



Installing The Semifusion Electric Recumbent Conversion Kit



Installing the electric wheel:

First, shift your bicycle into high (7th) gear. This will help later when installing the electric wheel. Next disengage the rear brakes by sliding the brake cable out of the rear brake caliper. Once the rear brakes are released, loosen the rear axle and drop out the rear wheel.



With the electric rear wheel, using a 3/8" open end and 5/32" allen wrenches, remove the torque arm clamp from the torque arm.



Using a pair of pliers, remove the wheel axle covers.



Now, slip the electric powered wheel into place. This can be a little tricky. Usually using a small screwdriver you can pry the frame open just a little bit and that will allow the wheel to drop into place. Don't tighten up the axle nuts yet.



The torque clamp can be tough to attach to the torque arm. Here is a trick that will make connecting the torque arm much easier. Slide the torque arm clamp into position. Now, install the torque arm screw and nut without the torque arm and tighten them down. This will pre bend the torque arm clamp into the shape necessary to fit the torque arm.



Once the torque arm is shaped, remove the locking screw, slide the torque arm into position and reinstall the locking screw.

Once the torque arm is attached, use a 17 mm wrench and tighten the axle nuts.

Lastly, reattach the rear brake by routing the rear brake cable back through the rear brake caliper.

The electric drive wheel is now installed.



Installing the battery and control case:

Begin by removing the seat assembly. This is accomplished by pulling out the backrest pins then removing the quick release seat clamps on the bottom of the seat assembly. The seat assembly can now be lifted off the bicycle frame.



Once the seat assembly is off the bicycle, turn the seat assembly up side down. Using a 5 mm Allen wrench, remove the seat base from the seat frame.

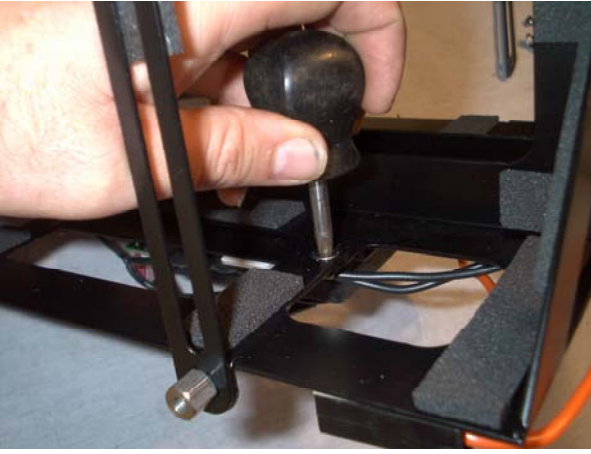


Now, using the same allen wrench, remove the seat back from the seat frame.



Remove the covers from the battery and control box. Be very careful not to allow the box to tip such that its weight is placed on the electronic controls inside. This could damage them.

As you disassemble the battery case, take note of where all of the screws are used. In this way, you will be able to reassemble it correctly.



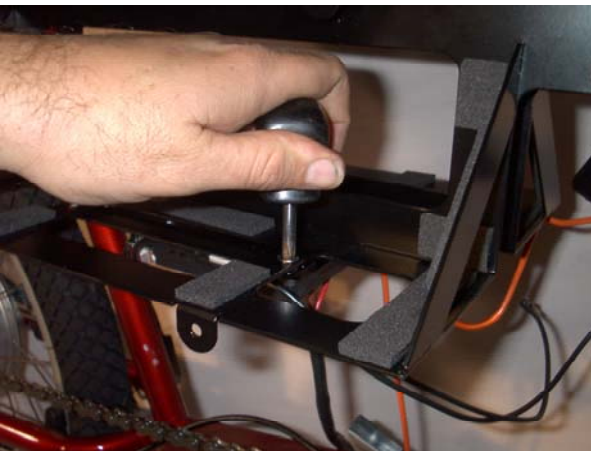
Using a short Phillips screw driver, remove the controller from the seat frame. Also remove and discard the foam covering from the controller connection pins.



Attach the seat base to the new seat frame using the screws that were originally used to hold the seat base to the old seat frame.



Now slide the new seat frame into position where the old seat frame was on the bicycle. Don't tighten up quick release seat clamps yet.



Using the short Phillips screwdriver, reattach the control electronics to the seat frame.



Peel the double sided tape covers off the fuse holders. Attach them to the front underside corners of the seat frame. Wires forward, fuse connection facing aft. Don't install the actual fuses into the connectors yet.



Install the batteries and attach the battery wires. Orange wires go to the red battery posts, black to black.



Once the batteries are installed, reattach the seat back to the seat frame.

Now you can tighten down the quick release seat clamps.



Installing the throttle:

First, roll off the right handle grip. Be careful not to misplace the plastic washer that is installed between the handle grip and the shifter.

Take note of the relative positions of the brake shifter cables. **The shifter cable is below the brake cable.** When the brake and shifter controls are reinstalled, they must go back together in this manner. Otherwise, the throttle will not clear the brake control.



Using a 2 1/2 mm Allen wrench, loosen the shifter control and slide it off the handle bars.

Using a 5 mm Allen wrench loosen and remove the rear brake control lever from the handle bars.

Now, slide the throttle all the way to the bend of the handle bar. Next slide back on the rear brake lever and shifting control. Remember to position the shifter cable below the brake cable.



Slide on the plastic washer then roll the handlebar grip back on.

Once everything is in position, tighten down the locking screws for the different controls.

A trick for installing handlebar grips is to spray the inside of the grip with hair spray. This will lubricate the grip to slide on easier and then, when it dries, it will stick the grip to the handlebars.



Wiring:

Start the wiring at the throttle. The wire should follow the right side of the handle bars down to the gooseneck. Leave a bit of a loop of wire at the gooseneck so that the handlebars can turn without the wires binding. Three or four tiewraps should be sufficient for holding the wire to the handlebars.



The control wire runs under the frame to the rear upright support. Attach the wire to the bottom of the frame wherever necessary using the included tiewraps. Make sure that the tie wraps are placed below and not over the brake and shifter lines when attaching them to the frame.



Connect the motor control and power plugs. Use at least three tiewraps to hold all of the motor wires down and out of the way of the rear wheel.

Working from the front and from the rear, bring all of the excess wire toward the seat frame. Tiewrap as necessary, bringing all of the slack in the wires up to the bottom of the battery case.

The battery charging plug should stick down at the rear frame upright.



Connect the throttle wire from the handlebars to the electronics. This wire plugs into the right hand 7 pin plug located on the bottom of the motor control board.

Recheck all of your wire connections. If everything looks Ok, install the fuses into the fuse holders. You will probably hear an electrical snap when the first fuse is pushed into place. This is normal.



Go to the control switch on the handlebars and test the installation by turning it on. All the lights should light up and you should hear a 1 second steady beep.

Assuming everything checked out, using the 1/8" Allen wrench, reinstall the battery covers.

Congratulations! You're finished!