

BATTERY TRAY AND CHARGER RETROFIT

Note: This kit is used to upgrade the battery and charger configuration to the Noco charger for CTA models which DO NOT have Soneil inboard battery chargers. If your CooLift unit model number begins with "CTA" and has an inboard Soneil charger, please use kit 3155091.

TOOLS REQUIRED

ELECTRIC DRILL
 ø15/16" HOLE SAW DRILL BIT
 ø15/16" OR ø23 or 24mm DRILL BIT OR (.938)
 GREENLEE HOLE PUNCH SET
 (GREENLEE SET REQUIRES A 1" HEX SOCKET &
 RATCHET WRENCH AND A ø3/8" DRILL BIT)
 SLIP JOINT PLIERS

PHILLIPS #2 SCREWDRIVER
 PHILLIPS #3 SCREWDRIVER
 18 AWG STRANDED WIRE STRIPPER/CUTTER
 3/8" COMBINATION WRENCH OR HEX SOCKET &
 RATCHET WRENCH
 CENTER PUNCH & HAMMER
 TAPE

PARTS LIST FOR KIT 315511

DESCRIPTION	QTY	PART NO.
Charger subassembly - NOCO	1	315509
Pan head screw - #8-32 x 1/2" long with exterior lock washer	2	80218
Nylon top lock nut - #8-32	1	80617
Washer - .180" ID x .375" OD x .086"-.116" thick	1	80733
Battery tray	1	315500
Battery tie-down strap	2	309843
Wiring harness - connects upper and lower battery	1	64029
Wiring harness - negative connection between battery and unit	1	62111
Wiring harness - positive connection between battery and	1	62112
Hex head cap screw - 5/16"-18 x 5/8" long	4	80009
Washer - SAE 5/16"	4	80761
Washer - split lock 5/16"	4	80752
Phillips truss head machine screw - #10-32 x 5/16" long	4	80078
Washer - split lock washer for #10 screw	4	80747
Rubber tape with adhesive backing	-	92004
Phillips truss head machine screw - 1/4"-20 x 1/2" long	1	80363
Electrical cord 8' 2" long with C13 connector on one end	1	64041
115v three-prong cord plug	1	61053
Cord grip connector - PG-16	1	309122
Hex lock nut - PG-16	1	309123
Z-bracket for cord wrap	2	309208
Pan head machine screw - #10-32UNF x 1-1/2" long	2	80117
#10-32UNF locknut	2	80684
Paper drill template	1	-

1

- a.) Place the Coolift on a level flooring surface.
- b.) Engage the holding brake.
- c.) **Turn off main power switch. Make sure unit is unplugged.**
- d.) Remove enclosure access panel and battery pack (see Coolift Service Manual for more detail).
- e.) Place a cloth or shop towel over the pump area to shield the pump while drilling holes.
- f.) Drilling enclosure holes:
 - i. Prep the paper drill template by cutting out the area marked on the template (see Figure 1). Be sure to retain piece A and both pieces of B.
 - ii. Place template A as shown in Figure 2 and tape to secure to the enclosure; locate the three hole centers. Use the center punch and hammer to transfer hole location into the enclosure shelf.
 - iii. Drill the two small holes using the $\phi 13/64$ " drill bit.
 - iv. Drill the single large hole using the $\phi 15/16$ " drill bit, or if using a $\phi 15/16$ " Greenlee hole punch, drill a $\phi 3/8$ " hole prior to using the Greenlee hole punch.
- e. Remove the drill shavings from the enclosure shelf and carefully remove the cloth placed over the pump area to contain any drill shavings.

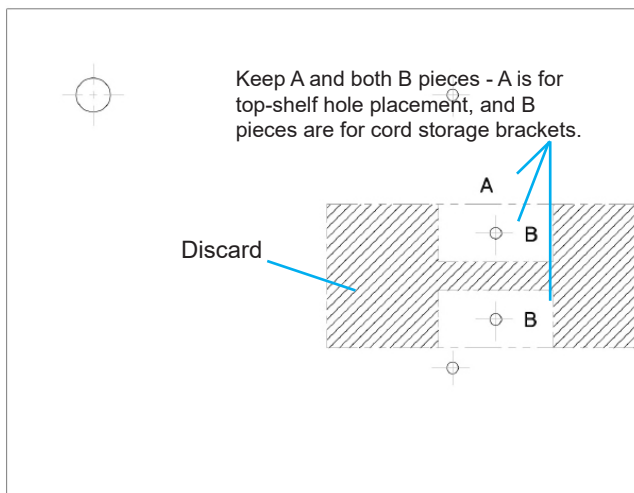


Figure 1

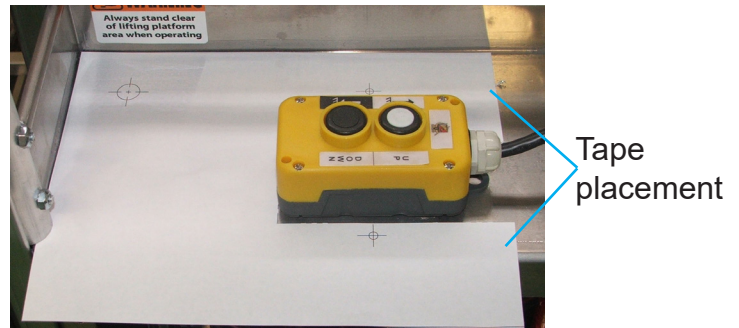


Figure 2

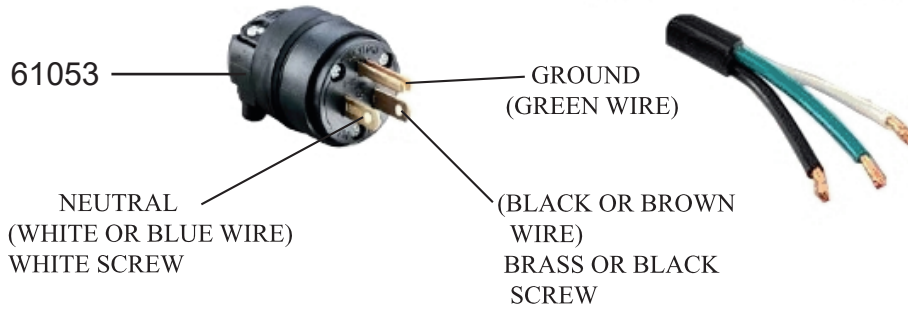
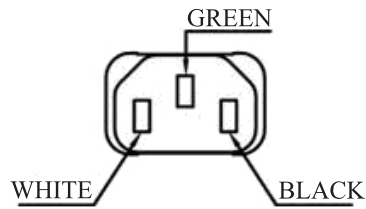
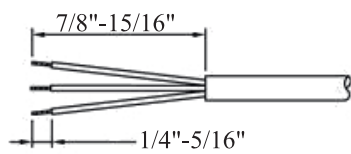
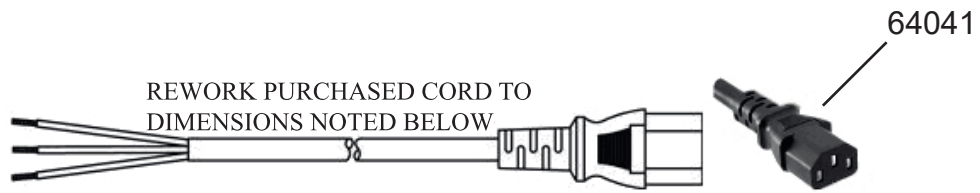
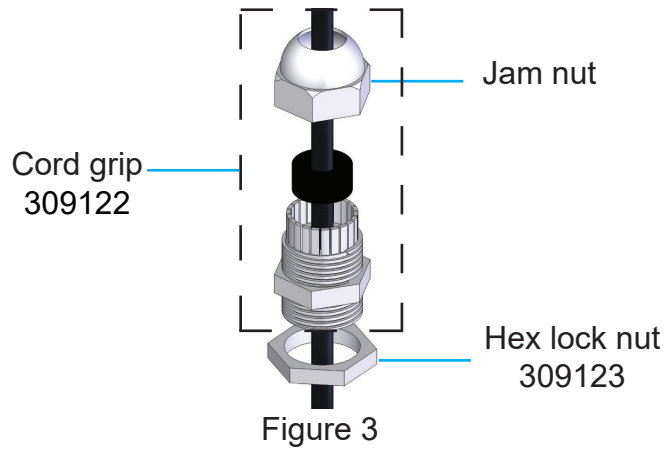
2

Assemble cord into enclosure:

- a.) Slip the cord grip locknut over the cord end prior to threading the cord through the large hole from the inside of the enclosure.
- b.) Loosen the jam nut and thread the cord end through the cord grip, then insert the cord grip into the large hole in the enclosure shelf and secure with the cord grip locknut.
- c.) Remove excess cord from the inside of the enclosure until a length of 6-1/2" - 7" is left.
- d.) Tighten the jam nut.

Assemble cord plug (see wiring part diagram):

- a.) Shorten the three exposed wires to 7/8" - 15/16" long, then strip each wire back 1/4" - 5/16" from the end.
- b.) Disassemble the cord plug and loosen cord grip clamp.
- c.) Insert the cord end through the cord plug base, then insert/secure the three wires to the plug terminals:
 - i. Green wire to center terminal
 - ii. Black or blue wire to terminal with copper screw terminal
 - iii. White or brown wire to silver screw terminal **Note: Review wiring part diagram to confirm correct wire-terminal connection.**
- iv. Reassemble cord plug and securely tighten cord grip clamp.



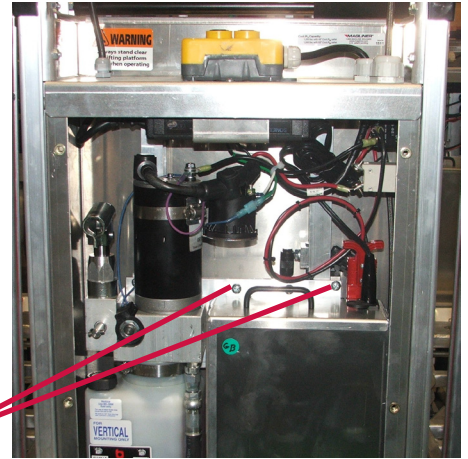
Wiring Part Diagram

3

a.) Unplug battery box wire connector, remove the 2 mounting screws and remove the battery box from the enclosure by unfastening the mounting screws.



Back panel screws (7)



Battery box mounting screws (2)

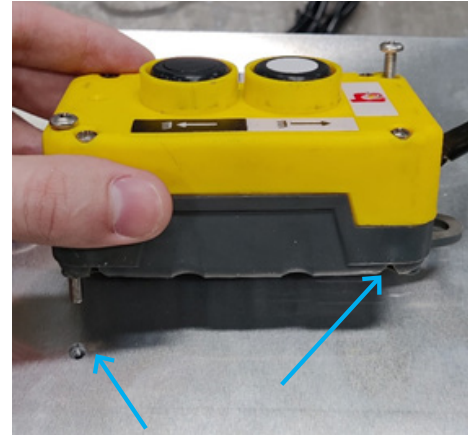
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a.) Insert the 315509 NOCO charger assembly underneath the enclosure shelf so that the mounting plate holes line up with shelf holes.

b.) Use 2 long yellow up/down switch screws to mount the 315509 assembly to the underside of the shelf. The up/down switch will remain on top of the shelf.

c.) Use the other 80218 screw and insert the screw into the lower hole on the shelf. Fasten it to the plate that is now underneath the shelf.

d.) Once the charger is mounted, ensure screws are tight.



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a.) Lay Bank 1 wire cable over internal cross plate. Feed Bank 2 wire cable behind cross plate and down through bottom. Do not attempt to connect ring terminals at this point.

b.) Plug the charger cable into the adapter and feed the charger cable back behind the cross plate.

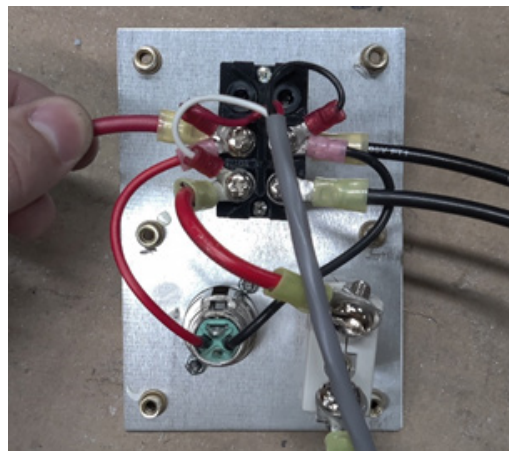
c.) Take the old battery box and remove the battery box cover and take out both 12V AGM batteries. Remove all wire leads.

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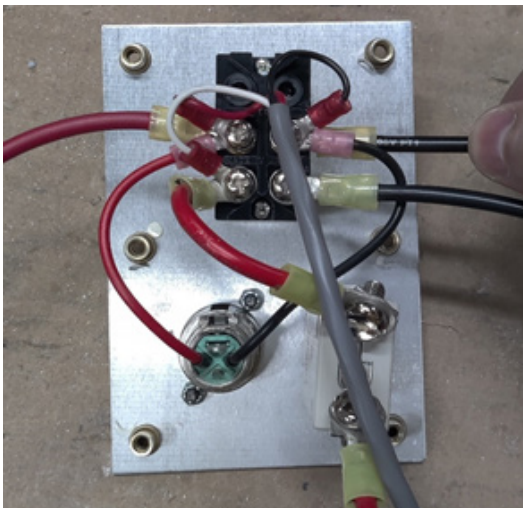
a.) Locate the main power switch on the side of the enclosure. Remove the six screws and gently push in on the plate to pop the plate inward so you can more easily access the wires.



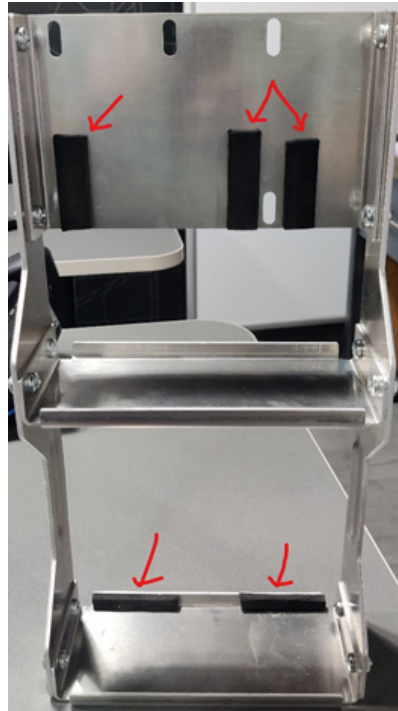
b.) Once you have better access to the wire connections, first loosen the upper left screw. Remove the battery box harness red (+) wire as shown. Replace with the 62112 small diameter red ring terminal end. Keep all other wires in the same positions and connected.



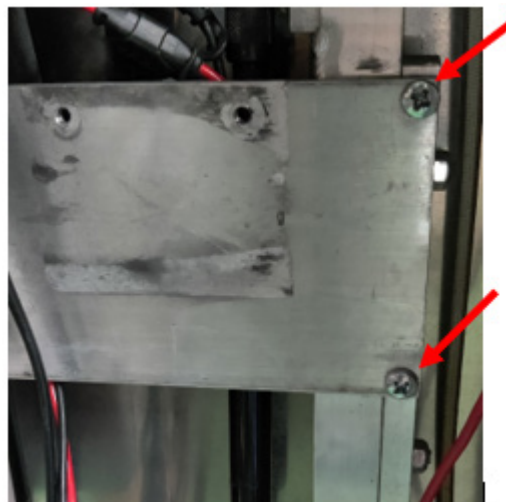
c.) Loosen the upper right screw. Remove the battery box harness black (-) wire as shown. Replace with the 62111 small diameter black ring terminal end. Keep all other wires in the same positions and connected.



- 7**
- a.) Place the switch plate back against the side of the enclosure and re mount it using the same six screws. Keep all other wires connected and let the new 62111& 62112 wires hang down.
 - b.) Next, take 315500 battery tray and the 92004 foam strip. Cut the foam strip into 4 equal sections and cut one of those in half long ways.
 - c.) Place the foam strips in the locations shown. Make sure the foam strips stick. The two top strips that are close together, make sure you leave enough space for the 80363 truss head screw.

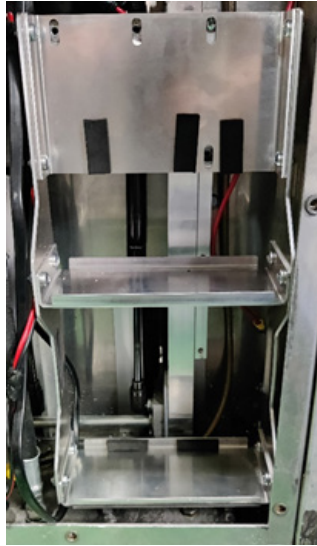


- 8**
- Remove the 2 remaining plate screws from inside the unit.

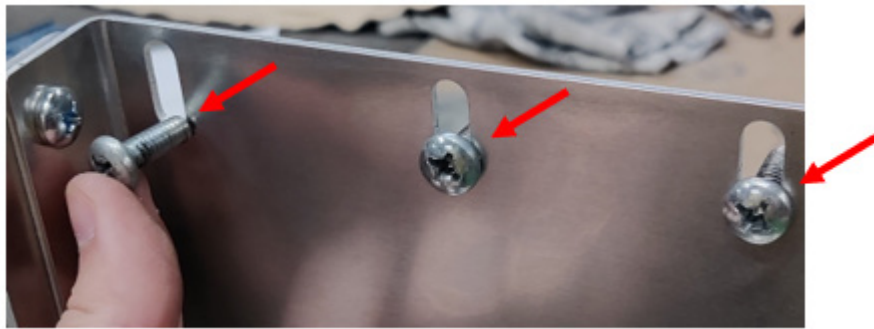


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a.) Place the battery tray inside the enclosure. Lay the Bank 1 wires from the charger on over the top battery tray and feed the Bank 2 wires from the below through the backside space in the tray over the bottom tray.



b.) Use the 3 plate screws already in your Coolift unit to mount the top aligning holes. Tighten screws, do not over tighten.

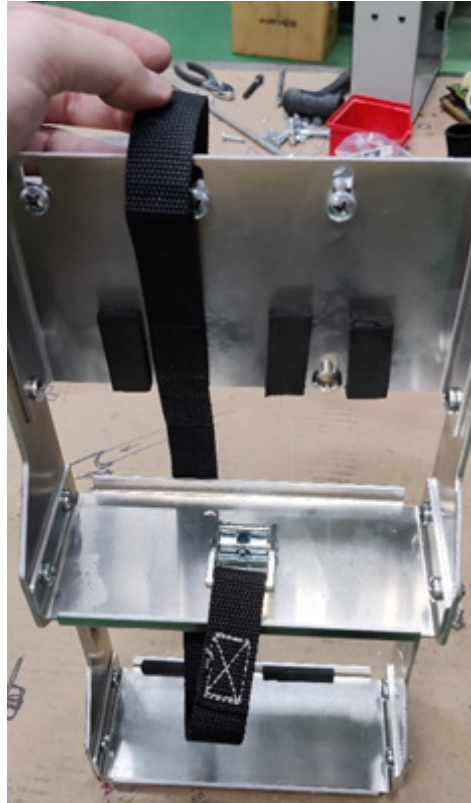


c.) Use the provided 80363 truss head screw for the lower aligning hole. Tighten screw, but do not over tighten.



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a.) With the battery tray installed inside the enclosure, take the 309843 straps and loop them under each tray as shown.



b.) Lifting the charger wires, place the batteries on each shelf and use the straps to secure them to the tray. Keep straps loose for now. Lay charger wires on top of each battery.



Note: The batteries in your model do not need the terminal blocks.

- a.) Take four 80009 screws, four 80761 washers and four 80752 split lock washers and insert them in the terminal blocks. Just start them, do not tighten them.
- b.) Take the 64029 wire and connect the top battery positive terminal to the lower battery negative terminal. Feed the wire through the back gap to conceal wires.

Note: The batteries in your model do not need the terminal blocks.



- c.) Take the black (-) wire terminal from the switch plate you connected earlier and connect it to top battery negative terminal.

Note: The batteries in your model do not need the terminal blocks.



- d.) Attach the 62111 wire to top battery negative terminal with the 80009 screw, do not tighten just yet.

Note: The batteries in your model do not need the terminal blocks.



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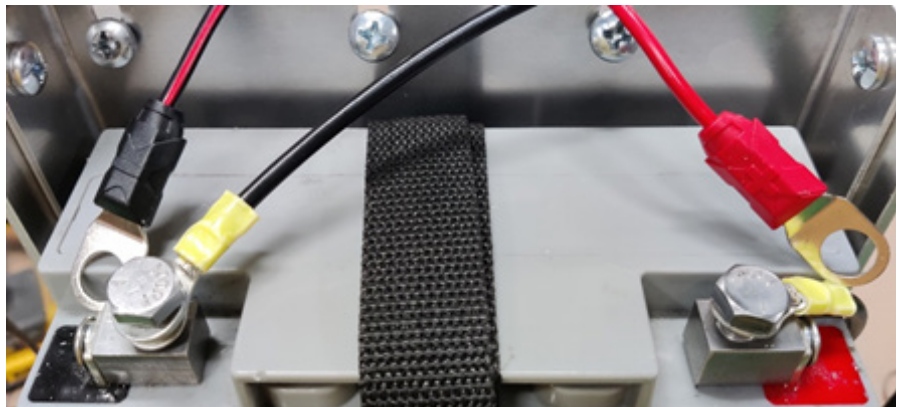
- a.) Feed the 62112 wire down the back and through the tray opening for the bottom battery. Attach the 62112 wire to the bottom battery positive terminal with the 80009 screw, do not tighten just yet.
- b.) The batteries should now be connected to the unit. The last thing to do is to connect the charger terminals to each battery.
- c.) Take Bank 2 charger wire terminals and attach the ring terminals to the bottom battery terminal blocks using both 80009 screws.

Note: The batteries in your model do not need the terminal blocks.



- d.) Take Bank 1 charger wire terminals and attach the ring terminals to the top battery terminal blocks using both 80009 screws.

Note: The batteries in your model do not need the terminal blocks.



- e.) With the batteries connected to the unit, and the charger connected to the batteries. Tighten all screws at this point to make sure the connections are tight and secure.

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a.) Plug the unit power cable end into the wall. Look underneath at the charger and you should see two orange lights. It is time to select the proper mode.



Orange lights

b.) The CTA models have AGM batteries, so press buttons 1 & 2 on the charger until the second light is illuminated for both banks. Once the mode is set, the charging light will begin to light up and cycle through its battery reading phase. This just the charger figuring out the current battery levels.



c.) The CTA models have AGM batteries, so press buttons 1 & 2 on the charger until the second light is illuminated for both banks. Once the mode is set, the charging light will begin to light up and cycle through its battery reading phase. This just the charger figuring out the current battery levels.






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a.) With the charger working correctly, and batteries plugged into the unit, unplug the charging cable. Flip the on switch on the side and make sure the unit functions correctly.

b.) Rework the internal wiring as needed, additional zip ties may be needed. Do not use the pump or springs to hold wires in place. Replace back cover once complete.






Detailed Charger Light Indicators

Understanding Charge LEDs.

LED	Explanation
25% Red LED 	The 25% Charge LED will slowly pulse "on" and "off" when the battery is less than 25% charged. When the battery is 25% charged, the 25% LED will go solid and the next LED will begin to pulse.
50% Red LED 	The 50% Charge LED will slowly pulse "on" and "off" when the battery is 25% - 50% charged. When the battery is 50% charged, the 50% LED will go solid and the next LED will begin to pulse.
75% Orange LED 	The 75% Charge LED will slowly pulse "on" and "off" when the battery is 50% - 75% charged. When the battery is 75% charged, the 75% LED will go solid and the next LED will begin to pulse.
100% Green LED 	The 100% Charge LED will slowly pulse "on" and "off", when the battery is less than 100% fully charged. When the battery is fully charged, the Green LED will be solid, and the 25%, 50% and 75% Charge LEDs will turn "off".
Maintenance Green LED 	During Optimization, the 100% Charge LED will pulse "on" and "off" slowly. Once the battery is fully optimized the 100% Charge LED will turn solid green. The charger can be left connected to the battery indefinitely.

Understanding Error LEDs.

Error Conditions will be indicated by the following LEDs.

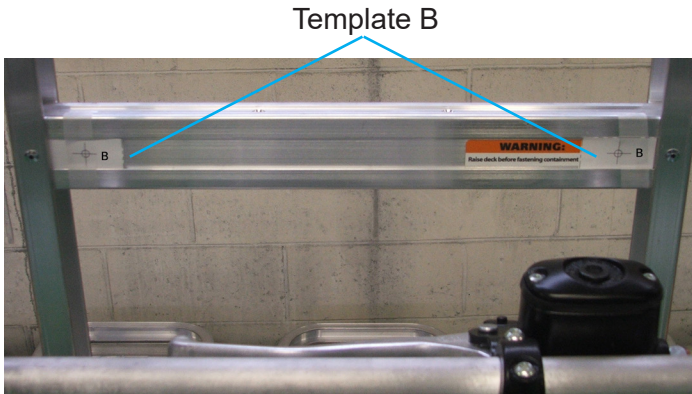
LED	Reason/Solution
 Solid	Charger is in Standby mode or Battery voltage is too low for charger to detect.
 Solid	Battery voltage is too high for the selected charge mode. Check the battery and charge mode.
 Solid	Possible battery short / Battery will not hold a charge. Have battery checked by a professional.
 Solid	Reverse polarity. Reverse the battery connections.
 Flashing	Charger internal temperature too high / Charger will resume function once the Charger internal temperature drops. Charger ambient temperature too cold / Charger will resume function once the Charger ambient temperature rises.

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a. Place the paper drill templates (labeled B) in the cross brace recess as shown in Figure 16a; secure with pieces of tape. Drill the two $\varnothing 13/64$ " holes required for the cord storage bracket using the paper drill template.

b. Insert one #10 x 1-1/2" long screw through the pallet side of the cross brace drilled hole.

Assemble a cord storage bracket with the part leg pointing towards the nearest side of the Coolift and secure with a locknut. Repeat to mount the second bracket.



Template B

Figure 16a



309208

80117,
80684

309122
309123

Figure 16b

16

a.) Test the charger by plugging the charger cord into a grounded 115v outlet and check the charger indicator lights which are located in the right end of the charger, opposite of the ON/OFF switch.

Troubleshooting tips if no light turns on:

- Confirm 115v outlet is operable.
- Confirm the input power cord is securely plugged into the charger receptacle.

b.) Replace and secure the enclosure panel using the #3 Phillips head screwdriver.

c.) To store the charger cord, coil the charger cord around the two brackets, interlacing the cord plug within the coiled cord loops to secure it. Figure 7 shows the completed bracket assembly with the cord properly secured to the brackets.

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