

## VSETT 8 Motor Controller Replacement

*Updated 9/16/2021*

**Applicable Models: VSETT 8**

**Repair Difficulty: 3/5**

**Required Tools / Materials:**

- Set high quality Allen wrenches
- Cutting tool capable of clipping small cable ties
- Shrink wrap or electrical tape for insulating the motor phase wires
- Automotive (or equivalent) black silicone

### **STEP 1:** Remove Front Cover to expose motor controller

In order to access the motor controller, the front cover of the scooter needs to be removed. There are two bolts that slide through the front cover, which are held in place with locking screws. To remove the front cover:

1. Loosen the locking screws shown in figure 1a
2. Loosen and remove the through-bolts shown in figure 1b
3. Gently pry on the front cover from all angles to remove the front cover

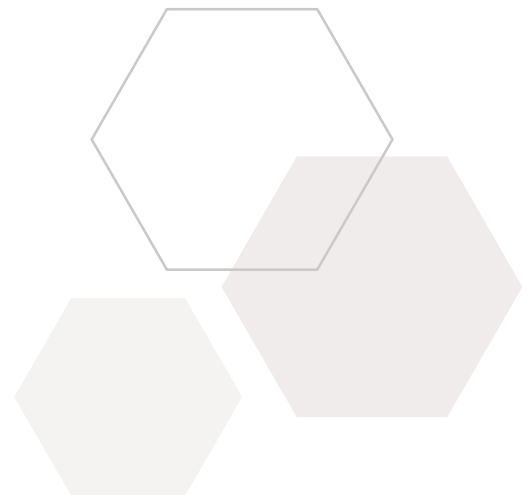
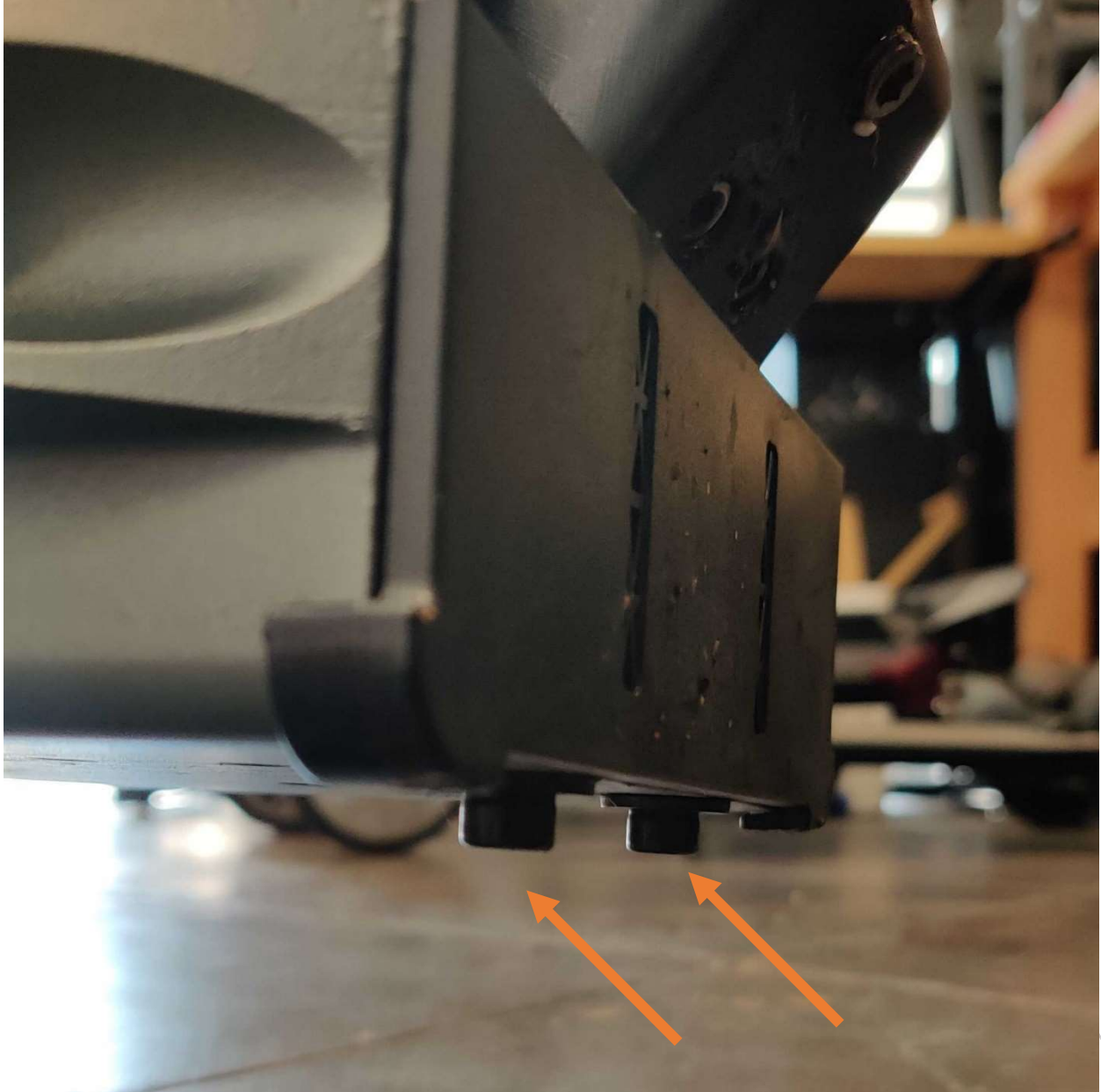


Figure 1a: Through-bolt locking screws



**Figure 1b:** Front cover through-bolts



**STEP 2:** Remove and replace motor controller

Once the front cover has been removed, the motor controller can be accessed and removed. The motor controller is a silver box with several cables coming out from one side – pictured in figure 2a. To replace the controller, begin by pulling out the cables in front of the controller, and then sliding the controller out. Once removed, follow the steps below to replace the controller.

1. Begin by unplugging the battery connection, highlighted in figure 2b.
2. Mark the OLD controller with tape or permanent marker to avoid mixing it up with NEW controller.
3. Next, unplug the motor phase wires and connect them to the new controller, highlighted in figure 2c
  - a. Cut the black shrink wrap around each motor phase wire to expose the bullet connection for each phase wire
  - b. If applicable, insert new heat-shrink tubing over the phase wires
  - c. Plug each motor phase wire into the new controller, and either heat the tubing, or wrap each connection individually in electrical tape – to ensure the conductive metals are insulated
4. One by one, transfer over each additional connection to the new motor controller
  - a. Cut the holding cable tie
  - b. Unplug the connector from the old controller
  - c. Plug the connector into the matching plug on the new controller
5. Once all motor controller wires have been transferred, plug in the battery connection, and place the motor controller and wires back in the scooter deck

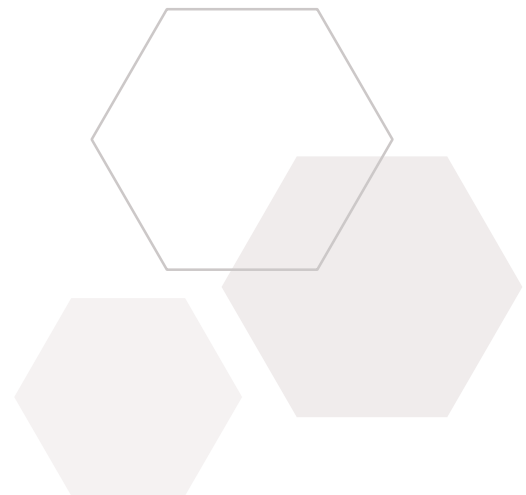


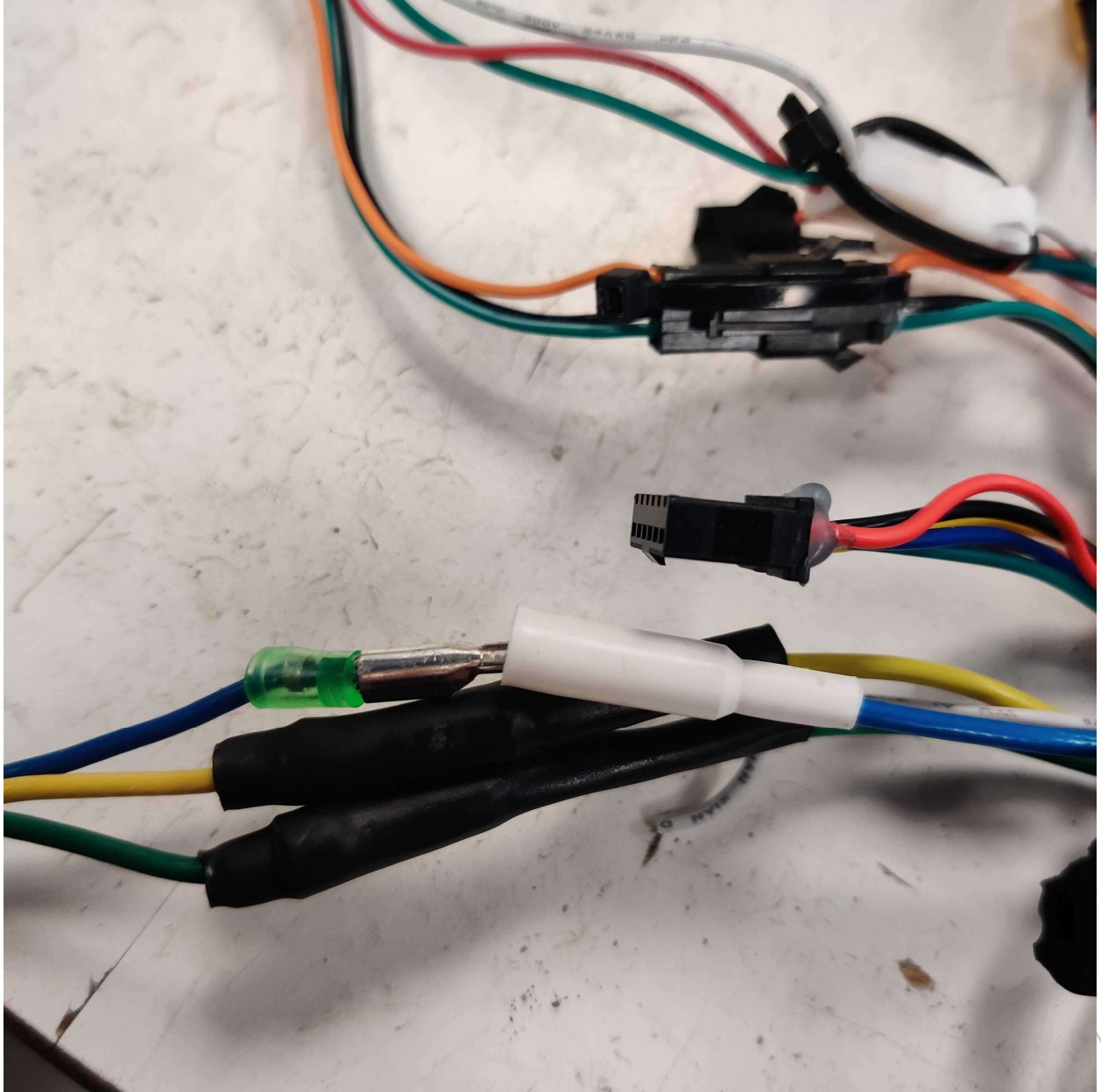
Figure 2a: Motor controller



Figure 2b: Battery wire



Figure 2c: Motor phase wires



**STEP 3:** Test scooter and replace front cover

Once the controller has been replaced, it is imperative that the scooter be tested before putting the front cover back on. To test the scooter:

1. Place the scooter on a stand and ensure the wheels are not in contact with the floor
2. Turn the scooter on, and test all lights / blinkers
3. Test the acceleration. Note that most scooters are set to kick-start and will need the rear tire spun by hand before throttling to ensure the motor functionality.
4. If any issues are encountered, document them in the form of picture, video, and writing, and contact your dealer to resolve the issue

Once the scooter has been tested, the front cover can be replaced. Begin by applying a small layer of black silicone to the face of the front cover, where the cover interfaces with the scooter body. Next, insert the cover and through-bolts, and tighten the bolts. Finally, tighten the lock screws to ensure the through-bolts do not come loose.

Once complete, the scooter motor controller has been replaced. At any point throughout the replacement, please contact your dealer if you experience trouble with repairs.

