

Unitree A1

Battery: + ICR18650 2000mah 3.7v TP LI-ION MH46259 WL312

Best Method

For Batteries: Reuse, Reattach, Retack

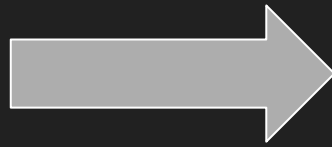
Disassembly

Battery Pack

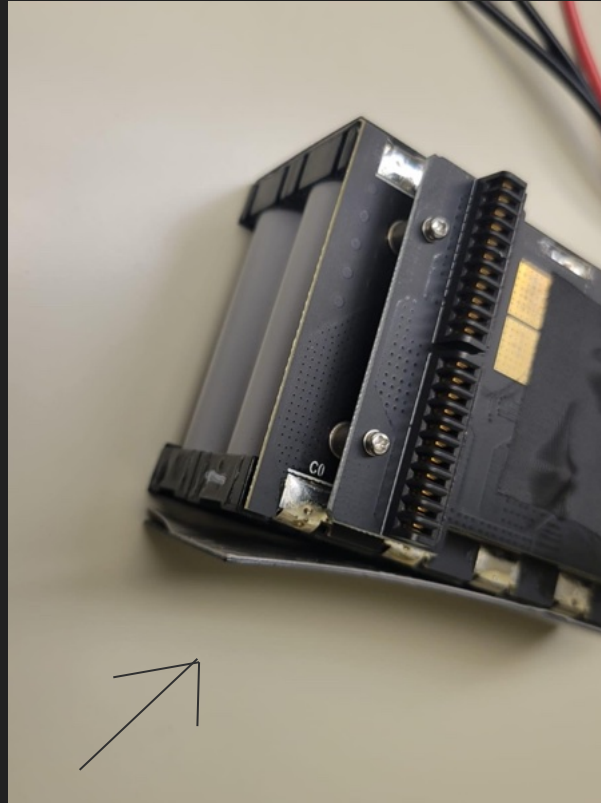
Remove Casing (6 screws) and Take Out BMS/Battery Pack



Remove Electrical Tape on Both Sides of the Board



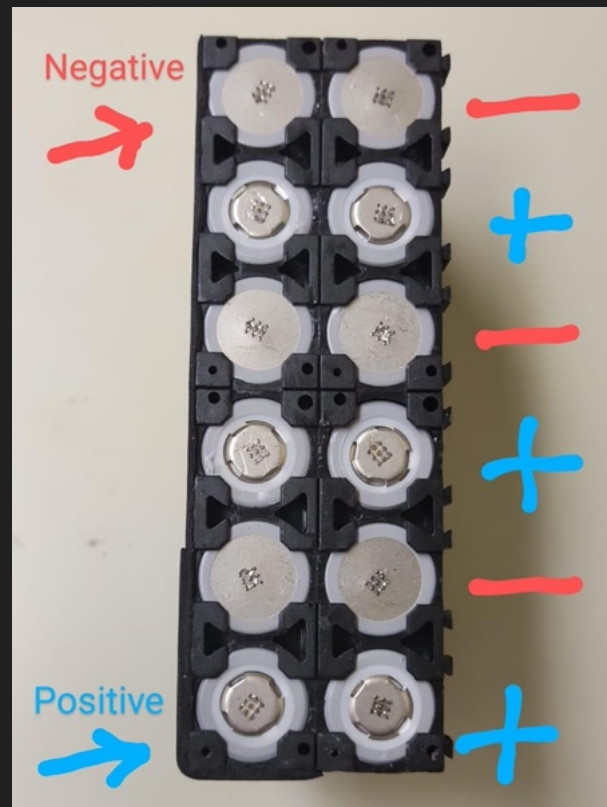
Remove Duct Tape on Both Sides of the Board



Verify That the Batteries Are Aligned in the Following Pattern
(Nickel Strips Removed for Explanation, Nickel Strips Must Already Be On)

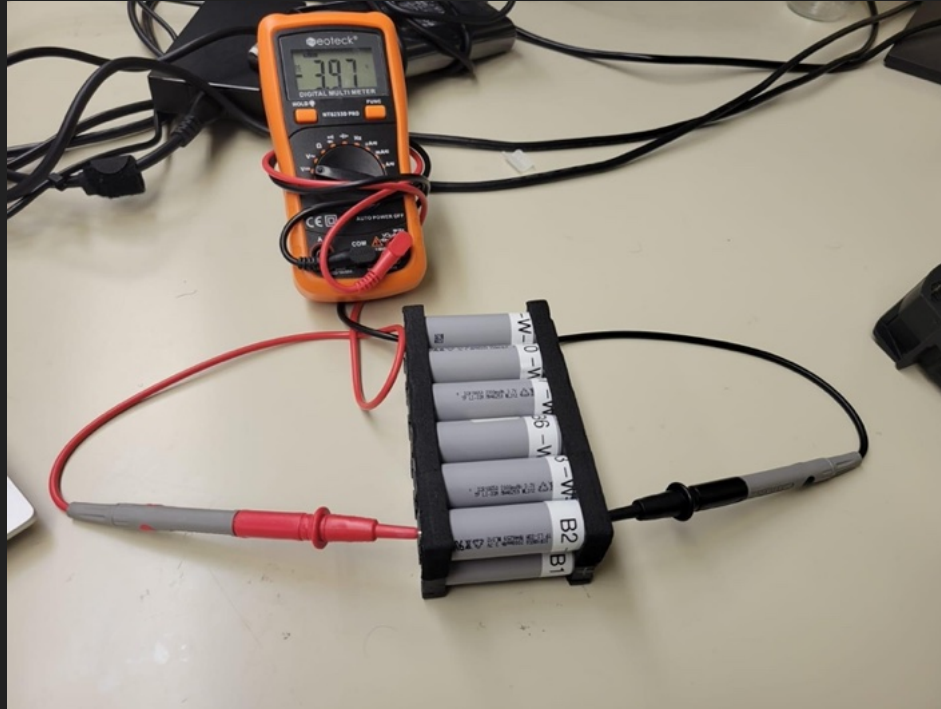


Series Pattern



Check Voltage on Each Battery Using Voltmeter

Ensure Voltage for Each Battery Is 3.6V+

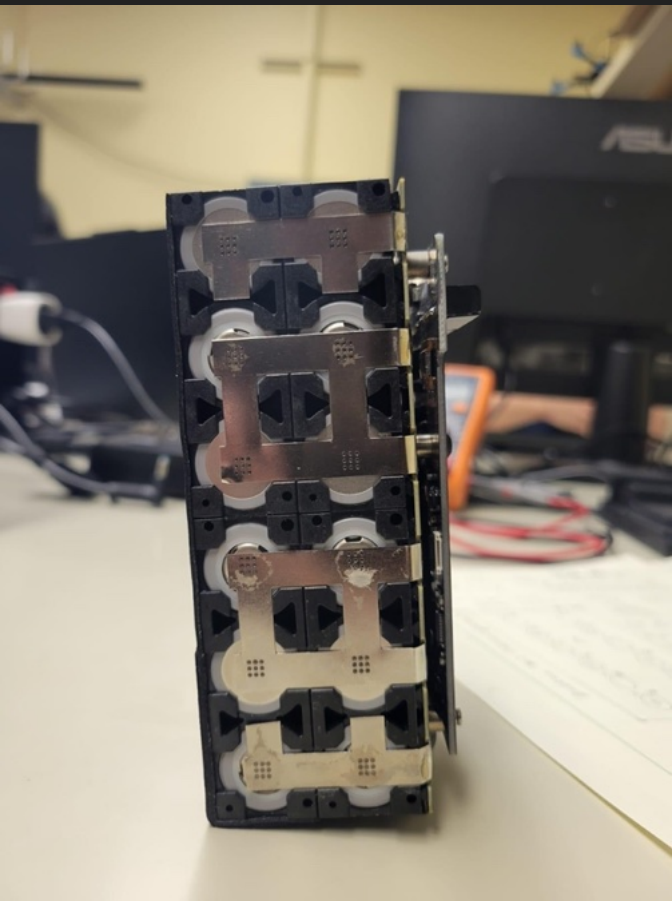


For Any Faulty/Low Voltage Batteries, Proceed

For Batteries Less Than 3.4

Using Scissors, Carefully Cut the Nickel Strips on Both Sides Attached to the BMS Board While Ensuring That the Strip Remnants Remain on the Board in Perfect Shape

IMPORTANT: THIS WILL ENSURE THERE ARE NO SPARKS, DO NOT SKIP THIS STEP | AN ALTERNATIVE METHOD IS ON THE NEXT SLIDE: HOWEVER IT IS MUCH MORE RISKY



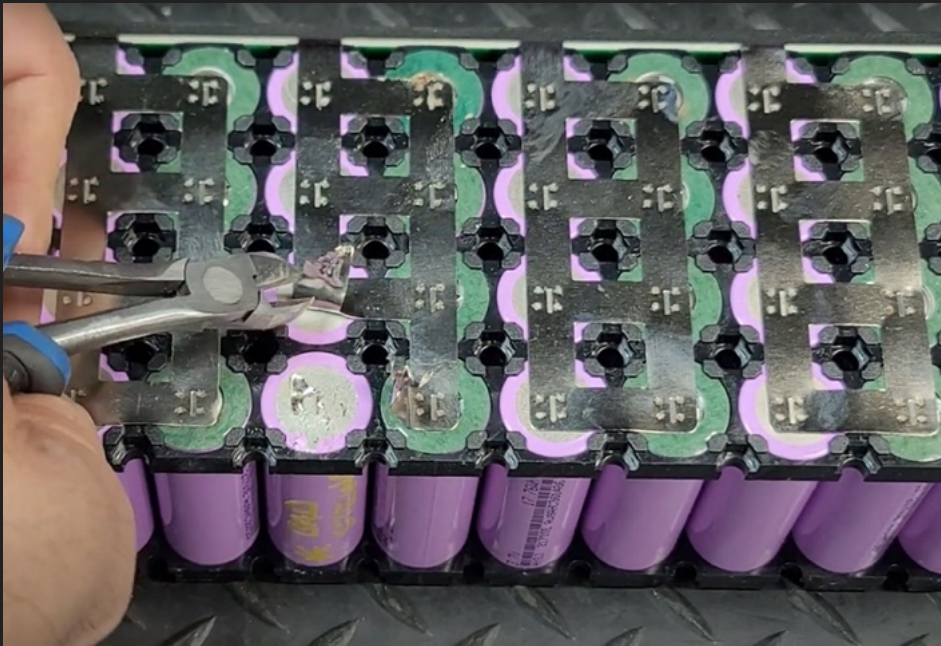


Alternative Method (Does Not Involve Removing BMS)



~~You Can Proceed to the Next Slide Without Removing the BMS, but Exercise Extreme Caution When Detaching Nickel Strips Because Although this method may be faster and feel more efficient, it increases the risk of short circuiting or damaging the BMS or battery. Sparks may occur during removal if you're not Careful. Use Tools That Do Not React With the Batteries~~

In the Event of a Faulty/Low Voltage Battery, Carefully Remove the Nickel Strips On the Top and Bottom Part From The Whole Pack *While to the Best of Your Ability Retaining the Shape of the Strip as Shown Below*
Must Use the Following: Nose-Pliers, Flush Cutters, Chisel, or Flathead Screwdriver



Ignore Any Nickel Tacks Left on the Batteries



Once the Nickel Strips Are Removed, Pull Out the Top Cover of the Batteries to Expose Them as Shown Below



Place the Faulty/Low Voltage Batteries in the Charger, With the Positive Facing Upward and the Negative Downward as Shown Below

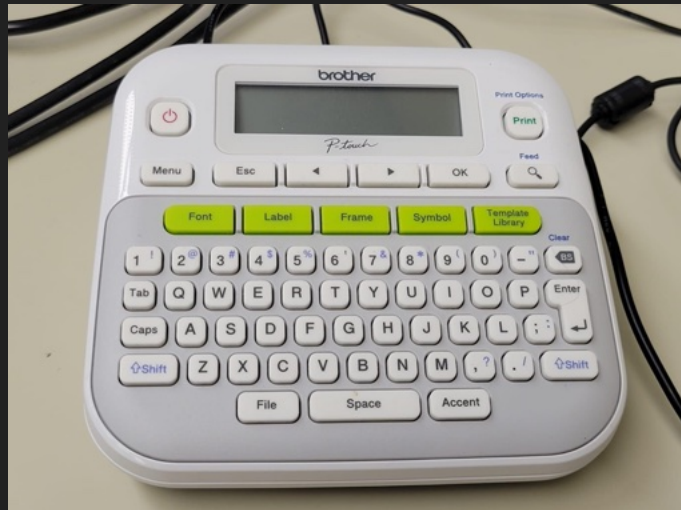


Check Battery Charging Status With a Voltmeter and Label
(With a Label Maker) Accordingly Using the Following Format:

-For batteries that are charging and functional: B# -W-

-For batteries that are faulty and won't charge: B# - - -

Label Maker



Example of a Properly
Labeled Working Battery



Reassembly

Battery Pack

After Charging Batteries to 3.5V+, Reinsert Them in Their Original Configuration as Shown Below

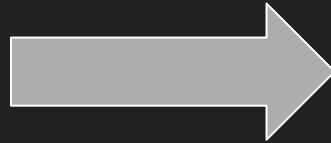
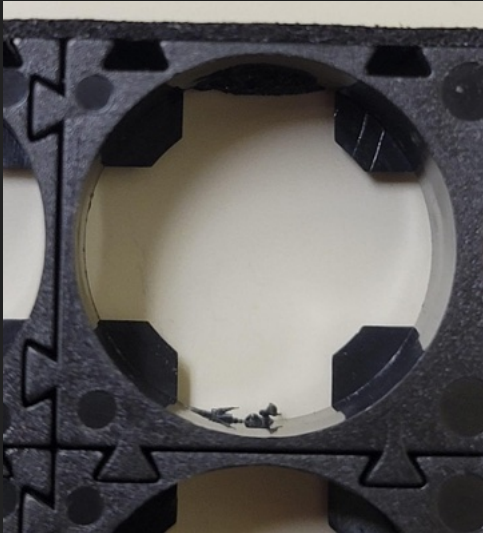


Series Pattern



Ensure the Four Corners in Each Slot Face Opposite the Battery Direction for a Secure Fit

Four Corners in Each Slot




View When Facing
Opposite the Battery
Orientation



Once Placed in the Original Orientation, Gather the Following Materials for Reassembly

Subject To Change

Nickel Strips



Nickel Strips, 10m*0.15mm * 8mm Nickle Tabs for 18650 21700 26650 AA Cell Battery Pack Spot Welding and Soldering, 1Roll

Brand: GIEHOUGRID

4.4 ★★★★★ (38)

Amazon's Choice

50+ bought in past month

\$8⁹⁹

✓prime One-Day
FREE Returns


Apply now and get a \$100 Amazon Gift Card upon approval of the Prime Store Card, or see if you pre-qualify with no impact to your credit bureau score.

- Application: Nickel strip is commonly used in battery building due to its ease of use in spot welding and soldering as well its high corrosion resistance over time.
- High Material: Nickel Tap with high draw tension, good luster, ductility, enabling your job easier
- Size: The Nickel Strip is 0.15mm Thickness. Width is 8mm. Length is 10 meter (32 feet)
- Good Stable Performance: As time goes by, the liquid of lithium battery will be corrosive. If you choose steel strip, it will be easily corroded.
- Nickel Strips and Soldering: Nickel strips and tin wires are easy to solder. After making the battery pack, you need to connect the wires and solder them with tin wires, nickel tap can be firmly welded with tin!

See more product details

Click to see full view

Tack Welder for 18650 Battery



Battery Spot Welder, 11 Gear Adjustable Spot Welder, Automatic/Manual Modes Battery Welder for 18650 Battery, Battery Welder Welding Nickel Sheets, Stainless Steel, Building Battery Pack (ABS)

Visit the AWithZ Store

4.3 ★★★★★ (55)

\$35⁹⁹

✓prime
FREE Returns

Save up to 11% with business pricing. Sign up for a free Amazon Business account. Get \$100 off instantly: Pay \$0.00 \$35.99 upon approval for the Prime Store Card. No annual fee.

Material Type: ABS

- **Biggest Advantage** : The biggest advantage of a battery spot welder is that you can operate the electrodes with one hand. Most handheld welding machines have two electrodes held in each hand, but this requires both hands to operate the electrodes, making it difficult to move the object to be welded freely. However, using our spot welder greatly improves work efficiency as you can freely use one hand.
- **Very Easy to Use** - the entire spot welding machine only has 2 buttons, and our product has a text label on it that explains the meaning, which is very easy to understand. One hand can control the automatic and receive modes, and the side button of the spot welding machine is pressed and held for 2 seconds to turn on the spot welding machine. In automatic mode, adjust the current output gear to work directly. Manual mode, short press the edge measurement button, press once, output once.
- **Performance and Value of the Spot Welder**: The spot welding pen is embedded in a unit and assembled together with tin, so there is no need for additional spot welding pens. It is portable and easy to carry. The overall structure is compact, with stable performance, and the battery can be quickly soldered to construct a battery pack.
- **11 Adjustable Gears** - The spot welding machine has 11 adjustable output power, which can be adjusted according to the different materials you spot weld. 1-3 gear mobile phone battery, 3-6 gear 0.1mm nickel plate, 6-11 gear 0.12-0.15 nickel

Click to see full view

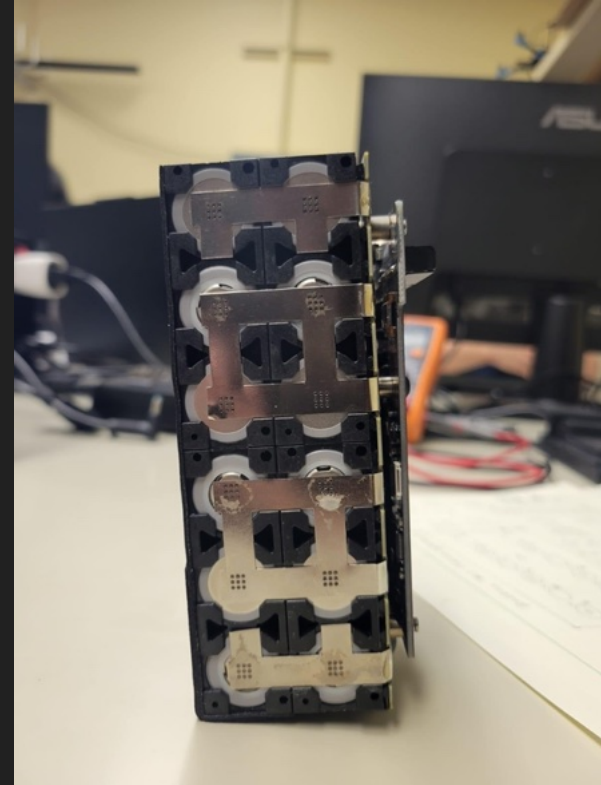
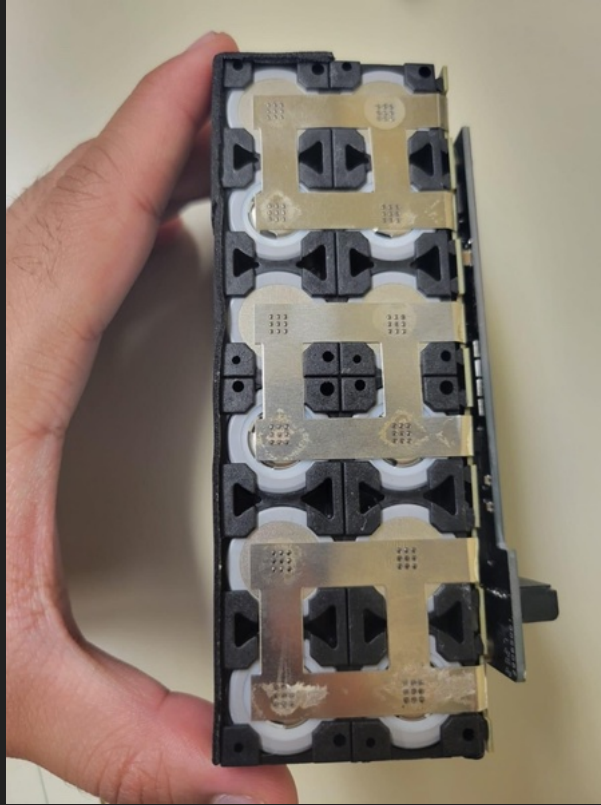
2+ VIDEOS

Ask Rufus

Can it weld other types of metal? Does it come with safety features? Is it portable?

Ask something else

Recall the Original Format of the Battery Pack



Attach Nickel Strips in the Same Orientation Using the Tack Welder as Shown in the Previous Slide (Two Dots Per Tack)

Ensure Nickel Strips Are Fully Connected Across to the BMS at the Original Cut-Off Points

Place Nickel Strip Directly Onto the Batteries
(Overlapping Previous Strips Is Acceptable)

Align, Press Gently, Release



Displayed Video: https://www.youtube.com/watch?v=_dL8hCMCnIY

After Attaching the Nickel Strips, Confirm the Final Product Matches the Reference Shown Below

Follow the Orientation



Top View: Place Duct Tape on Each Side



Side View



Insert the Battery Pack and BMS Circuit Into the Top Casing

Top Casing



Align the LEDs for the Circuit

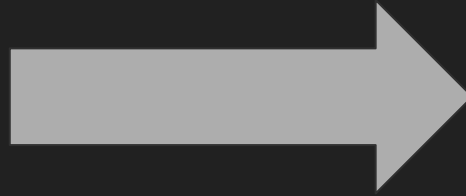


Closer View



Place the Back Cover Onto the Battery Pack

Ensure the Foam Side of the Battery Faces Upward as Shown Below; the Back Casing Will Be Placed on Top (As Shown Below)



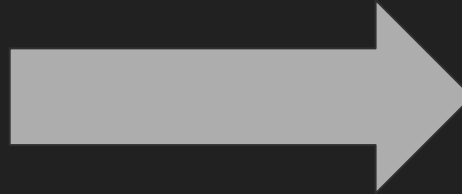
After Placing Back Cover



While Holding the Battery Pack Together, Gently Flip It Over and Reinsert the Screws Into Their Original Holes

Gently flip and verify if the casing matches the one below

Reinsert the Screws (Tight fit)



Finally, Click the Button Shown Below to Verify the Charge, Then Insert the Battery Pack Into the A1 Unitrees Charging Station

