Introduction

Engineered to be the best, MaestroShield ALUMINUM SHUTTERS are designed for strength and beauty. Our strength has been rigorously tested and certified, with industry-leading span widths up to 262” and heights to 360”. The versatility of our system offers the choice of slat venting, end retention or non-end retention, multiple colors and a wide array of motors and electronics that will seamlessly integrate your system into your building’s exterior façade while providing comfort, convenience and peace of mind.

Installations are recommended for windows, doors or any construction area opening that may be vulnerable to intrusion.

Before installation, verify that all components and tools are available and working properly. Due to the unique nature of each individual installation, these instructions are to be considered a standard primary guide and could be subject to variation.

For problems or questions encountered during installation, contact our support tech at (239) 596.8883.

Safety Information

Install MaestroShield® Shutter Systems according to Miami Dade or Florida Building Code Standards, as required by county/state regulations for the installation site.

Building permits MUST be obtained for all roll down shutter installations. USA Shutter Company takes no responsibility for obtaining these mandated permits. Consult your municipalities’ building departments have for local permitting requirements.

USA SHUTTER COMPANY / MAESTROSHIELD SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, REVENUE OR BUSINESS) OR DAMAGE OR INJURY TO PERSONS OR PROPERTY IN ANY WAY RELATED TO THE MANUFACTURE OR THE USE OF ITS PRODUCTS. This exclusion applies regardless of whether such damages are sought based on breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory.

These instructions are not a replacement for Site Specific Engineering requirements.

Installations utilizing electric motors need separate permits. For details check with your local code enforcement official.
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Hour Technical Support Line +1.239.206.9115

Email: marketing@maestrosheild.com
www.MaestroShield.com
Tool and Materials Required

* Verify that all component parts are present and necessary tools are readily available.

- Drill
- Screw Driver
- Tape Measure
- Wire Cutters
- Pencil or Measurement Chalk
- Level
- Straight Edge
- Anchors per engineering specifications

Side Rail with End Retention Engaged
**Included Installation Parts**

**Motor Tube** with rubber rings
- INCLUDED: 1 motor tube, 2 rubber rings
- STANDARD SIZE: 86mm Ø 3⅜” x ⅛” (diameter x wall thickness)
- Full extrusion length = 6.6m (21’ 7”)

**Connector Slats** attachment between Motor Tube and Main Slat curtain.
- INCLUDED: 3 or 4 depending upon the size of the hood assembly

**Main Slats and Slat Caps** pre-assembled as main slat assembly (curtain) with right and left
- SIZE: 56mm 2⅓” x ⅝” x ⅛” (width x height x wall thickness)
- Material: 6063-T5

**Side Rail Non-End Retention** – right & left –
- Reinforced structural profile for max performance.
- INCLUDED: 2 - One (1) Right and One (1) Left, per shutter assembly
- SIZE: 3⅛” x 1⅜” x 1/8” (width x height x wall thickness)
- Material: Side Rail = 6063-T5, End Retention = Nylon

**Side Rail End Retention** – right & left – Reinforced structural profile for max performance.
- NOTE: End Retention Side Rail replaces the standard Side Rail when End Retention is used.
- INCLUDED: 2 - One (1) Right and One (1) Left
- SIZE: 3⅛” x 1⅜” x 1/8” (width x height x wall thickness)
- Material: Side Rail = 6063-T5, End Retention = Nylon

**End Retention** – Right Side and Left Side profiles
- Material: Side Rail = 6063-T5, End Retention = Nylon

**End Caps** – INCLUDED: 1 left, 1 right
- SIZES: appropriate to fit shutters of various lengths
- Material: Cast A360

**5-sided Hood (Impact Rated)** - INCLUDED: 1
- SIZES: appropriate size to fit the Caps:
- Shutters over 118” wide require the use of hood joiner.

**Idle Bearing** with end cap - INCLUDED: 1
- SIZES: standard
- Motor Cross grade bearings.
- Note: Must have plastic cap installed for corrosion resistance and to keep the motor tube level.

**Manual Crank Pivot and Bell** (Standard)
- INCLUDED: 1 per order
**OR**
**Manual Crank Eyebolt**
- INCLUDED: 1 per order

**Manual Gear Box** with end cap
- INCLUDED: 1 (only with manual version)
- SIZES: standard

**Motor Mount Nut**
- INCLUDED: 4
- SIZE: M6

**MN Bolts for mounting motor**
- SIZE: M6 x length needed to install each motor

**Clip, Snap with Pin** for manual crank attachment
- INCLUDED: 1
- SIZES: 15mm Diameter profile to snap over eyebolt with 2.7mm pin
Pre-Installation Considerations

- Measure frame opening
- Frame opening is actual structural support and does not include shims or filler around the window or door
- Ensure obstacles are accommodated for:
  - Down spouts, hose connections
  - Hood clearance, especially on inside corner installations
  - Light fixtures
  - Building substrate
- Select appropriate anchors. Refer to architectural drawings for list of approved anchors
- Adjust finish dimensions when necessary to achieve proper anchor edge distance requirements
- Glass separation requirements are calculated based on impact deflection or wind load deflection plus one inch which ever is greater
- Inside crank (when applicable)
- Inside the home appropriate location for crank mechanism. Check for valance clearance, interior architecture, relocate artwork, etc.
- Optimal location for installation
- Trapped installations may increase difficulty of installation
- Selecting a location for installation. Protect entire 'trapped' location rather than each opening. Hood assembly is rated to be located inside the Buck opening.
- Please contact our technical staff to assist in special installation considerations: +1.239.206.9115. Please provide digital photo of area to be installed, if possible.
Roll Down Shutter Installation

1. Establish center line of the opening ( ). Mark a point on the center line at the finished height* of your shutters (X) and draw a level horizontal line at the finished height along entire width of opening.

*Finished height can be flush with ceiling or directly above opening; keep in mind that you must account for an additional 3” in finished height if you want bottom bar to be hidden.

2. Measure along this top line from the center line to the left side of the opening ½ the distance of the finished width of your shutters, mark this point (X). At this point, draw a plumb vertical line to the bottom of the opening. This will be the outside line of your left side cap and left side rail.

3. Along this left side line measure from top horizontal line down the height of your hood assembly (the height of the hood assembly varies depending on the height of the shutter; see chart below). Mark this point (*), this will be the top of the left side rail.

<table>
<thead>
<tr>
<th>Curtain Length</th>
<th>Hood Size*</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 61”</td>
<td>8”</td>
</tr>
<tr>
<td>≤ 110”</td>
<td>10”</td>
</tr>
<tr>
<td>≤ 171”</td>
<td>12”</td>
</tr>
</tbody>
</table>

4. Install left side rail using marked point as top of side rail and plumb line as outside guide. ONLY FASTEN TOP AND BOTTOM ANCHORS.*

IMPORTANT: Side rail MUST BE installed plumb and flush for proper operation of Slat Curtain.

*Consult Architectural Drawings for list of approved installation anchors
5. Measure along top line from center line to the right side of the opening ½ the distance of the finished width of your shutters; mark this point (X). At this point, draw a vertical plumb line about two feet down.

6. Along this right side line measure from top line down the height of your hood assembly (the height of the hood assembly varies depending on the height of the screen; see chart on previous page). Mark this point (•). Check this measurement by hooking tape measure to top of left side rail and measure to this point (---), should be equal to finished width of shutters. Adjust location of point to exact finished width if necessary. This point will be the top and outside of the right side rail.

7. Hook tape measure to bottom of left side rail and measure across opening the finished width of your shutters(---). Mark this point on the bottom right side of the opening (•). This will be the outside bottom of the right side rail.

8. Install the right side rail using the marked points for top and outside measurements. ONLY FASTEN TOP AND BOTTOM ANCHORS.*

IMPORTANT: Side rail MUST BE installed plumb and flush for proper operation of Slat Curtain

*Consult Architectural Drawings for list of approved installation anchors
Roll Down Shutter Installation (continued)

9. Hold hood assembly in place using side rails to brace it. Before fastening hood assembly, check that it is level, and that the outside of the left side cap is perfectly aligned with the outside of the left side rail. Once level and aligned, anchor hood assembly using pre-drilled holes in side caps*.

NOTE: See instruction #13 for alternate instructions for larger slat curtains.

10. Unroll and feed slat curtain into side rails making sure that side labeled “This Side Out” is facing away from the structure.

11. When slat is fed all the way into side rails, unroll connector slats, which have been riveted to motor tube in the factory. Slide the bottom connector off the connector slat assembly.

12. Slide bottom connector slat back onto connector slat assembly AND onto top slat of slat curtain, connecting the connector slat assembly with slat curtain.

Skip to step 17.

*Consult Architectural Drawings for list of approved installation anchors 11/8/2013
Roll Down Shutter Installation (continued)

13. **Alternate Instructions for larger slat curtains:**
Larger slat curtains will come in three sections (upper, middle, bottom) due to increased weight.

Feed bottom section of slat curtain into side rails, making sure that side labeled “This Side Out” is facing away from the structure. Leave top two slats of bottom slat curtain hanging out of side rail assembly.

14. Slide bottom slat of middle section onto top slat of bottom section. After two sections are assembled, attach either slat cap or rivet end retention onto appropriate slats using supplied rivets and pre-drilled holes.

Repeat same procedure when attaching top slat section to middle slat section.

15. After all three sections are connected and fed into side rails, unroll connector slats, which have been riveted to motor tube in the factory. Slide the bottom connector off the connector slat assembly.
16. Once slat curtain is operating smoothly, anchor remaining side rail screws*. Replace hood face after setting motor limits (see pages 15-19).

17. Test roll-up and roll-down functionality of slat curtain to ensure that it is operating smoothly without being obstructed in any way. Adjust the right side rail if necessary.

Wire motor. Consult professional electrician and refer to your motor and receiver wiring instructions.

16. Slide bottom connector slat back onto connector slat assembly AND onto top slat of slat curtain, connecting the connector slat assembly with slat curtain.
Installing Universal Assembly:
For motors with manual override or manual gear boxes

1. Prior to ordering shutter assembly, operator position was determined

2. Cut Hex Rod on Universal Assembly to specified length, measuring from mounting plate:

For Operator Positions 1, 2 and 4, cut hex rod to these lengths:

8” Side Cap - 5 3/4”
10” Side Cap - 6 3/4”
12” Side Cap - 7 3/4”

For Operator Position 3, see instructions beginning on page 13

3. Drill hole though hood face using 5/8” drill bit. Use chart below to determine position hole is drilled. For position 3, hole should be measured and drilled prior to mounting hood assembly.

<table>
<thead>
<tr>
<th>Side Cap Size</th>
<th>Motor Size</th>
<th>Operator Position</th>
<th>X Measurement</th>
<th>Y Measurement in from outside edge</th>
</tr>
</thead>
<tbody>
<tr>
<td>8”</td>
<td>20—50Nm</td>
<td>1</td>
<td>From point A—1 5/8</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—2 7/8</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—2 7/8</td>
<td>3/4”</td>
</tr>
<tr>
<td>60—100Nm</td>
<td></td>
<td>1</td>
<td>From point A—N/A</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—1 3/8</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—2 3/8</td>
<td>3/4”</td>
</tr>
<tr>
<td>10”</td>
<td>20—50Nm</td>
<td>1</td>
<td>From point A—1 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—3 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—3 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td>60—100Nm</td>
<td></td>
<td>1</td>
<td>From point A—2 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—3 1/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—3 1/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td>12”</td>
<td>20—50Nm</td>
<td>1</td>
<td>From point A—2”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—4 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—4 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td>60—100Nm</td>
<td></td>
<td>1</td>
<td>From point A—2 3/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>From point B—4 1/4”</td>
<td>3/4”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 &amp; 4</td>
<td>From point C—4 1/4”</td>
<td>3/4”</td>
</tr>
</tbody>
</table>
Installing Universal Assembly

4. For operator positions 1, 2 and 4, insert hex rod through hole cut into hood (make sure there is enough clearance on all sides for unobstructed rotation of rod), and into manual override motor or manual gearbox. Rod should reach all the way through gearbox and stop almost flush with opposite edge. *IMPORTANT: If rod is too long, wiring could become entangled. If rod is too short, manual operation may not function correctly.

Use self-tapping screws to attach universal assembly to side cap.

![Position 1 - Use 45°, 2-hole universal](Position1.jpg)

![Position 2 - Use 90°, 2-hole universal](Position2.jpg)

![Position 4 - Use 90°, 2-hole universal](Position4.jpg)

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Installing Universal Assembly: Position 3, Inside Mount

1. After mounting hood, use an extended 1/8” drill bit to insert drill through hex rod hole and hole in back plate. Use caution to not damage hex rod hole, drill hole through wall.

*Make sure wall behind mounted hood is unobstructed.
Installing Universal Assembly: (continued)

Position 3, Inside Mount

3. From inside, make the same hole larger by using an extended 5/8" drill bit, use caution to stop BEFORE reaching the manual gear or manual override motor.

4. Insert hex rod through hole in wall, back hood plate and into manual gearbox or manual override. Tack universal to wall, making sure universal plate is flush on wall. Mark hex rod at point it exits gearbox.

Remove universal assembly and cut hex rod at marked point.

5. Re-insert hex rod through hole drilled in wall and into manual override motor or manual gearbox. Rod should reach all the way through gearbox and stop almost flush with opposite edge. *IMPORTANT: If rod is too long, wiring and/or fabric could become entangled. If rod is too short, manual operation may not function correctly. Make sure there is enough clearance in hole for unobstructed rotation of hex rod.

Use wall anchors to mount universal to wall. Must be mounted securely to ensure continued proper operation of universal.
**Setting Motor Limits** Manually Set (Harmony Series Motors)

- YOU WILL NEED THE MOTOR STOP HEX WRENCH
- YOU WILL NEED A TEST SWITCH OR REMOTE CONTROL
- YOU WILL NEED SITE SPECIFIC PERMITTING AS WELL AS PROPERLY LICENSED CONTRACTORS (ELECTRICAL) TO CONNECT THE MOTOR.

**Thermal Cut Off**

- Each motor has a Thermal Cut Off to prevent motor from over heating. Factory set limit is about 4 minutes of operation.
  
  **NOTE:** This is a thermal setting and not a timed setting. The environmental condition of the job site will shorten the operating time before the Thermal Cut Off will activate.

- Allow at least 20 minutes of cooling time (it may take up to 45 minutes) before the motor will return to regular operation.

- The motor will resume motion from last signal provided to the mini receiver.
  
  **NOTE:** Never leave a cooling motor unattended and energized electrically.

**Quick Reference Guide**

**NOTE:** Arrows on Manual Override show movement of the Motor Tube which is opposite from the curtain

### Left Side Motor Mount

- With motor oriented so that Power Cord extends to back (see diagram 1)
  
  **White = Upper Limit**
  Insert the Motor Stop Hex Wrench Tool and turn:
  - Counterclockwise (left) = MORE UP
  - Clockwise (right) = LESS UP

  **Red = Lower Limit**
  Insert the Motor Stop Hex Wrench Tool and turn:
  - Counterclockwise (left) = MORE DOWN
  - Clockwise (right) = LESS DOWN

### Right Side Motor Mount

- With motor oriented so that Power Cord extends to back (see diagram 3)
  
  **Red = Upper Limit**
  Insert the Motor Stop Hex Wrench Tool and turn:
  - Counterclockwise (left) = MORE UP
  - Clockwise (right) = LESS UP

  **White = Lower Limit**
  Insert the Motor Stop Hex Wrench Tool and turn:
  - Counterclockwise (left) = MORE DOWN
  - Clockwise (right) = LESS DOWN
CAUTION

- Motors stops are not set when initially installed
- The slat curtain can be over extended when lowered causing damage to the system. Alternatively, slat curtain can be wound up inside the hood pulling the slats out of the side rails.
- Be prepared to stop the motor at any moment while setting the motor stop limits.
- DO NOT run the motor limits all the way to the top or bottom before attaching the curtain to the motor tube.

Setting Lower Motor Limit
(Left Side Motor Mount - MaestroShield Standard)

Finding the Lower Limit

1. Power the motor in the down direction and stop within 12” of the bottom

2. If the motor stops prior to the 12” you have found the Lower Limit; Proceed to Setting the Lower Limit

3. If the motor did not stop prior to reaching 12” from the bottom, Insert the Hex Wrench into the Red Limit Switch and rotate either:
   A. CLOCKWISE several times for motor oriented with power cord to rear (See diagram 5)
   OR
   B. COUNTERCLOCKWISE several times for motor oriented with power cord to front (see diagram 6)

4. Power the motor in the down direction again. If it does not move you have found the Lower Limit. Proceed to Setting the Lower Limit

5. If the motor/curtain move, STOP

6. Complete step 3 and 4 until the Lower Limit is found

Setting the Lower Limit

1. Once the limit has been found, the limit must be set

   NOTE: Make sure the motor is still powered in the down direction. If motor is left in a state of rest for more than 4 minutes, power has been cut off and the limits cannot be set. In this case power the motor in the down direction to restart electrical current.

2. Insert the Motor Stop Hex Wrench in to the Red Limit Switch

3. To lower the curtain until the curtain is in the fully closed position Rotate the Hex Wrench:
   A. COUNTERCLOCKWISE for motor oriented with power cord to rear (See diagram 7)
   OR
   B. CLOCKWISE for motor oriented with power cord to rear (See diagram 8)

4. Remove the Hex Wrench Tool. The Lower Limit is Set!
Setting Upper Motor Limit (Left Side Motor Mount - MaestroShield Standard)

Finding the Upper Limit

1. Power the motor in the down direction and stop within 12” of the top

2. If the motor stops prior to the 12” you have found the Upper Limit; Proceed to Setting the Upper Limit

3. If the motor did not stop prior to reaching 12” from the top, Insert the Hex Wrench into the White Limit Switch and rotate either:
   A. CLOCKWISE several times for motor oriented with power cord to rear (See diagram 9)
   OR
   B. COUNTERCLOCKWISE several times for motor oriented with power cord to front (see diagram 10)

4. Power the motor in the down direction again. If it does not move you have found the Upper Limit. Proceed to Setting the Upper Limit

5. If the motor/curtain move, STOP

6. Complete step 3 and 4 until the Upper Limit is found

Setting the Upper Limit

1. Once the limit has been found, the limit must be set

   NOTE: Make sure the motor is still powered in the up direction. If motor is left in a state of rest for more than 4 minutes, power has been cut off and the limits cannot be set. In this case power the motor in the down direction to restart electrical current.

2. Insert the Motor Stop Hex Wrench in to the White Limit Switch

3. To raise the curtain until the curtain is in the fully open position Rotate the Hex Wrench:
   A. COUNTERCLOCKWISE for motor oriented with power cord to rear (See diagram 11)
   OR
   B. CLOCKWISE for motor oriented with power cord to rear (See diagram 12)

4. Remove the Hex Wrench Tool. The Upper Limit is Set!
Motors stops are not set when initially installed

The slat curtain can be over extended when lowered causing damage to the system. Alternatively, slat curtain can be wound up inside the hood pulling the slats out of the side rails.

Be prepared to stop the motor at any moment while setting the motor stop limits.

DO NOT run the motor limits all the way to the top or bottom before attaching the curtain to the motor tube.

Setting Lower Motor Limit
(Right Side Motor Mount - Non-Standard)

Finding the Lower Limit

1. Power the motor in the down direction and stop within 12” of the bottom

2. If the motor stops prior to the 12” you have found the Lower Limit; Proceed to Setting the Lower Limit

3. If the motor did not stop prior to reaching 12” from the bottom, Insert the Hex Wrench into the White Limit Switch and rotate either:
   A. CLOCKWISE several times for motor oriented with power cord to rear (See diagram 13)
   OR
   B. COUNTERCLOCKWISE several times for motor oriented with power cord to front (see diagram 14)

4. Power the motor in the down direction again. If it does not move you have found the Lower Limit. Proceed to Setting the Lower Limit

5. If the motor/curtain move, STOP

6. Complete step 3 and 4 until the Lower Limit is found

Setting the Lower Limit

1. Once the limit has been found, the limit must be set

   NOTE: Make sure the motor is still powered in the down direction. If motor is left in a state of rest for more than 4 minutes, power has been cut off and the limits cannot be set. In this case power the motor in the down direction to restart electrical current.

2. Insert the Motor Stop Hex Wrench into the White Limit Switch

3. To lower the curtain until the curtain is in the fully closed position Rotate the Hex Wrench:
   A. COUNTERCLOCKWISE for motor oriented with power cord to rear (See diagram 15)
   OR
   B. CLOCKWISE for motor oriented with power cord to rear (See diagram 16)

4. Remove the Hex Wrench Tool. The Lower Limit is Set!
Setting Upper Motor Limit (Right Side Motor Mount - MaestroShield Standard)

Finding the Upper Limit

1. Power the motor in the down direction and stop within 12” of the top

2. If the motor stops prior to the 12” you have found the Upper Limit; Proceed to Setting the Upper Limit

3. If the motor did not stop prior to reaching 12” from the top, Insert the Hex Wrench into the Red Limit Switch and rotate either:
   A. CLOCKWISE several times for motor oriented with power cord to rear (See diagram 17)
   OR
   B. COUNTERCLOCKWISE several times for motor oriented with power cord to front (see diagram 18)

4. Power the motor in the down direction again. If it does not move you have found the Upper Limit. Proceed to Setting the Upper Limit

5. If the motor/curtain move, STOP

6. Complete step 3 and 4 until the Upper Limit is found

Setting the Upper Limit

1. Once the limit has been found, the limit must be set

   NOTE: Make sure the motor is still powered in the up direction. If motor is left in a state of rest for more than 4 minutes, power has been cut off and the limits cannot be set. In this case power the motor in the down direction to restart electrical current.

2. Insert the Motor Stop Hex Wrench in to the Red Limit Switch

3. To raise the curtain until the curtain is in the fully open position Rotate the Hex Wrench:
   A. COUNTERCLOCKWISE for motor oriented with power cord to rear (See diagram 11)
   OR
   B. CLOCKWISE for motor oriented with power cord to rear (See diagram 12)

4. Remove the Hex Wrench Tool. The Upper Limit is Set!
Aluminum Shutter Maintenance and Repairs

When servicing shutters: repair as necessary without un-installing the shutter. It is best if the slat curtain can remain in the Side Rails during the repair process. If necessary, disconnect the motor mounting or entire Left Side Bracket with the slat curtain lowered. Then lift the slat curtain up no more than 1/3 the curtain height allowing the slat curtain to lift the motor tube into an accessible position. Use caution that slat curtain does not slip out over the top or down into the side rails. Clamp or brace as necessary.

Trouble shooting the operation of motorized shutters:

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slow Responding</td>
<td>1. Weak Battery – Change Battery</td>
</tr>
<tr>
<td>No response from Remote Control</td>
<td>1. Verify power to mini-receiver</td>
</tr>
<tr>
<td></td>
<td>2. Verify wiring of mini-receiver</td>
</tr>
<tr>
<td></td>
<td>3. Verify remote is programmed with mini-receiver.</td>
</tr>
<tr>
<td>Signal from remote only click from Mini -Receiver</td>
<td>1. Verify all wiring done properly</td>
</tr>
<tr>
<td></td>
<td>2. Possible bad relay. Replace mini-receiver</td>
</tr>
<tr>
<td>Motor not maintaining limit settings</td>
<td>1. Verify Motor Tube is in position to hold Crown Gear correctly on motor</td>
</tr>
<tr>
<td></td>
<td>2. Possible blow relays, replace motor</td>
</tr>
<tr>
<td>Motor was operating and stops</td>
<td>1. Thermal trip activated. Motor will operate last signal when cooled down</td>
</tr>
<tr>
<td>Can’t find limit on motor</td>
<td>1. Verify which limit you are turning and verify you are turning that limit in the correct direction.</td>
</tr>
<tr>
<td>Limit is not adjusting shutter anymore or</td>
<td>1. Maximum Limit condition reached. Remove motor to turn crown gear providing additional travel in necessary direction. Reinstall motor and</td>
</tr>
<tr>
<td>Slats “hanging-up” in Side Rails when operating curtain up</td>
<td>1. Possible incorrect position (level or plum) of Side Rail. Correct installation of Side Rail.</td>
</tr>
<tr>
<td></td>
<td>2. Possible slat out of alignment. Correct position of slat.</td>
</tr>
<tr>
<td>Slats “hanging-up” in Side Rails when operating curtain up only</td>
<td>1. Possible incorrect position (level or plum) of Side Rail. Correct installation of Side Rail.</td>
</tr>
<tr>
<td></td>
<td>2. Possible motor is under rated for this installation. If weight calculation is correct then excessive friction is present. If friction can not be eliminated then upgrade to next larger nm motor.</td>
</tr>
<tr>
<td>140Nm Motor and above not operating</td>
<td>1. Ensure manual over ride, if present, is in correct position – pulled all the way out with clip installed.</td>
</tr>
<tr>
<td></td>
<td>2. Ensure motor limits are both in neutral. If the motor limits are set without rotating the motor it assumes it has reached the upper and lower limit at the same time preventing operation of the motor. Rotate the crown gear at least three times in one direction and six times in the opposite direction to reset the limits.</td>
</tr>
<tr>
<td></td>
<td>3. Installed motor not operating after long idle period.</td>
</tr>
<tr>
<td></td>
<td>b. Without Manual over ride: Rotate the crown gear the easiest way possible without causing any damage to the shutter or motor.</td>
</tr>
</tbody>
</table>