Designer Series® Motorized Between-the-Glass Blinds and Shades Troubleshooting Guide

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TOOLS REQUIRED

Flat Head Screwdriver
Paper Clip/Other Small Tool

PRE-WORK

The following steps frequently resolve operating issues and should be attempted by the customer or service technician before proceeding to the rest of the guide.

1) **Factory Reset Blind or Shade** – Reference Appendix E on Page 18.
   If Blind or Shade operates as expected following a factory reset, you are finished.

2) **Battery may need to be charged** – If unit worked for several weeks, but is no longer working, it may not be getting enough direct sunlight to keep the battery charged.

   Direct sunlight means the sun's rays shine directly on the solar panel for at least 2-3 hours per day. Large shade trees, bushes, exterior furniture, and overhangs may block sunlight from reaching the solar panel. Also, north facing units will typically get very little direct sunlight, especially during winter months in northern climates. If the solar panel is not getting enough direct sunlight, the customer will need to charge the batteries every 3-6 months using a BTG Motorized Shade Charger.

   If you suspect the battery may be low, connect a BTG Motorized Shade Charger to the unit and allow it to charge overnight. Reference Appendix C on Page 15.

BLIND OR SHADE WILL NOT OPERATE

The following steps will cover several potential root causes that may prevent a Blind or Shade from operating correctly.



Start by verifying that the Remote is operating correctly:

- Press and release any button on the remote and the remote LED should light red briefly.
- If the LED does not light red, remove the battery cover and ensure the plastic battery tab has been removed and that the battery is installed with the "+" side visible.
- If the battery is installed correctly and the remote LED does not light red, replace the battery.
- If the LED does not light red with a new battery installed, order a replacement remote.
- If LED light turns red briefly, the remote is operating correctly. Continue to the following steps.



Determine if power is reaching the motor from the battery:

- Factory Reset Blind or Shade – Reference Appendix E on Page 18.

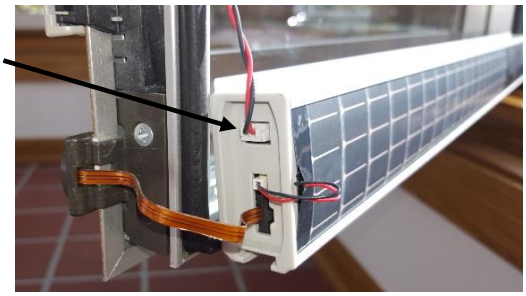
If **Blind or Shade makes any movement**, then it has power and you should continue to the BLIND OR SHADE TROUBLESHOOTING steps on Page 7.

If **no movement is detected**, continue to the next step.

Note: The shade drive is designed so that it will not operate if the air space between the glass is greater than 175^{o} F. Although very rare, if this occurs, opening the HGP will help reduce this temperature allowing the drive to operate.

The following steps will check the connection between the Power Unit and Motorization Wire Harness:

- Remove the Power Unit just enough to allow access to the end with the connectors. Reference Appendix A on Page 14. Unplug the Motorization Wire Harness from the Power Unit.



- Verify pins within female portion of the connector are not bent or broken. Reconnect and verify wires are solidly held in the connector.

- Factory Reset Blind or Shade – Reference Appendix E on Page 18.

If Blind or Shade **moves up and fully compresses at top of unit**, then a connection was loose or the control boards needed to be power cycled to restore normal operation. If the Blind or Shade now operates correctly, you are finished.

If Blind or Shade **does not move up and fully compress at top of unit**, continue to POWER UNIT TROUBLESHOOTING.

POWER UNIT TROUBLESHOOTING

The following steps will test potential root causes in the Motorization Wire Harness and Battery Pack.

- Reference Appendix A on Page 14 to remove the Power Unit from the HGP. Connect a different Power Unit that is known to work to the Motorization Wire Harness.

- Factory Reset Blind or Shade – Reference Appendix E on Page 18.

If **Factory Reset is unsuccessful,** perform the following steps to check the Motorization Wire Harness.

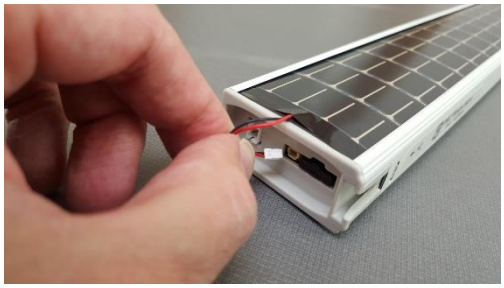


- Reference Appendix B on Page 14 to remove the Blind or Shade to allow access to the connections between the Motorization Wire Harness and Blind or Shade. Verify that the Motorization Wire Harness is firmly plugged into the Blind or Shade connector.
- Unplug the connectors and inspect for loose wires and bent or broken pins.
- Switch the Motorization Wire Harness with a Motorization Wire Harness that is known to work. Factory Reset Blind or Shade.
- If successful and the Blind or Shade now operates correctly, order a replacement Motorization Wire Harness. You are now finished.
- If unsuccessful, continue to BLIND OR SHADE TROUBLESHOOTING steps on Page 7.

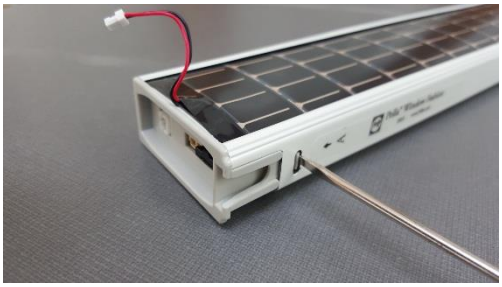
If **Factory Reset is successful and the blind or shade now operates correctly**, there is an issue with the initial Power Unit. Continue to the next step to verify that the battery is properly connected within the Power Unit.
If **Factory Reset is successful, but the blind or shade still does not operate correctly**, there are issues with the initial Power Unit AND the blind or shade. Complete the following steps to check the battery connection AND follow the BLIND OR SHADE TROUBLESHOOTING steps on Page 7.

The following steps will check the battery connections within the Power Unit:

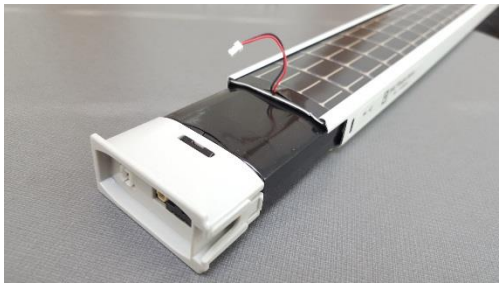
- Unplug the Solar Panel from the Charge Circuit End Cap.



- Use a Flat Head Screwdriver to release the Power Unit End Cap from the Power Unit Cover.



- Slide the Battery out of the Power Unit Cover.



- The Battery may have blue or black wrap.

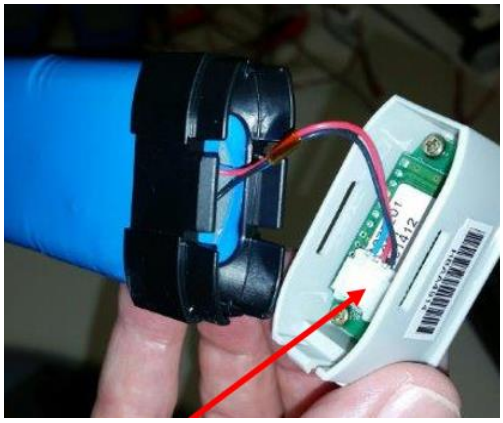


Note: The circuit boards within the Power Unit End Cap are different for blue and black batteries to ensure safe and efficient charging of the batteries. The connectors are also different to ensure that the correct battery is used with the correct circuitry. DO NOT alter the connectors in any way as unsafe charge and discharge conditions could occur.

- Use a Flat Head Screwdriver to release the Power Unit End Cap from the Battery.



- Verify that the battery is connected to the circuit board. If the connectors are unplugged, inspect connectors to verify that the wires and pins are not bent or broken. If there is no visible damage, plug the battery connector into the mating connector on the circuit board. If either connector is damaged, order a replacement battery pack.



- After inspecting the battery connection, reassemble the unit and test. If Blind or Shade operates normally, you are finished. If the blind or shade does not move or moves slowly (1" per second), connect a BTG Motorized Shade Charger and Charge Connector Assembly – Reference Appendix C on Page 15.

If Blind or Shade **operates normally after fully charging the original Power Unit**, you are now finished.

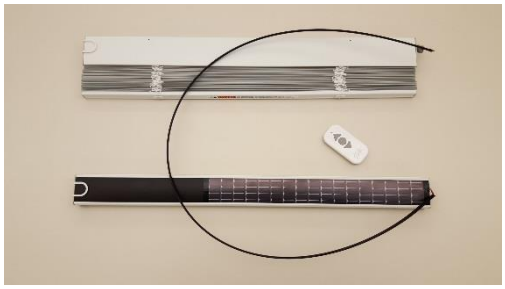
If Blind or Shade **does not operate after fully charging the original Power Unit,** order a replacement Battery.

BLIND OR SHADE TROUBLESHOOTING

The following steps will test potential root causes in the Motor Drive and Blind or Shade.

Start by verifying that the Motor Drive is operating as expected:

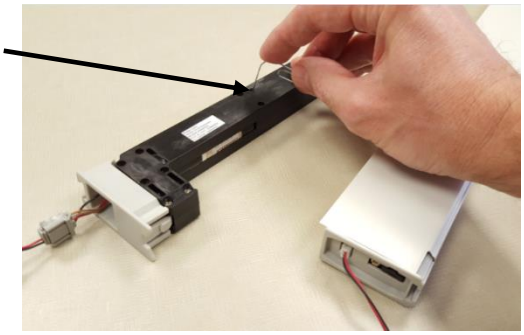
- Remove Power Unit, Motorization Wire Harness, and Blind or Shade from HGP. Reference Appendices A and B on Page 14.



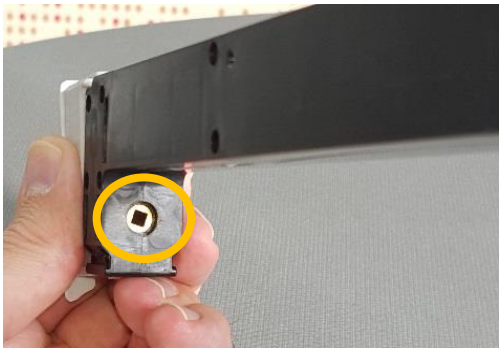
- Use a Flat Head Screwdriver to release the End Cap from the shade and slide the End Cap and Motor Drive out of the cover.



- With the Motor Drive plugged into the Power Unit, use a paper clip or other small tool to press and hold the Factory Reset button for 3 seconds. Lift Shaft Gear should begin rotating.

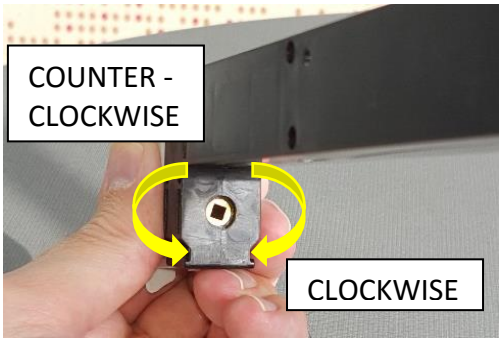


If **Lift Shaft Gear does not begin rotating**, follow the POWER UNIT TROUBLESHOOTING steps on Page 4 until the issue is found.
If POWER UNIT TROUBLESHOOTING steps have already been completed, order a replacement Motor Drive. You are now finished.

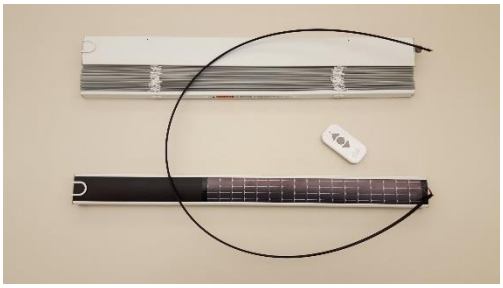


If **Lift Shaft Gear rotates**, the Motor Drive has power. Continue to the next step.

Verify that the Motor Drive is handed correctly:



- Hold the drive as shown and observe the direction of rotation.
- After observing direction of rotation, press and hold the Factory Reset button for 3 seconds and the Lift Shaft Gear will stop rotating.
- If it turns counterclockwise, the Blind or Shade was setup as a RH. If it turns clockwise, the Blind or Shade was setup as a LH.
- To determine the Hand of the Blind or Shade, look at the exterior face of the Blind or Shade. If the Motor Drive is on the RH side of the Blind or Shade, it is a RH unit. If the Motor Drive is on the LH side, it is a LH unit. The Blind shown is a RH Unit.



- Verify that hand of Motor Drive matches the hand of the Blind or Shade.

If the **hand does not match**, order a new Motor Drive and ensure it has the correct handing. You are now finished.

If the **hand matches**, continue to the next step to test.



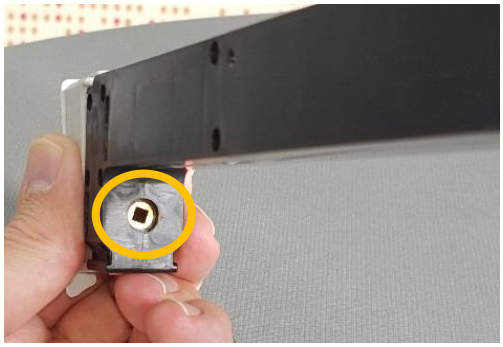
- While watching the Lift Shaft Gear, move the remote back and forth across the Motor Drive.

- Lift Shaft Gear should rotate about half a turn in one direction and will then reverse and rotate about half a turn in the opposite direction.

If the **Lift Shaft Gear does not rotate**, the sensor within the Motor Drive is not functioning properly. Order a replacement Motor Drive. You are now finished.

If the **Lift Shaft Gear rotates**, continue to the next step to confirm the motor works properly:

- Hold the Up button on the remote until the Lift Shaft Gear rotates again. At this point, the remote has been successfully learned to the Motor Drive.



- Test the Motor Drive by pressing the Down button on the remote. The Lift Shaft Gear should begin rotating in one direction.

- After a few seconds, press and release the Center button and the Lift Shaft Gear should stop rotating.

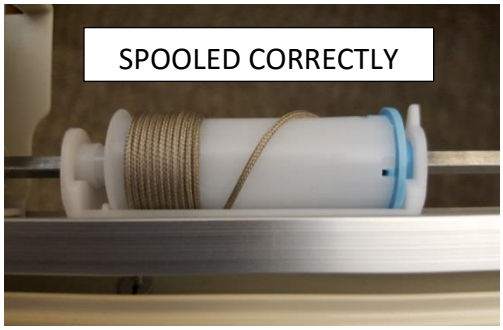
- Press the Up button and the Lift Shaft Gear should rotate until the Motor Drive returns to its upper position.

- If the Motor Drive responds to these commands, it is working as expected and is not the root cause of the shade not operating. Continue to the next step to verify that the lift cords on the Blind or Shade are spooled correctly.

Verify that the Blind or Shade Lift Cords are not tangled around the spool:

- Remove the Blind or Shade Cover.

- Inspect Blind or Shade spools to verify that lift cords have not become tangled around the spools.



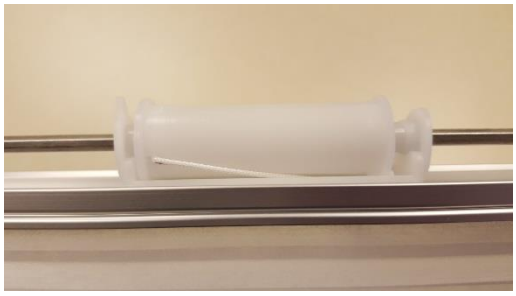


- If tangled, unwind the lift cord from each of the spools and allow the rail of the shade to drop to its bottom limit to put tension on all the lift cords.



- Verify that the spools have the correct timing. The lift cords should be in the exact same position on each spool to ensure that they have the same timing with the lift shaft. The pictures below show a LH and RH spool that are timed correctly.





- Install Motor Drive into Blind or Shade, but leave cover off.
- Factory Reset and lift cords should wind onto spools.
- Re-install cover and end caps.
- Re-install Blind or Shade into unit and connect Motorization Wire Harness to the Power Unit and Blind or Shade.
- You are now finished.

BLIND OR SHADE BOTTOM RAIL IS NOT LEVEL

The bottom rail for a single Blind or Shade is not level.



- Home the Blind or Shade – Reference Appendix F on Page 19.

Note: It may require multiple Home cycles to fully level Bottom Rail.

- Verify that there are no obstructions such as glazing sealant, grille bars, etc…

- You may also straighten the Bottom Rail by hand and operate the Blind or Shade several times to verify that is stays level and there are no obstructions.

BLIND OR SHADE BOTTOM RAILS ARE NOT ALIGNED AT A SETPOINT

The bottom rails for multiple Blinds or Shades are not aligned with each other.



If the homeowner or installer **HAS NOT changed the setpoints** from the Factory Default, complete the following steps in sequence:

Note: When you Factory Reset, all setpoints will be reset to Factory Default positions.

- Factory Reset Blind or Shade to Home and restore them to the original setpoints. Reference Appendix E on Page 18.

- Press the Down button on the remote and all Blind or Shades should fully close.

- Press the Up button on the remote and all Blind or Shades should fully compress at the top.

- If Blinds or Shades are aligned, you are finished.

If the homeowner or installer **HAS changed the setpoints** from the Factory Default positions, complete the following steps in sequence:

- Home the Blind or Shade – Reference Appendix F on Page 19.

- Press the Down button on Remote to send all Blinds or Shades to Lower Position. If Blind or Shade bottom rails are not aligned, one of the bottom setpoints have been changed.

- Program the Lower Position for that Blind or Shade to align it with the other Blinds or Shades:
  - Touch the top end of Remote to Blind or Shade cover approximately 6" from the end where the wire connects. Move Remote back and forth slowly until Blind or Shade completes a quick up/down motion to indicate Blind or Shade has entered program mode.
  - Simultaneously press and hold the Center and Down buttons until Blind or Shade completes a quick up/down motion. This will require the buttons to be pressed for about 5 seconds. The light on Remote will begin blinking when the buttons are released to acknowledge that Remote is in program mode.
  - Press the Up or Down buttons on Remote to move Blind or Shade bottom rail to the desired position.
  - Press and hold the Center button until Blind or Shade makes a quick up/down movement. This should take about 3 seconds. The light on Remote will stop blinking

- Press the Up button on Remote to send all Blinds or Shades to Upper Position. If Blind or Shade bottom rails are not aligned, one of the top setpoints have been changed.

- Program the Upper Position for that Blind or Shade to align it with the other Blinds or Shades:

  - Touch the top end of Remote to Blind or Shade cover approximately 6" from the end where the wire connects. Move Remote back and forth slowly until Blind or Shade completes a quick up/down motion to indicate Blind or Shade has entered program mode.
  - Simultaneously press and hold the Center and Up buttons until Blind or Shade completes a quick up/down motion. This will require the buttons to be pressed for about 5 seconds. The light on Remote will begin blinking when the buttons are released to acknowledge that Remote is in program mode.
  - Press the Up or Down buttons on Remote to move Blind or Shade bottom rail to the desired position.
  - Press and hold the Center button until Blind or Shade makes a quick up/down movement. This should take about 3 seconds. The light on Remote will stop blinking.

- If Blinds or Shades are aligned, you are finished.

Note: New cellular shades may require time for material to fully expand (if bottom up) or compress (if top down) at the lower setpoint.

- To determine if this is the issue, open the HGP and gently pull or push on the bottom rail to attempt to move it to the desired position.

- If it moves easily, the fabric needs time to relax and break in.

BLINDS OR SHADES ARE NOT TRAVELING AT THE SAME SPEED

DS Blinds or Shades are designed to travel at 2 inches per second. When battery is low, the Blind or Shade will slow to a rate of 1 inch per second.

- Connect a BTG Motorized Shade Charger and Charge Connector Assembly to charge Blind or Shade. Reference Appendix C on Page 15.

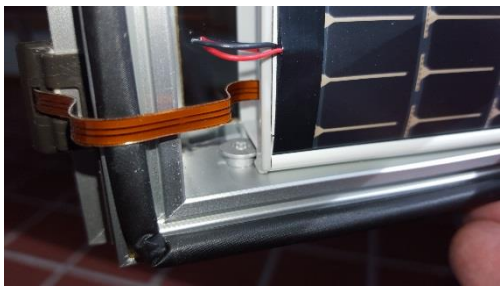
If Blind or Shade **continues to run slowly after charging the battery**, order a replacement Battery. You are now finished.

APPENDIX A: REMOVING POWER UNIT

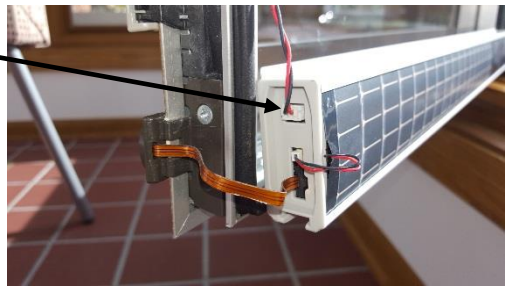
- Use the Pull Tab to remove one end of the Power Unit from the Shade Stud.



- Slide the Power Unit to allow access to the Power Unit End Cap.



- Disconnect the Motorization Wire Harness and the Charge Connector Assembly from the Power Unit.



- Remove the Power Unit from the HGP.

APPENDIX B: REMOVING BLIND OR SHADE

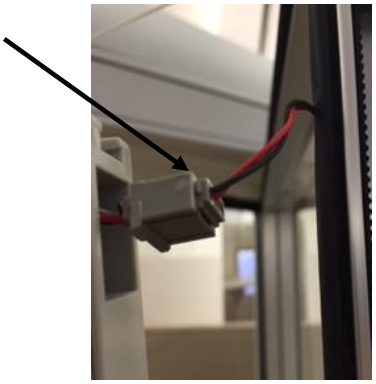
- Use the Pull Tab to remove one end of the Blind or Shade from the Shade Stud.



- Slide the opposite end of the Blind or Shade off the other Shade Stud.



- Disconnect the Motorization Wire Harness from the Blind or Shade.

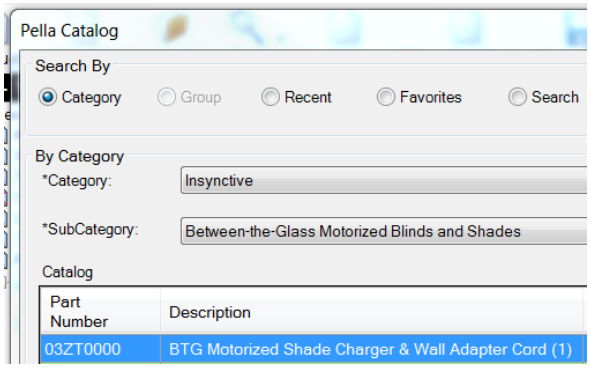


- Remove Blind or Shade from the HGP.

APPENDIX C: CHARGING BLIND OR SHADE

If you suspect a battery may be low, use the following procedure to connect a BTG Motorized Shade Charger to the unit to recharge the battery.

- Ensure the customer has the correct 12 Volt BTG Motorized Shade Charger & Wall Adapter Cord (03ZT0000.) If not, order through the Pella Catalog in PQM:



Note: Some customers may have the old 9 Volt BTG Motorized Shade Charger which will not do a sufficient job charging the Blinds or Shades. Do not use the 9 Volt charger and ensure the 12 Volt charger is being used. See below images:

9 Volt Charger



12 Volt Charger



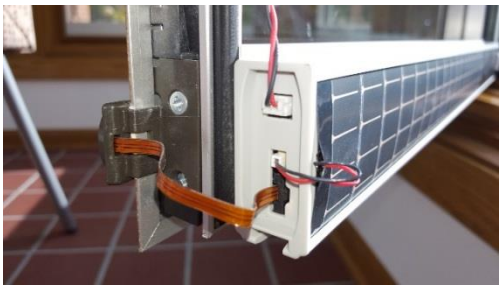
- Plug the 12 Volt BTG Motorized Shade Charger into a 120 VAC wall outlet.
- Plug the other end of the charger into the Wall Adapter Cord.
- Place the coupler of the Wall Adapter Cord onto the Charge Connector Assembly located at the bottom RH or LH corner of the HGP. Magnets hold the coupler to the Charge Connector Assembly.



- The coupler will light green if properly connected
  - The green light will not shut off when it is finished charging and only indicates a good connection.
  - A 90 degree adapter is provided for Casement units with Rolscreen.



- If the coupler does not light green, open the HGP and verify that the ribbon wire is fully inserted into the connector on the Power Unit. Reference Appendix D on Page 17.
  - If the coupler does not light green after verifying that the connector is properly inserted, order a replacement Charge Connector Assembly.

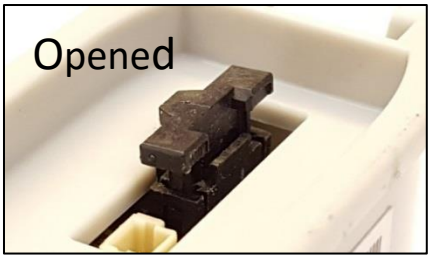


- Allow Power Unit to charge:
    - NiCad battery (blue wrap) requires 30 hrs of charging to recharge a fully depleted battery.
    - Lithium Ion battery (black wrap) requires 8 hrs of charging to recharge a fully depleted battery.

    Note: In rare cases, if the air space between the glass is greater than 120^{o} F, the system will not allow the batteries to charge although the coupler will light green. Opening the HGP will help reduce this temperature.

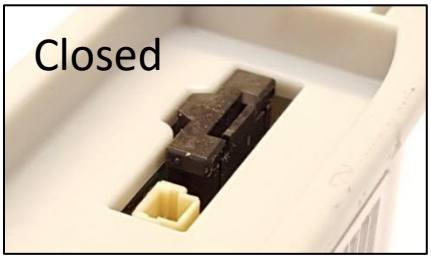
APPENDIX D: CHECKING RIBBON WIRE CONNECTION

- The black ribbon wire connector has an open and closed position.

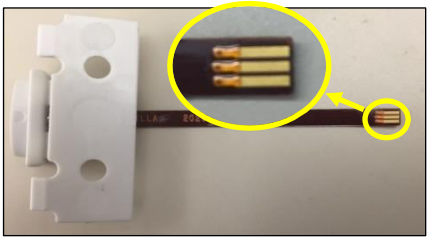


- The thickness of the ribbon wire allows it to be inserted with the connector in the closed position with minimal force. This is our recommended insertion method and all connectors should be shipped closed.

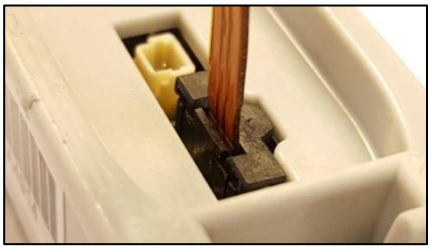
- If the black connector is left in the open position or just slightly open, the ribbon wire will not make good electrical contact and will pull out with little to no resistance.



- DO NOT bend the ribbon wire near the gold plated contacts (see picture to the right). Bending the wire at this location can break the connections that bridge from one side of the wire to the other, which will prevent the batteries from charging. If broken, the coupler on the Wall Adapter Cord will not light green when connected to the Charger Connector Assembly.



- The picture to the right shows the ribbon wire fully seated and the connector closed.



APPENDIX E: FACTORY RESET BLIND OR SHADE

This procedure:

- Will reset all Blind or Shade positions to factory default settings
- Re-homes the Blind or Shade and resets the upmost position
- Will NOT remove Remotes or Bridges that have been paired
- Upon moving, confirms that the shade is receiving power from the battery, but does not indicate if the battery is fully charged

- Open the Hinged Glass Panel (HGP.)



- Locate the small hole in the top cover about 4" from the end where the wire connects.

- Insert a paper clip or other small tool into the hole and depress the reset switch for about 3 seconds or slightly longer.

- Blind or Shade will move to top position to acknowledge successful reset.



BOTTOM UP AFTER RESET



TOP DOWN AFTER RESET

APPENDIX F: HOMING THE BLIND OR SHADE

Over time you may notice that the fully opened position for bottom-up Blind or Shades or raise-and-lower Blinds or the fully closed position for top-down Blind or Shades has drifted. This is due to normal wear and use of Blind or Shade and can be corrected by Homing. The Homing process will cause Blind or Shade to move up until it is fully compressed and then reset its position.

This Procedure:

- Will NOT reset all Blind or Shade positions to factory default settings
- Re-homes all Blinds or Shades that are paired to that remote at one time
- Will NOT remove Remotes or Bridges that have been paired

- Press and hold the Up button on Remote until Blind or Shade reaches the top point of travel, then release the button.

- Press and hold the Up button for about 10 seconds until Blind or Shade begins to move up. Blind or Shade will stop moving when fully compressed and will reset the fully opened or closed position.

Note: It may require multiple Home cycles.



BOTTOM UP AFTER RESET



TOP DOWN AFTER RESET

For additional information and troubleshooting help, see the Between-the-Glass Blinds and Shades Product Guide at https://insynctivesupport.pella.com