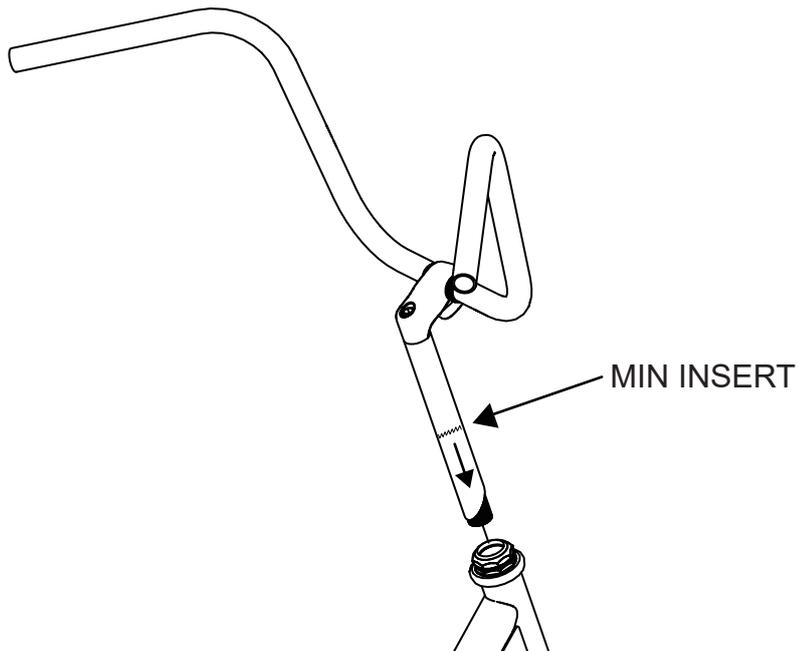


Fig F

Handlebar Adjustment

#15 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

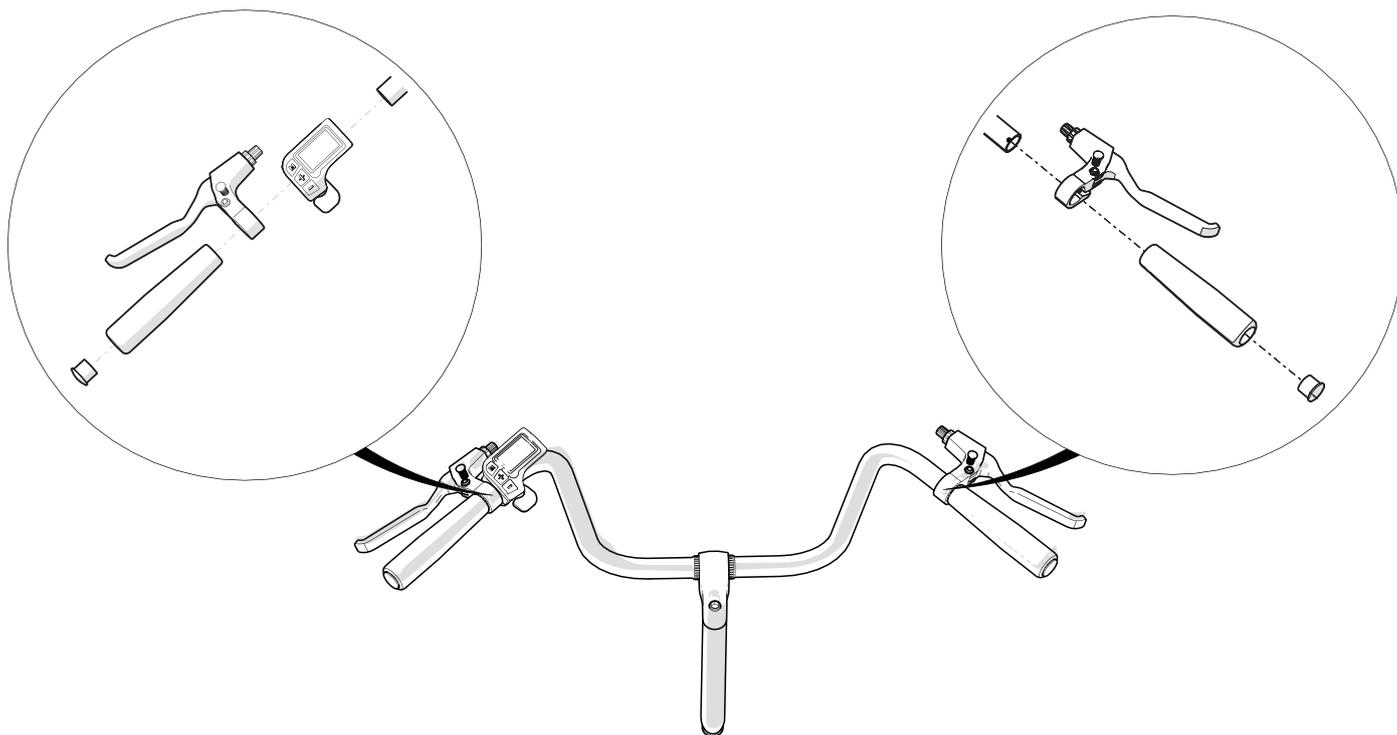


Fig G

Western Saddle Installation

Install #18 Seat Brace onto rear bolts of #17 Western Saddle using round clips with bar to rear of bolts. Secure with #18 Seat Brace Hardware.

Lubricate seat tube with heavy grease, place #19 Seat Post into seat tube of trike and tighten. Place #17 Western Saddle, in a level position, onto seat post and tighten seat post clamp. Put the closest matching #18 Seat Brace lower holes over the two long carriage bolts. Attach nuts.

Adjust saddle height, tighten seat post, saddle clamp and seat brace hardware securely. See Figure H

WARNING! THE SEAT POST MINIMUM INSERT MARK MUST BE BELOW THE SEAT TUBE.

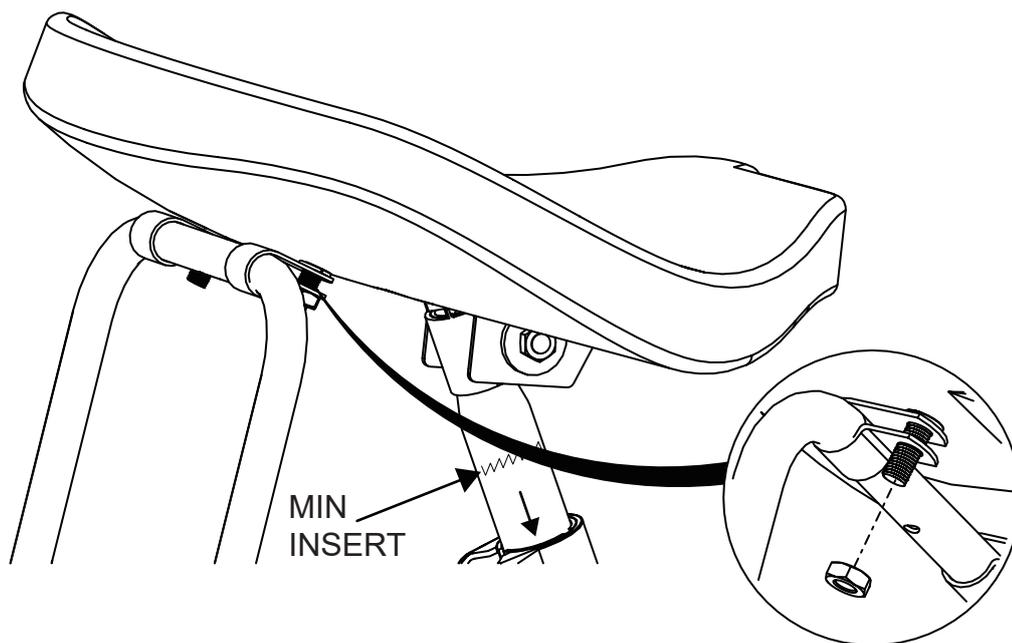


Fig H

Trike Battery Holder Installation

Place the #31 Battery Holder over the #2 Rear Unit Assembly and align the holes. The battery tray should open to the rear of the trike. See Figure I

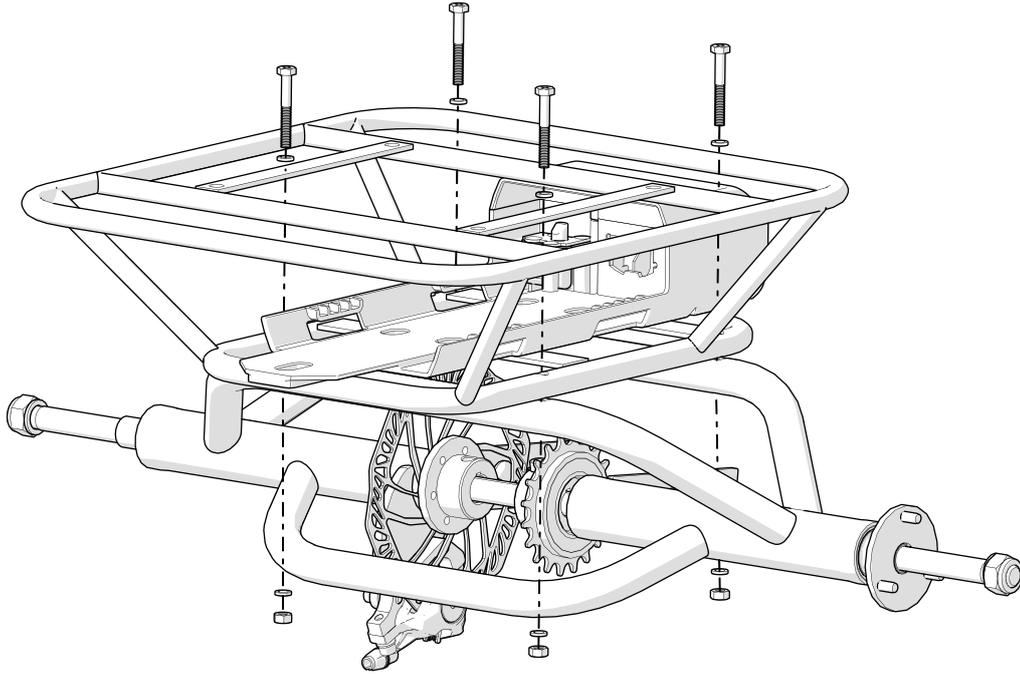


Fig I

Trike Basket Installation

Place and center the #20 Trike Basket onto the top of the #31 Battery Holder. Align the first basket attaching brace over the front two holes of the #31 Battery Holder. Attach nuts and bolts and finger tighten. Repeat using second basket attaching brace and the two rear holes of the #31 Battery Holder.

Recenter basket and tighten all nuts and bolts securely. See Figure J

WARNING! NEVER PUT A CHILD OR PET IN THE BASKET. DO NOT CARRY PASSENGERS.

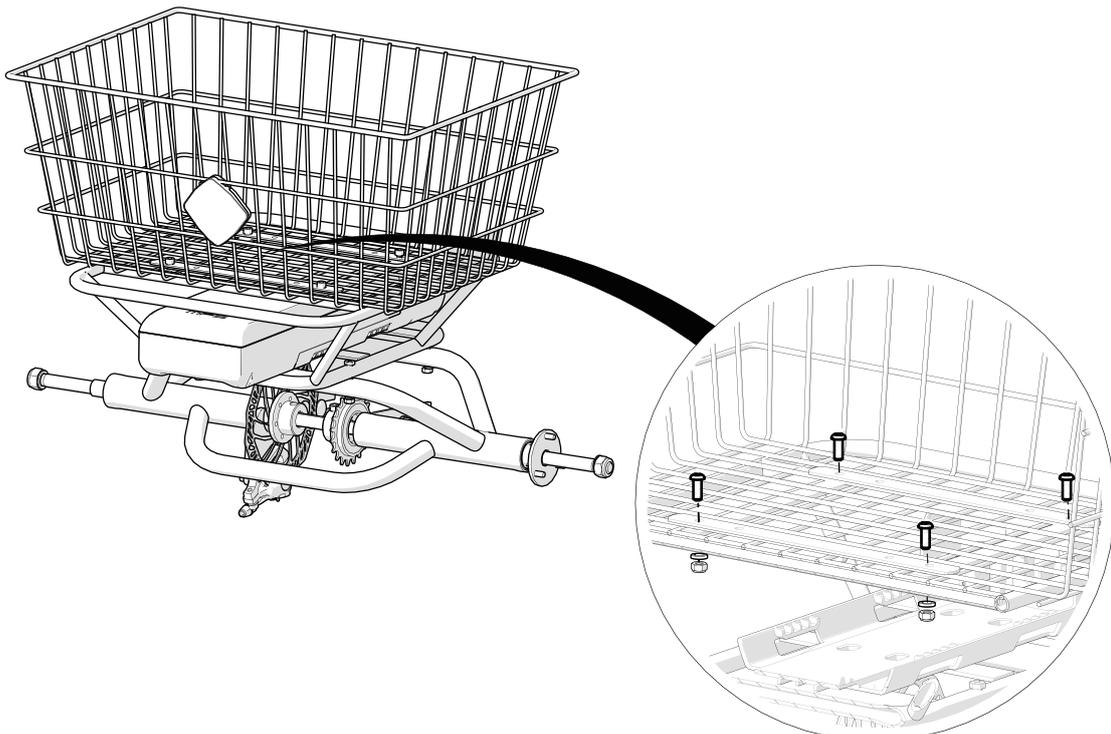


Fig J

Pedal Installation

Apply grease to the threads of the #22 Pedals. This will protect both the threads of the pedal and the crank arm over time.

Using your hands, thread the #22 Pedals (marked for L or R) into the respective left or right crank arms by turning them toward the front of the bike.

Once the threads catch, use your pedal wrench to finish tightening down the pedals. See Figure K

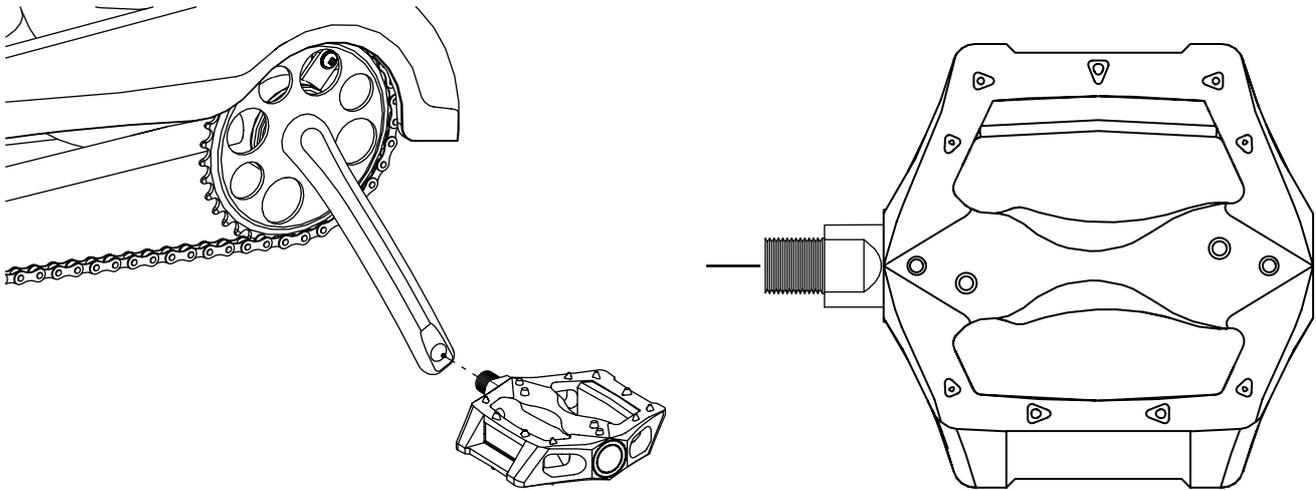


Fig K

Reflector Kit Installation

Mount front white reflector to front reflector bracket, install using long bolt through front of #25 Fork, with nut and half-moon washer to rear. Mount rear red reflector to welded reflector bracket on rear of #20 Trike Basket. Mount wheel reflectors on spokes opposite valve stems on each rim. For mag wheels the reflectors are installed on molded wheel tabs. See Figure L

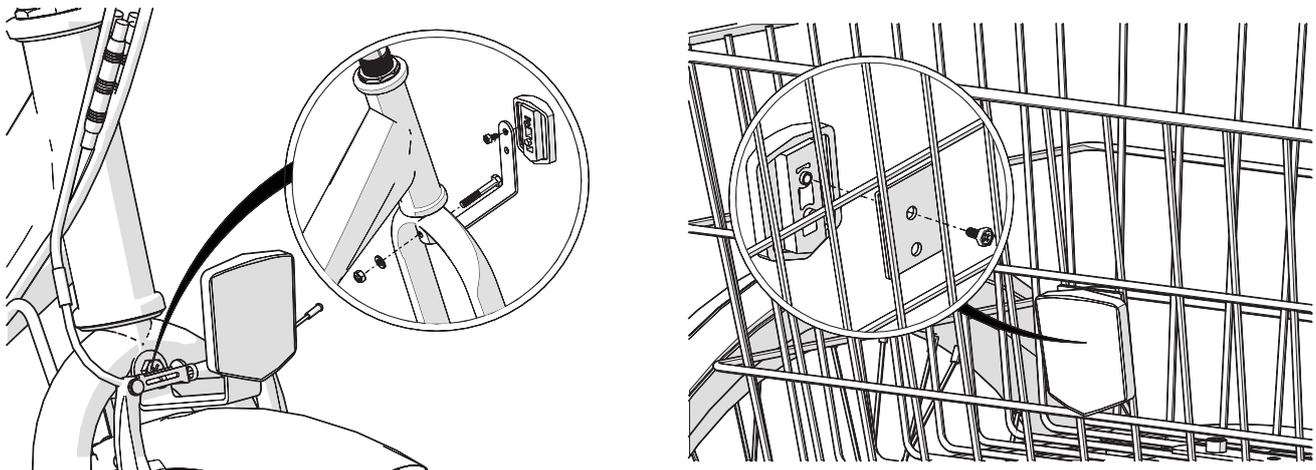


Fig L

(IT IS ADVISABLE THAT ALL NUTS & BOLTS ARE ONCE AGAIN CHECKED FOR TIGHTNESS & SECURITY)

Brake Sensor Installation

The #23 Brake Sensors are integrated inline with the left and right brake levers. See Figure M

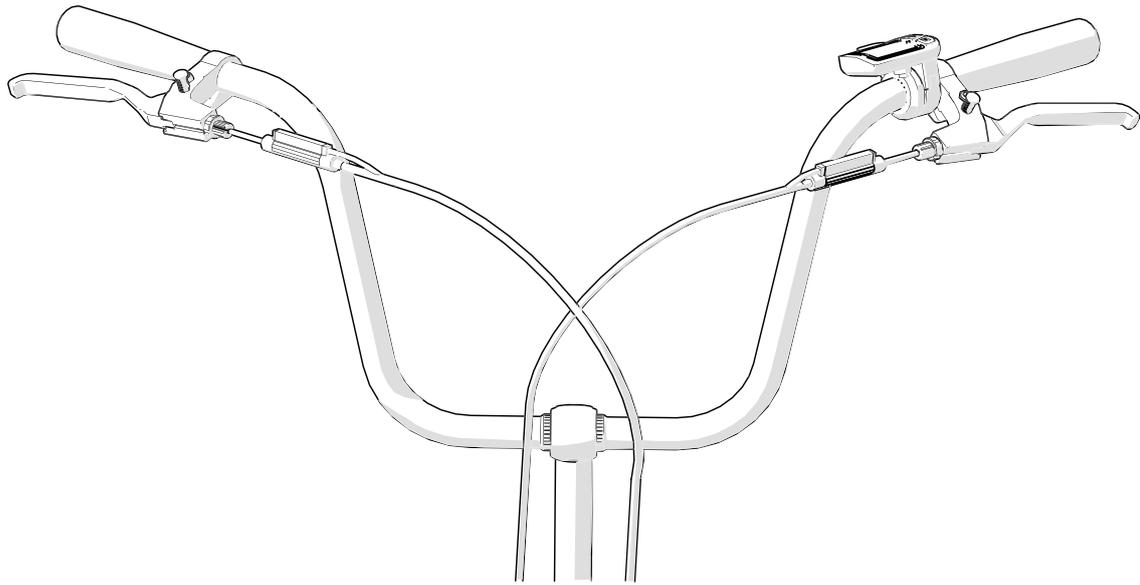


Fig M

Display Wire Installation

Locate the #30 LED Display wire and corresponding connector, align arrows on connector bodies and gently click connectors together. See Figure N

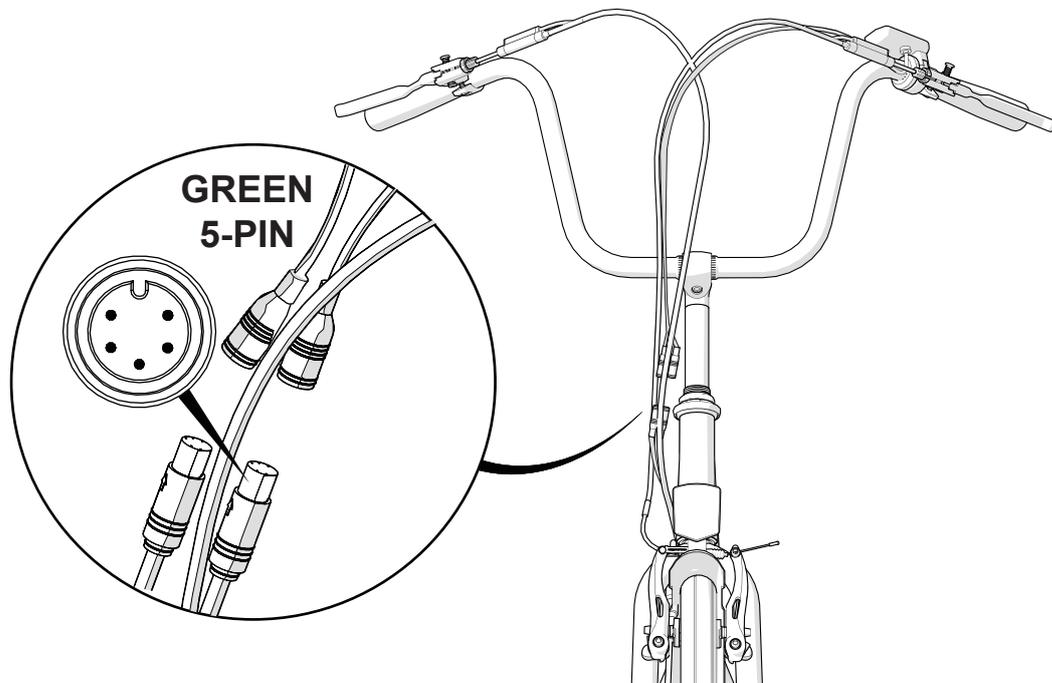


Fig N

Brake Sensor Wire Installation

Locate the #23 Brake Sensor wires and corresponding connectors, align arrows on connector bodies and gently click connectors together. See Figure O

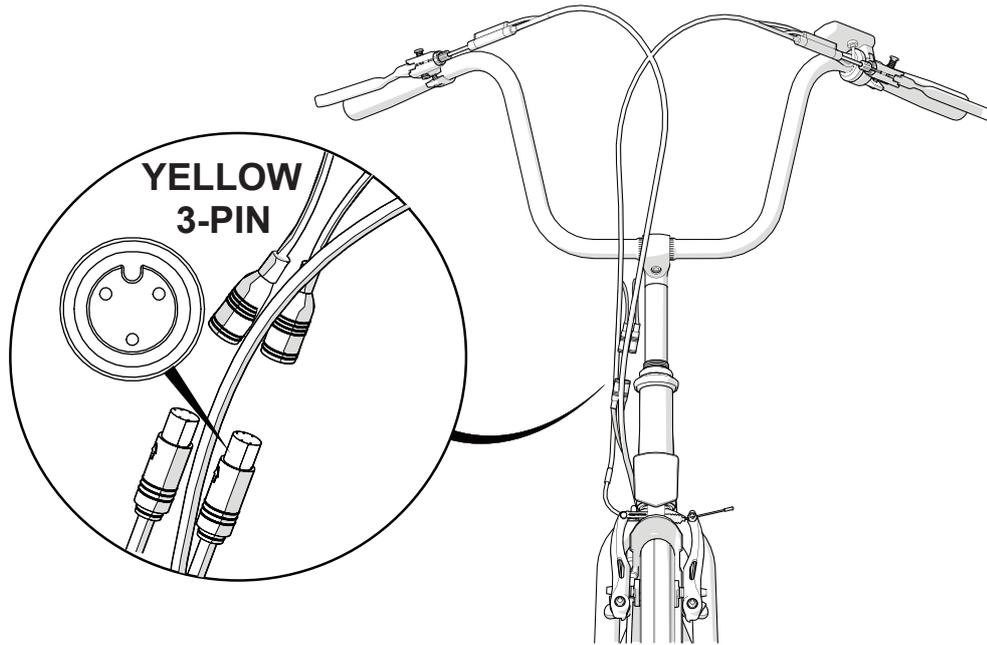


Fig O

Front Hub Motor Wire Installation

Locate the #33 Front Hub Motor wire and corresponding connector, align arrows on connector bodies and gently click connectors together. See Figure P

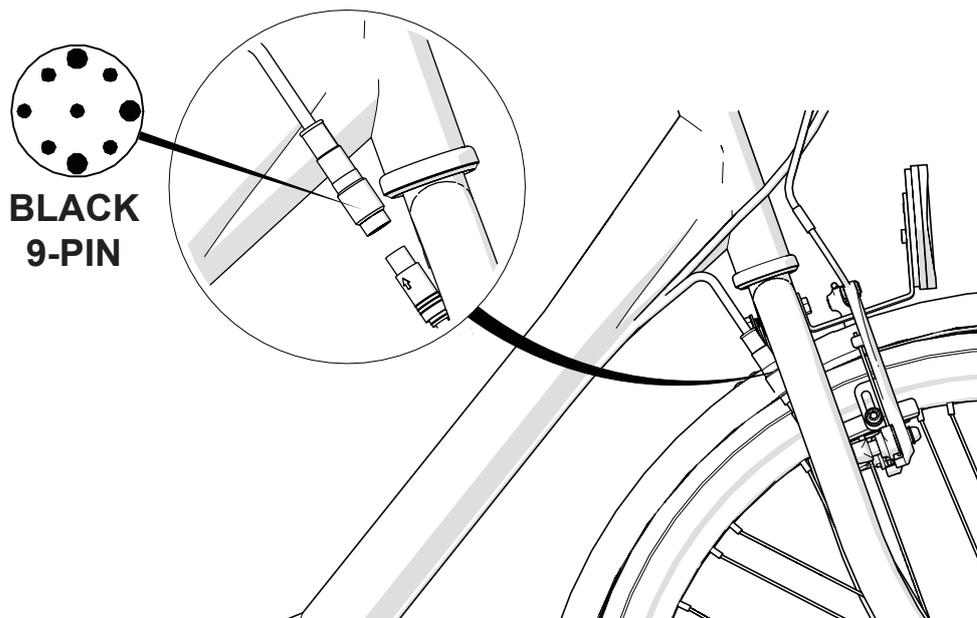


Fig P

Battery Cable Installation

Connect the motor power cable, the bottom bracket sensor cable and the EB-BUS data cable to the corresponding connectors. See Figure Q

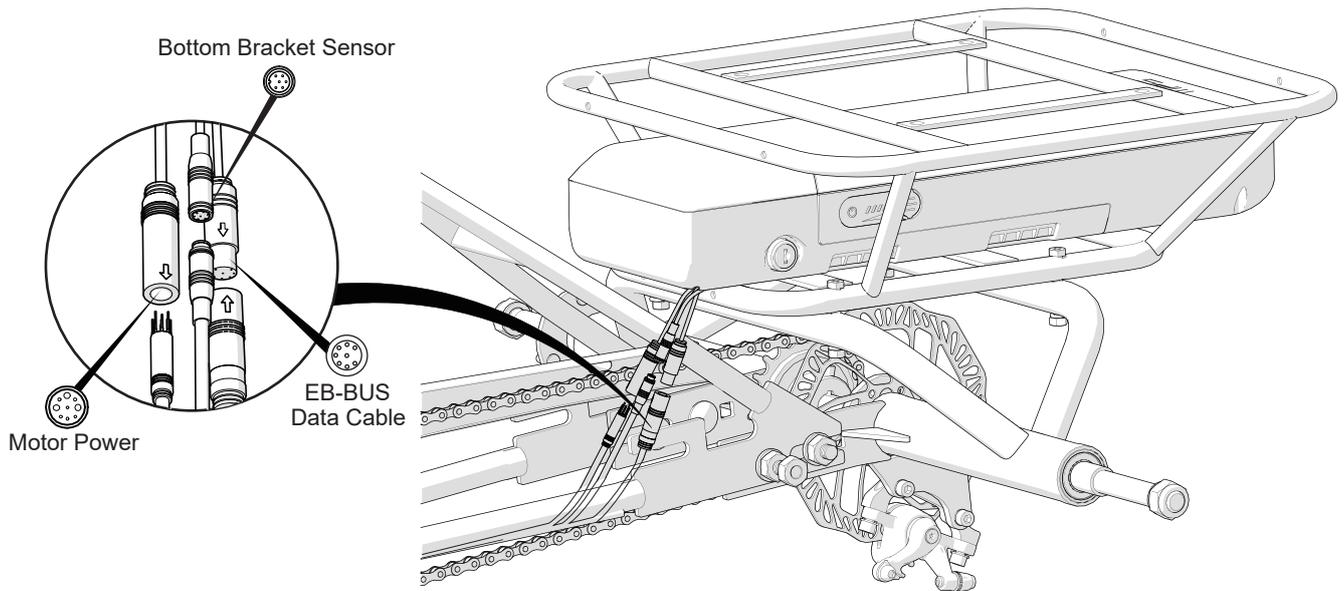


Fig Q

Battery Installation

To insert, align battery with the mounting plate guides and push battery forward until it is locked into the base. Lock using the supplied key set. Keep battery locked when trike is in use to prevent sudden power loss and possible damage from battery disconnection. Remove key and store safely while trike is in motion. See Figure R

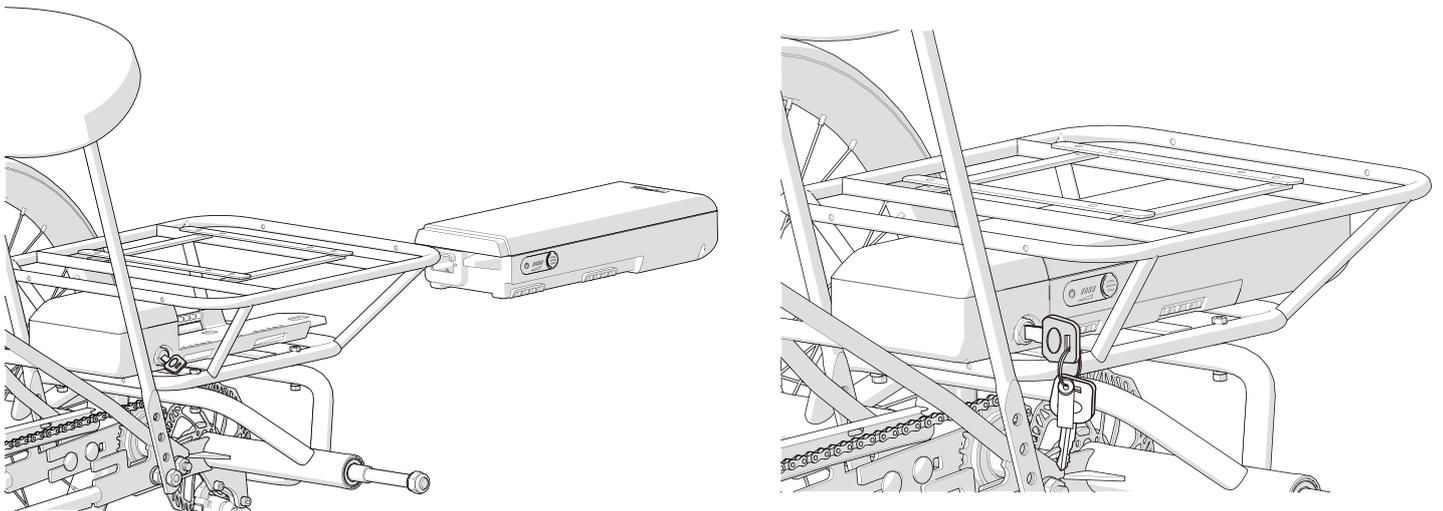


Fig R

PLEASE READ THIS BEFORE RIDING YOUR SUN TRIKE

This manual is intended to be read carefully so that you may enjoy your new three-wheeler and be an informed rider aware of the benefits as well as the warnings and safety issues in riding this trike.

A trike is not a bicycle, and this manual contains specific information and warnings that will let you enjoy your Sun Trike in comfort and safety.

Tricycling is a sport, and a mode of transportation. With it, comes the risk of an accident that could result in injury and even death. By riding this trike, you assume that risk.

We want to give you as much information as possible to make you a safer rider. We cannot cover all contingencies, but we can make you more aware and informed. Be aware that:

- Municipal bicycle regulations also apply to tricycles. Most states and municipalities have bike regulations. It's up to you to research those regulations and become informed. Your local dealer will be able to help you with this information. Since you will be sharing the road at times with other vehicles, a good rule to follow is "If you can't do it with a bicycle, don't do it with a trike."
- A trike's widest point is behind you at the rear wheels. If the front goes by an obstacle there is no guarantee that the rear wheels will also clear. When riding, you must give clearance to the edge of the road or sidewalk. Give extra room when passing near pedestrians and obstacles. Stay clear of potholes and be aware that you can lose control if any wheels should drop into a hole or catch an immobile object.

Always ride defensively and watch out for the unexpected. This means everything from cars to kids, pets, and rough or hazardous road surfaces. Be prepared to avoid danger and ALWAYS WEAR A BICYCLE HELMET. We recommend buying your helmet from a local dealer that can fit and instruct you on the correct way to wear this helmet. Protecting your head is your primary safety responsibility.

Always wear a CPSC, ANZI, ASTM, or SNELL approved bicycle helmet. CPSC approval is the new U.S. Federal Standard to which all helmets must comply.

PRE-RIDE CHECKLIST

1. Check your tires for proper air pressure. Keep tire pressure between the minimum and maximum air pressure rating printed on the tire sidewall. Do not inflate over the maximum air pressure rating on the tire sidewall.
2. Test your front brake and make sure it stops the trike. If you have any doubts, do not ride and see your dealer. All trikes are equipped with a front brake as standard equipment and the primary stopping system. This also applies to a trike that may have an optional rear brake. Under no circumstance should the front brake be removed.
3. Check that the handlebar is tight and that the ends are plugged. Check the saddle for tightness.
4. Move the trike forward and back. If you hear or feel any resistance, do not ride.

If you feel that something is not right after performing your check, **DO NOT RIDE**. Take your trike to your local dealer for inspection.

PRECAUTIONS AND WARNINGS

A trike does not handle like a bicycle. You cannot lean into a turn. Turns must be made more carefully and at a slower speed than a bicycle.

All wheels must be on the ground at all times. Do not make sudden changes in direction that could unbalance the trike and cause an accident.

When beginning to ride, stay at a slow speed. You must acclimate yourself to handling and turning this three-wheeler. If you feel insecure, slow down and proceed at a slower pace. With practice, you will become comfortable riding and stopping.

The ability to climb hills on this electric trike will depend on the grade, rider weight, pedal input, and momentum. It is not advised to rely solely on the motor assist. Best results will come from a combination of motor and pedal assist.

Tipping hazard. Turning sharply or turning at speeds above 5 mph can cause the trike to become unbalanced and tip over resulting in possible injury.

For your safety, the maximum power-assisted speed of this trike is limited to 10 MPH.

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

We recommend that you not ride at night or at times of reduced visibility.

If you must ride at night or during reduced visibility, you must outfit your trike with white front light and red rear light. Relying on reflectors is not adequate protection. Most municipalities require lights for night riding. Your local bicycle dealer can help you in selecting the right lighting system for your needs.

The rear basket is intended for light storage. It is not intended to support or protect a passenger. **NEVER PUT A CHILD OR PET IN THE BASKET!** The turning wheels and other moving parts could lead to injury or death. There is also the risk of the passenger falling out of the basket. The trike is made for one person only and the basket is not built to hold a passenger.

DO NOT CARRY PASSENGERS.

INTENDED FOR RIDERS 13 YEARS OF AGE OR OLDER.

MAXIMUM WEIGHT LIMIT FOR RIDER AND CARGO COMBINED IS 250 LBS.

MAXIMUM WEIGHT LIMIT FOR CARGO IS 50 LBS.

MOTOR

Brand: Bafang

Model: FM G020.350 Gear Drive Front Hub Motor

Rated Voltage: 36V DC

Rated Power: 350W

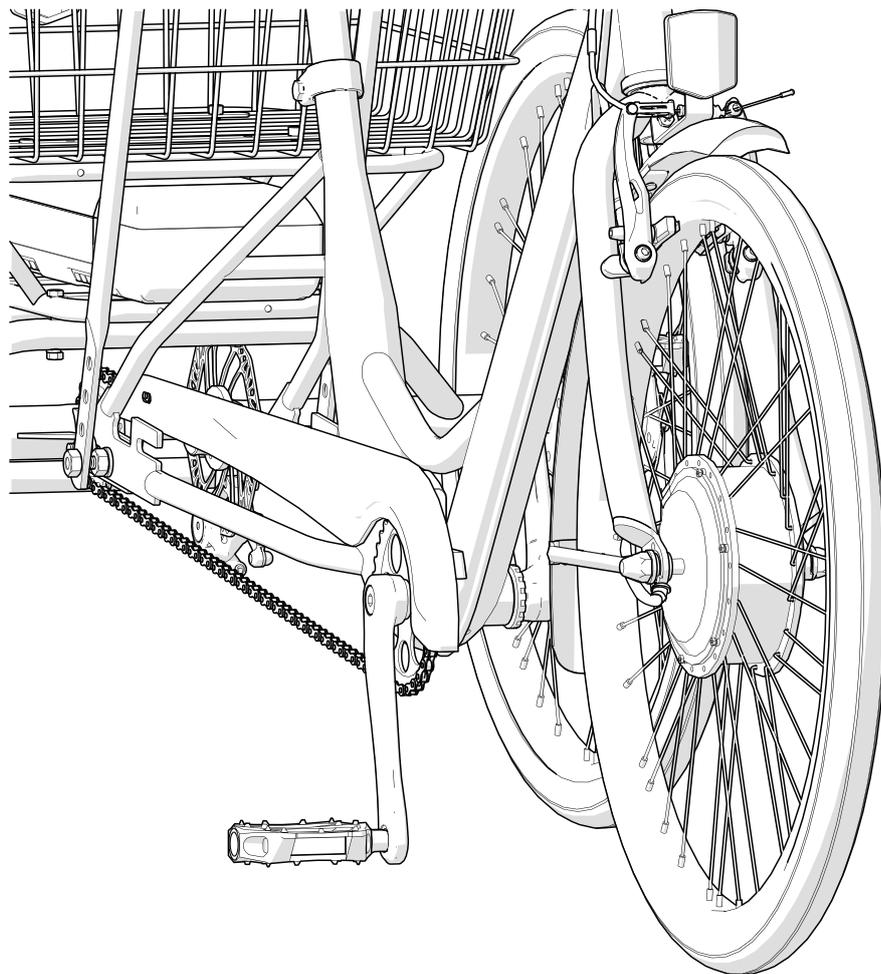
Efficiency (%): >80

Noise Grade: < 55 dB

Water Resistance Rating: IP 65

Operating Temperature Range: (-4)°F - 113°F

Weight: 7.3 lbs



DISPLAY

Brand: King-Meter

Model: Digital II-LCD e-bike display with integrated and removable thumb throttle

Rated Voltage: 36V DC

Communication: UART

Water Resistance Rating: IP 66

Certificates: CE/ROHS

Operating Temperature Range: (-4)°F - 140°F

Features: Current Speed, Average Speed, Maximum Speed, Odometer, Trip Odometer, Trip Time, Backlit Display, Walk Assist Mode, Battery Level Indicator, Adjustable Assist Levels, Error Code Display

User Manual: For complete details on the operation and use of this display refer to the King-Meter User Manual included with your new trike.



**For your safety,
the maximum power
assisted speed
of this trike is
limited to 10 MPH.**

KING-METER

USER GUIDE

Digital II - LCD



Contents

Preface	21
Appearance and Size	21
Material and Color	21
Function Summary and Button Definition	22
Normal Display Area	22
Button Definition	23
Notes For Users	23
Installation Instructions	24
Standard Operation	24
On/Off	24
Switch Speed Display Information	24
Switch Riding Display Information	24
Walk Assist Mode	25
Turning on Backlight	25
Pedal Assist (PAS) level	25
Throttle Function (optional)	26
Battery Indicator	26
Error Codes	26
User Settings	27
Backlight Brightness	27
Display Units (Metric/Imperial)	27
Exit Settings	27
Frequently Asked Questions	28
Warranty and Coverage	28
Circuit Block Diagram	29
Software Version	30
Appendix: Error Codes	30

Preface

To ensure best performance of your e-trike, please read this user manual before use. Here we provide details on hardware installation, setting and normal use of the Digital II-LCD display. Included are answers to your most frequently asked questions that will help speed up the troubleshooting process.

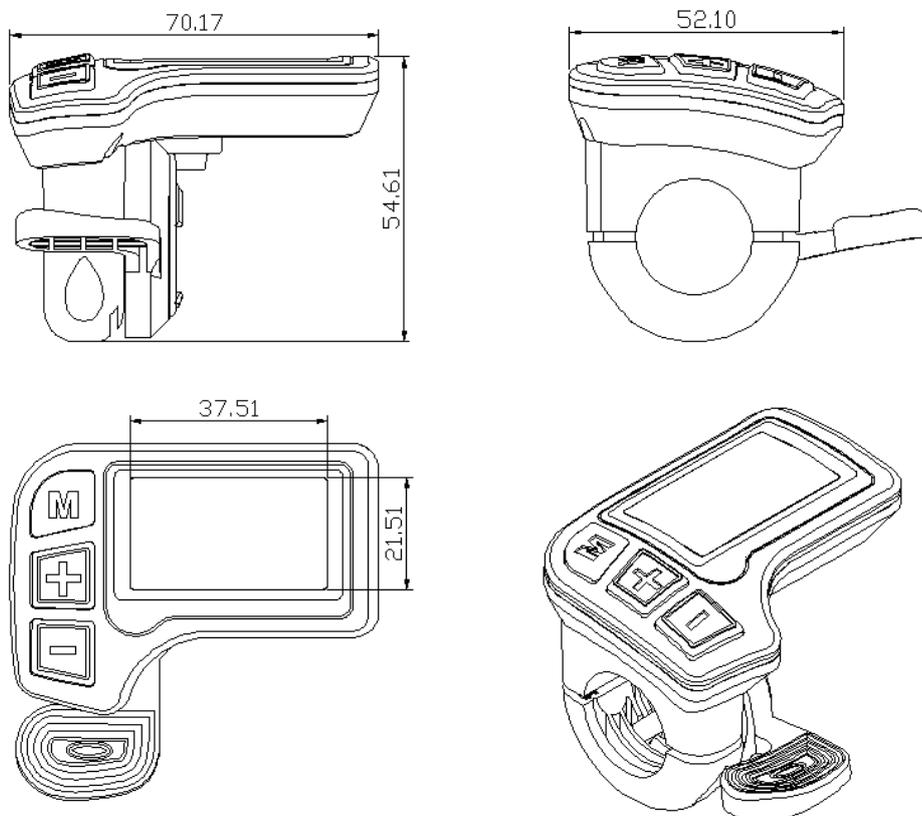
Appearance And Size

Material And Color

Digital II-LCD housing material: Black polycarbonate.

Working Temperature: $[(-20) ^\circ\text{C} - (+60) ^\circ\text{C}] / [(-4) ^\circ\text{F} - (+140) ^\circ\text{F}]$

Display Size and Installation Size (Unit: mm)



Function Summary And Button Definition

Digital II-LCD offers plenty of functions shown here, in order to meet many different needs.

- ◆ Battery indicator
- ◆ Speed display (Including current, maximum, and average speed display)
- ◆ Distance display (Including trip distance, odometer)
- ◆ Riding Time display
- ◆ Lighting State display
- ◆ Walking Mode display
- ◆ Error Code display
- ◆ Multiple Parameter setting

Normal Display Area

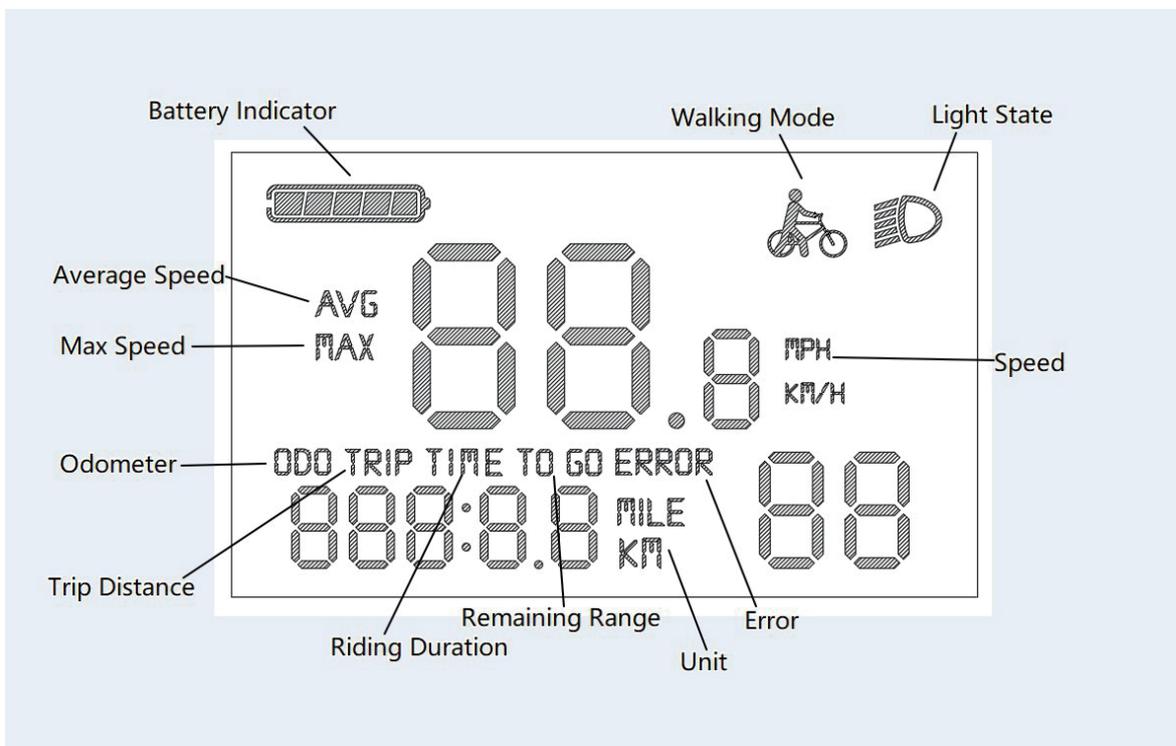


Chart 1 Digital II-LCD Normal Display Interface

Button Definition

The three buttons to the left of the Digital II LCD display are as shown:

(M) = MODE

(+) = UP

(-) = Down



Notes For Users

Be careful during installation, power down your e-trike before connecting or disconnecting the Digital II-LCD display.



Avoid collisions that may damage the Digital II-LCD display.



To prevent water damage, do not remove any sealing stickers



Do not tamper with the Digital II-LCD display's background parameters or factory software



Stop using and contact your local bike shop immediately if display is faulty.

Installation Instructions

Mount the display on the handlebar, adjust angle for best visibility and control. connect the two plugs from display to controller, making sure the power is disconnected.

Standard Operation

On/Off

Hold Mode button to start display and supply power to the controller, e-trike will power on. Once powered on, press and hold Mode button to shut off e-trike power.

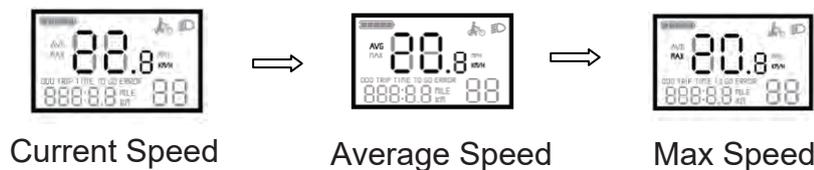
Display does not use power when shut down; current draw will be less than 1uA.

 If E-trike is not used for more than 10 minutes, display will turn off automatically.

Switching Speed Display Information

After turning on display, current speed is shown. Press and hold “MODE” and “UP” buttons to switch speed information from:

Current Speed (Km/h) → Average Speed (Km/h) → Maximum Speed (Km/h)

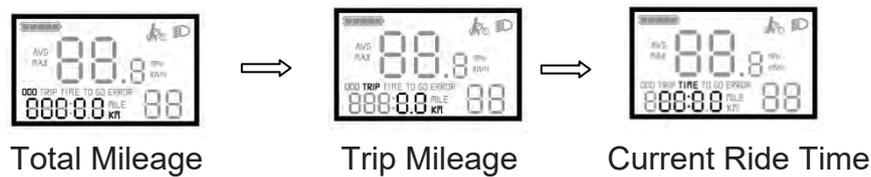


Average speed and maximum speed are cleared when the display is turned off.

Switching Ride Display Information

Press “MODE” button to switch ride information from:

Total Mileage (ODO) → Trip Mileage (TRIP) → Current Ride Time (TIME)



Resetting Ride Display Information

After turning on display, total mileage is shown. Press and hold “MODE” and “DOWN” buttons to clear trip mileage and current ride time. Total mileage will not be reset.

Walk Assist Mode

Press and hold “DOWN” button to activate Walk Assist Mode.

This Walk Assist setting will move the bike forward at a steady speed of 6km / 3.7mph to aid in moving trike when not riding. Use care with this mode, as the trike may move unexpectedly.



Chart 2 Walk Assist Interface



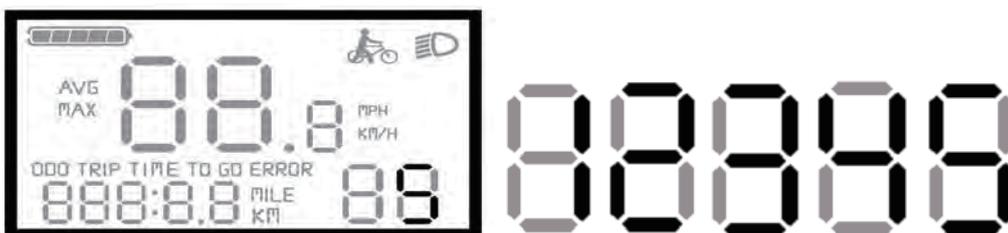
Walk Assist Mode is only for help while pushing the trike. Do not use this function while riding.

Turning On Display Backlight

Press and hold "UP" button for 2 seconds, backlight will turn on. Use this backlight mode when riding at night or in low light. Press and hold "UP" button for 2 seconds, backlight will turn off. If the e-bike is equipped with integrated headlights and taillights these may also turn on and off with this backlight setting.

Pedal Assist (PAS) Levels

The default PAS setting is level 1. Quickly press “UP” or “DOWN” button to change the level of pedal assist. The PAS setting range is 0 to 5, setting 0 being no power, setting 5 being full power.



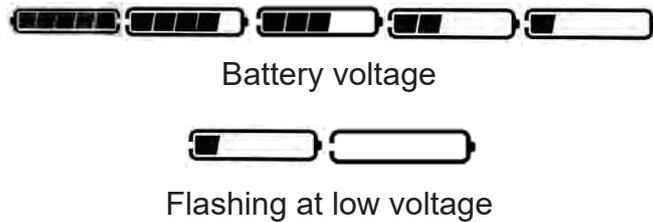
Thumb Throttle (Optional)

The Digital II-LCD Display is equipped with connections for a separate throttle control. The maximum output voltage of this throttle signal line is 4.3V.

Battery Indicator

The display will show five shaded bars when at a full battery state. As the battery voltage drops, the bars will disappear to indicate discharge state.

This last bar will flash to warn of low voltage.



Error Codes

If system faults are found, the display will show an error code. Please see appendix for code meanings and possible causes.

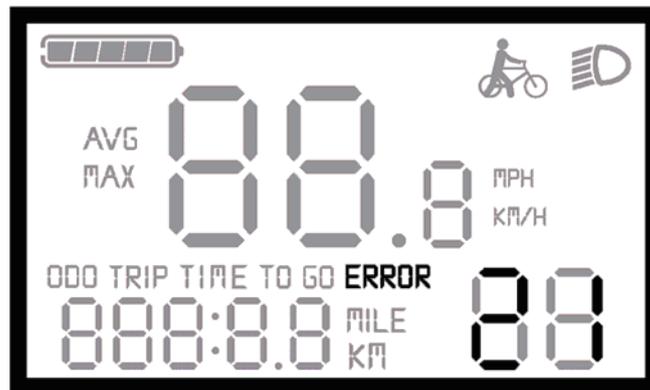


Chart 3 Error Code Interface

Any error codes must be corrected before the display will return to normal operation. The e-trike will not operate until display is returned to normal operation to prevent further systems damage or other unsafe conditions.

User Settings

Hold “MODE” button for several seconds to turn on display.

Once powered on, hold the “UP” and “DOWN” buttons for two seconds to enter settings.

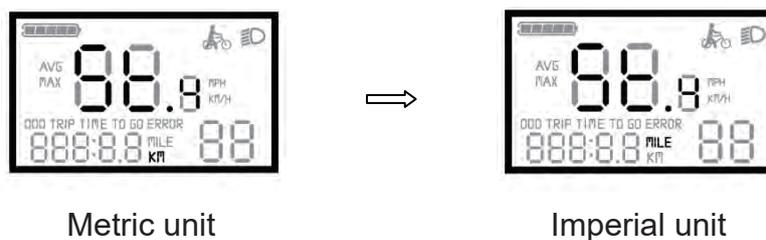
Brightness Of Backlight

Using “UP” or “DOWN” button, select backlight brightness from 1-3. Setting 1 is the lowest brightness, setting 3 is the highest brightness. Press “MODE” button to confirm and switch to display unit setting. The default brightness setting of the Digital II-LCD display is 1.



Display Unit Setting (Metric Or Imperial Unit)

Press “UP” or “DOWN” button to switch display between metric (km) and imperial (mi) units. After setting, speed and trip display will both be displayed in your selected unit.



Exit Settings

At any parameter setting state, press “MODE” button for more than 2 seconds to save current setting.

The display automatically exits settings mode when no inputs are given for approximately one minute.

Frequently Asked Questions

Q: Why won't my LCD display power on?

A: Check that the battery is charged, fully seated in the battery holder and powered on.

A: Check the connections between the display wire harness and the controller.

Q: My LCD display has power, why don't I get assist?

A: Check that the assist level on the LCD display is at level 1 or above.

A: Check that the brakes are not engaged.

A: Check the connections between the controller and the front hub motor.

Q: How do I correct an error code?

A: Please bring your e-trike immediately to your local dealer for repairs.

Warranty And Coverage

Warranty Information

King-Meter will be responsible for its limited warranty for a period of 24 months from the factory production date of the Digital II-LCD display, for any product that fails during this time due to manufacturing defects.

The Following Circumstances Are Not Considered As Warranty Issues:

- ◆ Opened, impacted or otherwise damaged display housings
- ◆ Broken connectors
- ◆ Scratches or other cosmetic damage
- ◆ Broken, pulled, or frayed wiring or other external wire damage
- ◆ Damage caused by natural disasters, fires or other forces beyond control
- ◆ Product that has exceeded the King-Meter warranty period

Circuit Block Diagram

Diagram 1: Standard connector cable sequence table (display without throttle)

Note: Most displays use a waterproof covering over exposed cables.

Wire Sequence	Wire Color	Usage
1	RED (VCC)	Power(+)
2	BLUE (K)	Power to controller
3	BLACK (GND)	Ground (-)
4	GREEN (RX)	Receiving data
5	YELLOW (TX)	Transmitting data

Diagram 2: Standard connector cable sequence table (display with throttle)

Wire Sequence	Wire Color	Usage
1	RED (VCC)	Power (+)
2	BLUE (K)	Power to controller
3	BLACK (GND)	Ground (-)
4	GREEN (RX)	Receiving data
5	YELLOW (TX)	Transmitting data
6	WHITE (ZB)	Throttle signal

Software Version

This operating guide is for software version V1.3. Some versions of the e-trike LCD display may have slight differences.

Appendix: Error Code

Diagram 3: Standard error code display definition table.

Code Display	Definition
4	Throttle not parked (stuck in high position)
5 / 22	Throttle fault
7	Over-voltage protection
8 / 24	Motor hall sensor fault
9 / 23	Motor phase fault
10	Controller temperature high protection
11	Controller temperature sensor fault
12	Current sensor fault
13	Battery temperature protection
14	Motor temperature protection
21	Motor speed sensor fault / abnormal current
25	Brake sensor failure
30	Abnormal communication

KING-METER

Battery

SPECIFICATIONS

Brand: MPS

Cell Type: Lithium-ion

Rated Capacity: 10.4 Ah

Rated Energy: 374Wh

Rated Voltage: 36V DC

Operating Temperature: -20 ~ 50°C

Charge Temperature: 0 ~45°C

Storage Temperature: -20 ~ 45°C

Storage Humidity: 45~65%

Dust/Water-proof rating: IP65

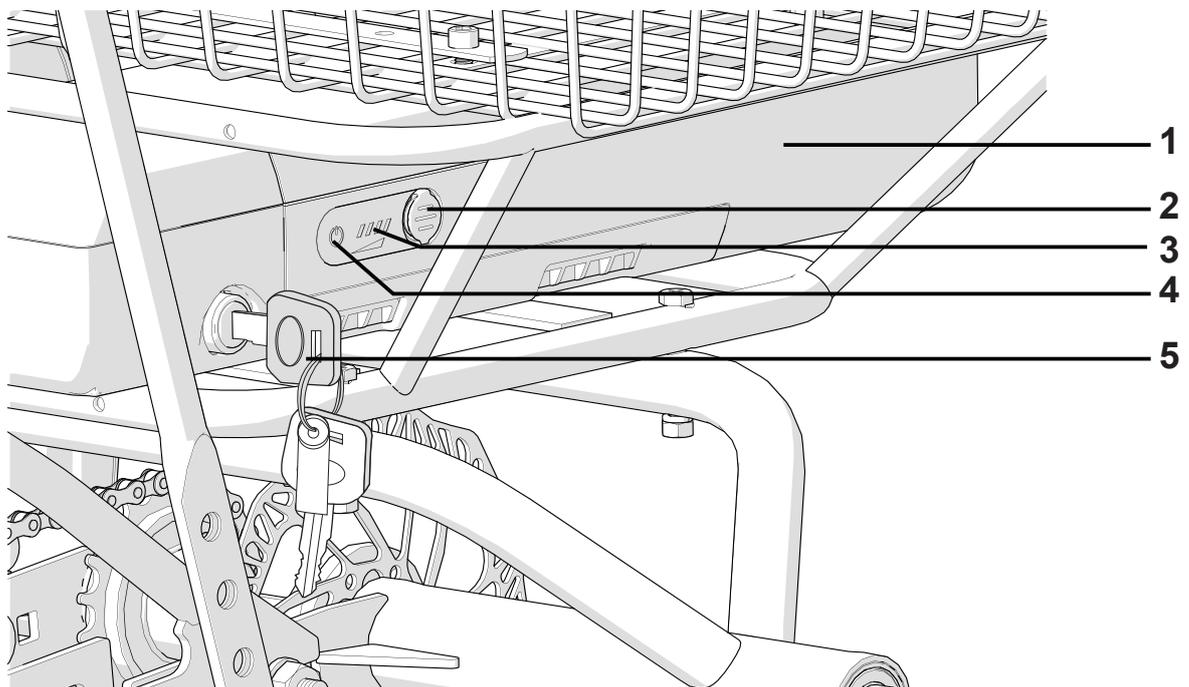
Weight: 6.5 LBS

COMPONENTS

1. Battery Pack
2. Charging Port & Cover
3. Charging Indicator
4. Power On Button
5. Battery Lock

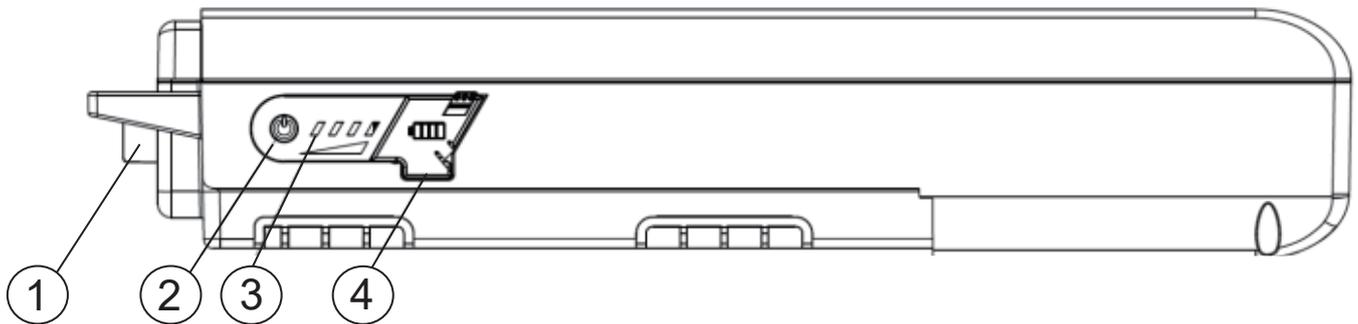
WARNING!
Do not leave key in battery lock during use. Key will fall out and be lost.

WARNING!
This trike is designed for use only with 36V 10.4Ah OE battery. Use of any other battery will void warranty.



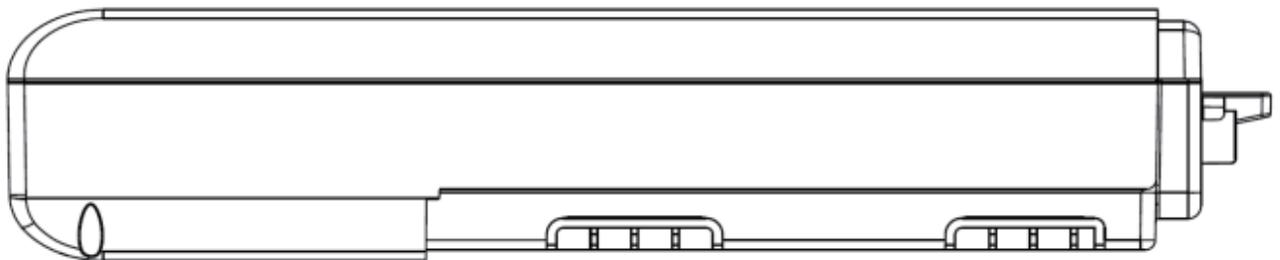
Product Appearance

■ Left View

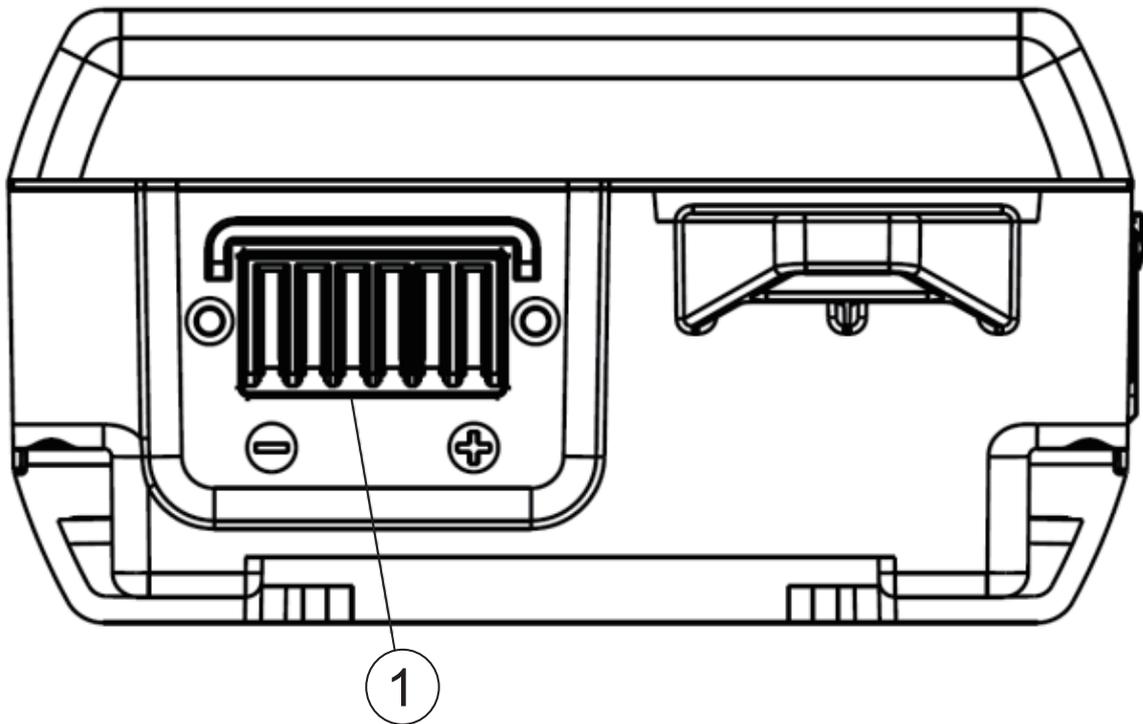


1. Power Output and Communication Port
2. Power Button
3. LED Indicator
4. Charging Port

■ Right View



■ Front View



1. Power Output and Communication Port

Standard Operation

■ Power Button

Press and hold the battery power button for more than 1 second to power the battery on or off.

The LED indicator will sweep up the scale when the battery is powered on, down the scale when the battery is powered off.

■ Battery Level Indicator

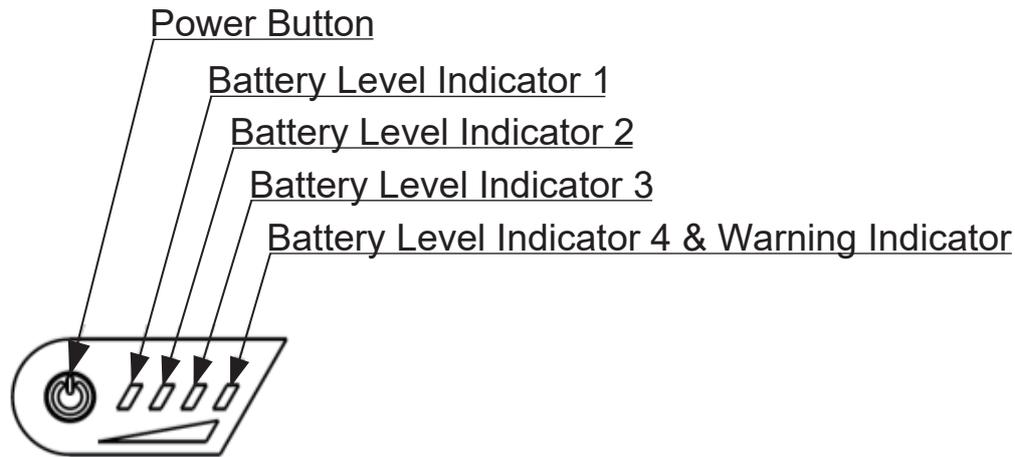
With the battery powered on, press the battery power button quickly to display current battery charge level on the battery LED indicator.

■ Auto Power Off

Battery will power off automatically if output current is less than 500mA for 24 hours.

Charging Indicator

- Press the power button quickly to display current battery charge level on the battery LED indicator.



Battery Level Indicator : GREEN

Warning Indicator : RED

Charging Battery

- Charging port is located right beside the battery's LED Indicator.
- Open the charge port cap, plug the charging plug into charging port.
- Connect the charger to power, see the Charging Mode for charge status. Disconnect charger from power before removing charging plug from battery.
- Close the charge port cap once charging is finished and charging plug is removed.
- Please refer to LED Indicator on battery for charging status.

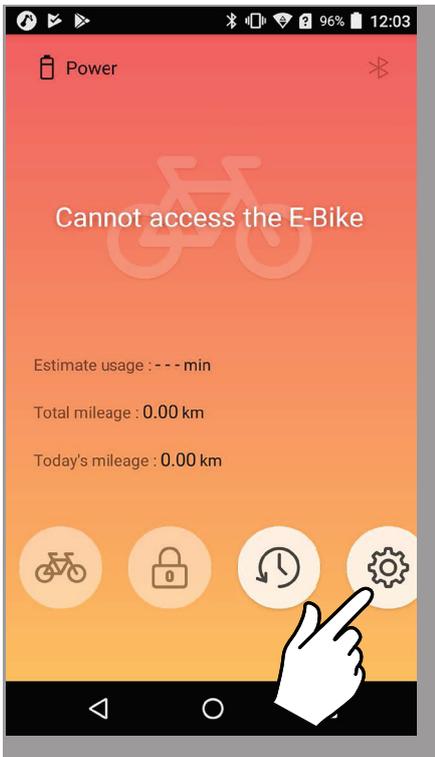
Bluetooth 4.0

- Bluetooth is supported on this model MBP-BR36S6M03.L4, battery.
- You can download mBike  app by Acer Inc. Available in the Apple and Google Play stores.
- Battery must be powered on to initiate Bluetooth connection.

Bluetooth App Manual

(Note: most images are from the Android App)

1. Download the mBike App from iTunes or Google Play Store.
2. Tap the "mBike"  icon on your phone.
3. Once on the mBike Home Screen, tap the "Settings" icon.



Launch Dashboard Page to record your trip. Connect Bluetooth to enable this button.



Bluetooth Lock function. Connect BT to enable button.



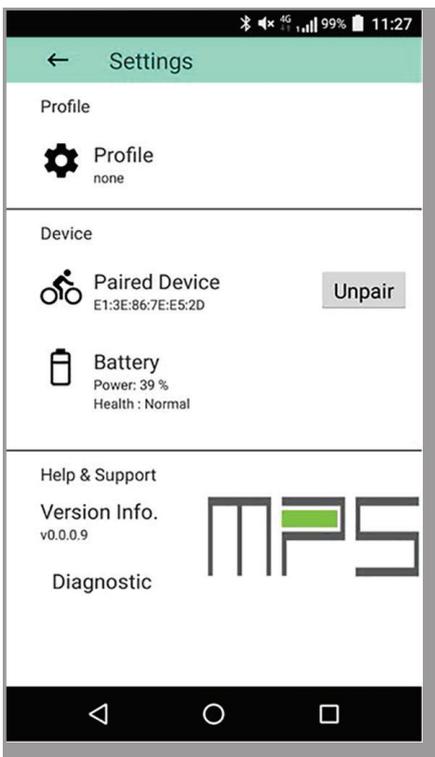
Bluetooth Lock is activated and Dashboard button is disabled.



Launch History Page.



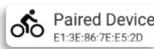
Launch Settings Page.



Profile page is for optional basic data. User name "None" will be used unless filled in.



Pair/Unpair for MPS battery pack.



Shows the MAC address of the connected MPS battery pack.



Shows the Battery Power Level and Health Status of the MPS Battery

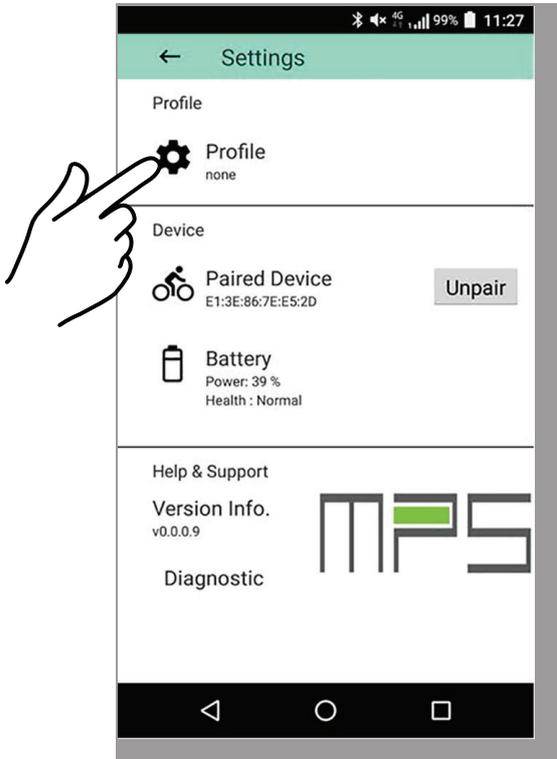


Tapping "Version Info" four consecutive times will unlock the "Diagnostic" button.

When "Diagnostic" is tapped it will launch the Diagnostic page.

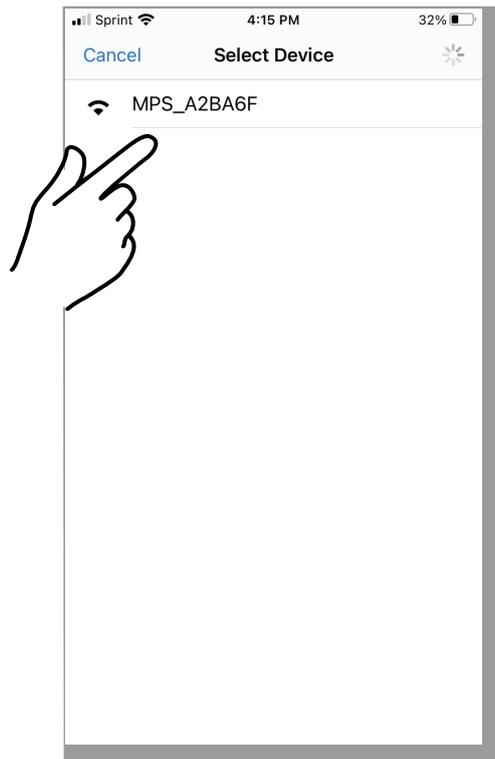
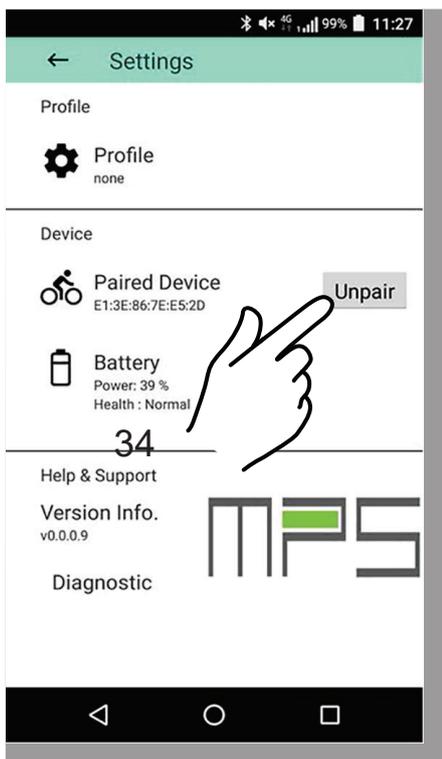
Bluetooth App Manual

4. Once on the Settings screen, tap "Profile" and fill in your Profile information.



5. On the Settings screen, tap "Pair."

6. Once on the Select Device screen tap MPS then on the Settings screen you will see that battery is paired.

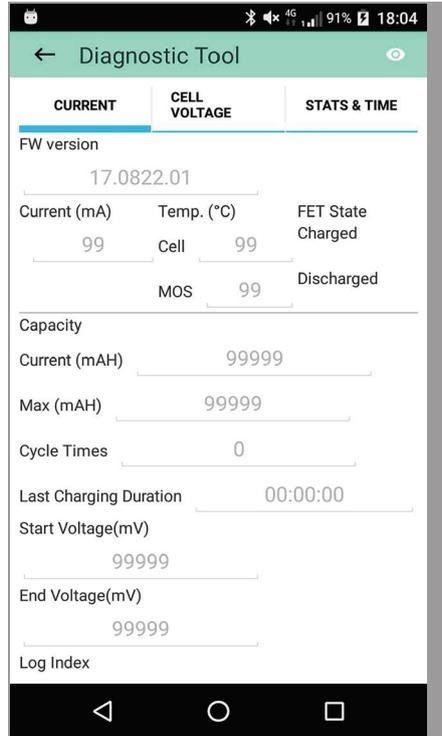
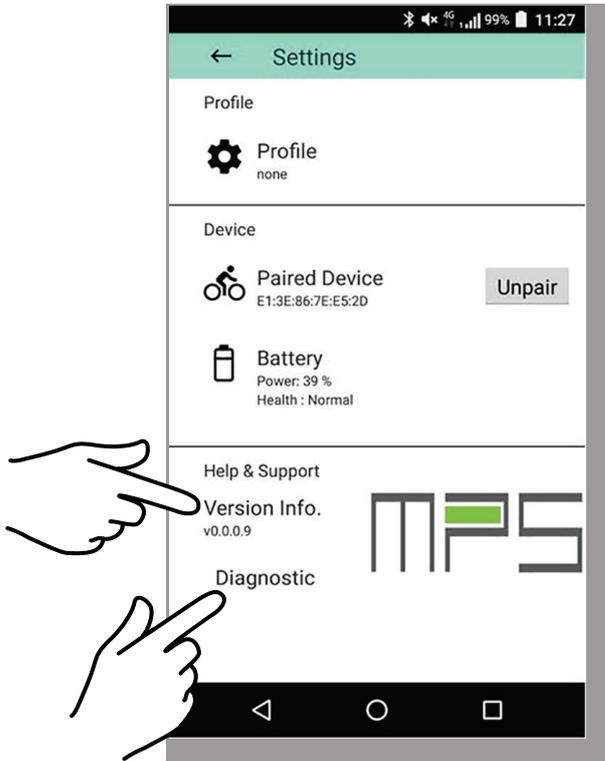


Bluetooth App Manual

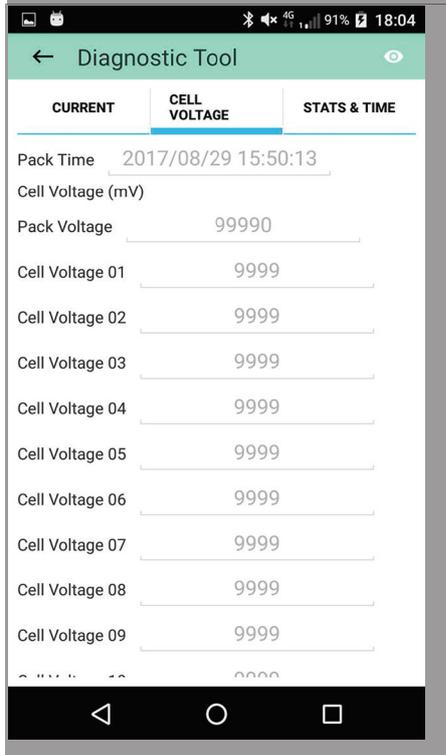
- On the Settings screen tap "Version Info" 4 consecutive times for it to show "Diagnostic" if it isn't already there. Tap "Diagnostic" to view real-time battery information.

There is a Pause, Resume function in the upper right-hand corner of the screen.

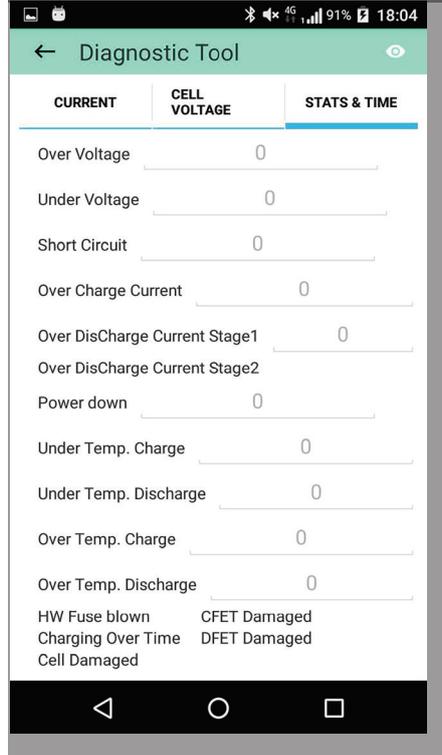
Shown below are the Android Diagnostic Tool Pages



This page shows values like current, pack temperature, capacity and charging status.

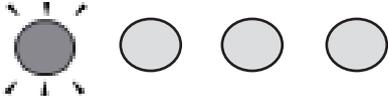


This page shows the voltage values of all cells.



This page indicates any pack errors and the error frequency.

Battery Level Indicator

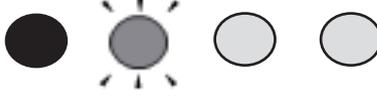
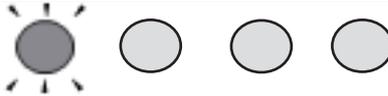
Battery Level Indicator (1,2,3,4)	Battery Level
	75 - 100%
	50 - 74%
	25 - 49%
	10 - 24%
	0 - 9%

 : No light

 : Lighting Up

 : Blinking

Charging Battery Level Indicator

Battery Level Indicator (1,2,3,4)	Battery Level
	100%
	75 - 99%
	50 - 74%
	25 - 49%
	0 - 24%

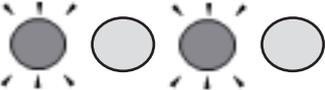
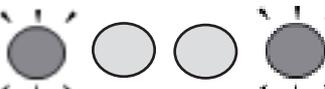
 : No light

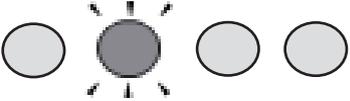
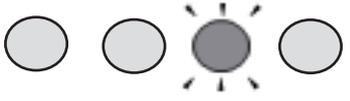
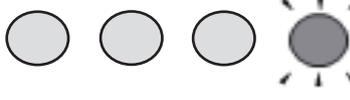
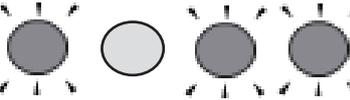
 : Lighting Up

 : Blinking

Warning Indicator

When an error occurs, the battery level indicator will blink certain LEDs. You can get the current battery condition according to the various patterns produced by the battery LEDs.

Battery Level Indicator (1,2,3,4)	Indication Condition	Recovery
	If the temperature exceeds the operating range, the battery output or input is turned off.	Remove the charger from the battery. Leave the battery at room temperature away from direct sunlight until the internal temperature of the battery is normal.
	An error occurs during charging.	If the battery is plugged into the charger, please unplug the charger and then press the power button over 1 second to power down the battery. Then power back up and use the battery normally.

	<p>An error occurs during discharging.</p>	<p>Press power button over 1 second to power down the battery, then power back up and use the battery normally.</p>
	<p>The battery voltage is below the normal range.</p>	<p>Connect the charger to the battery for over 30 minutes.</p>
	<p>Battery malfunctions.</p>	<p>Contact the place of purchase</p>
	<p>Error happens inside the battery (level1)</p>	<p>Contact the place of purchase</p>
	<p>Error happens inside the battery (level2)</p>	<p>Contact the place of purchase</p>

 : No light

 : Lighting Up

 : Blinking

Charger

SPECIFICATIONS

Brand: MPS

Input Voltage: 100-240V AC ~ 2.0A (50/60 Hz)

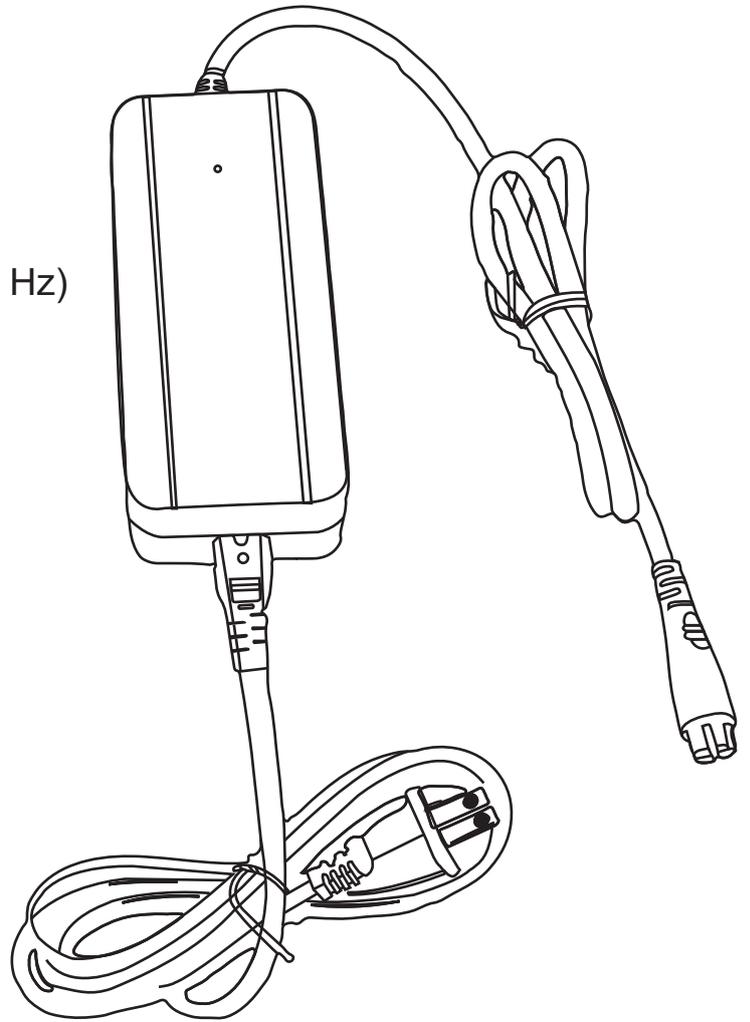
Output Voltage: 42V DC ~ 2.0A

CHARGING MODE

Red Light: Charging

Green Light: Connected to Mains Power / Battery Fully Charged

Charge Time from Full Discharge: Approximately 5 Hours

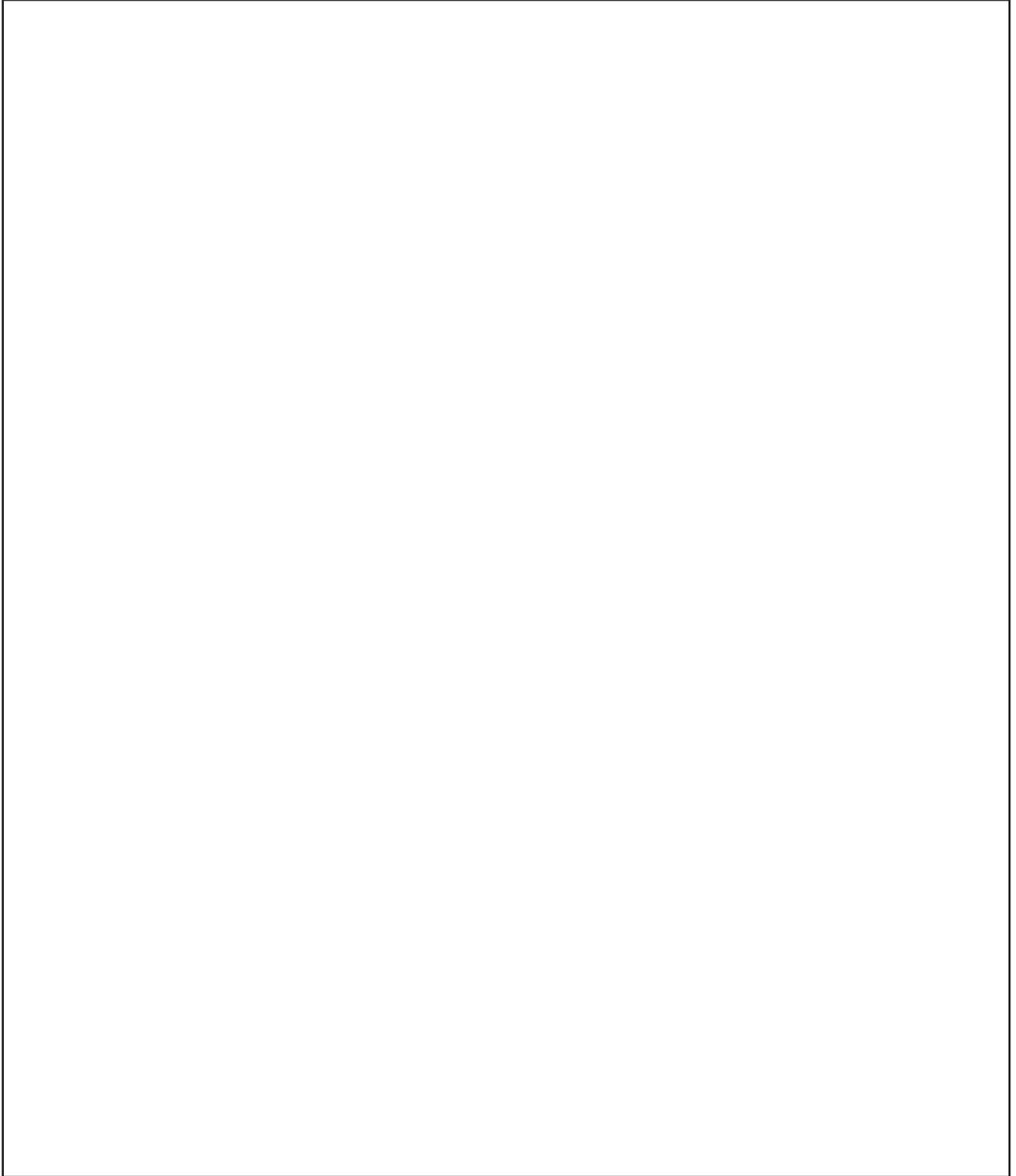


Troubleshooting

Display not working:

- Battery not powered on
- Battery not properly installed
- Battery not charged
- Loose cable connections
- Seek dealer for servicing

Notes



Sun Bicycles
P.O. Box 161859
Miami, FL 33116-1859
www.sun.bike
info@sun.bike