

How to Charge the Lithium Polymer LiPo Batteries in the Mechatronics Lab.

Safety Considerations: If for any reason you think there is a problem with one of the LiPo batteries and it is safe for you to do so, place the battery in the small silver trash can below the charging table. Then immediately contact your instructor or teaching assistant stating that you have put a faulty battery in the small metal trash can. Possible problems with the battery:

- The battery no longer charges
- The battery is “puffy”
- The batteries leads are exposing bare wire

If you do not feel it is safe for you to handle the LiPo **battery immediately tell your TA or instructor** about the issue you found.

If a battery is making a **hissing noise, smoking or flaming** and you **feel unsafe**, leave the lab room and **call 911**. Tell the police that there is a battery fire in **302 Transportation Building, 104 South Mathews Avenue**.

If a battery is making a **hissing noise, smoking or flaming** and you **feel it is safe** for you to use the fire extinguisher, **first call 911** and tell the police that there is a battery fire in **302 Transportation Building, 104 South Mathews Avenue**. Then use the **fire extinguisher, at a safe distance**, to cover the battery with the fire-squelching agent. Finally **leave the lab** until the police and fire department have said it is all clear. Please also contact your instructor and/or TA about the fire.

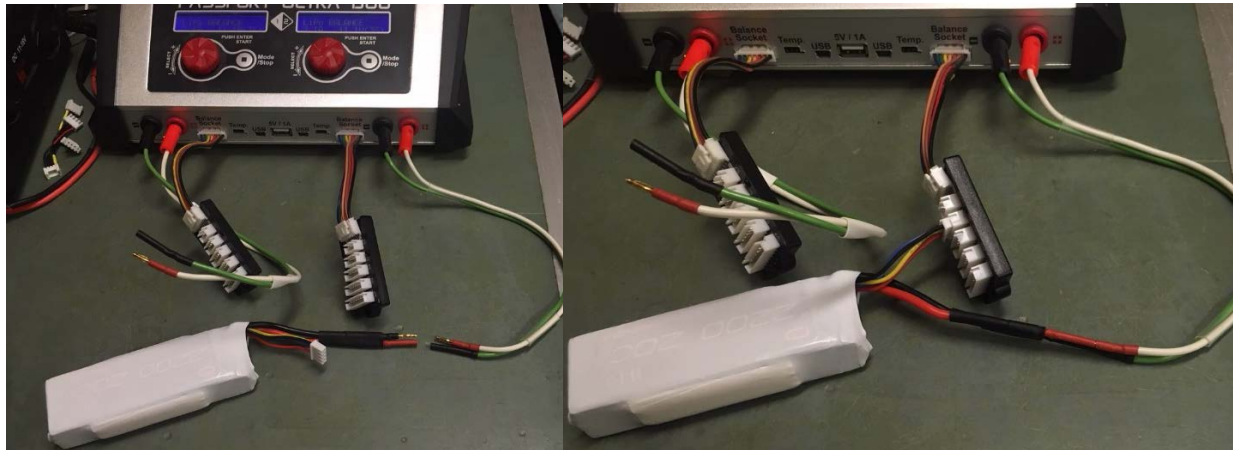


Charging Procedure for Quadrotor (AE 483) Batteries

- Make sure at least one side of the charger is set to Lipo BALANCE, 2.1A, and 11.1V (3C). Balance charge for a 3 Cell Lipo Battery. Press and turn the Red knob to set these settings if the charger is not already in this setting. You can use both sides of the charger at the same time to charge two batteries if you wish. Both sides are identical.



- Connect the charging cables to the battery as shown in these pictures. Black to Black. Red to Red. Balancer cable goes in the four pin white connector.



- Press and Hold the Red button until the charger beeps and displays “CONFIRM(ENTER)”. Release the Red button and then press it down one more time to confirm.



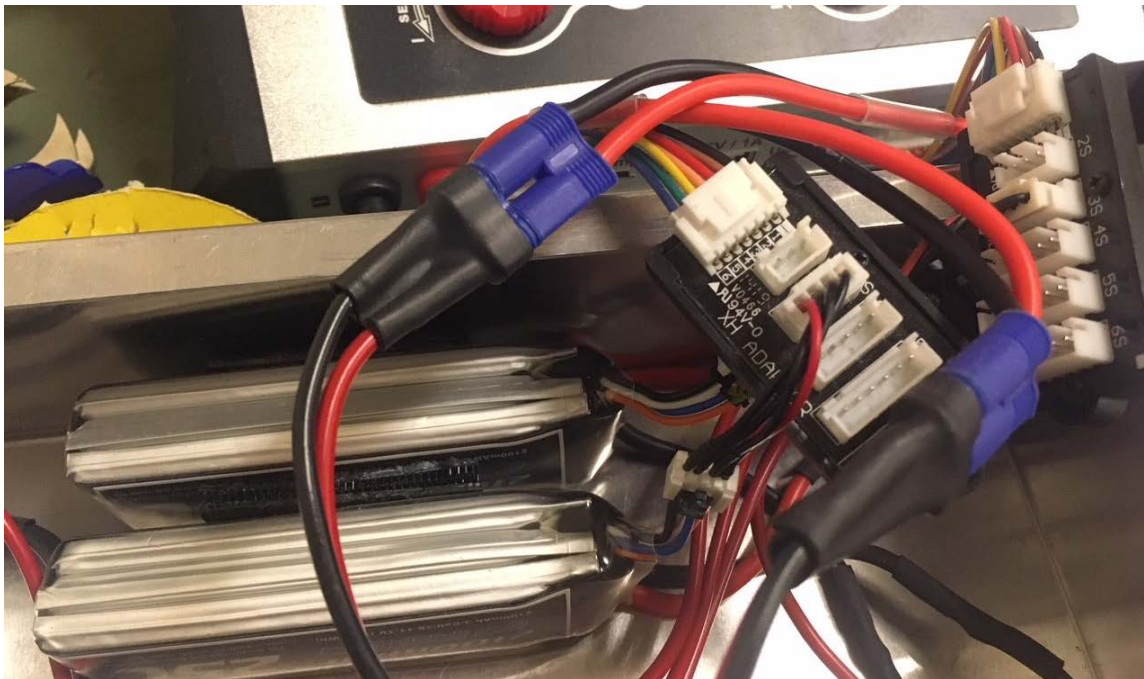
- The charger should then start charging the battery with Voltage and Current status on the display.
- If the charger beeps and prints errors, it is most likely due to a faulty wire connection. Sure up all wired connections by unplugging and plugging them back in and try starting the charge again. If you cannot figure out the error contact your TA or instructor and see if he/she can figure it out.
- When finished (usually about 30 to 40 minutes for a full charge) the charger will beep and display that it is done.

Charging Procedure for Robot Car (SE 423) Batteries

- There are two LiPo batteries in the Robot Car's aluminum battery box, and both need to be charged each time. Make sure both sides of the charger are set to Lipo BALANCE, 2.1A, and 11.1V (3C). Balance charge for a 3 Cell Lipo Battery. Press and turn the Red knobs to set these settings if the charger is not already in this setting.



- First thing, Turn On the Battery Box. Without the box on the batteries cannot be charged. Then notice that the two battery's charging cables are colored a different color. *Most batteries are colored either green or yellow but there are a few battery boxes in the lab colored differently.* So for example the charging cable of one battery will be colored green along with the battery's balancing cable also colored green. Similarly the other battery's charging and balancing cables are colored yellow. So one side of the charger will be used to charge say the "green" battery and the other side of the charge will be used to charge the "yellow" battery. Connect the charging and balancing cables to the battery as shown in the below picture. Balancer cable goes in the four pin white connector and for many of the lab's batteries there is a short four wire adapter cable that is needed due to the small size of the balancer connector. A few battery boxes in the lab do not need that adapter cable.



- Press and Hold both Red buttons until the charger beeps and displays “CONFIRM(ENTER)”. Release the Red buttons and then press them down one more time to confirm.



- The charger should then start charging the battery with Voltage and Current status on the display.
- If the charger beeps and prints errors, it is most likely due to a faulty wire connection. Sure up all wired connections by unplugging and plugging them back in and try starting the charge again. If you cannot figure out the error contact your TA or instructor and see if he/she can figure it out.
- When finished (usually about 30 to 40 minutes for a full charge) the charger will beep and display that it is done.

