

Tools that will be needed for this installation are:

- Cordless drill with #2 Robertson or Phillips bit
- 4' level
- Ladders if required for height of the opening
- 5/32" Drill bit

Carefully unpackage your shutter. **NOTE: DO NOT THROW OUT ANY PACKAGING MATERIAL UNTIL THE INSTALLATION IS COMPLETE AND YOU ARE SURE THAT YOU HAVE FOUND ALL OF THE COMPONENTS SENT WITH THE SHUTTER.** When you have your shutter unpackaged you should have the following components: (see **Figure A** below)

- Shutter box with curtain rolled inside of it
- 2 guide rails (when the shutter is narrower than the height of the guide rails they will be sent in a separate box. Look for the box labeled 'Guide Rails')
- Single shutter orders or the first shutter on multiple shutter orders will have a pull hook
- 1 installation kit which contains the hardware for installing your shutter.
- Sill/Build out-if ordered. The shop drawing shows if this was ordered

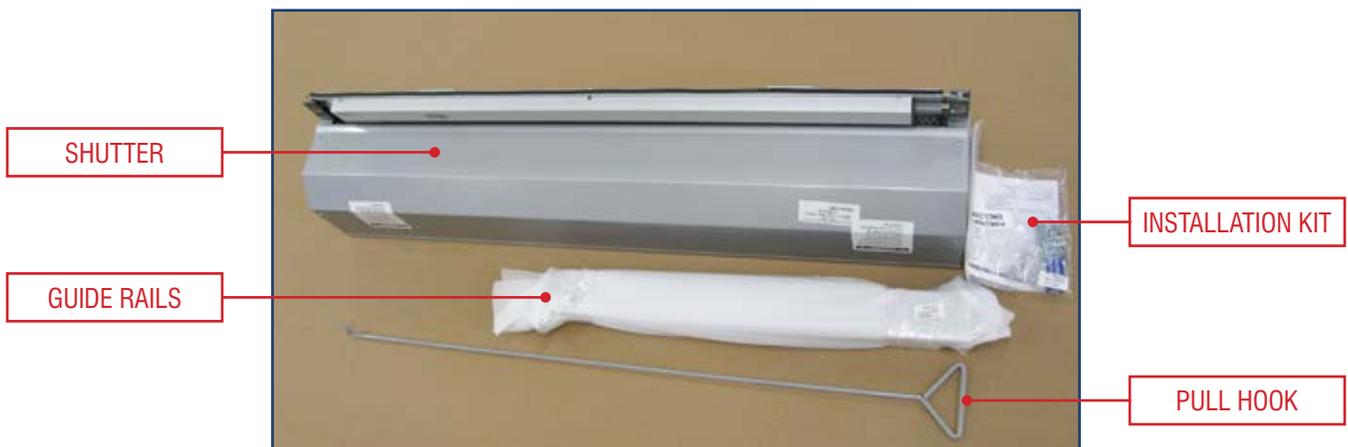


Figure A

## IMPORTANT NOTE

- **THE LEGS ON THE END CAPS CAN BREAK. YOU MUST TAKE CARE NOT TO PUT UNDUE PRESSURE ON THESE LEGS DURING THE INSTALLATION.**
- **THE SHUTTER MUST BE SECURED TO SOLID BACKING THROUGH THE BACK, TOP, OR SIDES OF THE BOX TO HOLD IT SECURELY TO THE WALL.**
- **ANCHORS FOR BRICK OR CONCRETE HAVE NOT BEEN PROVIDED. PLUGS FOR #10 SCREWS ARE RECOMMENDED FOR THESE APPLICATIONS.**

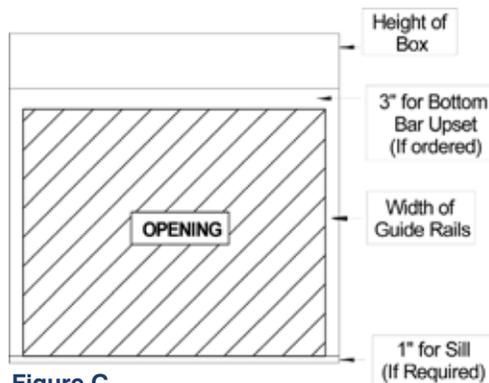


The following instructions are meant as a guide to installing your shutter. They cannot cover all applications. You are responsible to use safe work procedures to prevent injury to yourself and others and to prevent damage to the shutter. If you encounter a problem or have a question please contact Technical Support at the number provided at the end of these instructions.

1. Remove the protective plastic coating from the outside of the shutter box. (see **Figure B**)



**Figure B**



**Figure C**

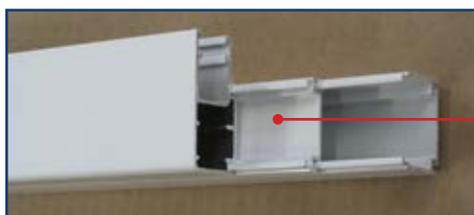
2. Make sure that the surface you will be mounting the shutter to is flat. For face of wall applications you will need the width of the guide rail on each side of the opening and the height of the box (plus 3" for bottom bar upset if applicable) across the top of the opening (see **Figure C** above). If required remove the trim from the face of the opening to make a flat surface.
3. Remove the 4 screws that secure the front cover lid to the shutter box, carefully take off the lid and store it in a safe place. (see **Figure D**)



**Figure D**

## OPTION 1- FACE OF WALL MOUNT WITH HEADROOM ABOVE SHUTTER BOX

4. If your shutter was ordered with build out to 'build' the shutter out from the mounting surface:
  - Determine from the shop drawing which faces of the shutter have build out.
  - Slide the build out for the guide rails onto the back of the guide rail (build out guide rails) or screw it to the back of the flat guide rails. (see **Figure E**)



**Figure E**

SLIDE BUILD OUT  
ONTO BACK OF  
GUIDE RAIL

- The build out is to be flush with the bottom of the guide rail
- The mounting holes will need to be drilled through the build out using a 3/16" drill bit.
- Note: the build out has been sent for the full height and the full width of the shutter. You can miter the corners to show no exposed ends or cut the horizontal lengths to fit between the vertical lengths.



5. Mount the guide rails to the sides of the opening. The large mounting holes face out.
  - On shutters with a lock in the bottom bar the end with the lock hole inside the rail is the bottom. (see **Figures F & G**)
  - On shutters with support brackets, the end with the threaded insert and screw near it is the top.
  - On shutters with 83mm guide rails, the flared (bent) end is the top.
  - Follow the 'F' dimension on the shop drawing for the width required between the guide rails.
  - Use the screws provided to secure it to the opening, but leave the screws slightly loose for adjustment (see **Figure H**). Use a level to ensure the rails are straight.

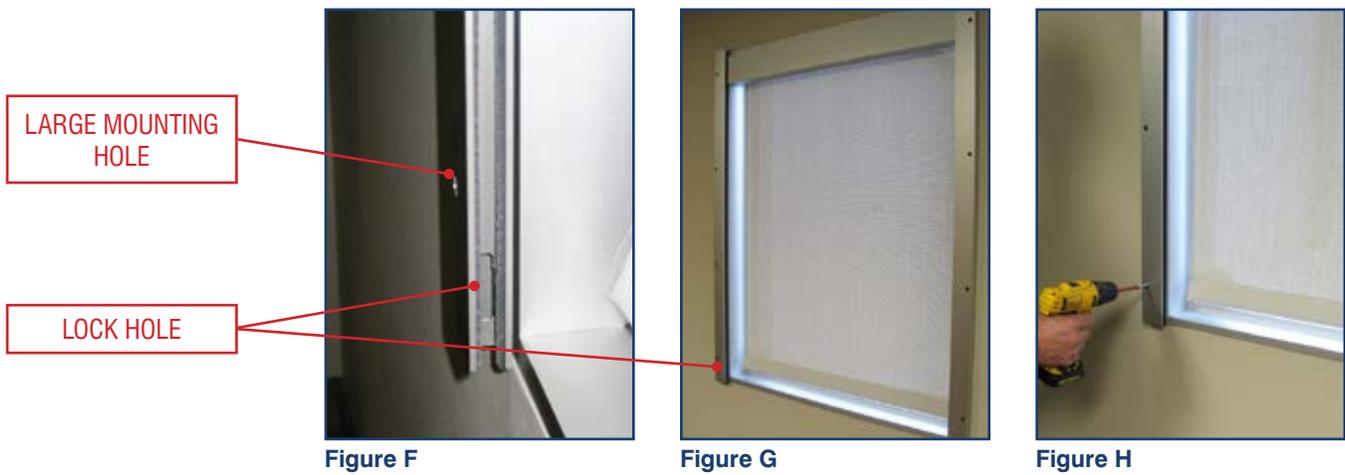


Figure F

Figure G

Figure H

6. Build Out: If your shutter was ordered with build out for the horizontal faces of the shutter, mount these to the mounting surface between the vertical pieces of build out.
7. Window or counter shutters with no window sill for the curtain to rest on when closed will need a sill installed.
  - Mount 'L' sill at the bottom of the guide rail with one leg of the sill across the bottom of the rail and the other leg against the wall either below or behind the guide rails (see **Figure I**).

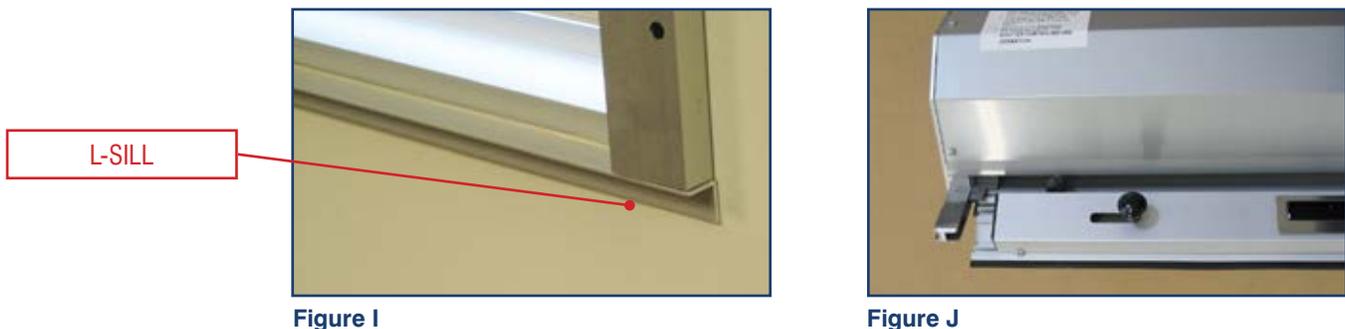


Figure I

Figure J

8. On shutters with locks in the bottom bar, move the slide bolts into the unlocked position. (see **Figure J** above)
  - Use the key from the installation bag for key lock shutters.



9. With one person at each end, lift the shutter box up and position it over the guide rails. Lower the shutter onto the guide rails, sliding the end cap legs into the outside channel of the guide rail (see **Figure K**). **MAKE SURE THAT THE SHUTTER BOX IS HELD FIRMLY AS THE END CAPS LEGS CAN BREAK.**

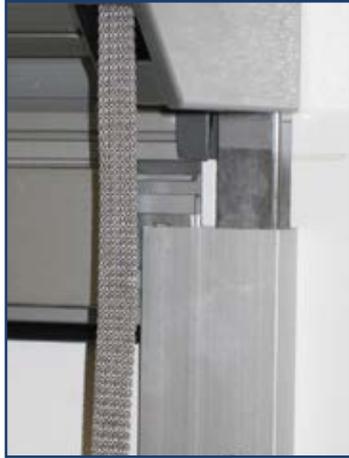


Figure K



Figure L

10. Finish tightening the guide rail mounting screws.
11. If your shutter is equipped with support brackets between the bottom of the box and the guide rails, please install these to protect the end cap leg (see **Figure L** above).

## OPTION 2-NO HEADROOM/UNDER LINTEL MOUNT

- I. Carefully set the shutter on a flat surface with the back (flat) side facing down and the top facing toward the opening. (see **Figure M**)



Figure M

- II. On shutters with locks in the bottom bar move the slide bolts into the unlocked position (see **Figure J** in Step #7).
  - Use the key from the installation bag for key lock shutters.
- III. Slide the guide rails onto the end cap legs. For surface mounting, the large mounting holes on the guide rail must be facing up. For between jamb mounting the small mounting hole faces to the outside edge of the shutter (see **Figure N**).
  - On shutters with a lock in the bottom bar the end with the lock hole inside the rail is the bottom.



- On shutters with support brackets, the end with the threaded insert and screw near it is the top.
- On shutters with 83mm guide rails, the flared (bent) end is the top.



Figure N

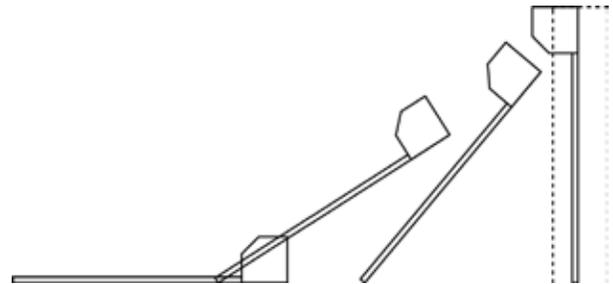


Figure O

- If your shutter is equipped with support brackets between the bottom of the box and the guide rails, please install these to protect the end cap leg. (see **Figure L** in Step #9)
- IV. With one person at each end of the shutter firmly grasp the end of the shutter box and the guide rails. Rotate the shutter 90 degrees up and place it on the face of or into the opening it is being installed on (see Figure O). **MAKE SURE THAT THE SHUTTER BOX IS HELD FIRMLY AS THE END CAPS LEGS CAN BREAK.**
  - V. Use your level to make sure that the guide rails and box are straight and level. Secure the guide rails to the opening with the screws provided. Use shims if required to keep the guide rails straight.
12. Carefully lower the curtain of the shutter into the opening and remove the protective foam wrapping. **MAKE SURE THAT THE SHUTTER BOX IS SUPPORTED AS THE END CAP LEGS CAN BREAK.**
  13. Secure the shutter box to secure backing with 1 screw through the box at each end and 1 screw every 24" (600mm) across the width. For Face of Wall mount applications put the screw through the back of the box near the top corner and for Under Lintel applications put the screw through the top of the box (see **Figure P**).

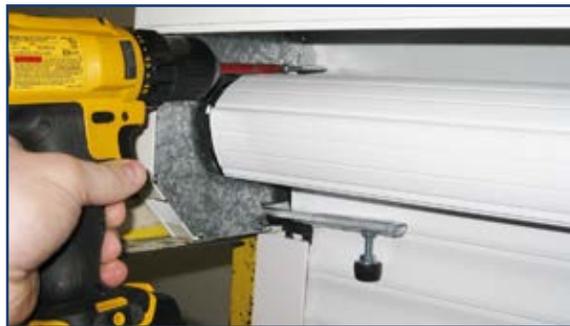


Figure P

14. Stopper Brackets-some shutters required the stopper brackets to be installed on or secured to the guide rails.



- For shutters with no stoppers brackets in the shutter box or on the guide rails, mount the stopper brackets found in the installation package onto the guide rails.
  - a) Use the appropriate stopper bracket as a template to mark the mounting holes on each guide rail. The standard location is at the top of the guide rail with the outside edge of the bracket flush with the outside edge of the guide rail. If preferred, they can be mounted further down the guide rail to stop the curtain at a desired position (see **Figure Q & R**).
  - b) Pre drill the holes for mounting the stopper brackets using a 5/32" drill bit.
  - c) Mount the stopper bracket using the self-tapping screws provided.
  - d) An alternate mounting method is to drill 3/16" holes in the guide rail and use the 2" screws in the shutter installation package to fasten the bracket through the guide rail to solid backing behind the shutter.



Figure Q



Figure R

- Use the #10 x 3/4" tapping screws found in the installation package to secure the stopper brackets to the guide rails through these holes. (see **Figure S**)

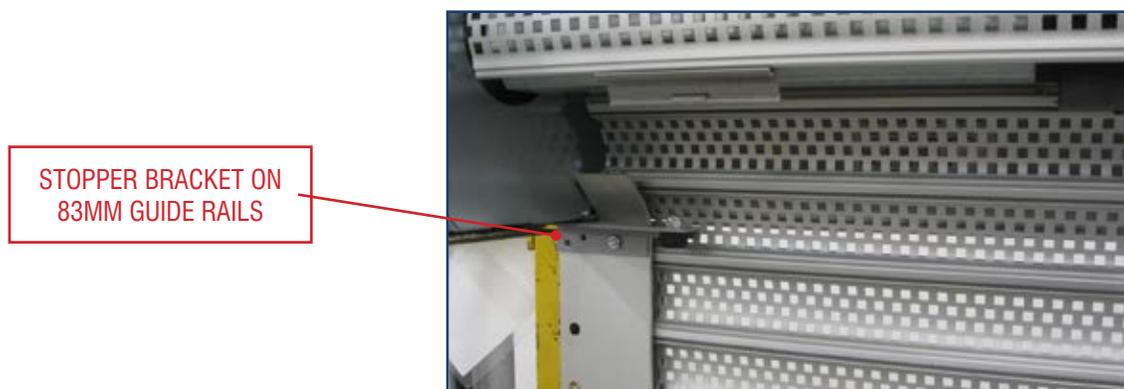


Figure S

15. Test the operation of the shutter.

- The spring tension has been factory tested and set at the best position.
- The spring operator should pull the curtain open for the last 6" and allow it to stay by itself at or near the closed position.



- It should allow you to easily close and lock the shutter. It should stay near the closed position by itself but smaller shutters may roll up part way by themselves.
  - If you wish to adjust the tension, refer to Step #20.
16. Move the shutter to the closed position and remove the support brackets (if equipped)
  17. Put the box cover lid back on the shutter box and fasten it with the screws. Put the support brackets back in place.
  18. Put the hole covers into the installation holes on the surface of the guide rails.
  19. Exterior mounted shutters need to be sealed to the wall. Put a good bead of suitable exterior caulking where the shutter meets the wall along the top and on both sides of the shutter.
  20. Adjusting spring tension:
    - When the shutter is too hard to close and lock or opens easily and hits the top hard, the spring tension may be too high. To reduce the spring tension:
      - A. Move the shutter to the closed position
      - B. Turn the axle in the direction that would lower the shutter until the top slat comes away from the axle and the t-clips are loose (see **Figure T**).



Figure T

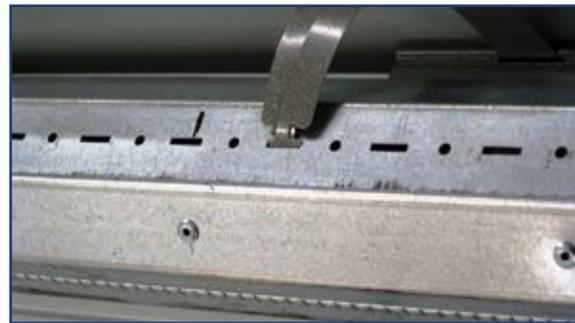


Figure U

- C. Unhook the t-clips from the axle (see **Figure U**) and turn the top of the axle towards you (see **Figure W**) to remove one more turn of tension from the axle.



Figure V



Figure W

- D. Connect the t-clips to the axle (see **Figure U** above) and carefully let tension off of the axle until it takes up the curtain again. **BE CAREFUL NOT TO PINCH OR CATCH YOUR FINGERS.**
- E. Test the operation of the shutter



- When the shutter falls to the bottom or is too heavy to open or doesn't hold itself against the top stoppers, the spring tension may be too low. To increase the tension:
  - A. Move the shutter to the closed position.
  - B. Turn the axle in the direction that would lower the shutter until the top slat comes away from the axle and the t-clips are loose. (see **Figure T** above)
  - C. Unhook the t-clips from the axle (see **Figure U** above) and add one turn of tension to the axle by turning the top of the axle away from you. (see **Figure V** above)
  - D. Connect the t-clips to the axle (see **Figure U** above) and carefully let tension off of the axle until it takes up the curtain again. **BE CAREFUL NOT TO PINCH OR CATCH YOUR FINGERS.**
  - E. Test the operation of the shutter.



Tools that will be needed for this installation are:

- Cordless drill with #2 Robertson or Phillips bit
- 4' level
- Ladders of appropriate height
- Test cord and extension cord
- 3/4" Drill bit to drill wire exit hole

Carefully unpackage your shutter. **NOTE: DO NOT THROW OUT ANY PACKAGING MATERIAL UNTIL THE INSTALLATION IS COMPLETE AND YOU ARE SURE THAT YOU HAVE FOUND ALL OF THE COMPONENTS SENT WITH THE SHUTTER.** When you have your shutter unpackaged you should have the following components (see **Figure A** below):

- Shutter box with curtain rolled inside of it.
- 2 guide rails (when the shutter is narrower than the height of the guide rails they will be sent in a separate box. Look for the box labeled 'Guide Rails').
- BX Conduit
- For shutters with a manual override (CMO) motor there will be a crank handle for at least one of the shutters on your order (for narrow shutters this will be packaged with the guide rails).
- Switch or remote control transmitter to operate your shutter.
- 1 installation kit which contains the hardware for installing your shutter.



Figure A

## IMPORTANT NOTE

- **THE LEGS ON THE END CAPS CAN BREAK. YOU MUST TAKE CARE NOT TO PUT UNDUE PRESSURE ON THESE LEGS DURING THE INSTALLATION.**
- **THE SHUTTER MUST BE SECURED TO SOLID BACKING THROUGH THE BACK, TOP, OR SIDES OF THE BOX TO HOLD IT SECURELY TO THE WALL.**
- **ANCHORS FOR BRICK OR CONCRETE HAVE NOT BEEN PROVIDED. PLUGS FOR #10 SCREWS ARE RECOMMENDED FOR THESE APPLICATIONS.**

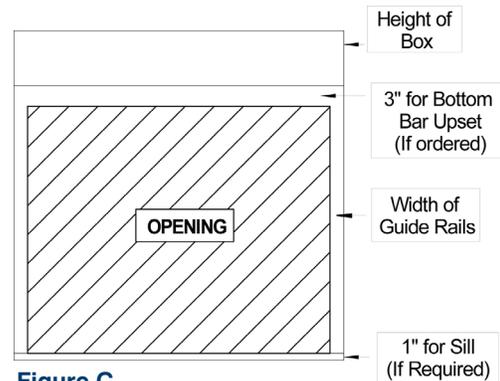


The following instructions are meant as a guide to installing your shutter. They cannot cover all applications. You are responsible to use safe work procedures to prevent injury to yourself and others and to prevent damage to the shutter. If you encounter a problem or have a question please contact Technical Support at the number provided at the end of these instructions.

1. Remove the protective plastic coating from the outside of the shutter box (see **Figure B**).



**Figure B**



**Figure C**

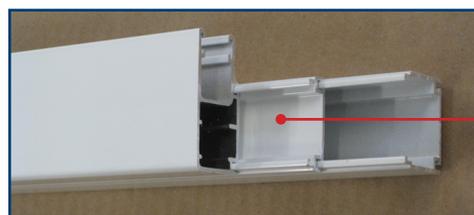
2. Make sure that the surface you will be mounting the shutter to is flat. For face of wall applications you will need the width of the guide rail on each side of the opening and the height of the box (plus 3" for bottom bar upset if applicable) across the top of the opening (see **Figure C** above). If required remove the trim from the face of the opening to make a flat surface.
3. Remove the 4 screws that connect the front cover lid to the shutter box and carefully take off the lid (see **Figure D**).



**Figure D**

## OPTION 1- FACE OF WALL MOUNT WITH HEADROOM ABOVE SHUTTER BOX

4. If your shutter was ordered with build out to 'build' the shutter out from the mounting surface:
  - Determine from the shop drawing which faces of the shutter have build out.
  - Slide the build out for the guide rails onto the back of the guide rail (build out guide rails) or screw it to the back of the flat guide rails (see **Figure E**).



**Figure E**

SLIDE BUILD OUT  
ONTO BACK OF  
GUIDE RAIL

- The build out is to be flush with the bottom of the guide rail.
- The mounting holes will need to be drilled through the build out using a 3/16" drill bit.
- Note: the build out has been sent for the full height and the full width of the shutter. You can miter the corners to show no exposed ends or cut the horizontal lengths to fit between the vertical lengths.



5. Mount the guide rails to the sides of the opening. The large mounting holes face out.
  - On shutters with support brackets, the end with the threaded insert and screw near it is the top.
  - On shutters with 83mm guide rails, the flared (bent) end is the top.
  - Follow the 'F' dimension on the shop drawing for the width required between the guide rails.
  - Use the screws provided to secure them to the opening, but leave the screws slightly loose for adjustment (see **Figure H**). Use a level to ensure the rails are straight.

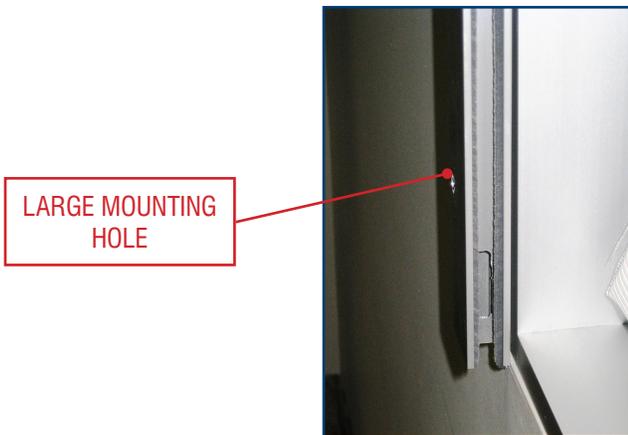


Figure F



Figure G

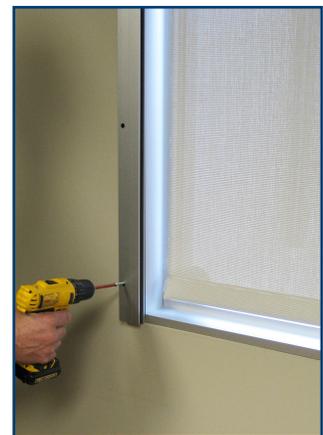


Figure H

6. Build Out: If your shutter was ordered with build out for the horizontal faces of the shutter, mount these to the mounting surface between the vertical pieces of build out.
7. Window or counter shutters with no window sill for the curtain to rest on when closed will need a sill installed.
  - Mount 'L' sill at the bottom of the guide rail with one leg of the sill across the bottom of the rail and the other leg against the wall either below or behind the guide rails (see **Figure I**).
  - Security U-sill, when ordered, is supplied to fit between the guide rails (see **Figure J**).



Figure I

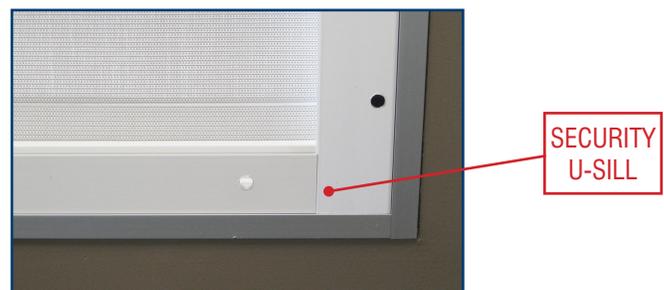


Figure J



8. Determine from the shop drawing and/or the shutter box where the wire exits from the shutter box (see **Figure K**).
  - For any locations out the back of the box (B1 or B2) you will need to make a hole through the wall for the wire.
  - For shutters with the wire exiting into the wall, use the template in your installation kit or measure off the back of the box to mark the hole in the correct location (see **Figure K**). Drill a hole at this location using a  $\frac{3}{4}$ " drill bit.



**Figure K**



**Figure L**

9. Some electrical codes require the wire from the shutter motor to be protected where it goes through the wall.
  - When required get the BX conduit connector from your installation kit and remove the nut from the back side of clamp.
  - Feed the wire through the connector from the back side and thread the connector into the hole in the box (see **Figure L** above).
10. Slide the hollow BX conduit over the motor wire and tighten the screw on the connector to hold it in place (see **Figure L** above).
11. Enlarge the first one inch of the hole in the wall to allow this connector to sit into the wall.
12. Remove the screws or aluminum flat bar that is holding the bottom bar from falling into the box.

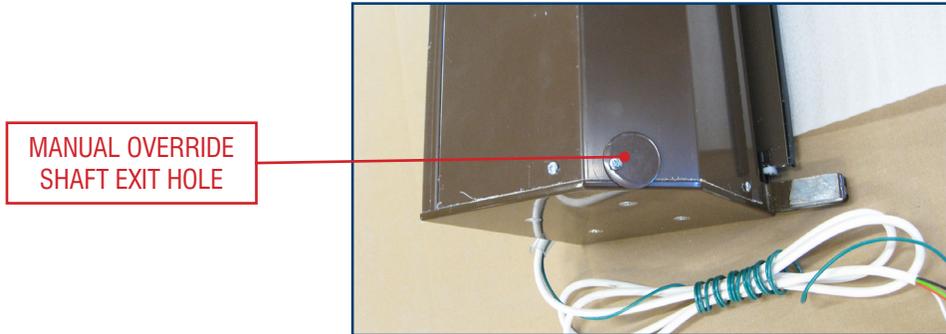


FLAT BAR IS  
REMOVED

**Figure M**

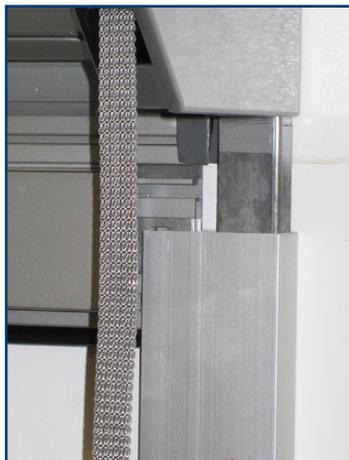


13. Determine if your shutter has a Crank Manual Override (CMO) motor. This is shown on the top of the shop drawing. If so, determine where the shaft will exit the box. The most common exit is out the front of the box (see **Figure N**). When it is out the back of the box refer to Step #28 before continuing to make the required hole through the wall.



**Figure N**

14. With one person at each end lift the shutter box up and position it over the guide rails. Lower the shutter onto the guide rails, sliding the end cap legs into the outside channel of the guide rail. For shutters with the wire exiting out the back of the box, the wire must be fed through the hole in the wall at the same time as setting the box on top of the guide rails. **MAKE SURE THAT THE SHUTTER BOX IS HELD FIRMLY AS THE END CAPS LEGS CAN BREAK** (see **Figure O**).



**Figure O**



**Figure P**

## OPTION 2-NO HEADROOM/UNDER LINTEL MOUNT

- I. Carefully set the shutter on a flat surface with the back (flat) side facing down and the top facing toward the opening (see **Figure Q**).



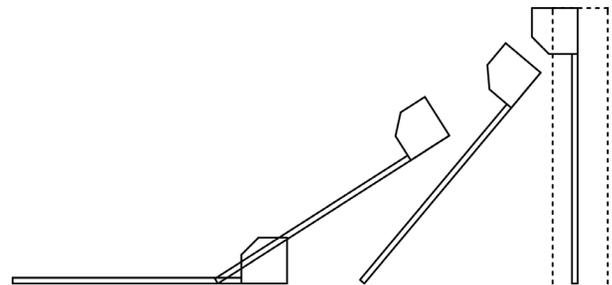
**Figure Q**



- II. Disengage or remove the stoppers that are holding the bottom bar from falling into the shutter box during shipping.
  - For shutters with heavy duty bottom bar but no physical lock, remove the aluminum flat bar that is holding the bottom bar from falling into the box (see **Figure M** in Step # 12).
- III. Slide the guide rails onto the end cap legs. For surface mounting, the large mounting holes on the guide rail must be facing up. For between jamb mounting the mounting holes face to the outside of the shutter (see **Figure R**).
  - On shutters with support brackets, the end with the threaded insert and screw near it is the top.
  - On shutters with 83mm guide rails, the flared (bent) end is the top.



**Figure R**



**Figure S**

- IV. If your shutter is equipped with support brackets between the bottom of the box and the guide rails, please install these to protect the end cap leg (see **Figure P** in Step #14).
- V. Determine from the shop drawing and/or the shutter box where the wire will exit from the shutter box.
  - For any locations out the top of the box (T3 or T4) and possibly out the back of the box (B1 or B2) you will need to make a hole through the wall or lintel for the wire.
  - For shutters with the wire exiting into the wall, use the template in your installation kit or measure off the back of the box to mark the hole in the correct location (see **Figure K** in Step # 8). Drill a hole at this location using a 3/4" drill bit.
- VI. Some electrical codes require the wire from the shutter motor to be protected where it goes through the wall.
  - When required, get the BX conduit connector from your installation kit and remove the nut from the back side.
  - Feed the wire through the connector from the back side and thread the connector into the hole in the box (see **Figure L** in Step # 8).
- VII. Enlarge the first one inch of the hole in the wall to allow this connector to sit into the wall.
- VIII. Slide the hollow BX conduit over the motor wire and tighten the screw on the connector to hold it in place. (see **Figure L** in Step #8)



- IX. With one person at each end of the shutter, firmly grasp the end of the shutter box and the guide rails. Rotate the shutter 90 degrees up and place it on the face of the opening it is being installed over (see **Figure S**). As the shutter is moved into the opening the motor wire must be fed into the appropriate exit hole or location. **MAKE SURE THAT THE SHUTTER BOX IS HELD FIRMLY AS THE END CAPS LEGS CAN BREAK.**
- X. Use your level to make sure that the guide rails and box are straight and level. Secure the guide rails to the opening with the screws provided. Use shims if required to keep the guide rails straight.
- 17. Before continuing you will need to supply power to the motor. Refer to the wiring diagrams following these instructions for connecting a test cord or line power to your shutter.
  - 18. When you don't have a test cord an extension cord can be used.
    - Insert the green wire into the ground on the extension cord and the white wire into the common (side with the taller slot).
    - For shutters with a black and a red wire, these are your directions: Inserting the black into the hot side of the cord will make it go one direction, and inserting the red will make it go the opposite direction.
    - For shutters with only a black wire, inserting it into the power plug on the extension cord will provide power to the motor, allowing it to be operated with the remote control transmitter provided.
- 19. Carefully lower the curtain of the shutter into the opening and remove the protective foam wrapping. Refer to the programming instructions attached for getting your shutter to operate. **MAKE SURE THAT THE SHUTTER BOX IS SUPPORTED AS THE END CAP LEGS CAN BREAK.**
- 20. Secure the shutter box to secure backing with 1 screw through the box at each end and 1 screw every 24" (600mm) across the width. For Face of Wall mount applications put the screw through the back of the box near the top corner and for Under Lintel applications put the screw through the top of the box (see **Figure T**).



Figure T



Figure U

AUTOLOCK BRACKET

- 21. Install the auto lock brackets provided in the installation envelope on each side of the curtain (see **Figure U** above). The bottom of the bracket should be 1/2" above the top slat. This will prevent intruders from lifting the curtain more than 1".
- 22. Set the stop limits on the motor. Follow the limit setting instructions attached to these installation instructions for setting the limits. (see **Figure V** for the limit switch location). The limit switches are on the motor end of the shutter.

LIMIT SWITCH ACCESS HOLE



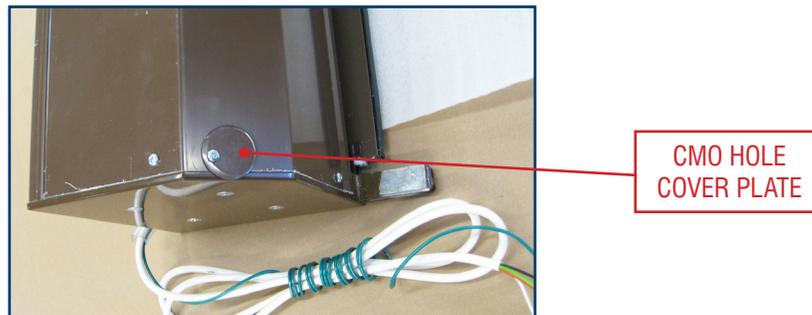
Figure V



23. With the shutter in the closed position, remove the support brackets (if equipped). Put the box cover lid back on the shutter box and fasten it with the screws.
24. Re-mount the support brackets (if equipped) (see **Figure P** in Step #14).
25. Put the hole covers into the installation holes on the surface of the guide rails.
26. Exterior mounted shutters need to be sealed to the wall. Put a good bead of suitable exterior caulking where the shutter meets the wall along the top and on both sides of the shutter.
27. The shutter should be connected to the switch and power supply by an authorized electrician. Please leave the installation instructions and wiring diagrams with the shutter for the electrician.

## MANUAL OVERRIDE (CMO) MOTORS

28. For shutters with a crank override (CMO) motor, you will see a cover plate on the lid of the shutter box (see **Figure W**). This is where the crank shaft is put in to engage the crank override. In the event of a power failure the hexagon shaft on the end of the crank handle is put into this hole and engaged with the hexagon receiver in the head of the motor, allowing you to operate the shutter using the crank.



**Figure W**

29. Determine where the crank handle will be stored. Two white wall clips have been provided for storing this handle. Mount these to the wall to hold the handle.
30. If requested at time of order, a swivel that mounts to the box will be provided, along with a removable handle. If the CMO exit is on Side A (coil side) of the shutter, there will be a pre-drilled exit hole and mounting screws. Insert the shaft on the swivel into this hole and engage it with the receiver on the head of the motor. Mount the swivel to the box using the screws provided.
31. When the CMO exit is on Side B and thru the wall, there will be a pre-drilled exit location on the back of the box. Fit the swivel into the motor through this hole and measure the exit location of the shaft.
32. Mark this location on the wall before mounting the shutter box and make a minimum 1/2" hole straight through the wall.
33. Continue installing the shutter box following Step #14-27.
34. When the shutter box is mounted, feed the crank shaft through the wall and engage it with the receiver on the motor head. Depending on the thickness of your wall you may have to cut this shaft down. Secure the swivel to the wall inside the building.

