

# Main Street Pedicabs™

## Converting a Standard Cab into an Electric

### Hardware:

Bolt #1: 1" long by 1/4" diameter carriage bolt

Bolt #2: 2 1/2" long by 1/4" diameter carriage bolt

Bolt #3: 1 3/16" long by 1/4" diameter black bolt

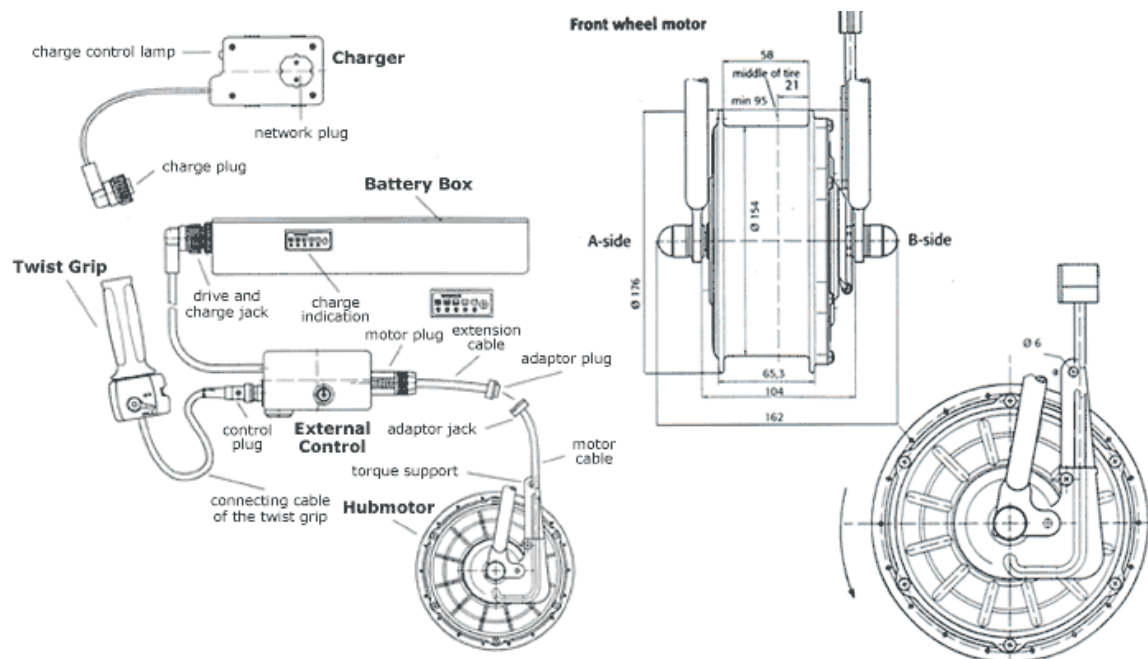
Bolt #4: Battery Terminal Bolt with 5/16" Head

Nut: 1/4" nut with 7/16" head

Lock washer: 1/4" lock washer

Spacer: Small aluminum cylinder approximately 3/8" long

Pigtail: Red and brown wire ending together in a connector.



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## Mounting the Batteries to the Frame

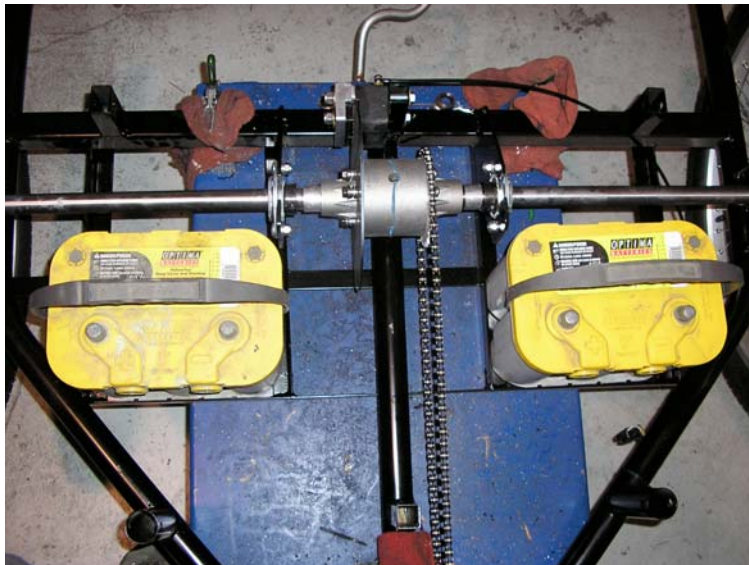
- Warning – As when dealing with all electrical, be careful not to touch two terminals on a battery at the same time –

### **Step 1:** Remove fiberglass cab from frame

- The cab is held on with 5 bolts:
  - Two rear mounts with shocks - 9/16" head and nuts
  - Two front outside long bolts – 9/16" head and nuts
  - One center bolt – 1/2" head and nut
- Remove front outside long bolts using a 9/16" wrench
- Remove front center bolt first using a 1/2 wrench
- Remove back bolts at bottom of shocks using a 9/16" wrench
- Unplug the six pin wire connector in front left underneath the fiberglass cab
- Follow three wires (Red, white and black) from the fiberglass triangle to the wire harness and disconnect wires from the harness
- With the help of someone else, remove the fiberglass cab from the metal frame.
  - Do *not* lift the cab by the fenders.

### **Step 2:** Mounting the batteries

- Only specially ordered frames have battery racks required.
- Place batteries onto frame in battery racks



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- Each battery has four holes along the base, 2 in the front and two in the back



- Place a mark onto the metal battery rack where each of the four holes from battery line up
- *Remove Batteries* and set aside
- Using a 1/4" drill bit, drill holes where each of the marks were made.
- Place batteries back onto rack
- Insert bolt #1 through each of the eight holes
- Using a lock washer and nut, tighten battery to the frame
  - This requires a 7/16" wrench

## Mounting the Controller Box

- The bottom of the control box has the head of four screws showing in the corners
- Use a 1/2" strip of Velcro to attach metal bracket to the control box



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- The control box is mounted on the underside of the triangle approximately 3-4" behind the aluminum brace
  - Make sure it does not interfere with the chains or gears



- Using a 1/4" drill bit through the pre-drilled hole in the metal bracket, carefully drill a new hole in the fiberglass triangle
- Insert bolt #2 through fiberglass and metal bracket. Attach nut and lock washer to end of bolt #2 but do not tighten yet



- Using a 1/4" drill bit through the empty hole in the metal bracket, drill another hole in the fiberglass



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- Keep in mind the placement of the new hole in relation to previous hole
- Insert bolt #2 through fiberglass and metal bracket and attach nut and lock washer to the bolt.
- Tighten down nuts evenly, being careful not to over tighten and deform the control box or bend the fiberglass
  - There will be approximately a 1 inch gap between the bracket and the fiberglass

## **Mounting the Front Wheel**

### **Step 1: Removing standard front wheel**

- Prop the front part of the Pedicab up under the bottom bracket so the front wheel is raised approximately 2 inches off the ground
- Disconnect the brake cable where it meets the V-Brake
- Using a 15mm wrench, loosen the nuts on the wheel
- Remove the front wheel

### **Step 2: Mounting the front electric wheel**

- Positioning the cord on the left side of the fork, raise the wheel into place and tighten bolt down
  - Do not tighten all the way.
  - All washers on the wheel need to be on the inside of the fork

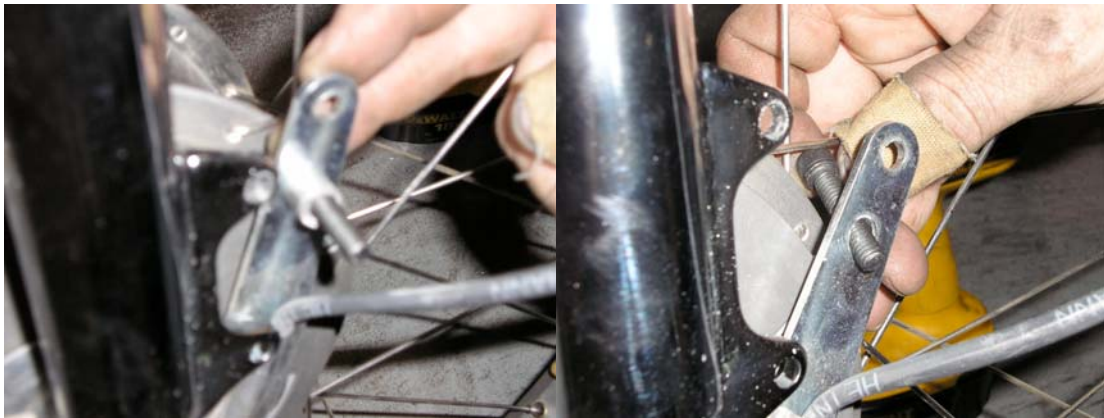


- It should be a tight fit and fork adjustments may be required
- On the left side of the wheel, there is a moveable metal bracket
- Spin the metal arm so that the center of the arm is lined up with the top hole on the disc brake mount.

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- Using a ¼" drill bit, carefully drill a hole through the top hole of the disc brake mount and through the center of the arm
  - Be sure to stop the drill when it penetrates the arm so as not to damage other parts behind it
- Swing the arm back approximately two inches, enough to be able to stick bolt #3 through the newly drilled hole from the back side (right side of Pedicab)
- Add a spacer to end of bolt and swing arm back upwards



- Loosen bolt on left side of wheel and loosen the two bolts holding the left blade of the fork in place
- Grabbing hold of the left blade of the fork, spin it approximately ½" clockwise as viewed from above
  - Spin it enough to clear bolt on the arm
- Swing arm up so that you may push the bolt through the top disc brake hole
- Attach lock washer and nut to bolt and tighten with 7/16" wrench
  - Pliers may be needed
- Tighten two bolts on left blade of fork and tighten bolt on left side of the wheel

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- Reattach brake cable
  - Adjust brakes if necessary
- Using two zip ties, restrain wire coming out of electric hub to the fork so that it does not interfere with the wheel or any moving parts.
  - See photo above for zip tie placement

## Attach Motor Cable

- This cable runs between the control box and electric motor hub on the wheel



- Begin with the rectangular end connector and connect it to the hub motor connector
- Run the other end of cable (round end) through the fork on the left side of metal frame



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- Insert the round connector into control box by lining up notches and twisting clockwise approximately 45° until it clicks into place
  - It will only connect one way
  - The motor will not operate unless the cable clicks into place



- Zip tie the cable to the fork and down tube leaving just enough slack for full range of motion while steering



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- Be sure the cable is free of all moving parts near the bottom bracket and zip tie the cable up the seat tube and under the fiberglass triangle
- Any remaining slack in the cable should be zip tied underneath the triangle
  - Be careful not to block the two switches under the triangle while also being sure not to run the cable in at a sharp angle where it connects to the control box

## Installing the Throttle and Throttle Cable

- Using a 3mm Allen wrench, mount the throttle to the right side of handle bars next to the brake handle
- Route the cable through fork on the right side of the metal frame



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- Attach the connector to similar connector on the front of the control box. It will click into place
  - Make sure beveled sides line up on connectors
- Zip tie the cable along the underside of the top tube of metal frame
  - Be careful not to interfere with the movement of shifter cables while zip tying the cables
- Clip excess ends off zip ties as desired



## Attaching Batteries to System

Warning – As when dealing with all electrical, be careful not to touch two terminals on a battery at the same time –

### **Step 1: Attach batteries to each other**

- Using the 21" black cable, attach inner connector (connector closest to center of frame) of each battery using battery terminal bolts
  - One battery terminal here is positive and one is negative
- Tighten battery terminal bolts using a 5/16" wrench
  - Do not over tighten
  - Be sure you do not touch two battery terminals at once while using the wrench

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## Step 2: Attaching black/negative cables to negative terminal on left side battery

- Attach the black cable from controller box and smaller gauge black wire to the negative battery terminal using a battery terminal bolt
- Tighten using a 5/16" wrench
  - Do not over tighten



## Step 3: Attach red/positive cables to positive terminal or right side battery

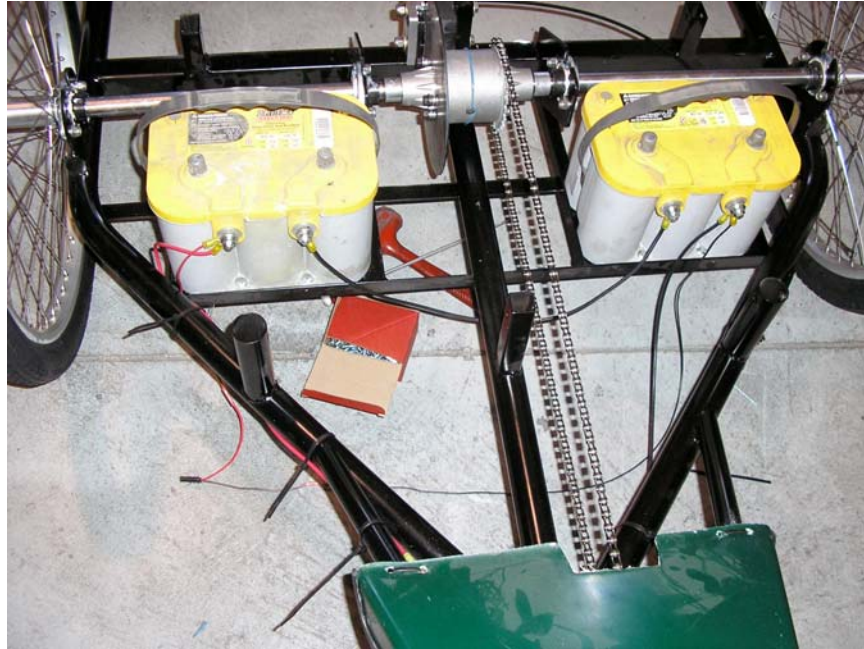
- Attach the red cable from controller box and smaller gauge red wire to positive battery terminal using a battery terminal bolt
  - There may be a small temporary spark when the red wires connect with the positive terminal
- Tighten the battery terminal bolt using a 5/16" wrench
  - Do not over tighten



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## Step 4: Restrain Cables

- Using zip ties, restrain cables underneath the triangle and back towards batteries from all moving parts



## Verify the System is Working

- Turn switch on the controller box to the on position and test that the system works properly by slightly depressing the throttle

## Mount Fiberglass Cab Back onto Frame

- Start by setting the fiberglass cab back onto the frame
- Insert the 2 shock bolts through rear frame mounts and through the shocks
  - Tighten with a 9/16" wrench
- Insert two long mounting bolts through the front brackets on sub frame and through front outside mounts on the frame
  - Tighten with a 9/16" wrench
- Insert the smaller front center bolt through the center brackets and mount.
  - Tighten with a 1/2" Wrench



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## Installing Charger System

- Drill ¼" – 3/8" hole in front right bottom corner of seat bucket



- The charger has a cord extending from one side with a black and white wire visible at the end
  - The green wire should have already been cut
- Insert this cord through the newly drilled hole inside the seat bucket
- The pigtail should already have pink butt connectors on both the brown and red wire
  - Verify the pigtail has a red wire in line with the male end of the connector
- Using the pink butt connectors, attach the brown pigtail wire to the black wire from the charger by crimping
- Using the pink butt connectors, attach the red pigtail wire to the white wire from the charger by crimping
- Connect this pigtail to the pigtail already installed on the frame from connecting the batteries
- Zip tie the cables in a way they will not interfere with moving parts
- Velcro the battery charger inside the seat bucket

Congratulations! You are ready to ride...