MUrf
ELECTRIC BIKES

UN-LEASH FUN

OWNER'S MANUAL

WARNING!

SERIOUS INJURY OR DAMAGE CAN OCCUR WITH USING THIS PRODUCT. ACCESS AND READ THIS INSTRUCTION MANUAL AND ONLINE VIDEOS BEFORE ASSEMBLY AND USE!

Failure to read and understand the MURF E-bike Owner's manual and its warnings specific to this product could result in dangerous situations, accidents, damage to the MURF E-bike, damage to property, injury to you and others, or even death.

info@murfelectricbikes.com
949>218>5920

TABLE OF CONTENTS

I. INTRODUCTION

A. Using this manual

Thank you for purchasing a MURF Electric Bike!

Prior to using your new E-bike, please read through this manual. The manual contains important safety information. The manual is intended as a guide and does not offer comprehensive coverage on every safety, use, and maintenance situation that may arise. If you are not sure if your E-bike is properly assembled, in good working order, damaged, or otherwise may not be ready to ride safely, then please contact MURF, your local MURF dealer (if applicable), and/or a reputable certified bike mechanic to make sure your product can be ridden safely. We are happy to help!

Founders, Josh and Kiara Jones

Customer Service Contact Information:
Email: info@murfelectricbikes.com
FB: @murfelectricbikes
IG: @murfelectricbike
Phone: 949-218-5920

B. Important information

PRO tip: Provides expert information or best practices to make working on your Murf go more smoothly.

NOTICE: Provides important information to avoid problems.

WARNING: Warns about a situation that, if not avoided, can cause major mechanical issues, or risky situations.

CAUTION: Warns about a situation that, if not avoided, can cause physical injury or property damage.

DANGER: Indicates a hazardous situation that, if not avoided, has a very high risk of death, serious injury, or property damage.

EXPLOSION / FIRE DANGER: Warns about a situation that could result in a fire or explosion and respective serious injury and/or property damage.

C. Illustrations

Illustrations in this manual are meant as a general guide to help with understanding. There may be some differences in details from the exact configuration of your E-bike model.
Illustrations are intentionally shown without cables / wires / brake hoses for clarity.
If you aren't sure about some part, action, or other instruction/warning based on an illustration (including diagrams or images), then please contact MURF Customer Service team to confirm.

I. INTRODUCTION cont.

D. Bike Registration

We highly recommend that you register your E-bike on our website: https://MURFelectricbikes.com. From the home page, click on the "REGISTER" link. When registering, two serial numbers are needed:

• **Frame serial number** – This is found on the sticker located on the bottom side of the frame, near the crank and motor controller housing.

• **Battery serial number** – This is found on the sticker located on the side of the battery towards the bottom.

Registering your E-bike makes it easier for us to help you with any warranty claims. It also helps us better assist you if your E-bike is ever stolen. Or you can scan the QR code.

E. Understanding E-bike classifications

All E-bikes are typically classified into three types based on their motor's operation and the maximum speed the motor assists the rider:

- **Class 1** (pedal-assist up to 20 mph - NO THROTTLE)
- **Class 2** (pedal-assist and also throttle-controlled up to 20 mph)
- **Class 3** (pedal-assist up to 28 mph NO THROTTLE).

These classifications, adopted by most U.S. States, determine where each type of E-bike can be ridden, with Classes 1 and 2 usually allowed wherever traditional bikes are, and Class 3 typically restricted to roads or paths next to roads.

UL certification specifically addresses thermal safety:

UL 2271: Focuses specifically on battery safety, including thermal abuse testing where batteries are subjected to extreme temperatures (up to 130°C) to ensure they fail safely without fire or explosion.

UL 2849: Covers the entire E-bike electrical system, including battery, motor, controller, and wiring. Tests include overcharge protection, short circuit response, and thermal management.

NOTICE: Regulations may change, and it is the owner's responsibility to make sure they are conforming to any and all regulations in the region the bike is used. Be advised, all MURF E-bikes come from the factory in the Class 2 or Class 3 setting depending on the specification of the model you purchased.

WARNING: It is the owner's and the rider's responsibility to know the local laws, rules, and regulations that apply to this product where it will be ridden.

F. Bike features and components

CRUISER MODELS

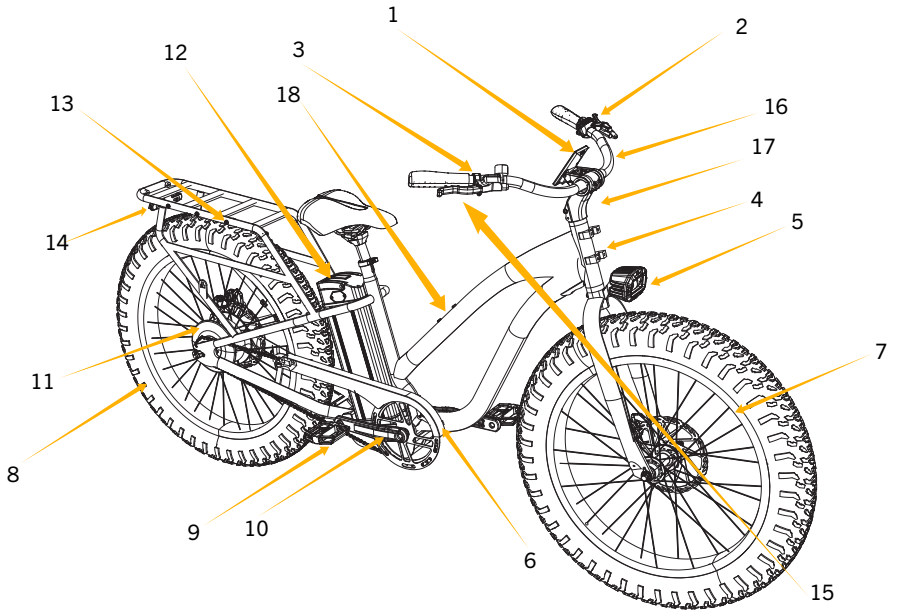


Figure 1 – Cruiser models bicycle diagram (ALPHA ST shown)

1. Bafang DP C010 Display
2. Display Keypad (remote)
3. Thumb Throttle
4. MURF Headtube Accessory Mounts
5. LED Headlight
6. Chain and Chain Guard
7. Wheel and Spokes
8. Premium Suspension Tires
9. Right Pedal
10. Right Crank Arm
11. Hub Motor
12. 52v Battery
13. MURF Rear Rack Accessory Mounts
14. Tail Light
15. Rear Brake Lever (RIGHT)
16. Cruiser Handlebar
17. Steering Stem
18. Bottle Bracket Mounts

F. Bike features and components

CARGO MODELS

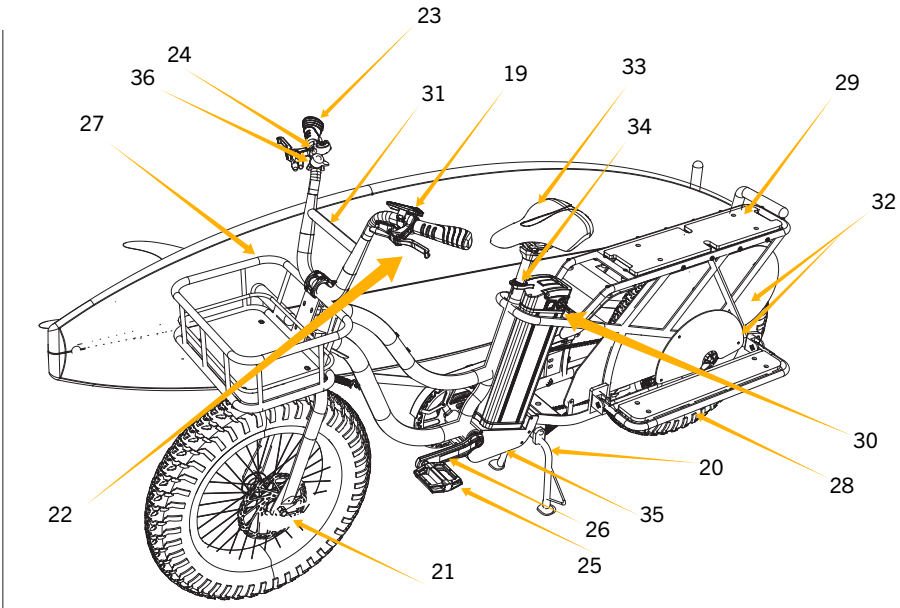


Figure 2 – Cargo Utility models bicycle diagram (HIGGS Cargo shown - with add-on accessories. (Surfboard and rack not included)

19. Bafang DP C080 Display with Keypad (integrated)
20. Cargo Dual Leg Center Mount Kickstand
21. Front Brake Rotor and Caliper
22. Front Brake Lever (LEFT)
23. Ergonomic Grips
24. Derailleur Shift Selector
25. Left Pedal
26. Left Crank Arm
27. Front Basket Accessory
28. Flip-Down Cargo Sideboard
29. Replaceable Bamboo Boards
30. Battery Charge Port, Lock, and Key
31. BMX Handlebar
32. Plastic passenger Spoke Shields
33. Saddle (seat) and Seat Post
34. Seat Quick Release Clamp
35. Motor Control Housing
36. Warning Bell

G. General Bike Safety

WARNING: When using this product, basic precautions should always be taken, including the following:

1. Read all the instructions and warnings before using the product. We recommend you watch our on-line videos as well for instruction on assembly and use. If you have any questions, do not ride the product until you believe you have a good understanding.
2. To reduce the risk of injury, close supervision is necessary when the product is used near children. This product is not intended for minors under the age of 16 (as it may be illegal and this is not a toy!
3. Always wear a helmet when riding. If riding on roadway/traffic at night or other low visibility situations, always wear reflective, high visibility clothing so cars can see you..
4. Make sure tires are properly inflated to the tires recommended pressure (PSI) before every ride as under or over inflation can lead to loss of control or parts failure potentially resulting in serious injury or property damage. The recommended tire PSI is marked on the sidewall of every tire.
5. Make sure your brakes are working properly before and during rides. Poor working or non functioning brakes can lead to loss of control resulting in property damage, serious injury or death.
6. A bicycle has many moving parts including the wheels, brake rotor, handlebars, chain and cranks that can have pinch points. Use caution while riding and refrain from getting your hands, arms, feet and legs caught in these moving parts.
7. It is the riders responsibility to know the local laws, rules, and regulations that apply to this product where it will be ridden.
8. If you are not sure if your E-bike is properly assembled, in good working order, damaged, or otherwise may not be ready to ride safely, then please contact MURF, your local MURF dealer er, and/or a reputable certified bike mechanic to make sure your product can be ridden safely.
9. Bike maneuverability and stopping ability is negatively affected when carrying extra loads including passengers and heavy cargo. Things which are relatively easy to do without carrying loads, such as ascending and descending hills, turning corners and stopping become more difficult with the extra load. Use caution by riding slower as well as turn and use brakes earlier when carrying heavy loads.
10. Braking effectiveness, efficiency and distances will be longer when carrying extra loads. Always be aware of your load size and weight, and reduce speeds accordingly.
11. Be careful when riding uphill with a heavy load on the rear of your bike. An unbalanced load can make the steering unstable, which could cause you or your passengers to lose balance and fall, leading to injury.

2. UN-BOXING & ASSEMBLY INSTRUCTIONS

Below is a general summary of E-bike assembly instructions. In addition to reading and following these instructions, we highly recommend watching the following video(s) on our YouTube channel on how to assemble your MURF electric bike:

https://MURFelectricbikes.com/pages/assembly
or scan the QR code.

CAUTION: The MURF bikes all come with many layers of protective packaging. Much of this packaging is held on with **GREEN ZIP-TIES**. Take extreme caution that you carefully trim the tape, and only snip and cut the **GREEN ZIP-TIES**.

CAUTION: If you are not confident in your ability, OR equipped with the tools to properly assemble your MURF E-bike, please take it to your MURF dealer or a qualified bicycle mechanic to have them perform the assembly for you.

A. THE TOOLS NEEDED FOR ASSEMBLY AS FOLLOWS:

Included with your bike, MURF has provided a convenient black tool kit with MURF logo for your assembly and maintenance. Tools Included…

Hex Wrenches
2 mm HEX
3 mm HEX
4 mm HEX
5 mm HEX
6 mm HEX
8 mm HEX
Phillips-head screwdriver

Open end wrenches
8 -10 mm
13-15 mm
16-18 mm
Assembly Grease

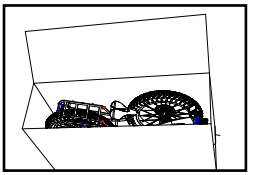
In addition to the tools provided above, you will also want to have the following items on hand. (not provided in the tool kit)

- Scissors or snips
- A second 15 mm wrench (helpful to have 2)
- Torque wrench with hex bits (Nm / ft-lb / in-lb)
- Bike floor pump with Schrader valve
- Air pressure gauge

RECOMMENDED TORQUE SPECIFICATION	METRIC Nm	SAE Ft / Lb.	SAE In / Lb
SEAT RAIL CLAMP BOLT	16	12	140
MURF HEADTUBE ACCESSORY MOUNT	8	6	71
FRONT FENDER WIRE EYELET	6	4.5	40
FRONT WHEEL AXLE NUT	47	34	400
HANDLE BAR CLAMP BOLT	6	4.5	40
STEM BOLT	7.5	5.5	66
BRAKE LEVER CLAMP BOLT	6	4.5	53
SHIFT LEVER CLAMP BOLT	6	4.5	53
THROTTLE BOLT	2	1.5	18
DISPLAY / KEYPAD MOUNT BOLT	2	1.5	18
BRAKE CALIPER BOLT	8	6	71
BRAKE ROTOR BOLT	8	6	71
SHIFT CABLE ANCHOR BOLT	6	4.5	53
DERAILLEUR MOUNT BOLT	10	7	80
MURF REAR RACK ACCESSORY MOUNT	6	4.5	53
CRANK ARM BOLT	42	31	372
PEDAL	25	18	220
CHAIN RING BOLT	8	6	71
REAR WHEEL AXLE NUT	60	44	530

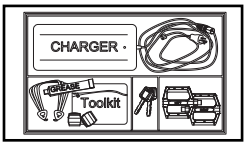
2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

B. Open the bike box
Tools Needed: Snips or Scissors

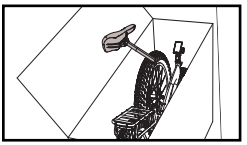


- Cut the plastic straps going around the outside of the box and pry open the cardboard flaps. Fold the flaps all the way open and beware of sharp staples.
- It is helpful to remove the accessory box, front wheel, seat and battery first, before removing the complete bike assembly from the box.

C. Remove and open the Accessory Box
Tools Needed: None

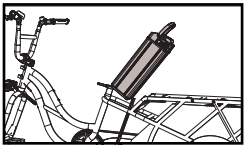


- The accessory box contains the MURF manual, MURF battery keys (x2), MURF tool kit, small assembly grease packet, 120v home outlet Battery Charger, Reflectors and Pedals.
- Take out the keys, and set everything aside until needed below.



D. Remove the seat
Tools Needed: None

- Flip the quick release lever to the open position. **SEE SECTION 6-A** for further instructions on using the quick release.
- The seat will slide up and out easily. Set the seat aside.



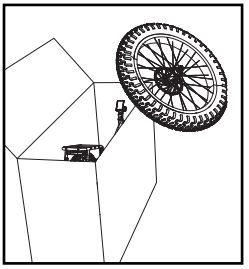
E. Remove the battery
Tools Needed: Battery Key

- Use the keys found in the accessory box to unlock the battery. **SEE SECTION 6-A** for further instruction on using the keys
- Once unlocked, remove the Battery by sliding it up the battery rail and set it aside. **SEE SECTION 6-B** for further instructions on Battery Removal and Installation.

F. Charge the battery
Tools Needed: Battery Charger

- Now that the battery is out, it's best to get started charging the battery so you're ready to go when you're finished assembling the bike.
- The battery will be in "Deep Sleep mode" which prevents power from mistakenly being deployed to the motor during shipping. To "wake" the battery, you must plug the charger into it.
- Use the charger from the accessory box to wake and fully charge the battery **SEE SECTION 6-D** for Battery Charging Instructions.

NOTICE: The battery will be in a Deep Sleep from the factory. The charger must get plugged into it, to activate the "wake-up" so it will turn on. Failure to do so, keeps you from turning on the battery and bicycle control display system .



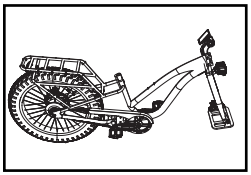
G. Remove the front wheel from the box
Tools Needed: Snips or Scissors

- Cut the **GREEN ZIP-TIES** securing the Front Wheel to the bike. Take great caution and be sure not to mistakenly cut any black cables or wires.
- Pull the front wheel out and set it aside.

2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

H. Remove the rest of the bike from the box

Tools Needed: None

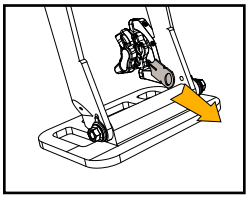


- With two hands, lift up on the remaining bike assembly and remove it from the box.
- Set it down on the ground in the upright position with the protective plastic stand still to the fork. This will keep the bike from tipping over. (MURF recommends putting cardboard or some other padding under your bike while assembling to decrease the potential of damage).
- Remove all **GREEN ZIP-TIES** and protective packaging and carefully cut or pull back any tapes. (Be careful not to cut any black wires or cables).

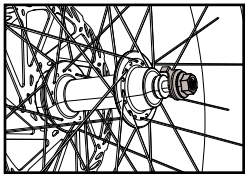
PRO TIP: Having a second person at each end of the box to lift the bike will make removal easier.

I. Install the front wheel

Tools Needed: 15 mm and 16 mm Open End Wrench

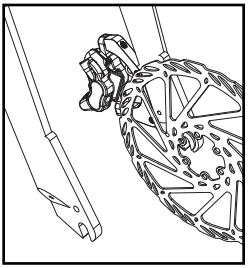


- Remove the plastic brake pad spacer which is located between the brake pads in the brake caliper, on the front fork.
- Prepare the front wheel by loosening the axle nuts on each end of the axle. Don't remove them, just loosen them until they are at the ends of the axle on each side. Slide both the regular washer and the safety washer out and up against the axle nuts exposing the axle.



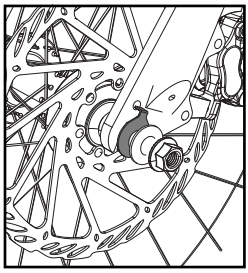
- Gently set the wheel aside with the washers in this position and keep the wheel in reach of the front end of the bike for the next step.

WARNING: Do not touch Brake Rotors or Pads surfaces with your bare hands. Do not get hydraulic fluid or any other kind of fluid(s) on Brake Pads and/or Brake Rotors. Doing so will contaminate the Brake Pads and/or Brake Rotors, which means they may have decreased functionality and stopping power, and there is a good chance you will need to replace them.



- Lift the front end of the bike with one hand and remove the plastic fork stand. Carefully install the fork onto the front wheel by aligning the fork leg onto the exposed axle and aligning the rotor between the brake pads. The safety washer, regular washer and axle nut should be on the outside of the fork leg on both sides.

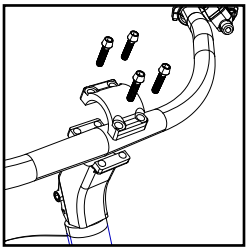
PRO TIP: To help with front wheel assembly, it's easier if one person lifts the front of the bike and a second person holds the washers and guides the rotor and axle into place.



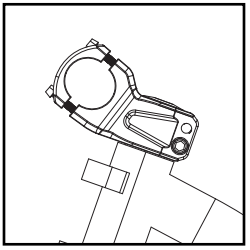
- Slide the safety washers in so the tab aligns and can be inserted in to the hole on the side of the fork leg. Thread the axle nuts back in by hand to temporarily hold everything together.
- Next use a 15mm wrench to tighten both axle nuts to the recommended torque. **(SEE TORQUE CHART SECTION 2-A)** If you are unable to hold one side with your hand, you will need two 15mm wrenches, one on each side, to tighten the axle nuts securely. Make sure the tabs on the safety washers stay in the fork while tightening.
- At this point, you can put the kickstand down to hold the bike upright for the remaining assembly.

2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

J. Install handlebars
Tools Needed: 4mm or 5mm Hex Wrench, depending on bike model

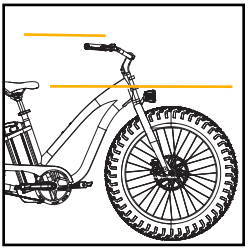


- Remove the 4 stem faceplate bolts and faceplate from the stem.
- Install the handlebars into the cradle on the stem and reinstall the face plate and bolts by hand.
- Tighten the 4 clamping bolts evenly, alternating top to bottom and side to side, i.e. from top left to bottom right, to top right to bottom left. Repeat this until the faceplate and handlebars are snug (NOT FULLY TIGHT). Make sure the gap between the clamping plate and stem is the same on the top as it is on the bottom.



- With the faceplate and bolts installed, it's best to adjust the tilt, or angle of the handlebars before completely tightening the stem faceplate bolts. For now, set the CRUISER STYLE handlebars, horizontal to the ground, and set the BMX style handlebars parallel with the fork, as shown. This will start you off in a basic comfortable position.

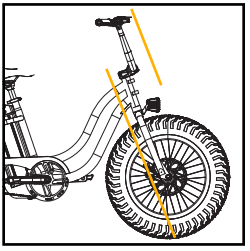
  SEE SECTION 3-C for further instruction on adjusting handlebar tilt.



- Once the desired position is achieved, retighten the Stem Faceplate Bolts in an "X" pattern by alternating bolt tightening from top to bottom and side to Side, i.e. from top left to bottom right, to top right to bottom left.
- Make sure the gap between the clamping plate and stem is the same on the top as it is on the bottom. Repeat this until the faceplate and handlebars are to the proper torque.

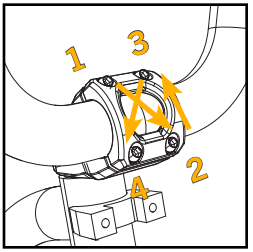
  SEE TORQUE CHART, SECTION 2-A.

CRUISER

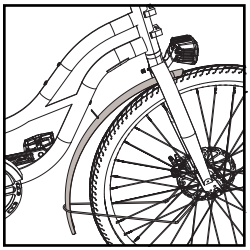


BMX

PRO TIP: Once the handlebars are in place, continue with the assembly. There will be more adjustments in the coming sections ahead.



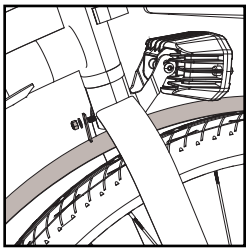
2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.



K. Install Fender if equipped
Tools Needed: 10 mm Box Wrench, 4 mm or 5 mm Hex Wrench, depending on bike model

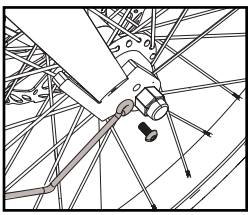
- With your bike stabilized on the kickstand, Remove the mounting locknut and washer from the headlight hardware. Leave the headlight and bolt in place.
- Turn the front wheel slightly and carefully feed the front nose of the fender between the fork and tire, and take care not to scratch the paint.
- Assemble the fender mounting tab, on the headlight mounting bolt. Install the washer and locknut back onto the headlight bolt.
- Tighten the mounting hardware to the required torque.

  SEE TORQUE CHART, SECTION 2-A



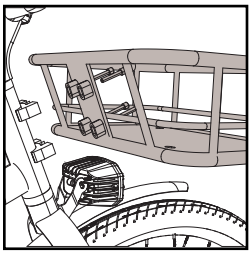
- Next, line up the wire U-Stay with the bottom fork drop-out, and hand install the washer and bolt on both sides.
- Using the hex wrench, tighten the mounting hardware to the required torque.

  SEE TORQUE CHART, SECTION 2-A



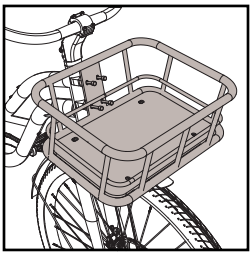
- Make sure the headlight wires and brake lines are not pinched or captured.

PRO TIP: If a second person is not available to lend you a hand, Yarn, String, or Masking tape is often helpful to temporarily secure or hold the headlight and/or fender while working with multiple parts in the same space.



Install Front Basket if equipped or accessorized
Tools Needed: 5 mm Hex Wrench, depending on bike model

- Line up the mounting holes on the front rack with the head tube mounting holes located above and below the MURF logo.
- Install the four mounting bolts and thread in by hand. Before you tighten, check and confirm wires, cables and brake lines are not pinched and are able to move freely.



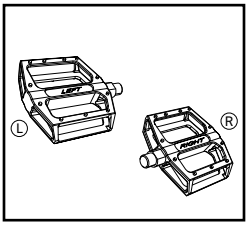
- Tighten the mounting hardware to the required torque.

  SEE TORQUE CHART, SECTION 2-A

2 . UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

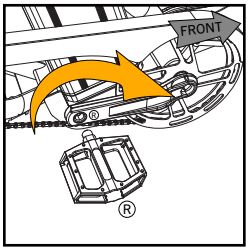
L. Install pedals

Tools Needed: 15 mm Open End Wrench, Grease

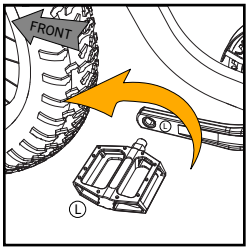


NOTICE: There are specific right and left Pedals. You can see which is which by a letter L (for left) or R (for right) on the end of the Pedal axle. It is important to install and start the pedal threads by hand to avoid cross threading.

- Remove the Pedals from the accessories box. Using the grease included in the accessory box, apply a small dab of grease to the pedal threads. Use your finger-tip to smear the grease, covering the threaded area only.



- Install the right pedal in the threaded hole on the right crankarm. Hold the pedal in place and rotate the cranks backward (counter-clock-wise) to get the threads started. Do this by hand to avoid cross threading.

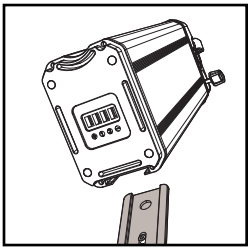


- Install the left pedal in the threaded hole on the left crank arm. Hold the pedal in place and rotate the cranks backward (clock-wise) to get the threads started. Do this by hand to avoid cross threading.

- Use the 15 mm wrench to finish tightening the Pedals to the desired torque. **SEE TORQUE CHART, SECTION 2-A**

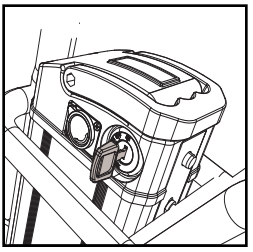
M . Install the battery

Tools Needed: None



NOTICE: The seat and seat post should already be out of the bike at this point in the assembly process. If not, remove the seat and seat post.

PROTIP: The Battery is very heavy. Always use 2 hands to carefully line up the ends of the mounting rail with the battery as shown. Take great care not to damage or bend the very top end of the mounting rail.



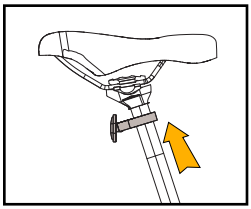
- Slide the Battery onto the battery rail and gently push it down into place. Give the battery one final push to ensure it is fully seated and the dead-bolt pin is locked into position.

- Once the battery is fully settled in place, turn the key to the right to engage the Battery locking mechanism.

- **SEE SECTION 6-C** for more detail on battery installation.

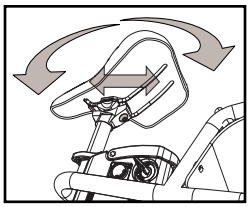
2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

N. Install the rear reflector (RED)
Tools Needed: Phillips-head Screwdriver



- With the saddle and seat-post still removed, install the red reflector, by sliding on the reflector bracket on the seat post and sliding it all the way to the top, nearest the seat.
- Orient the reflector so the red lens is facing toward the back of the bike and tighten with a Phillips-head screw driver.

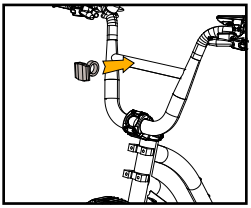
O. Install the seat
Tools Needed: None



- Insert and slide the Seat Post into the Seat Tube
- Adjust the Seat to the preferred height and secure the Seat Post Quick Release Clamp.
- **SEE SECTION 3-A AND 3-B** for more information on height, tilt and fore/aft seat adjustments.

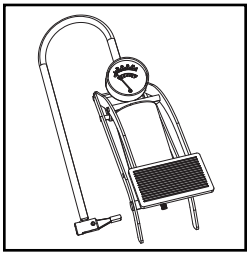
WARNING: Make sure the seat post is inserted into the seat tube beyond the minimum insertion (may also be MAX EXTENSION) mark on the seat post.

P. Install the front reflector (WHITE)
Tools Needed: Phillips-head Screwdriver



- Remove the screw completely from the clamp and stretch the plastic clamp over the handle bar, near the stem.
- Reinstall the screw, orient the reflector so the white lens is facing toward the front of the bike and tighten with a Phillips-head screw driver.

Q. Pump up the tires
Tools Needed: Floor Pump



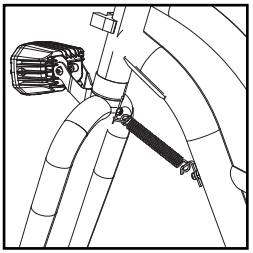
- Using any hand or foot pump with a gauge or display, inflate the tires to the proper air pressure. The recommended air pressure (PSI) is listed on the side of the tire

DANGER: Use a manually operated pump, preferably with a built in pressure gauge. Do not use an air compressor, as this may cause the tire to over-inflate and explode during inflation or subsequent riding, resulting in injury and/or property damage. Additionally, under inflated and over inflated tires can affect your riding and result in loss of control, causing injury and/or property damage.

2. UN-BOXING & ASSEMBLY INSTRUCTIONS cont.

R. Cargo Steering Stabilizer Spring

Tools Needed: None.



- MURF Cargo and utility bikes, are equipped with a front wheel stabilizer. This component uses a spring to pull the front wheel toward its straight, centered position.
- The spring, located between the fork and the down tube adds a subtle self centering action to the front wheel, making loading and unloading the bike with Long-board Rack, Front Basket, or Front Rack much easier.
- The spring also offers some resistance to steering, so it counteracts deflections from hitting potholes, curbs, loose sand, and road debris.
- Mounts to the back of the fork crown via brake bolt or through existing bolts.

PROTIP: This system should be left alone, and never modified.

ASSEMBLY

You're not done yet! You have a few more steps to prepare your new MURF E-bike for use.

- Complete each step in the Fit-to-user section to make sure all components are adjusted properly to fit you. **SEE SECTION 3.**
- Complete each step in the Systems Check section to make sure key components were assembled and tightened properly. **SEE SECTION 8**

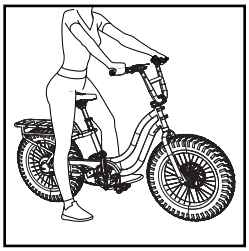
If that's not enough, our website is full of great resources too: https://murfelectricbikes.com

3. FIT-TO-USER ADJUSTMENTS

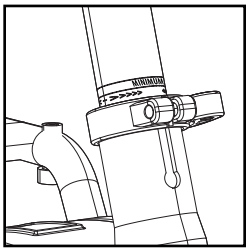
Follow the steps below to adjust components of the bike for the best comfort and performance. If unsure about fitting or if uncomfortable with conducting the fitting by yourself, visit a bike fitting professional, such as your MURF Dealer or a reputable certified bike mechanic.

A. Seat Height Adjustment

Tools Needed: None.



- Sit on the Bike with one foot resting on the ground and the other foot on its corresponding pedal (i.e., right foot on right pedal). If needed, have someone stand in front of the Bike and hold onto the Handlebars to stabilize the Bike.
- For the foot resting on the Pedal, have the ball of the foot resting on the center of the Pedal. Then rotate the Crank to its lowest position for that foot.
- In this position, (with the ball of the foot on the Pedal and the Crank in its lowest position) your leg should be slightly bent. This assures you will not be overextending your leg while pedaling. If you have to rock from side to side to reach the pedals, this means the seat is too high.
- You should also be able to easily put both of your feet on the ground easily and comfortably. This helps with stability when coming to a stop especially when starting out with a new bike.
- If adjustment to seat height is needed, hold the seat with one hand and open the Quick Release Lever. Open (Free) / Tight (Clamped).
- Slide the Seat post up or down to desired Seat height (based on the instructions above).

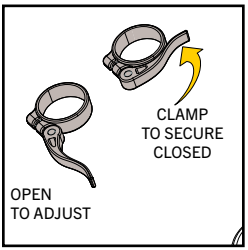


WARNING: Make sure the Seat Post is inserted into the Seat Tube beyond the minimum insertion mark on the seat post.

- Ensure the Seat is centered (the Seat centerline is aligned with the centerline of the bike) and close the Quick Release Lever. When the Quick Release Lever reaches 45 degrees, you need to feel moderate resistance. If you do not feel any resistance, open the quick release lever and tighten the Adjustment Nut (turn clock-wise) slightly until the lever has resistance as it's being closed.

3. FIT-TO-USER ADJUSTMENTS cont.

- Ensure that the Seat and Seat Post are secured properly and neither twist or move when the Quick Release Lever is fully closed.



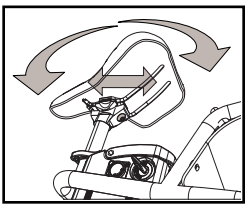
- Test out the Seat positioning and height. If more adjustments are needed, repeat Steps 1-7 until the desired positioning and height is achieved.

PRO TIP: Because it's common to remove the seat and seat post to remove and install the battery, a helpful tip is to mark the height of your saddle. You can do this by wrapping a piece of tape around the seat post, at the top of the seat tube. This will help you avoid having to re-adjust your seat height every time you remove the seat.

B. Seat tilt and horizontal adjustment

Tools needed: 5 mm Hex Wrench

- Use the 5 mm hex wrench to loosen the seat rail clamp bolt under the seat,at the top of the seat post. Once loose, the seat can be slid forward and back, as well as rotated up and down.



- Adjust the seat to a position of your liking / comfort. Generally speaking, the most comfortable position is for the top surface of the seat to be parallel with the ground and centered on the seat rails.

- Make the necessary adjustments and tighten the seat rail clamp bolt to the proper torque.

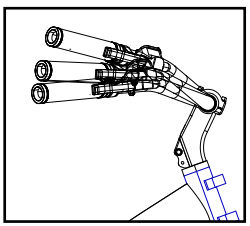
SEE TORQUE CHART, SECTION 2-A

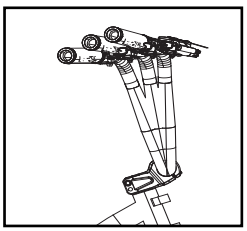
C. Handlebar tilt adjustment

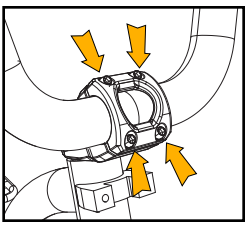
Tools needed: 4 mm or 5 mm Hex wrench, depending on bike model.

- Loosen the 4 clamping bolts on the stem evenly, alternating top to bottom and side to side, i.e. from top left to bottom right, to top right to bottom left. Repeat this until the handlebars become just loose enough to rotate up and down with moderate effort.

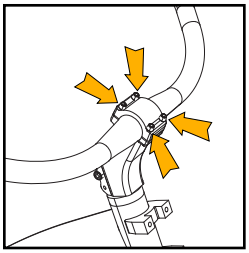
- Pull up or push down on the handlebars until the grips are parallel with the ground. You may want to adjust them slightly up or down from there to fit your unique arm "REACH" length for comfort.







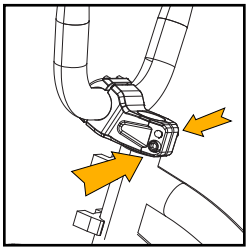
3. FIT-TO-USER ADJUSTMENTS cont.

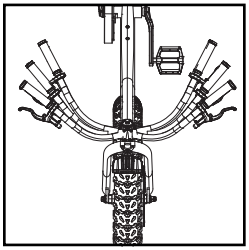


- Once the desired position is achieved, re-tighten the Stem Faceplate Bolts by alternating bolt tightening from top to bottom and side to side, i.e. from top left to bottom right, to top right to bottom left. Repeat this until the faceplate and handlebars are to the proper torque. **SEE TORQUE CHART, SECTION 2-A** Make sure the gap between the clamping plate and stem is the same on the top as it is on the bottom.

D. Handlebar straightness adjustment

Tools Needed: 5 mm Hex Wrench





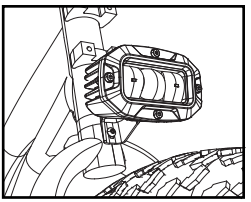
- Loosen the 2 stem clamping bolts evenly and enough so that the stem and bars can rotate side to side easily.

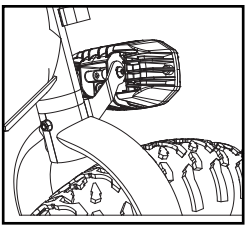
- Rotate the handlebars left or right so they are straight and in line with the front wheel. You may need to use your foot or a helper to hold the front wheel while you line up the stem with the front tire.

- Once the handlebars are in line and straight with the front wheel, tighten the stem clamping bolts. It's best to alternate and go back and forth tightening each bolt a little at a time

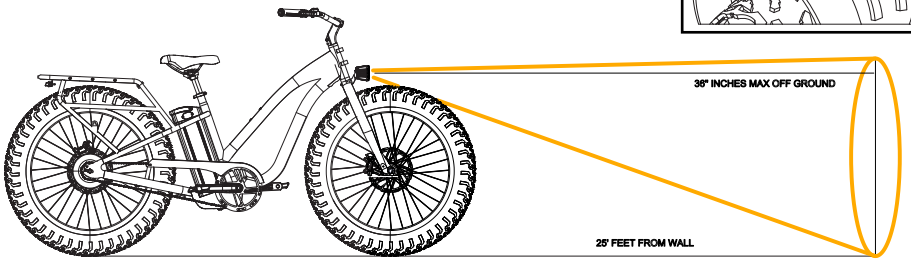
3. FIT-TO-USER ADJUSTMENTS cont.

E. Adjust your Headlight
Tools Needed: 3 mm and 5 mm Hex, 10 mm Box end Wrench



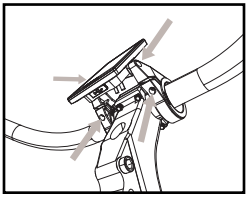


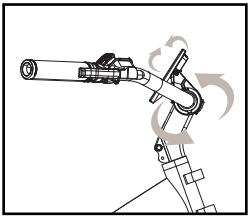
- MURF has equipped your bike with best in class performance lighting. It is a very important to make sure the light pattern is on the road, and not in the air.
- Find a level surface with a wall or garage door that is perpendicular to the ground. Measure and temporarily mark the wall with masking tape 36" inches up from the ground.
- Roll the bike backwards from the wall, so that the headlight lens is 25' feet away from the wall or garage door.
- Turn on the bike, and aim the headlamp at the marking on the wall as shown.



- Using the 3 mm hex wrench, loosen and adjust the headlight so the majority of the light pattern is below your 36" inch marker. Very little light should shine above 36" when aimed properly.
- Using the 5 mm hex wrench and 10 mm Box Wrench, loosen and adjust the side to side horizontal tilt if needed.
- If your E-bike is equipped with a front fender, this is the same hardware. Make sure the fender is aligned with the fork and tire properly. Tighten all hardware to the proper torque. **SEE TORQUE CHART, SECTION 2-A**

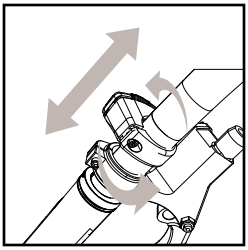
F. "LARGE" DP C010 Display adjustment
Tools Needed: 2.5 mm Hex Wrench





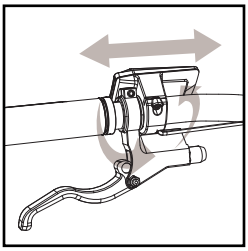
- This display has 2 adjustment options;
  1: "Tilt Angle" rotation where attached to the clamps on the Handlebars, and 2: The Clamp rotation on the handlebars, limited by the Stem clearance.
- Using the 2.5 mm hex wrench, loosen the clamping bolts on the display just enough so the display can be rotated.
- While sitting on the bike in a riding position, rotate the display up or down until the icons on the screen are most visible.
- Once the desired angle is achieved, tighten the display clamping bolts to the proper torque. **SEE TORQUE CHART, SECTION 2-A**

3. FIT-TO-USER ADJUSTMENTS cont.



F continued. "REMOTE" DP C010 KEYPAD adjustment
Tools Needed: 2.5 mm Hex Wrench

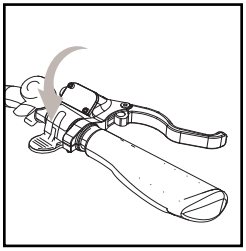
- Once your handlebar grip tilt is dialed in, this simple adjustment is to move the keypad to a comfortable position for your thumb, and to adjust position in relation to the Front Brake Lever.
- Using the 2.5 mm hex wrench, loosen the clamping bolt on the under side of the Keypad just enough so the Keypad can be rotated.
- While sitting on the bike in a riding position, rotate the Keypad up or down, as needed, so the buttons are most accessible to the rider.



F continued. "INTEGRATED" DP C080 Keypad Display adjustment
Tools Needed: 2.5 mm Hex Wrench

- This display has 2 adjustment options;
  1: "Tilt Angle" rotation where attached to the clamps on the Handlebars, and 2: The Clamp rotation on the handlebars, limited by the Stem clearance.
- Using the 2.5 mm hex wrench, loosen the clamping bolts on the display just enough so the display can be rotated.
- While sitting on the bike in a riding position, rotate the display up or down until the icons on the screen are most visible.
- Once the desired angle is achieved, tighten the display clamping

NOTICE: The Display has an anti-glare polarizer built into it. Polarized eyewear and sunglasses may cause the screen to appear dim or off. Tilt your head slightly to accommodate the polarizer overlap redundancy.



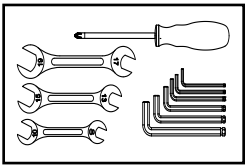
G. Brake Lever positioning and angle
Tools Needed: 5 mm Hex Wrench

- Using the 5 mm hex wrench, Loosen the Brake Lever Clamp Bolt.
- Adjust the angle of the Brake Lever to a position of your liking / comfort. Generally speaking, the most comfortable position is for wrists to remain neutral with 2-3 fingers able to rest comfortably on the Brake Lever while you are seated in a normal riding position
- The lever can also be adjusted closer or away from the grip if needed.
- Re-tighten the Brake Lever Clamp Bolt to the proper torque. **SEE TORQUE CHART, SECTION 2-A.**
- Repeat for the other brake lever assuring that both are at similar angles and depths on the handle bar.

3. FIT-TO-USER ADJUSTMENTS cont.

H. Complete Hardware tightening

- Now that you have assembled your MURF electric bike and you've adjusted the components for comfort and fit, it's time to do one last run through to make sure all the bolts and nuts are tight.



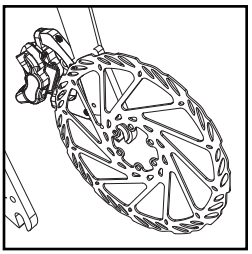
- Use the tools supplied with the bike to double check each and every bolt for tightness.
- If you have a torque wrench, review the components listed in the Recommended Torque Specification chart in **SECTION 2-A**
- Do a final check of torque on each component one by one

DANGER: Proper hardware tightening is a critical safety step. DO NOT SKIP. It is highly recommended to tighten all hardware with a torque wrench to the recommended torque. **SEE TORQUE CHART, SECTION 2-A**

WARNING: If you lack the skills to check the tightness of your hardware, consult your MURF dealer or a certified and reputable bike mechanic for help. Frequently check hardware and fasteners to make sure they are tight and in good working order.

I. Bedding your brake pads

NOTICE: Before your first ride, it is important to "BED" your new brake pads with the new rotor. This is the process of heating the pads and rotors together to create a consistent, uniform layer of pad material on the rotor surface. This ensures optimal braking performance, smooth operation, and prevents noise and premature wear.



In case oil or a foreign substance got on the brake rotors during assembly, it's recommended to clean them before bedding the brake pads. To do this, apply rubbing alcohol or brake cleaner to a rag and wipe down each side of the brake rotor.

To bed your brake pads with your rotor, follow these steps:

- Take the bike to a flat, open, riding area with few obstructions.
- Bring the bike up to a moderate speed and slowly and gradually compress both of the brakes until you almost come to a full stop.
- Let the brakes cool for approximately a minute and then do it again.
- Repeat this at least 7 times. This allows the pad material to cure and bond to the rotor and will help generate even surface wear and optimum performance. You should feel the brakes get stronger, "more grippy" each time you do this.

WARNING: Brake Rotors and components get hot with use. Never touch the Brake Rotors or components after any use because you could get burned. Additionally, Brake Rotors have sharp edges and can be a cutting/slicing danger or components can be a pinch danger. NEVER touch moving Brake Rotors or components!

4. MURF E-bike OPERATING INSTRUCTIONS

Please see the “Getting Started with Your MURF” video for instructions on how to use your display. The link can be found by using the QR code.

UNLEASH FUN

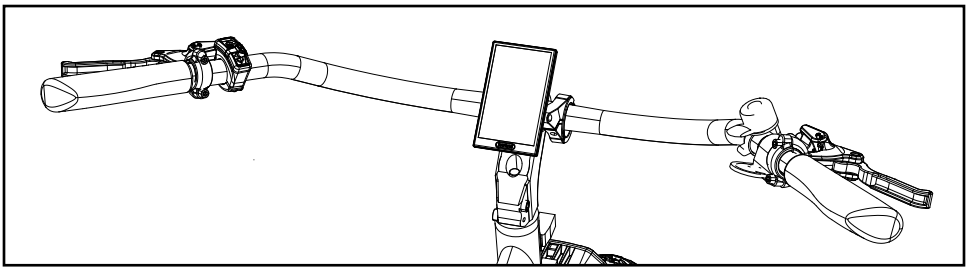
MURF E-bikes Control Unit and Displays

Your MURF E-bike will be equipped with one of the following Human-Machine-Interfaces (HMI units).

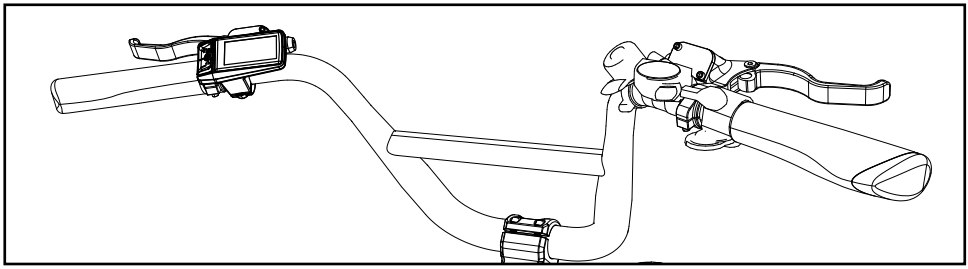
DP C010 DISPLAY and REMOTE KEYPAD

DP C080 “INTEGRATED” KEYPAD DISPLAY

The C010 comes with a display that is mounted on the center of the handle bars and a remote controller with buttons located next to the left grip.



The C080 comes with a display and control buttons combined into one unit and is located next to the left grip.



4. MURF E-bike OPERATING INSTRUCTIONS

Understanding the HMI for bikes equipped with **DP-C010 "DISPLAY and REMOTE KEYPAD"**

The Display UI (User Interface) Screen:

MAIN FUNCTIONS:
A. POWER On - Off / SELECT

B "+" (/\ ) up and Headlight

C. "–" (\/) down

1. Maintenance Indicator
   Lights up when the system needs maintenance
2. Headlight on/off Indicator
   Default ON, User can turn off manually
3. Class Indicator
   Can be Class 2, Class 3, Off-Road
4. Current Speed
   Real time speed
5. Speed Units
   Can be kh/h or mph
6. Battery Level
   Accurate and detailed real-time Battery Data
7. Multi Function:
   Trip
   ODO
   Max speed
   AVG speed
   Range remaining
   Cadence
   Time
8. Pedal Assist Level
   Can be 0-5
9. Bluetooth on/off Indicator
   For BAFANG App to Device connection
10. USB output on/off Indicator
    For programming the HMI Firmware (Dealer service only)

4. MURF E-bike OPERATING INSTRUCTIONS

Understanding the HMI for bikes equipped with **DP-C080 "INTEGRATED DISPLAY and KEYPAD"**

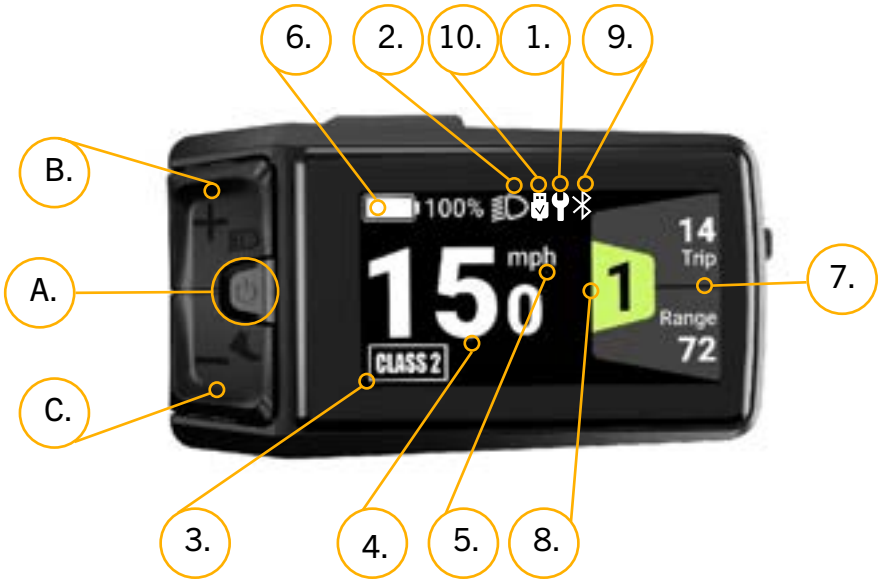
The Display UI (User Interface) Screen:

MAIN FUNCTIONS:

A. POWER On - Off / SELECT

B "+" (/\ ) up and Headlight

C. "–" (\/) down



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4. MURF E-bike OPERATING INSTRUCTIONS

Your MURF E-bike is equipped with 5 levels of pedal assist, with the higher levels equating to more assistance. When the bike is turned on, the default is Level 0 in which case it can be pedaled like a analog bike, with no assistance and the throttle disengaged.

The table below shows the maximum speed the motor will assist up to for each assist level and for each E-bike Class *.

	CLASS 2		CLASS 3		OFF-ROAD	
ASSIST LEVEL	PEDAL ASSIST UP TO	MAX THROTTLE SPEED	PEDAL ASSIST UP TO	MAX THROTTLE SPEED	PEDAL ASSIST UP TO	MAX THROTTLE SPEED
LEVEL 0	**NONE**	OFF	**NONE**	OFF	NONE	OFF
LEVEL 1	**9 MPH**	20 MPH	**11.4 MPH**	OFF	**11.4 MPH**	20 MPH
LEVEL 2	**11.8 MPH**	20 MPH	**16.3 MPH**	OFF	**16.3 MPH**	20 MPH
LEVEL 3	**14.6 MPH**	20 MPH	**20.2 MPH**	OFF	**20.2 MPH**	20 MPH
LEVEL 4	**17.4 MPH**	20 MPH	**24.1 MPH**	OFF	**24.1 MPH**	20 MPH
LEVEL 5	**20 MPH**	20 MPH	**28 MPH**	OFF	**28 MPH**	20 MPH

* Speed may vary between production units, and by model.

The KEYPAD BUTTONS

DP C010 DISPLAY and REMOTE KEYPAD

DP C080 "INTEGRATED" KEYPAD DISPLAY

3. Turning the unit on and off

- To turn the system on, "Long Hold" the Power button on the KEYPAD until the MURF logo boot-up screen is displayed as shown. Once this is visible, the system is on. Once Boot-up is complete, the display will show the MAIN PAGE as shown above.
- The headlight, taillight and display back-light will turn on automatically when the E-bike is powered on.
- To turn the system off, Long Hold the Power button on the KEYPAD until the screen turns off. If the power is left on, the system will automatically turn itself off after 5 minutes of not being used. You can adjust the AUTO-OFF time to fit your needs in the settings menu.

4. MURF E-bike OPERATING INSTRUCTIONS

4. Changing the pedal-assist level

Press the "+" or "/\" button on the keypad to increase the level

Press the "-" or "\/" button on the keypad to decrease the level

NOTICE: It is important to note that even though the motor will stop assisting the rider when reaching its maximum assistance speed, it is possible for the rider to keep pedaling and increase their speed.

5. Changing the Class type (CLASS 3 BIKES ONLY)

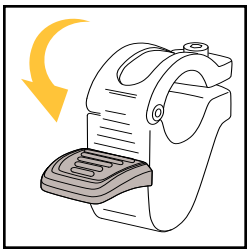
All MURF E-bikes are sold as either Class 2 or Class 3. Any Class 3 E-bike from MURF can be switched down to Class 2 or MURF's Off-Road mode for a unique riding experience geared toward riders wanting to use their Class 3 E-bike off-road.

OFF-ROAD WAIVER

NOTICE: The benefit of the MURF hybrid Off-Road mode is,Class 2 Throttle up to 20mph, and the bike will still have Pedal Assist beyond that, all the way up to 28mph !!! To unlock this hybrid feature, Please email to: **info@murfelectricbikes.com** for a waiver release and a unique serial number matching pass-code. Note: No 2 bikes will share the same pass-code. Throttle-In, Pedal-Out! Grip-it and Rip-it !

NOTICE: A bike sold as a Class 2 E-bike can not be changed to a Class 3 E-bike through its settings. It is the rider's responsibility to know the local laws, rules, and regulations that apply to this product when it is being ridden in different Class modes.

6. The Throttle



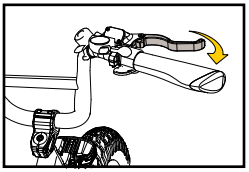
All MURF E-bikes are equipped with a throttle which is mounted next to the right-hand handlebar grip. To activate the throttle, push down on the lever. The throttle should provide smooth acceleration when gradually applied. Once released, the throttle lever will spring back to the off position and the motor will stop.

NOTICE: Class 3 bikes sold by MURF come with a throttle that is digitally disengaged unless the bikes mode is changed to Class 2 or Off-Road mode.

CAUTION: The throttle overrides the pedal assist. Pressing the throttle all the way down will always give the maximum amount of power regardless of which assist level the controller is set at. For example, assist level 2 is limited to around 10 mph. But, if the throttle is pushed all the way down, it will take you to 20 mph at which point the motor will cut off.

4. MURF E-bike OPERATING INSTRUCTIONS

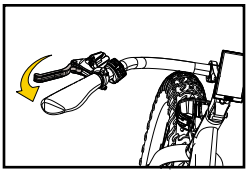
C. Braking



REAR - RIGHT

All MURF E-bikes are equipped with hydraulic disc brakes.

- The rear brake is activated using the right-hand brake lever, while the front brake is activated using the left-hand brake lever. Pulling either or both brake levers will cut off power to the motor.
- This is an important safety feature. **SEE SECTION 8** for how to check brakes and ensure the motor cutoff is functioning.

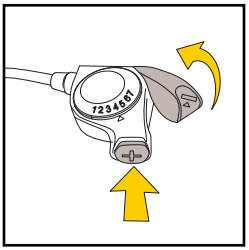


FRONT - LEFT

WARNING: How you apply the brakes and which brakes you use is important - It's best to apply the rear brake first (right brake lever) and then apply front brake (left brake lever) for more stopping power. Hydraulic brakes are very strong so squeezing the rear brake too hard can cause skidding and loss of control. Squeezing the front brake too hard can lock the front wheel and cause you to flip over the handlebars. Apply the brakes steadily and consistently to maintain control.

D. Shifting

Some MURF E-bikes are equipped with a seven-speed shifter which changes the gears on the rear wheel. The shifter controls are located next to the right-hand handlebar grip. The higher the gear the harder it will be to pedal, but useful when riding fast on flat ground or going down hill. The lower the gear the easier it will be to pedal, which is useful for climbing.



- To shift to a higher gear, push the "+" button on the shifter.
- To shift down into a lower gear, push the "-" lever located on top of the gear dial
- In both cases, the rider needs to be pedaling the bike for the derailleur to move the chain to a new gear.

WARNING: The shifter and derailleur are not designed to be shifted under high loads. Doing so can cause a rough shift and possibly break components. To avoid this, let some pressure off of the pedals when shifting

Gear Range	Terrain or situation	Pedaling Effort	Purpose & Pedal Assist Strategy	Pedal Assist Strategy
1-3 (Low Gears)	Uphill, starting from a stop, strong head winds	Easy	Climbing Power: Allows you to keep pedaling without straining your legs	Use medium to high level of assistance for a significant boost up steep hills
4-5 (Mid Gears)	Flat surfaces, Gentle Rolling Hills	Moderate	Cruising Efficiency: A good balance between speed and effort	Use low to medium assistance to conserve battery and still keep your pace
6-7 (High Gears	Downhill, High Speed Flat Sections, Tailwinds	Hard	Maximum Speed: Requires more effort to get going but maintains the pace when going fast	Assist may be unnecessary if exceeding the max assist speed. Use low assistance to conserve the battery

4. MURF E-bike OPERATING INSTRUCTIONS

E. Lights

For your safety and compliance, all MURF E-bikes are equipped with a rear, tail light and a front head light in which both will come on automatically when you power on the display. The rear tail light is also a brake light which will brighten each time either brake lever is activated.

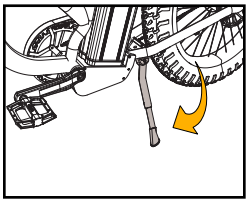
The light icon on the top edge of the display will be illuminated when the head light is on. The head light can be turned off manually if the rider chooses by following the steps below;

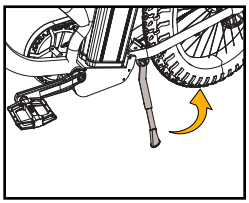
- To turn your lights off, hold down the plus button (or up arrow), until the lights turn off.
- To turn your lights on, hold down the plus button (or up arrow), until the lights come on.

DP C010 DISPLAY and REMOTE KEYPAD

DP C080 "INTEGRATED" KEYPAD DISPLAY

F. Kickstand





Each MURF E-bike is equipped with a kickstand for safely parking your bike in an upright position. There are three different types of spring-return kick-stands depending on your model.

To activate (put down) the rear mount or center mount kick stands;

- Stand on the left side of the bike
- Hold the handlebars with your left hand by the left grip
- Hold the seat with your right hand
- Lean the bike away from you so it is straight up and down
- Use your right foot to "kick" or rotate the kickstand leg down. It will rotate slightly more than 90 degrees into a locked position, pointing to the ground.
- Lean the bike back down until it rests on the kickstand leg

To retract (put up) the rear mount or center mount kickstands;

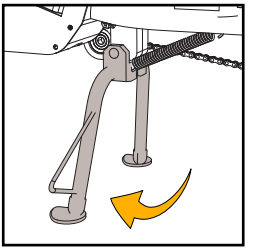
- Stand on the left side of the bike
- Hold the handlebars with your left hand by the left grip
- Hold the seat with your right hand
- Lean the bike away from you so it is straight up and down
- Use your right foot to "kick" or rotate the kickstand leg up. It will "spring" up to a locked position pointing toward the back of the bike.

WARNING: Do not sit on the bike with the kickstand down. Side leaning kickstands are not designed for heavy loads and can fail, causing the bike to fall over resulting in injury and/or property damage.

Cargo bikes and Passenger bikes have a Dual Center Mounted kick stand.

4. MURF E-bike OPERATING INSTRUCTIONS

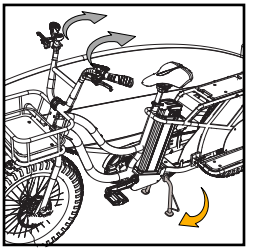
G. Dual Center Mount Kickstand continued



NOTICE: The Cargo models have a much more aggressive spring system. Take care and be aware the forces needed will take more effort, and the return tension will be much higher.

To activate (put down) the dual center mount kickstand;

- Stand on the left side of the bike
- Put your hands on both ends of the handlebars
- Put your right foot on the left leg of the kickstand and push the kickstand down so it's touching the ground.
- While holding the kickstand down on the ground with your foot, pull back on the handlebars so the rear of the bike is lifted on to the kickstand.



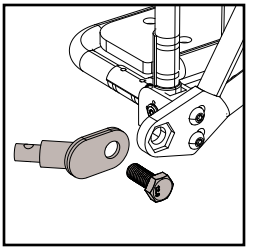
To retract (put up) the dual center mount kickstand;

- Stand on the left side of the bike
- Put your right foot (or toe) in front of the left kickstand leg
- With both hands on each handlebar grip, push the bike forward
- The kickstand will "spring" up into a locked position and the rear wheel will drop to the ground

CAUTION: With heavy loads, especially loads that are mounted high on the bike, the bike can become top heavy and unstable when activating or retracting the kickstand. Take extra care to avoid tipping the bike over. When carrying a passenger, it's recommended the passenger exits the bike before activating the kickstand. It is also recommended that passengers board the bike after the kickstand has been retracted with the driver holding the bike steady.

WARNING: Do not sit on the bike with the kickstand down. Although the Dual Center Mount Kickstand is made for supporting cargo, this can put unknown and heavy loads on the kickstand and cause the bike to be unstable and fall over.

H. Cargo Trailer Tow-Point (Cargo Models Only)



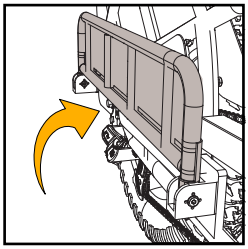
Trailer Adapter example shown

The MURF Cargo E-bike designs are conveniently equipped with a proprietary integrated trailer hitch point.

- Located on the lower rear left side of the bike frame.
- The ideal way to achieve the goal of easily connecting the bicycle trailer to the bike.
- Allowing you to transport all your beach gear, surf boards, coolers, and cargo in safety and comfort.
- Maintains full functionality of the running boards while also towing a trailer.
- Works with MURF trailers, and many other brands.
- Any trailer mount used will require at least a 14mm hole.

4. MURF E-bike OPERATING INSTRUCTIONS

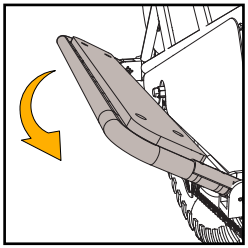
H. Bamboo Cargo Platforms (Cargo Models Only)



Each MURF cargo E-bike is equipped with cargo folding platforms on each side of the rear rack. These can be used as foot rests for rear passengers or support for cargo loaded on the sides of the rack.

Follow these steps to fold up the platforms when they are not in use.

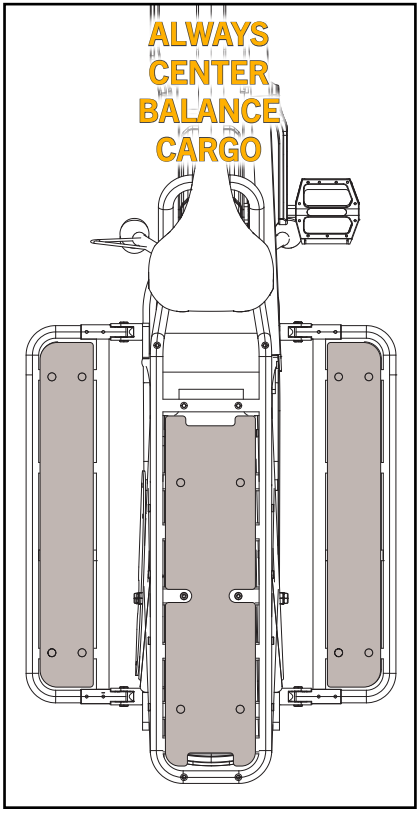
- Rest one hand on the rear rack for stability, and hold bike secure.
- Use the other hand to pull up on the platform until it is perpendicular with the ground.
- The platform will click into place in the vertical position.



To fold down the platform:

- Rest one hand on the rear rack to hold the bike secure.
- Use the other hand to pull down on the platform until it's horizontal with the ground.

WARNING: Where weight is placed and distributed on the bike can affect riding and balance. Additionally, adding weight to the bike will change riding control and factors, including balance and increase braking time and distance.



4. MURF E-bike OPERATING INSTRUCTIONS

I. Additional accessories

The MURF team has thoughtfully engineered into every bike, a multitude of strong and sturdy pre-threaded anchor points. MURF Headtube Accessory Mounts, and MURF Rear Rack Accessory Mounts on the rear rack structure, rear cargo sideboards, and rear passenger accommodations.

These mounting points can be used to install accessories such as passenger bundles / Bungees / Racks. A list of accessories may be equipped by model, such as:

All MURF E-bikes

- Helmets
- Front Baskets
- Cup and Phone Holders
- Mirrors
- Security Locks
- Rear Basket
- Surf Rack
- Big Dawg Rack Bag
- City Pannier
- Trailers

Alpha Cargo and HIGGS Cargo (for passenger and rear cargo setups)

- Cargo Carriage
- Seat Pads
- Cargo Bars
- Rear Crates
- Trailer with extension bar (Built in trailer mounting)

Alpha MURF, Alpha ST, HIGGS Step Thru and HIGGS (Integrated rear racks)

- Rear Baskets
- Rear Crates

Additional MURF models that do not have an integrated rack structure

- Require purchase of a Rear Rack Package to add on rear cargo accessories

Accessories QR

4. MURF E-bike OPERATING INSTRUCTIONS

J. Riding range

MURF has thoroughly tested our E-bikes to give you an accurate, real-world range and most of our riders get between 40-45 miles on a single charge. Your riding habits will determine your actual range.

Variables that reduce range:

- Loading the bike with weight (heavy rider, multiple riders, heavy cargo)
- Riding up multiple hills as needed
- Riding in a higher assist level when you should pedal
- Riding with the lights on when not needed
- Using mainly the throttle, with little to no pedaling

NOTE: More assistance and/or power usage while riding will give you less range, while more pedaling and less assistance/power usage will give you greater range

5. GENERAL BATTERY AND CHARGING SAFETY

EXPLOSION / FIRE DANGER: Improper Battery management and maintenance, including charging, can potentially result in explosion and/or fire danger, which could result in serious injury, death, and/or serious property damage.

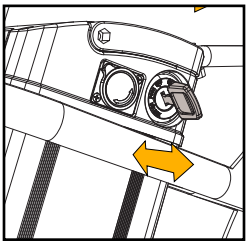
- Do not expose the battery or battery port to water.
- Do not subject the battery to violent vibrations, shocks, or crushing.
- Do not disassemble or repair the battery without MURF's WRITTEN authorization permission. Disassembly of the battery voids the warranty.
- Never connect the battery's terminals with each other.
- Keep the battery away from fire, any heat source or any flammable materials, such as paper, under or on a pillow, bed or a couch as the battery does heat up during charging.
- In the unlikely case that the battery is on fire, NEVER try to put the fire out with water. Instead, use a fire extinguisher and call emergency services (and do not touch it).
- Never use a charger or cables that were not supplied with your E-bike from MURF. Doing so could void your warranty, cause damage to the Bike and its components/systems, or even potentially create an explosion/fire danger. If a replacement charger is needed, contact MURF customer service.
- Do not use the battery or charger for any purpose other than their intended purpose.
- Always plug your battery charger directly into a grounded wall outlet.
- Do not cover, stack or cluster the lithium-ion batteries together while charging or storing.
- Charging multiple batteries with inadequate electrical support is a major safety hazard disconnect the charger and the battery immediately if you notice it is unreasonably hot, a strange smell, or see smoke.
- Always store and charge your battery in a well-ventilated area that has a fire detection system.
- Don't forget to charge it every 2 to 3 months. Failure to do so can cause permanent damage to your batteries charging capabilities.
- Remove the Charger from the Battery within one hour of the green light illuminating, indicating a completely full battery charge.
- The Charger is designed to automatically stop charging when the Battery is full, but unnecessary wear of the charging components, and potential fire/explosion danger, could occur if the Charger is left attached to the Battery and a power source for longer than 12 hours.
- Do not leave a charging Battery unattended or overnight, or longer than 6 hours.
- The charger and battery can become hot during charging. Do not touch or have contact with the battery or the charger during charging.
- Be sure to charge in an area where it is clear and safe from any potential damage or tripping situations that can occur while it is charging. Never obstruct a passage or walkway with your battery or charging cord.

NOTICE: Temperature Ranges
Working range -10°C- 45°C (14°F-113°F)
Storage range 5°C -25°C (41°F-77°F)
Charging range 10°C- 35°C (50°F-95°F)

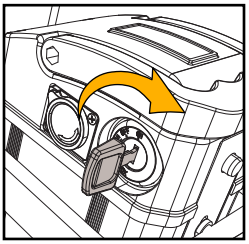
6. BATTERY INSTALLATION, REMOVAL & CHARGING

A. BATTERY KEY POSITIONS

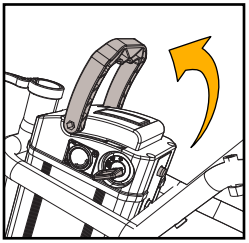
The key tumbler is similar to automobiles, motorcycles, and mopeds. There are three positions for the key.



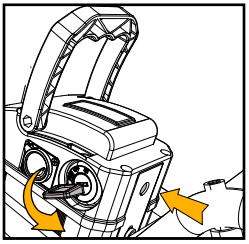
1. "**OFF**" position is the default for the battery. The key can be inserted or removed.



2. Rotate the key clockwise, (Straight up and down) to the "**ON**" position. This is the position to activate the E-bike system. The key will stay in the "**ON**"position while the E-bike system is activated.



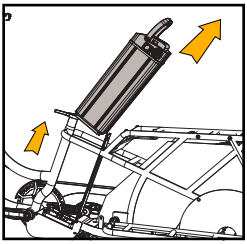
PRO TIP: Much like using a Surf-Leash (aka Leg-Cord) it is best practice to keep your key on a cord / rope / bungee tether that can be clipped to the battery handle, or the bike frame while riding, and taken with you when the bike is parked. This will also help you not missplace your key, or accidently leave your key in the bike when not in use.



3. From the OFF position, Press the key further into the battery, and continue to rotate counter-clockwise to "**UNLOCK**" position.
In this location, it will hold the retracted deadbolt, and allow you to pull out the battery, up along the rail.

B. BATTERY REMOVAL

Follow these steps to remove the battery

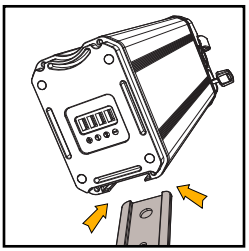


- To gain access to the battery, flip the seat quick release to the open position and slide the seat and seat post out of the frame and set aside.
- Lift up the folding battery handle
- Insert the Battery Key in the battery to the "OFF" position.
- Push the key in and click to the left one more time to release the deadbolt in the back of the Battery.

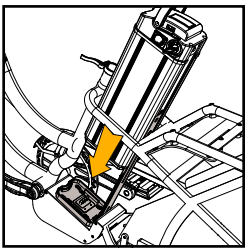
6. BATTERY INSTALLATION, REMOVAL & CHARGING

C. BATTERY INSTALLATION

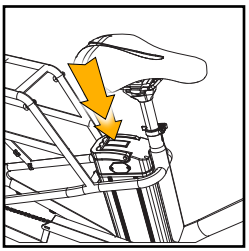
Follow these steps to install the battery



- To gain access to the battery rails, flip the seat quick release to the open position and slide the seat and seat post out of the frame and set aside.
- Insert the Battery Key in the battery to the “OFF” position.
- Push the key in and click to the left one more time to release the deadbolt in the back of the Battery.



- Carefully line up the Battery and battery rails. Install the Battery onto the rails and gently slide the Battery down to the terminals of the battery base. Do not force the Battery.
- Once the battery is all the way in, give it one last push to ensure it is fully seated in the battery base.
- Turn the key to the right to engage the deadbolt and lock the Battery in place. Check that the Battery is properly secured to the E-bike by carefully pulling up on the handle.

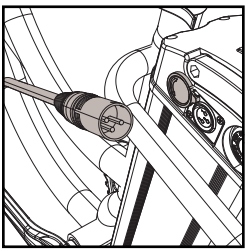


CAUTION: Be careful not to drop the Battery when removed from the E-bike as this could lead to Battery damage.

NOTICE: When the battery is removed from the bike, protect the battery base terminal contacts from damage. Do not touch the battery terminal contacts. If terminals are damaged, please discontinue use and contact MURF support immediately.

D. BATTERY CHARGING

Follow the instructions below to charge your Battery.

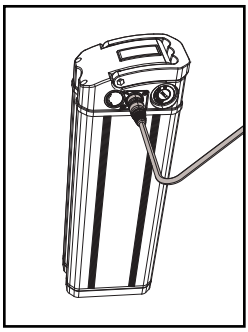


NOTICE: If the bike (battery) goes unused for 5 days, the battery will enter a “Deep Sleep” mode in which it will not power the bike when the display is turned on. This mode requires the user to plug the charger into the battery to “wake” the battery so it can be used.

- Check the Charger, Charger Cables, and Battery for damage before beginning each charge.
- If you have not done so already, plug the power cable into the charger.
- Plug the charger into the power outlet (or surge protector if possible)
- Fold the battery’s protective charging port flap up and plug the charger into the battery

6. BATTERY INSTALLATION, REMOVAL & CHARGING

D. BATTERY CHARGING continued



- Once plugged in, the LED light located on the charger will light up.
- Red light indicates the battery is charging.
- Green light indicates the battery is fully charged.
- It will take 6 -7 hours (from zero charge) for the battery to fully charge

NOTICE: The battery can be charged on or off the E-bike. For safety, if you charge the battery while it is on the bike, always turn the key switch to the "OFF" position when charging.

CAUTION: It is recommended to plug the charger into the power outlet first before plugging the charger into the battery. Likewise, when unplugging the battery, it is recommended to first unplug the charger from the power outlet before unplugging the charger from the battery.

E. LONG TERM BATTERY STORAGE

Follow the recommendations below to reduce risks of a damaged and/or non-functional battery resulting from failure to properly store the Battery.

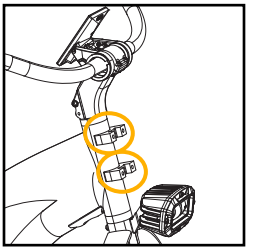
- The Battery can either be stored on the E-bike (locked to the frame) or unlocked and removed from the frame for storage.
- If planning on storing the battery long-term, it is best to do so at or around an 80% charge.
- Before storing, power off the battery by turning the key to the OFF position.
- Store the Battery (or Bike with Battery) in a dry, well ventilated location, that will remain within the recommended temperature ranges.

NOTICE: Storing a fully charged Battery for long periods can lead to range decline over time.

NOTICE: Storing the Battery at very little or no charge for long periods can lead to permanent range decline or a non-functional Battery.

7. CARRYING CARGO AND PASSENGERS

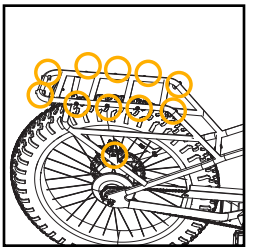
MURF provides various mounting provisions designed into the bikes, as well as accessories to make carrying cargo or passenger(s) easier but carrying cargo or passenger(s) comes with added risks. Therefore, before riding with cargo or passengers, it is important to thoroughly read and understand this entire section as well as any documentation that comes with the accessories you purchase.



MURF HEADTUBE ACCESSORY MOUNTS

NOTICE: Carrying cargo and passengers may not be allowable in all areas. You are responsible for knowing and following all applicable laws, rules, and regulations wherever you ride your E-bike.

WARNING: Where weight is placed and distributed on the bike can affect riding and balance. Additionally, adding weight to the bike will change riding control and factors, including balance and increase braking time and distance.



MURF REAR RACK ACCESSORY MOUNTS

DANGER: Understand any potential child passenger's capability for riding as a passenger. Younger children (5 and under) should only be riding as passengers when utilizing the cargo carriage. Passengers must remain seated at all times while the MURF cargo E-bike is in motion.

ALL BIKE RIDERS AND PASSENGERS SHOULD WEAR HELMETS, ESPECIALLY MINORS!

WARNING: Bolt on, and integrated rear racks are not designed for carrying passengers. Only put passengers on bikes equipped with spoke guards, side boards, and bamboo cargo boards.

A. Weight limits

The total maximum weight limit (payload capacity) of your E-bike includes the weight of the rider and the weight of clothing, riding gear, cargo, surf boards, accessories, etc.

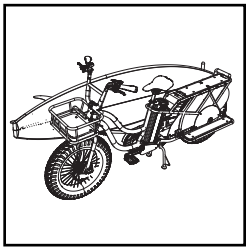
Total maximum CARGO payload of the:

- All Bikes front rack 55 lb. (25 kg)
- HIGGS Step-Thru: 330 lb. (158.8 kg)
- HIGGS Cargo: 440 lb. (181.4kg)
- Alpha Step-Thru: 375 lb. (158.8 kg)
- Bolt-On Rear rack package maximum payload: 50 lb. (22.7 kg)
- Welded Rear rack package maximum payload: 55 lb. (25 kg)
- Bamboo platform CARGO maximum payload: 175 lb. (79.5 kg)
- Bamboo platform CARGO lower folding cargo side-boards (personnel) maximum payload: 175 lb. (79.5 kg)
- Trailer and cargo combined towing capacity 130 lb. (59 kg)

DANGER: For Cargo E-bikes, check that the rear rack's plastic shield is intact and securely mounted prior to riding with passenger(s) to ensure the safety of passengers and to protect passenger limbs from getting caught. If the plastic shield is not securely mounted or is broken, contact MURF. Do not ride with passengers if the rear plastic shield is not intact and securely mounted.

WARNING: Do not exceed the payload limit of any accessory or component of your bike. The payload limit of an accessory or component cannot be increased by attaching it to an accessory or component with a higher weight limit. Overloading any component can lead to component failure, loss of control, serious injury, or death. Always follow the provided payload limit for the accessory or component.

7. CARRYING CARGO AND PASSENGERS



B. Carrying loads safely

Keep the following in mind to maximize safety when using your MURF E-bike to carry cargo:

- Bike maneuverability is negatively affected by carrying extra loads. For example, ease of braking, acceleration, turning, balancing, etc. are all negatively affected. Maneuverability is affected even more so in difficult riding conditions, such as on wet roads.
- Things which are relatively easy to do without carrying loads, such as ascending and descending hills become more difficult with the extra load. The danger of doing such activities increases as well when carrying extra loads.

CAUTION: Be careful when riding uphill with a heavy load on the rear of your bike. An unbalanced load can make the steering unstable, which could cause you or your passengers to lose balance and fall, leading to injury.

- Braking distances will be longer when carrying extra loads.
- Before adding heavier loads or riding in difficult conditions, first practice with lighter loads in a safe place (e.g., flat, open spaces, etc.).
- Make sure cargo loads are secured properly and check loads frequently to ensure nothing is coming loose.
- Check for, and address, possible risks of cargo hindering moving parts of the bike.
- Check for, and address, risks of cargo contacting or dragging on the ground.

CAUTION: Do not sit on your E-bike with the kickstand down, especially with heavy loads. This could cause the kickstand to collapse, bend or damage the frame and mounts, and you could be injured.

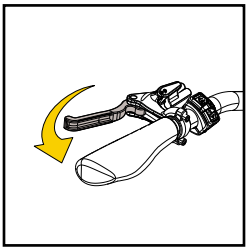
WARNING: The rider / operator is always responsible for making sure that any cargo loaded on the bike will not interfere with their ability to safely operate the bike. Failure to ensure that cargo securely loaded on the bike does not interfere with the rider's ability to safely operate the bike can lead to serious injury or death. The rider / operator is always responsible for the cargo payload, and how it can influence the environment around the rider / operator. Always be mindful of your cargo payload being strong / tight / secure for your journey.

WARNING: Always ensure the bike is stable when loading cargo. Do not let passengers get on the bike without assistance. Before completely letting go of the cargo or passengers, ensure the bike will not tip over. Not doing so may lead to damage to the bike and/or serious injury.

WARNING: Always ensure all lights and reflectors are still visible after loading cargo. Blocking reflectors or lights can make you more difficult to see, which may lead to serious damage or injury.

8. SYSTEM CHECKS

A. Brake System Check



1. Test the brake function

- Fully squeeze the brake lever.
- There should be at least 19 mm (¾") space between the grip and the brake lever when fully activated and the lever should never touch the grip.
- With both hands on the handlebars, push forward in an effort to roll the bike. The wheel should not rotate.
- Perform these same tests on both front and rear brakes.

DANGER: It is critical that the brake pads fully contact the rotor well before the brake lever gets close to the grip to allow full stopping power. If they do not and the lever is close to or reaches the grip, this means that the brakes are not functioning properly and need to be serviced. Malfunctioning brakes are a serious safety hazard, which can lead to serious injury, death, and/or property damage.

In the event that your brake pads have worn down and need to be replaced, this video demonstrates how to replace brake pads:

MURF How-To

WARNING: If you are unsure or not confident in your ability to adjust or replace Brake Pads and/or Brake Components or are uncomfortable with adjusting/replacing them by yourself, consult your MURF Dealer or a certified and reputable bike mechanic.

2. Test the brake lights (sensors)

- Turn on the power
- Squeeze the rear brake lever and confirm the tail lights activate and glow brighter
- Repeat the same test for the front brake

WARNING: If the brake lights do not activate, the brake sensor is out or needs adjustment. A faulty brake sensor can also cause there to be no power to the motor or cause it to not cut power when the lever is squeezed.

3. Test the rear brake motor cutoff switch

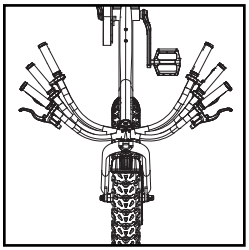
- With the kickstand down, lean the bike to its left side so the rear wheel comes off the ground.
- Activate the throttle slowly so the motor is running.
- While holding the throttle steady, squeeze the rear (right) brake lever until the motor shuts off.
- If the motor cutoff is functioning, you will hear the motor stop and the rear wheel will slow.
- Repeat the same test for the front brake

NOTICE: If the motor does not cut off when the brakes are applied, either call MURF, MURF Dealer, MURF Certified Service shop, or take your E-bike to a certified and reputable bike mechanic.

MURF Service

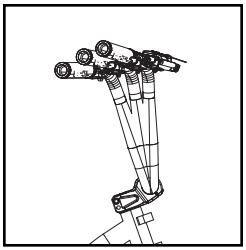
WARNING: The motor cutoff switch tests should be performed by a capable individual that can safely run the motor with the rear wheel off the ground. Dropping the wheel on the ground while the motor is running will cause the bike to accelerate away and possibly out of the control of the user.

8. SYSTEM CHECKS



B. Handlebar twist test

- Stand at the front of the bike, facing the handlebars, and brace the front wheel between your feet and lower legs.
- Try to twist the handlebars by holding both handlebar grips and pushing forward with one hand while pulling back with the other.
- Push and pull at the same time with about 20 lb. of force with each hand.
- Look for movement and ensure the handlebars and wheel stay properly aligned.
- If the handlebars remain perpendicular to the front wheel, the stem has passed the test.



C. Handlebar push test

- Roll your bike up so the front tire is against a wall.
- Sit on the seat and hold both front and rear brakes on tight.
- Push and pull the handle bars forward and back with moderate force, looking for any movement between the handle bar and stem. Do this 3 times in each direction.
- Repeat and increase the force until an estimated 100lbs of force forward and back is applied.
- If you don't see any movement, the handlebars have passed the test.

DANGER: An improperly secured handlebar stem can cause loss of control, accidents, serious injury, or death. Check that the stem is properly secured during assembly and before each ride.

9. MAINTENANCE

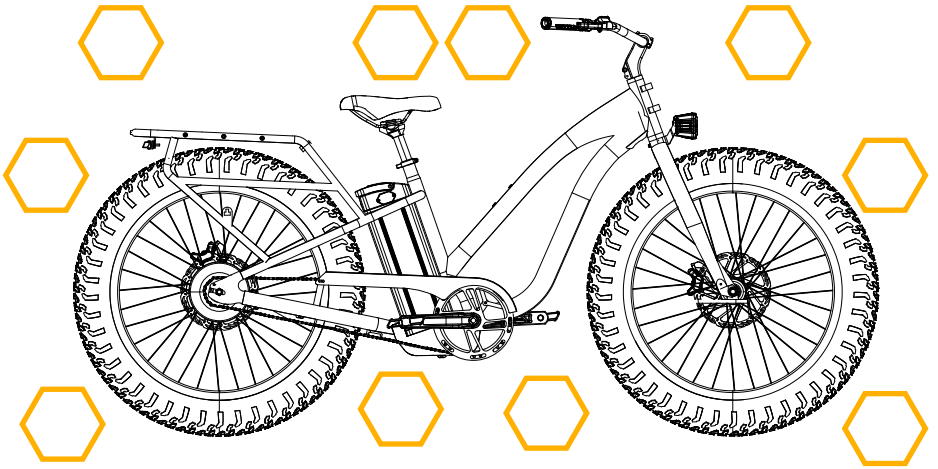
Regular inspection and maintenance will help ensure that MURF Bikes function properly and reduce wear and tear on their systems. The recommended service intervals are provided as general guidelines. Actual wear and the need for service will vary depending on real world conditions of use.

NOTICE: E-bike components like chains, brakes, cables and tires may wear out faster than the same components on non-motorized bicycles, requiring more service. Make sure to inspect components regularly, and have a professional, reputable bike mechanic perform a thorough tune-up following the service intervals described here, or sooner if you discover increased wear.

A. CLEANING

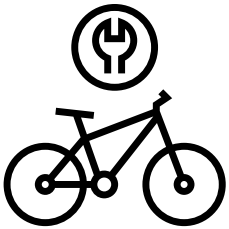
It is important to keep your E-bike clean for proper function and to extend the life of the components:

- Do not use a water hose as this can lead to water intrusion in the battery compartment and permanently damage your battery, and/or electrical systems. NEVER use a or power washer.
- Always start by cleaning debris off the frame, chain and all components to be free of sand / dirt / ect. with a dry-brush, Continue to brush off the battery and electrical components with a clean soft cloth.
- Clean the chain with a bicycle chain cleaning solution, available at your local bike shop.
- Clean the frame and wheels with a soft cloth. You may dampen the cloth with bike cleaner, if needed.
- Re-Lubricate your chain after cleaning with a quality lubricant available at your local bike shop.
- If often exposed to salt spray , beach mist, salt water, blown beach sand, increase the frequency of dry-brush cleaning, and increase the application of lubrication for best performance and durability.
- Always avoid harsh chemical solvents unless fully trained for use on the proper components.



9. MAINTENANCE

B. RECOMMENDED SERVICE INTERVALS



Before your FIRST ride
- Make sure you have performed all the adjustments and checks in **SECTION 3 FIT-TO-USER ADJUSTMENTS**

After break-in period of 50-75 miles (80-125 km)
- Inspect and check hardware for any bolts that may have loosened
- Check spoke tension and wheel straightness
- Listen for loose or rattling components
- Check derailleur cable (if applicable) for stretch

Before each ride;
- Check tire air pressure
- Pump brakes to make sure they work and brake lights come on
- Pull up on the battery to make sure it is fully secured
- Visual inspection of complete bike

100 Miles (160 km) Or Weekly;
- Visual inspection of drivetrain and brake cables for damage
- Visual inspection of the frame, fork and components for cracks or abnormal wear
- Check wheel trueness (i.e., alignment and for wobble)
- Clean the frame by wiping it with a damp cloth
- Clean and lubricate the drivetrain

250 Miles (400 km) Or Monthly;
- Check spoke tension to make sure no spokes are loose or bent
- Check crankset and pedals to make sure they are tight and to torque recommendations
- Inspect the tires for wear or damage

750 Miles (1200 km) Or Every 6 Months;
- Check all hardware for proper torque
- Inspect and Replace brake pads and rotors if necessary
- Inspect and Replace tires if necessary
- Inspect and Replace shifter cable if necessary
- Bleed the brakes if necessary
- Check chain stretch and replace if necessary

1500 Miles (2400 km) Or annual anniversary of your ownership;
- Professional service by MURF certified (QR)
- Full Frame inspection
- Motor inspection and testing
- Battery dis-charge health test, visual inspection and complete electrical testing
- Full and complete inspection of Motor controller connections / Battery base / all electrical harness components, sensors, and connectors, and contact pins.
- Firmware validation and update if needed

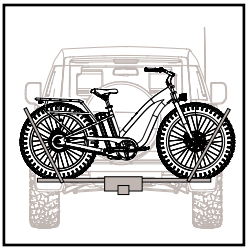
MURF Service

NOTICE: The battery must be charged (conditioned) every 3 months. Failure to do so can cause permanent damage to your batteries' charging capabilities and longevity.

WARNING: If you do not have the experience, skill, and tools to complete maintenance and adjustment of your bike, MURF electric bikes strongly recommends having a certified bike mechanic maintain, tune, and ensure the bike is safe to ride.

10. TRANSPORTING AND SHORT-TERM STOR-

A. Transporting your bike



Traveling with your MURF bike to a new, unknown location, or a destination to ride and explore can be a fun experience. Below are things to consider when transporting your bike by car or truck.

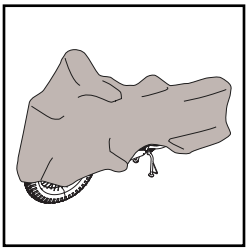
- Before pushing, lifting, or carrying your E-bike, turn off the power to avoid accidental acceleration from the motor, e.g. by mistakenly twisting the throttle.

- If using public transportation (buses, trains, etc.) to transport your E-bike, check with the relevant transportation authority for rules that might apply to E-bikes, including weight and size limits, tire widths, lithium-ion batteries, etc

- If you intend to use a bike rack to transport your E-bike, be sure and follow the manufacturer's instructions for the rack and ensure it is an appropriate rack for the size and weight of your E-bike and will not damage the bike, especially the battery and electrical systems. It's good practice to remove the battery from the bike to lessen the weight and stress on the bike rack.

- If you intend to transport your E-bike inside a vehicle or a truck bed, make sure it is secured in a manner so it does not fall out or move around during transport, especially in the event of an accident or emergency maneuver. Do not leave your E-bike in the vehicle for any longer than is necessary to transport it, as exposure to heat, UV rays, rain, snow and other conditions can damage the battery, charger, frame and components of the bicycle

B. Short Term Storage



- Always store your E-bike under cover from the sun and weather, or in doors when not in use. Prolonged exposure to UV Rays, rain and the elements may damage the materials.

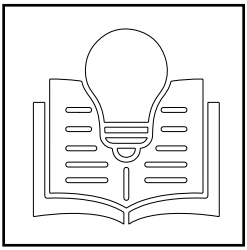
- Leaving it outside can lead to damage to the battery and electrical systems, corrosion and early degradation of the frame and components.

- Always park and store your E-bike in a secure place and locked with the keys removed.

11. SAFE RIDING

Bicycling is a fun and practical way to get around, but like with other sports, it involves risk of injury and death. By choosing to ride a bike, you assume responsibility for those risks.

WARNING: Incorrect assembly, maintenance, or use of your bike can cause component or performance failure, loss of control, serious injury, or death. Even if you're an experienced bike rider, you must read and understand this entire manual and any documentation provided for accessories



A. Educate yourself

Be thoroughly knowledgeable and educate yourself about your E-bike before riding.

- Practice riding your E-bike, braking, and using the throttle and pedal assist systems in a controlled environment before riding in traffic or other risky conditions.
- The electrical system on your E-bike offers various levels of power assistance and user preferences. Be sure you understand these features before riding.
- If the pedal assistance, throttle, or lighting are functioning abnormally, intermittently, or not at all, please discontinue using your E-bike immediately and contact MURF, MURF Dealer, and/or a certified reputable

B. Age and ability requirements

MURF E-bikes are not to be operated by anyone under the age of 16. Children under the age of 16 may lack the necessary judgment and skill to safely operate the E-bike, potentially resulting in damage to the bike, damage to other property, serious injury, and/or death. Please also check your local laws, which may require a higher age.

C. Helmet and clothing

MURF strongly advises that you always wear a properly fitting,CPSC certified bicycle helmet while riding your bike (including passengers), which may be required by law in your area. Always wear appropriate clothing when biking. This includes closed toe shoes, and bright or reflective colors that are easily seen by motorists, pedestrians, and other cyclists.

DANGER: Riding any bike (including passengers) without a helmet puts you at VERY HIGH RISK of serious head injury or death. Always wear a properly fitted helmet that covers the forehead. Many locations require specific safety devices. It is your responsibility to familiarize yourself and comply with the laws, rules, and regulations where you ride, and to always be updated and stay compliant.

11. SAFE RIDING

D. Biking at night (and other low visibility conditions)

If you are going to be biking at night, or in other low visibility conditions, take extra safety precautions.

- Prior to riding: make sure the headlight and taillight are functioning properly and are unobstructed, and ensure all reflectors are accounted for, intact, and unobstructed.
- Wear reflective and bright clothing to be more visible.
- If possible, bike where there is street lighting and along roads/routes you are familiar with. Ride your bike with extreme caution, and at slower speeds.

WARNING: Biking at night (or in other low visibility conditions) makes it harder for others to see you and makes seeing and avoiding hazards harder. This increases the risk of accidents, injury, and death. Other low visibility conditions include dawn, dusk, rain, mist, and snow. The addition of wet and slippery surfaces will increase risk of injury/death substantially. When possible, try to avoid biking at night and in these low visibility conditions.

E. Biking in all conditions

Not every day is sunny and dry. Keeping your MURF Electric Bicycle away from damaging moisture is very important. Water, snow and ice can make riding surfaces slippery and cause control and stopping issues.

- Do not bike in puddles, streams, heavy rain, or any other situations involving large bodies of water in which the E-bike's electrical system may become immersed or submerged. Immersing or submerging the battery (including battery mount or motor) in water or other liquid may damage the electrical systems (see Section II for more information).
- Biking on slippery surfaces and biking with wet, slippery hands and/or feet increases the risk of accidents, serious injury, or death.
- You will need to increase braking distance and take turns slower.
- The addition of low visibility conditions, (such as in the rain) increases risk of injury or death substantially.

F. Safe on-road operation

Operating a bike on the road requires that you follow the same laws as other motorized vehicles and any additional local regulations for E-bikes.

Always bike defensively and assume drivers can not see you.

Defensive bicycling refers to a set of strategies and practices aimed at enhancing safety while riding a bicycle. It involves being aware of your surroundings and anticipating potential hazards to avoid accidents

11. SAFE RIDING

F. Safe on-road operation continued

Key Principles of Defensive Bicycling

- Awareness: Always be alert to your environment. Look ahead, check your sides, and be mindful of vehicles and pedestrians.
- Positioning: Ride at a safe distance from the curb and other vehicles. This gives you space to maneuver around obstacles and reduces the risk of being hit by a car making a turn.
- Traffic Rules: Follow all traffic laws, including stopping at stop signs and traffic lights. This helps ensure that drivers see you and understand your intentions.
- Visibility: Wear bright clothing and use lights or reflectors, especially at night. This makes you more noticeable to drivers.

Anticipating Driver Behavior

- Expect the Unexpected: Assume that drivers may not see you or may make sudden moves. Be prepared to react quickly.
- Avoid Distractions: Stay focused on the road and avoid using devices that could divert your attention.

Safe Riding Practices

- Speed Control: Ride at a safe speed, especially in areas with potential hazards like gravel or potholes.
- Hand Signals: Use hand signals to indicate turns and stops, making your actions clear to other road users.

By adopting these defensive bicycling techniques, cyclists can significantly reduce their risk of accidents and enjoy a safer riding experience

WARNING: Be careful of unexpected situations, such as cars backing out of driveways, car doors opening, kids/animals running into the street, etc. Be careful at intersections and when preparing to pass other vehicles or cyclists. Be predictable when biking, such as biking in a straight line. Do not bike erratically, with sudden, unexpected direction changes.

WARNING: Be careful when riding uphill with a heavy load on the rear of your bike, as the added weight can cause difficulty in steering

11. SAFE RIDING

H. Path riding

Although bike paths are away from automobile traffic and seem safe, there are numerous considerations:

- Follow rules/regulations of the path, such as yield responsibilities, and posted speed limits.
- Be conscientious of others using the path.
- Be careful when passing – use your MURF equipped bell, your voice, and/or hand signals as needed/as appropriate.
- Be aware of traffic in front, and behind you, traveling in both directions. It is important to be careful of unexpected situations, such as others on the path suddenly stopping and/or making sudden and/or unexpected movements, etc.

WARNING: Path conditions will vary from location to location. Paths may contain various obstacles, like water, algae, ice, sand, etc. The addition of these obstacles increases the risk of accidents, serious injury, and/or death. Be on the lookout for these conditions and bike carefully when encountering them.

G. Safe off-road operation

Off-road riding requires close attention, specific skills, and presents variable conditions and hazards. Wear appropriate safety gear and do not ride alone in remote areas. Check local rules and regulations about whether off-road E-bike riding is allowed.

- DO NOT ENGAGE IN EXTREME RIDING. This includes but is not limited to jumps, stunts, or any riding that exceeds your capabilities. Although many articles/advertisements/catalogs depict extreme riding, this is not recommended nor permitted, and you can be seriously injured or killed if you perform extreme riding.
- Bikes and bike parts have strength and integrity limitations, and extreme riding, including but not limited to jumps, stunts, etc., should not be performed as it can damage bike components and/or cause or lead to dangerous riding situations in which you may be seriously injured or killed.
- Failure to perform and confirm proper installation, compatibility, proper operation, or maintenance of any component or accessory can result in serious injury or death.

WARNING: MURF E-bikes are designed for and intended to be ridden on road, gravel, and maintained dirt surfaces, such as fire-roads, trails, and paths. Jumping, stunt riding, racing and the use of MURF E-bikes on rough off-road terrain is considered improper use which is beyond the intent of the bike and its design. Doing so can damage the components and frame, and will void your warranty.

12. ERROR CODES AND TROUBLE SHOOTING

MURF Service

A. ERROR CODES

Your MURF E-bike is equipped with an error detection system built into the controller which will notify you if there is a problem. Some errors are simple to resolve; others may require extra troubleshooting and/or replacement parts to resolve.

If an error occurs, an error icon will appear on the display;
Please first restart the system. If the problem is not eliminated, please contact your MURF dealer or MURF technical personnel. Refer to the table below for basic troubleshooting steps, and if the error persists, contact MURF for further troubleshooting.

Code #	Cause	First Step: DIY or MURF Authorized Service	Solution	Next Step
04	The throttle is not back in its correct position.	DIY	Check the connector from the throttle is correctly connected. If this does not solve the problem, please change the throttle.	Contact MURF or Authorized Service
05	The throttle has electrical fault.	DIY	1. Check the connector and cable of the throttle are not damaged and correctly connected. 2. Restart the system.	Contact MURF or Authorized Service
07	Over-voltage protection	DIY	1. Remove and re-Insert the battery to see if it resolves the problem. 2. Restart the system.	Contact MURF or Authorized Service
08	Error with the hall sensor signal inside the motor	MURF or Authorized Service	1. Check all connectors from the motor are correctly connected. 2. Restart the system.	Contact MURF or Authorized Service
09	Error with the Engine phase's	MURF or Authorized Service	-	-
10	The temperature inside the motor has reached its maximum protection value	DIY	Turn off the system and allow the motor and battery to cool down 30 minutes.	Contact MURF or Authorized Service
11	The temperature sensor inside the motor has an error	MURF or Authorized Service	-	-
12	Error with the current sensor in the controller	MURF or Authorized Service	-	-
13	Error with the temperature sensor inside of the battery	MURF or Authorized Service	-	-
14	The protection temperature inside the controller has reached its maximum protection value	DIY	Turn off the system and allow the motor, controller and battery to cool down 30 minutes.	Contact MURF or Authorized Service

12. ERROR CODES AND TROUBLE SHOOTING

Code #	Cause	DIY or MURF Authorized Service	Solution	Next Step
15	Error with the temperature sensor inside the controller	DIY	Turn off the system and allow the motor, controller and battery to cool down 30 minutes.	Contact MURF or Authorized Service
21	Speed sensor Error	DIY	1. Restart the system 2. Check that the magnet attached to the spoke is aligned with the speed sensor and that the distance is between 10 and 20 mm. 3. Check that the speed sensor connector is connect ed correctly.	Contact MURF or Authorized Service
25	Torque signal Error	DIY	1. Check that all connections are connected correctly 2. Restart the system.	Contact MURF or Authorized Service
26	Speed signal of the torque sensor has an error	DIY	1. Check that all connections are connected correctly. 2. Restart the system.	Contact MURF or Authorized Service
27	Overcurrent from controller	MURF or Authorized Service	-	-
30	Communication problem	DIY	1. Check that all connections are connected correctly. 2. Restart the system.	Contact MURF or Authorized Service
33	Brake signal has an error	DIY	1. Check all connectors are correctly connected on the brake sensor wires. 2. Restart the system.	Contact MURF or Authorized Service
35	Detection circuit for 15V circuit has an error	MURF or Authorized Service	-	-
36	Detection circuit on the keypad has an error	MURF or Authorized Service	-	-
37	WDT circuit is faulty	MURF or Authorized Service	-	-
41	Total voltage from the battery is too high	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
42	Total voltage from the battery is too low	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
43	Total power from the battery cells is too high	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
44	Voltage of the single cell is too high	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
45	Temperature from the battery is too high	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
46	The temperature of the battery is too low	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
47	SOC (State of Charge) of the battery is too high	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
48	SOC (State of Charge) of the battery is too low	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
71	Electronic lock is jammed	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-
81	Bluetooth module has an error	MURF or Authorized Service	Isolate the pack from combustibles and seek professional inspection	-

12. ERROR CODES AND TROUBLE SHOOTING

B. TROUBLE SHOOTING

Use the following trouble shooting chart to help diagnose and solve some common E-bike issues, which are not related to the control system codes.

CAUTION: If you are not confident in your ability to properly diagnose, adjust or repair your MURF E-bike, please take it to your MURF dealer or a qualified bicycle mechanic to have them perform the repair for you.

PROBLEM	PROBABLE CAUSE	SOLUTION
No Power to E-bike	Display will not turn on	Confirm Key is in the "ON" position
	Dead or low battery	Charge the battery
	Battery in "Sleep Mode"	Charge the battery
	Battery not fully seated in tray	Re-Install battery correctly
	Faulty connections	Clean and reconnect connectors
Brakes are squeaking or making a scraping noise	Brakes need to be bedded	Bed the brakes, see section 3-I
	Rotor is bent	With proper tools, the rotor can be straightened. Rotor can also be replaced
	Rotor is not centered with brake pads	Caliper needs to be re-adjusted so it is centered over the rotor
	Brake pads are worn down to the backing	Replace pads
	Oil water or foreign substance is on the rotor and/or pads	Remove and clean the pads as well as the rotor surface with brake cleaner
Brakes do not work when applied	Air has gotten into the brake hydraulic system	Bleed the brakes
	Leak in hydraulic system	A certified bike mechanic can trouble shoot the brake system and replace components as needed
Irregular acceleration or reduced top speed	Low battery	Charge battery
	Unexpected assist level setting	Change to desired assist level
	Loose connection with throttle	Clean and reconnect throttle connector
	Damaged throttle	Replace throttle
Battery won't charge	Faulty charger connection or cable	Inspect cables for damage and replace if needed. Clean and reconnect cables. Make sure cables are fully connected.
	Faulty/damaged charger	Inspect charger for damage and replace if needed
	Faulty/damaged battery or charging port	Inspect battery and battery charging port for damage and replace if needed.

13. LIMITED WARRANTY AND OTHER TERMS

Two Year Limited Warranty - Frame, front fork, battery, and electrical components ("Warranty")

MURF E-bikes, Inc. ("MURF") warrants to the original retail purchaser ("Purchaser") that the frame, front fork, battery, and electrical components, including the display screen of all new MURF Electric Bikes ("Bikes") against defects in materials and/or workmanship for a period of two (2) years from the date of original retail purchase. The defective product will be replaced or repaired at MURF's sole option. The original receipt of purchase is required to establish proof of purchase and warranty date and must be provided to MURF for all warranty claims. All replacement parts, including frames, will be warranted for the balance of the original warranty period. Replacement will be honored only by MURF. You are responsible for paying the following costs associated with the replacement: applicable taxes, parts, labor and return shipping for any items that MURF determines are not covered by this Warranty. Please contact MURF at info@murfelectricbikes.com or 949-218-5920 before returning any potentially warranted part to MURF.

This Warranty applies to Bikes purchased in the USA and is in addition to any rights Purchaser may have in his or her state of residence. If any portion of this Warranty is not in compliance with any particular state or local law, that portion of the Warranty shall be stricken or reformed and all other portions of this Warranty shall remain in full force and effect.

This Warranty does not apply to: (1) ordinary wear and tear; (2) Bikes which have not been properly assembled or maintained; (3) Bikes which have been crashed, neglected, or subject to improper use; (4) damage caused by accessories which have been improperly installed or were not intended for use on the Bike; (5) corrosion; (6) Bikes or components which have been modified from their original condition.

This is a full and complete statement of MURF's warranty for its Bikes. No other warranty is expressed or implied, nor can anyone create any other warranty regarding any MURF Bike or any of its parts and components other than as expressly stated herein. MURF shall not be liable under this Warranty for any incidental or consequential damages, nor in an amount greater than the original purchase price of the Bike, to the extent permitted by law. MURF also disclaims any and all implied warranties, including those of merchantability and fitness for a particular purpose. Some states do not allow for the exclusion of implied warranties or limitations on incidental and consequential damages, so these limitations may not apply to every Purchaser of a Bike.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

NOTES:

UNLEASH FUN

info@murfelectricbikes.

949>218>5920