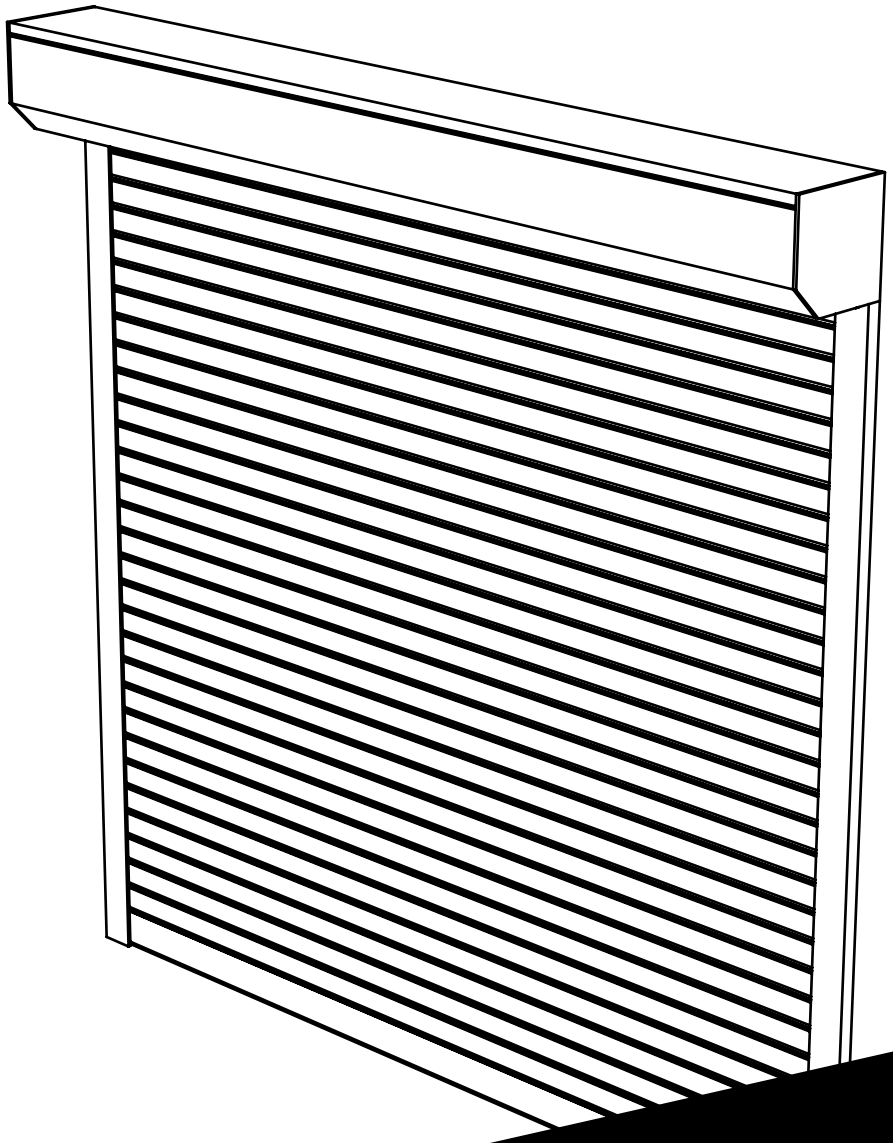
DefendaGuard
BY PENTAGON

MANUAL OPERATION

SPRING ASSIST OPERATION

Between Jamb | Under Lintel Mount



DEALER INFORMATION

INSTALLATION INSTRUCTIONS

PRE-INSTALLATION INFORMATION

INSTALLATION INDEX

1 **Preparation** ——— **Page 4**

2 **Mounting** ——— **Page 5**

3 **Install Curtain (Only applicable if curtain is not pre-installed)** ——— **Page 11**

4 **Testing** ——— **Page 15**

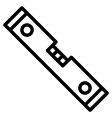
5 **Adjusting** ——— **Page 16**

6 **Complete** ——— **Page 21**

TOOLS YOU WILL NEED

Cordless Drill with #2 Robertson Bit

1/8" Drill Bit
(Pre-drill holes if desired)



4 Foot Level

Ladders (If required for height of the opening)

Lifting Device - For Large Shutters
(Only required if the curtain is not pre-installed)

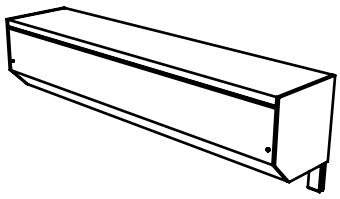
IMPORTANT NOTES

1. 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, as well as 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.
2. The legs on the end caps can break. You must take care to not put undue pressure on these legs during the installation to avoid damage.
3. The shutter must be secured to solid backing through the back, top, or sides of the box. Also secure the box housing through the support plates if they are supplied.
4. The shutter has been supplied to be installed onto solid wood backing. The #10 - 2 inch installation screws provided are for mounting onto wood. If you are not installing your shutter onto wood, please substitute these screws for the appropriate fasteners needed for your substraint (backing).

PARTS

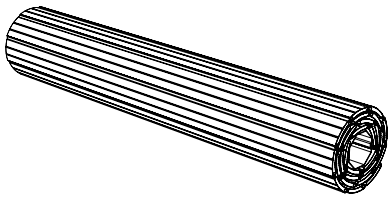
Shutters that weight under 60 pounds will have the curtain and t-clips pre-installed inside the box housing. If the shutter is narrower than the guide rails' height, the guide rails will be in a separate box labelled 'Guide Rails'.

BOX HOUSING A



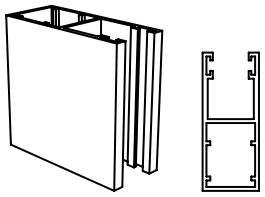
Size will vary depending on shutter height and width

CURTAIN B

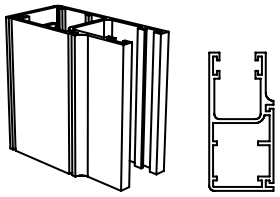


Pre-installed on shutters under 60 pounds

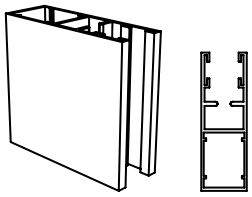
GUIDE RAILS C



Standard

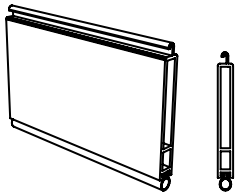


STAX (Buildout)

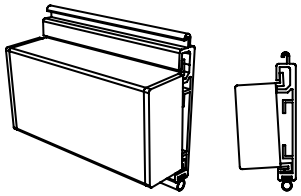


AnchorLoc (End Retention)

BOTTOM BAR (Pre-Installed on Curtain) D

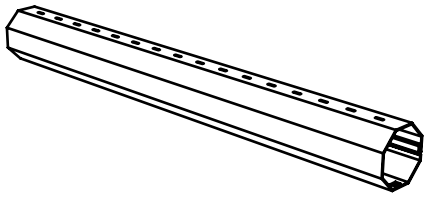


Standard



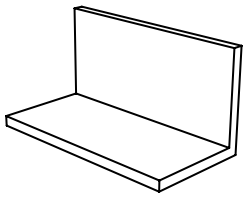
Heavy Duty

AXLE (Pre-Installed in Box Housing) E

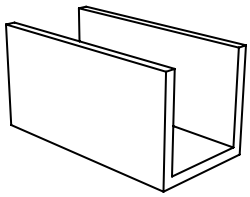


Size will vary depending on shutter height and width

SILL (If Required) F



L-Sill

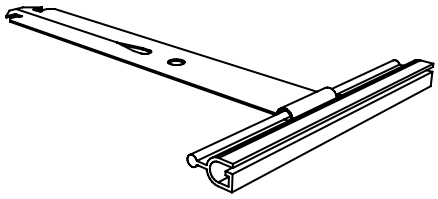


U-Sill

HARDWARE

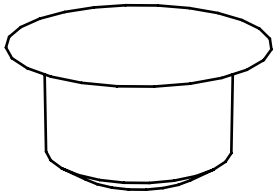
Hardware can be found in the installation package provided with the shutter. If some of the hardware listed below is not included, this means your shutter does not require it.

T-CLIPS H



Pre-installed on shutters under 60 pounds

SCREW HOLE COVERS (If Required) I



Used to cover screw holes on the guide rails

INSTALLATION SCREWS J

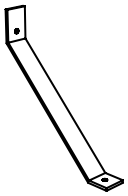
J1

J2

#10 - 2 Inch Screws

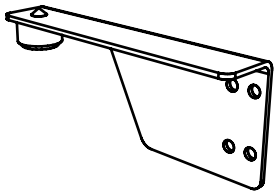
Tek Screws

SUPPORT BRACKETS (If Required) K



Size will vary depending on box housing size

STOPPER BRACKETS (If Required) L



J3

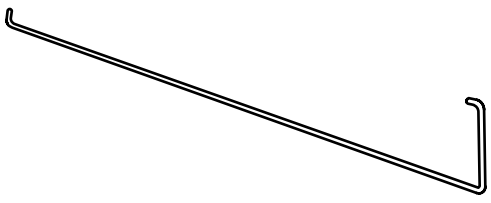
Stopper Brackets

Self Tapping Screws

LOCKING KEYS (If Required) M

Shutters with a key lock will have keys provided

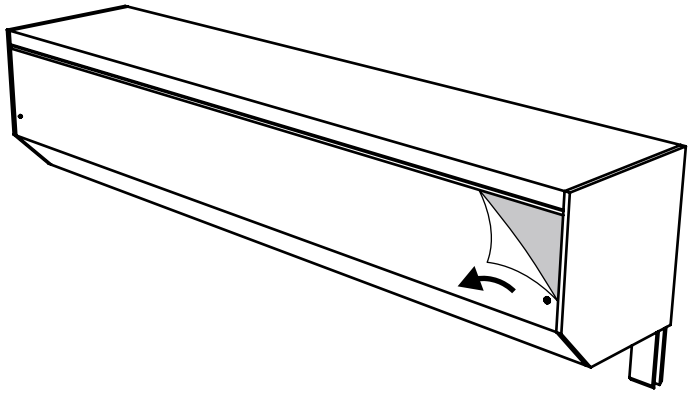
PULL HOOK N



Used to pull curtain down for manual operation

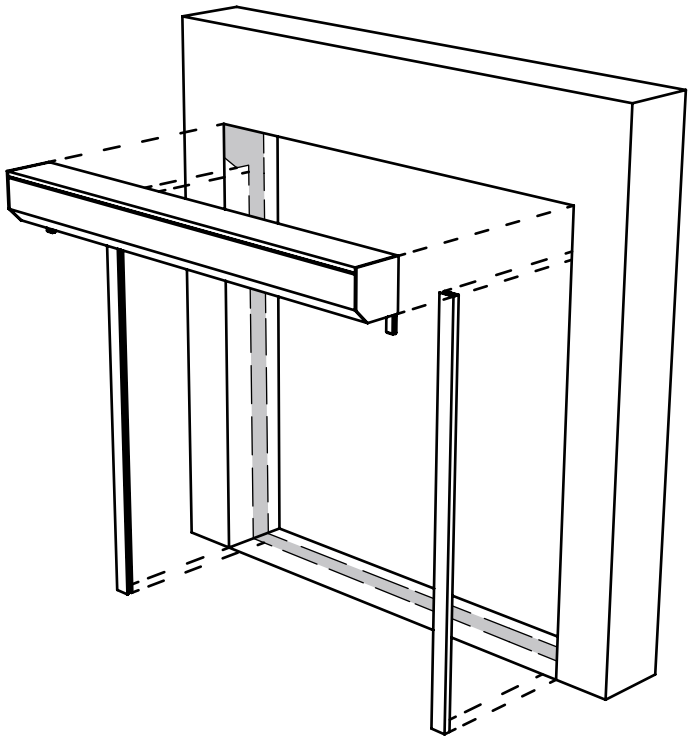
1 PREPARATION

1. Remove the protective plastic on the exterior of the box housing (A).

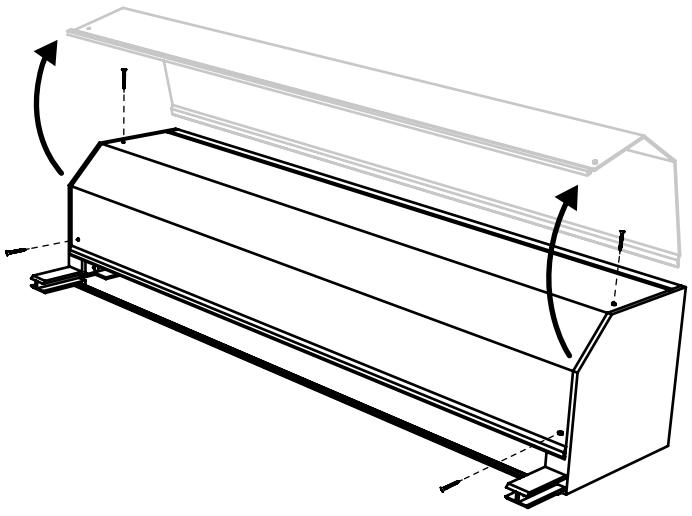


2. Ensure the entire mounting surface is completely flat. You will need the depth of one guide rail (C) on each side of the opening, and the depth of the box housing (A) at the top of the opening.

   If necessary, remove the trim around the opening so the mounting surface is completely flat.

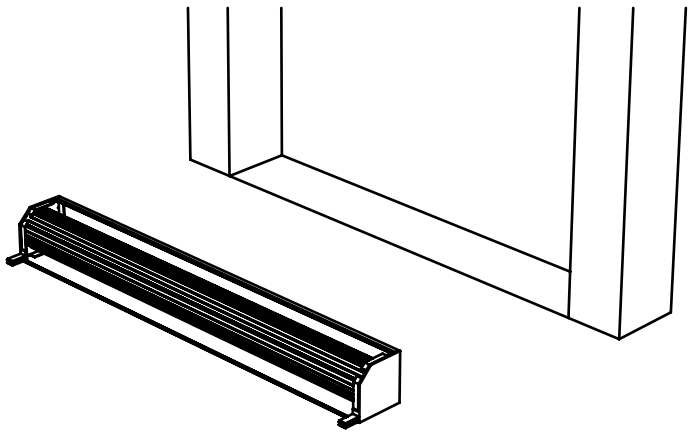


3. Using your #2 Robertson bit, remove the four screws that secure the cover lid to the box housing (A). Carefully remove the lid and store in a safe place until the final stage of the installation.



MOUNTING 2

1. Set the box housing (A) on a flat surface with the back (flat) side facing down and top facing towards the opening.

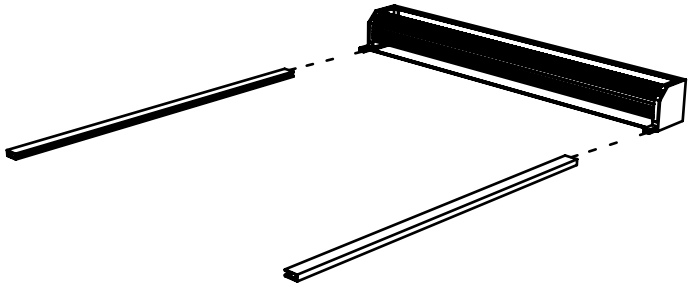


SKIP THIS STEP IF YOUR CURTAIN IS NOT PRE-INSTALLED IN BOX HOUSING

2. **If you have a locking bottom bar (D):**

   Put the lock into the unlocked position.

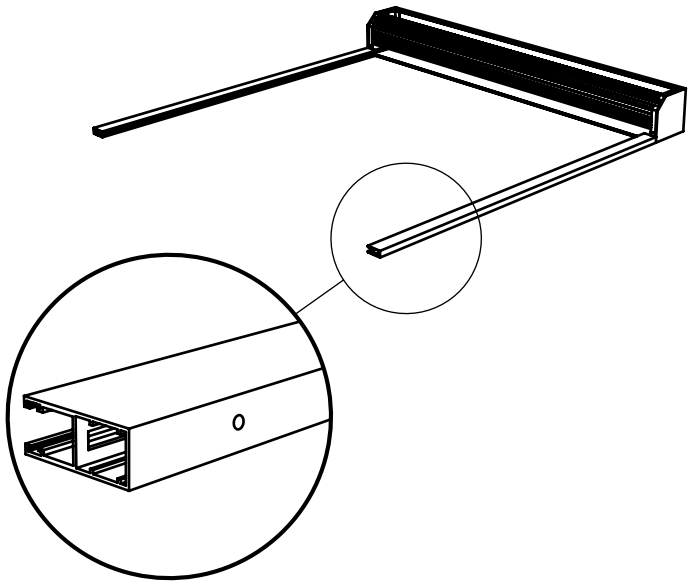
3. Slide the guide rails (C) onto the box housing (A) legs.



Attach the guide rails to the box housing so that the small mounting holes face outwards on each side of the shutter.

If your shutter has a bottom bar lock:

The end of the guide rail with the lock hole on the inside is the bottom.



If your shutter has support brackets:

The end of the guide rail with the threaded insert and screw is the top.

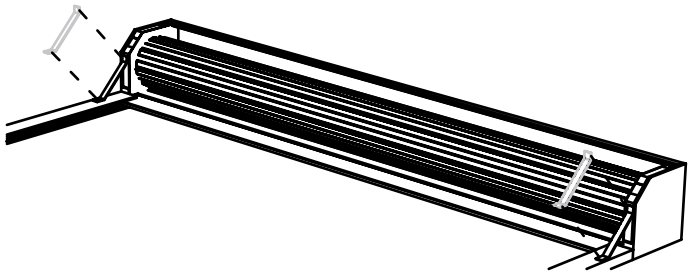
If your guide rails have flare outs:

The end of the guide rail with the flare is the top.

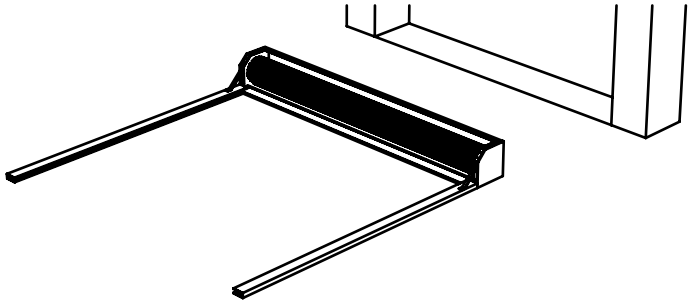
2

4. **If your shutter has support brackets:**

   Mount the support brackets (K) onto the bottom of the box housing (A) and the face of the guide rails (C) on each end of the shutter to protect the box housing legs. Use the tek screws (J2).

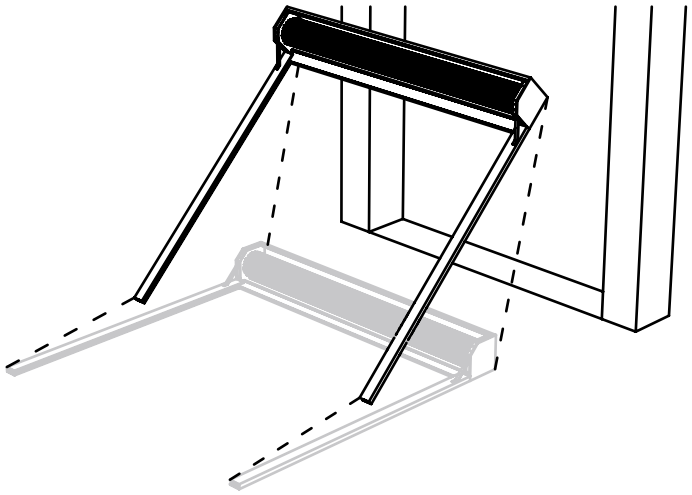


5. Lift the shutter up and into position over the opening by holding the box housing (A) and guide rails (C) and slowly rotating the entire shutter 90 degrees, so it is standing up vertically.



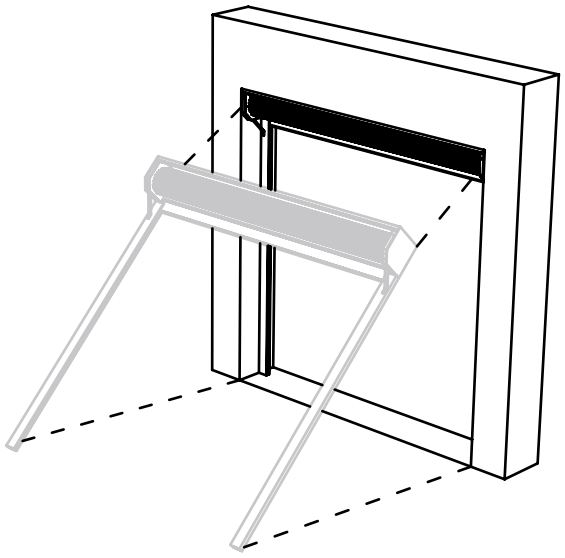
   Important note:

   Continue to hold the box housing firmly to avoid breaking the box housing legs. Have one person on each side of the shutter to lift the shutter into place.

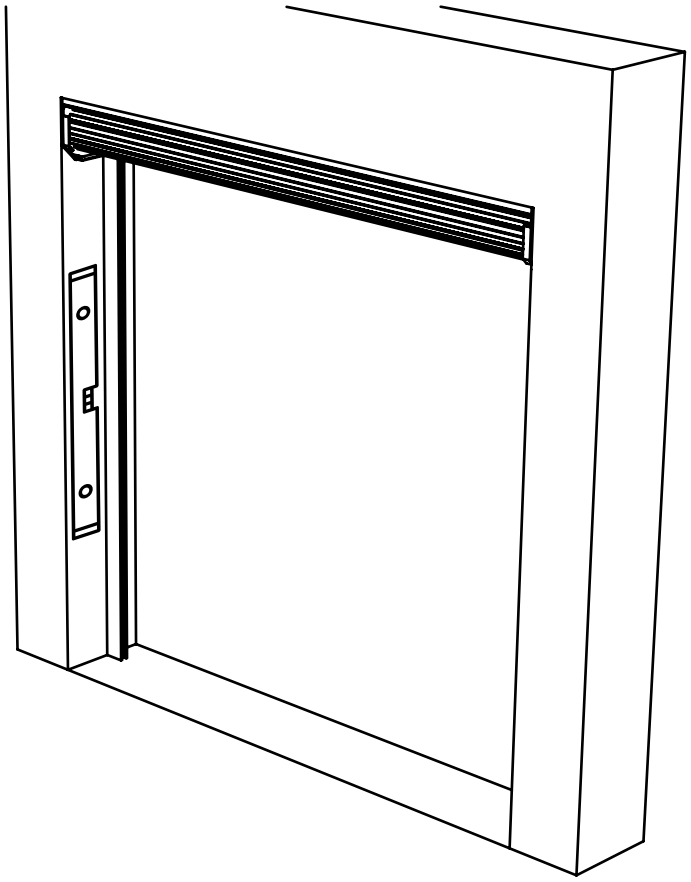


   Warning:

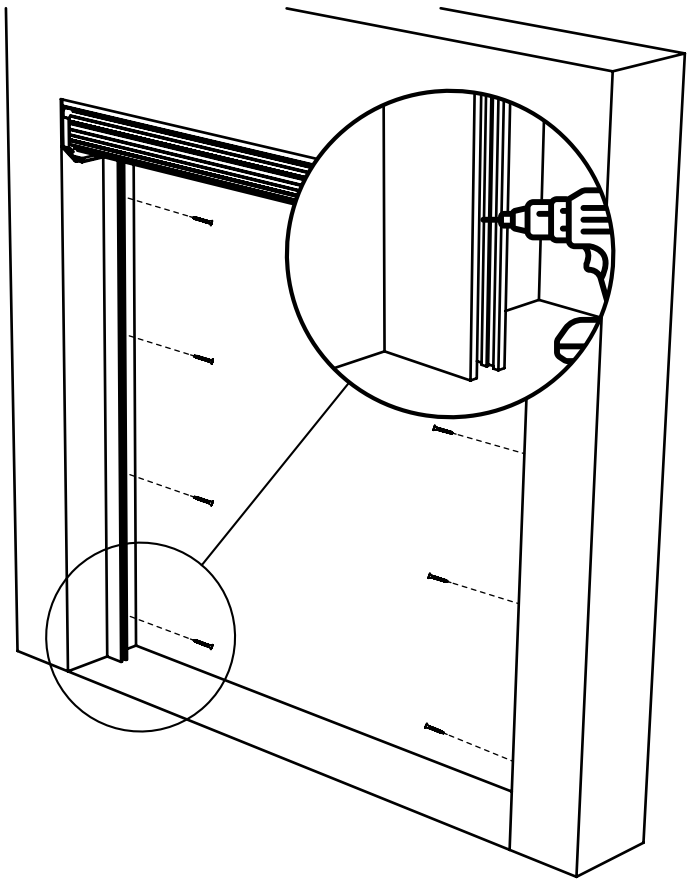
   The shutter can be heavy. Ensure you have enough assistance.



6. Ensure the box housing (A) and guide rails (C) are straight and level. Use shims if required to keep the guide rails straight.



7. Mount the guide rails (C) to the sides of the opening. Use the #10 - 2" screws (J1) provided to secure the guide rails to the opening.

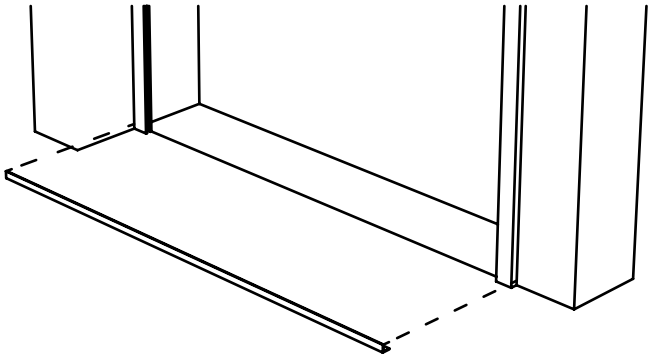


2

SKIP THIS STEP IF YOUR SHUTTER DOES NOT REQUIRE A SILL

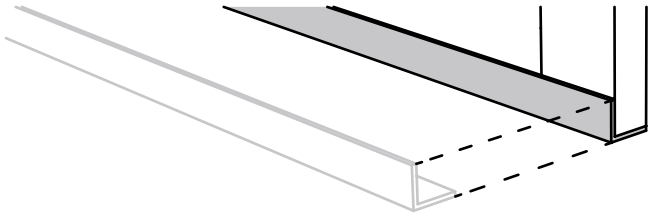
Window or counter shutters with no sill (F) for the curtain to rest on when closed will need a sill installed. If a sill is required, it will be provided.

8. Mount sill (F) at the bottom of the guide rails (C).



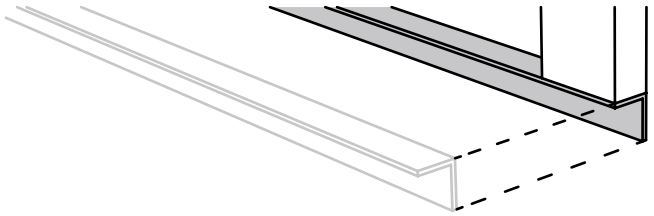
If your shutter has an L-Sill:

Mount sill with one flange under the guide rails and the other infront of the guide rails facing up. Screw the tek screws (J2) through the front of the sill and into guide rails.



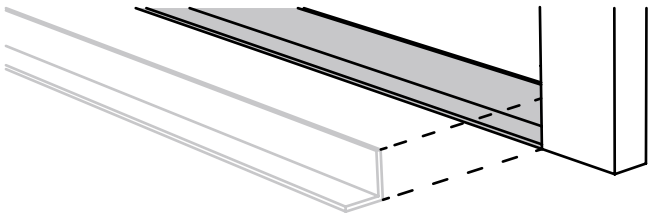
Or

Mount sill with one flange under the guide rails and the other against the wall facing down. Scew the #10 - 2" screws (J1) through the sill and into the solid backing.



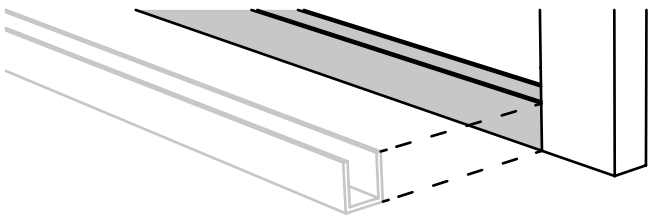
Or

Mount sill between the guide rails with one flange facing frontwards and the other against the wall facing up. Scew the #10 - 2" screws (J1) through the sill and into the solid backing.



If your shutter has a U-Sill:

Mount sill between the guide rails so the bottom of the sill is flush with the bottom of the guide rails. Screw the #10 - 2" screws (J1) through the sill and into the solid backing.



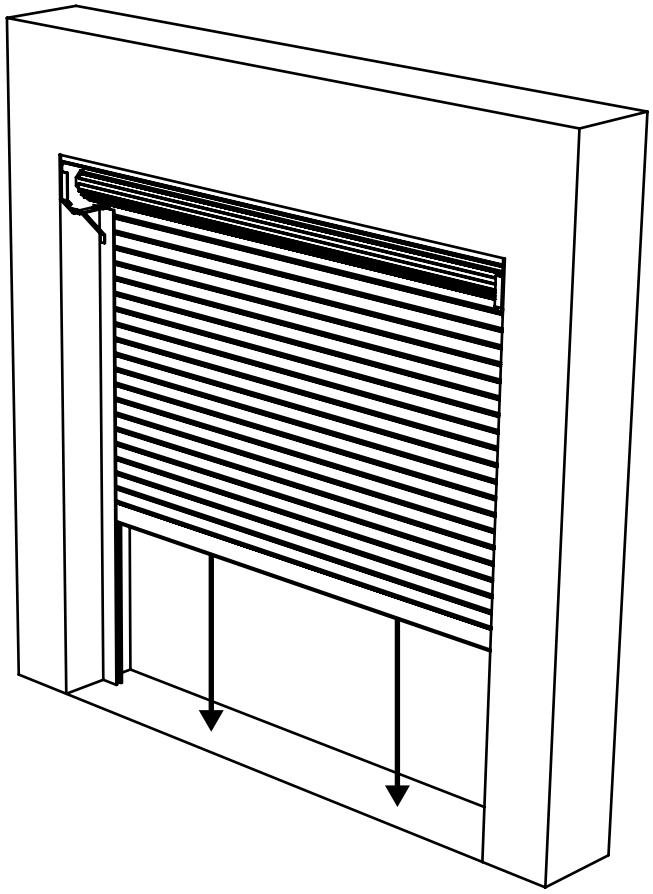
SKIP THIS STEP IF YOUR CURTAIN IS NOT PRE-INSTALLED IN BOX HOUSING

9. Carefully uncoil the curtain down into the guide rails (C) until it is in the closed position.

   Remove the protective foam wrapping on the curtain.

   Important note:

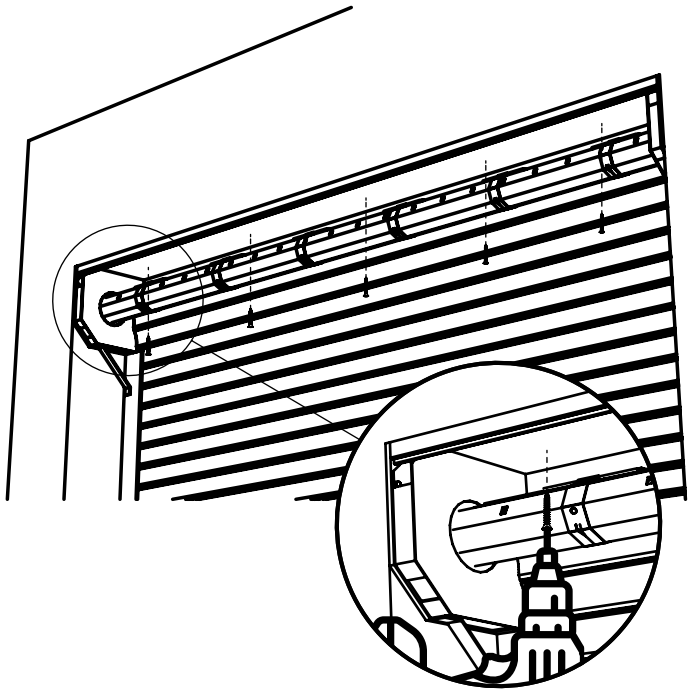
   Ensure the box housing (A) is firmly supported to avoid breaking the box housing legs.



10. Mount the box housing (A) to solid backing with a screw at each end, and one screw every 16” across the width. Use the #10 - 2” screws (J1). Insert the screws through the top of the box housing.

    If your shutter has support plates:

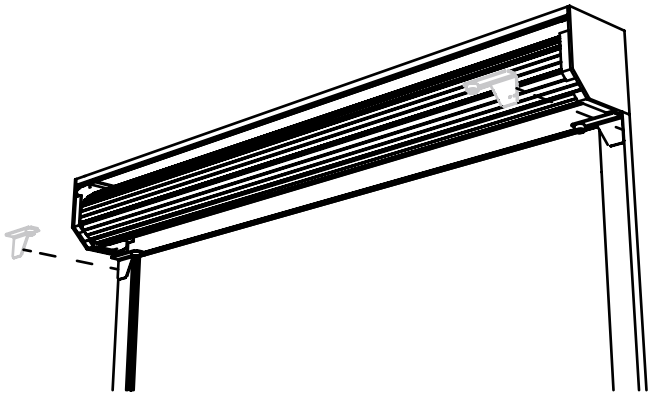
    Large shutters have steel support plates on each end of the box housing. Insert the #10 - 2” screws (J1) through the 4 mounting holes on each plate, into solid backing.



2

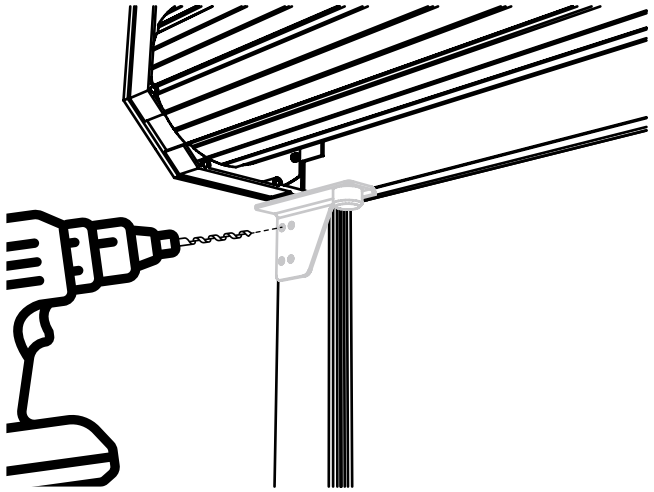
SKIP THIS STEP IF YOUR SHUTTER HAS PRE-MOUNTED STOPPER BRACKETS

11. Mounting holes for the stopper brackets (L) need to be drilled in both guide rails (C) with your 1/8" drill bit.



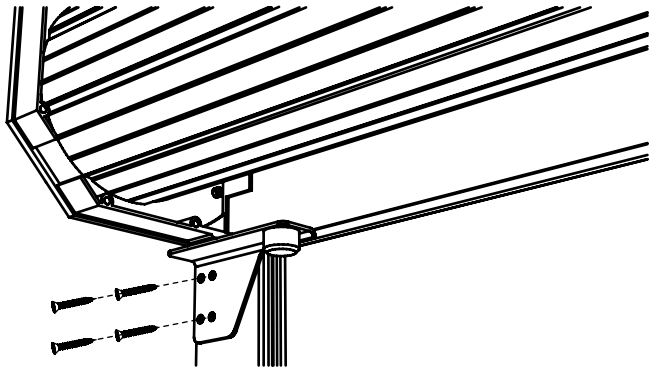
Use the stopper brackets as a template to mark/drill the mounting holes on both guide rails.

The standard location to mount the stopper brakets is at the top of the guide rails, beneath the box housing (A). However, you can mount them at your desired height, depending on where you want the curtain to stop when opening it during operation.



Use the self tapping screws (J3) provided to mount the stopper brackets.

Mount the stopper brackets so that their outside edge is flush with the outside edge of the guide rail.



INSTALL CURTAIN 3

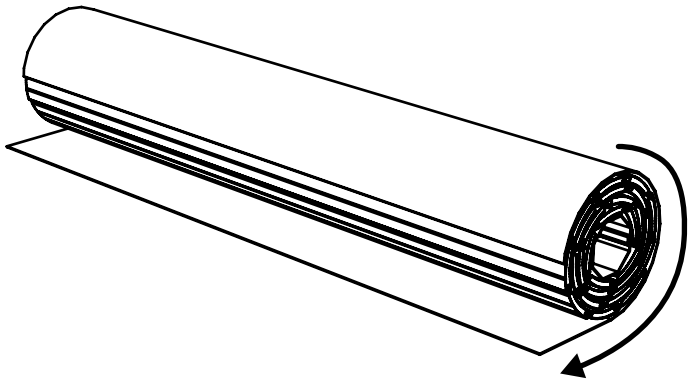
SKIP THIS STAGE IF YOUR CURTAIN IS PRE-INSTALLED IN THE BOX HOUSING

The shutter curtain is pre-installed into the box housing (A) if the weight of the curtain roll (B) is less than 60 pounds.

Warning: Bending the curtain backwards will cause damage (not covered by warranty).

1. Remove the protective foam wrapping around the curtain roll (B).

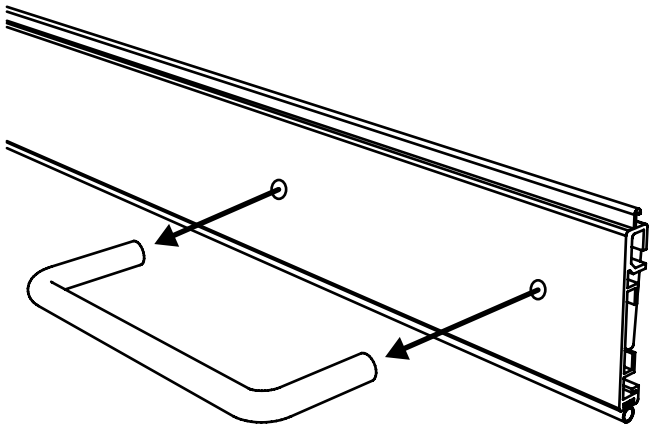
   Unwrap the curtain roll and rewrap it the opposite way so the bottom bar (D) is on the outside of the curtain roll.



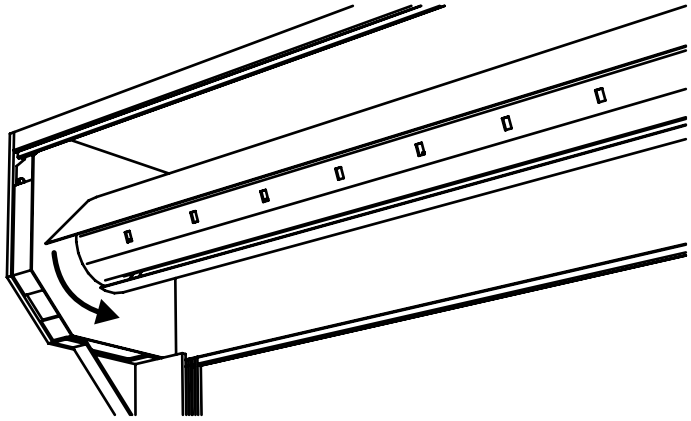
SKIP THIS STEP IF YOUR BOTTOM BAR DOES NOT HAVE D-PULL HANDLES

2. **If your bottom bar (D) has handles on the flat side:**

   Remove the handles in order to slide the curtain and bottom bar over top of the axle (E) later in step 4.



3. Wrap the axle (E) in the box housing (A) with soft protective material, to avoid damaging the curtain during the next step.



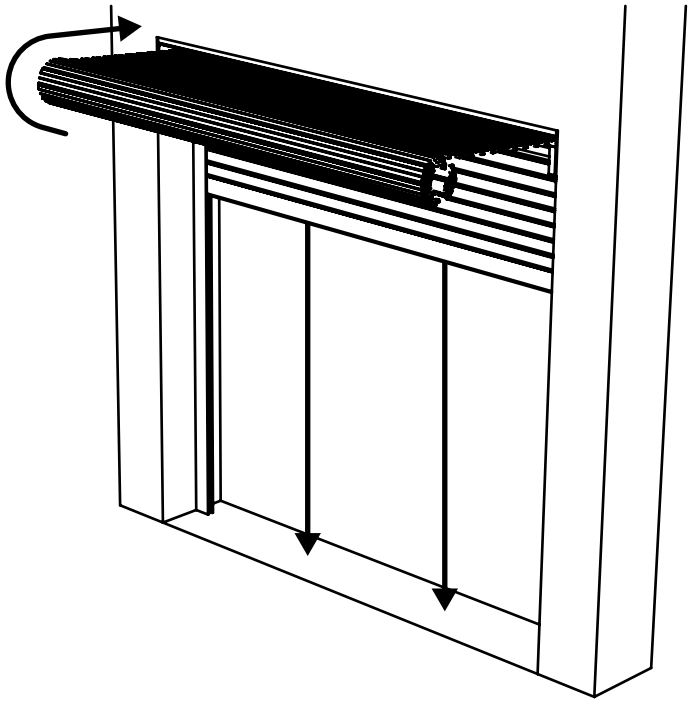
3

4. Lift the curtain into the box housing (A), feed it over top of the axle (E), and carefully uncoil the curtain down into the guide rails (C) until it is in the closed position and the bottom bar (D) is at the bottom.

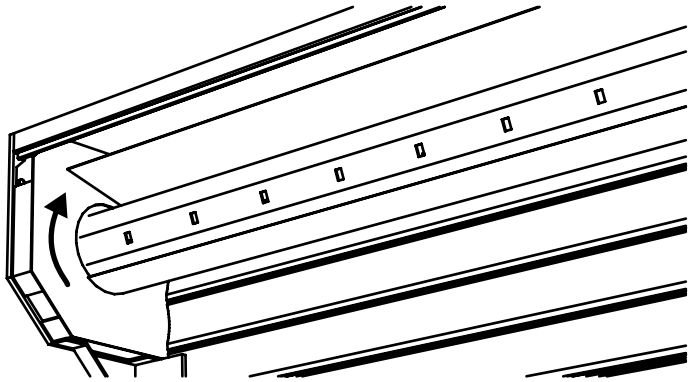
   Ensure the curtain does not get scratched or damaged when uncoiling it into the guide rails.

   Warning:

   The curtain can be heavy. Ensure you have enough assistance to lift and hold the curtain, or use a lifting device.

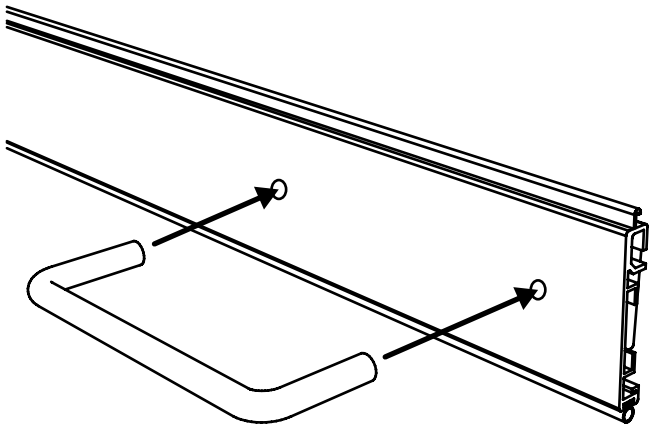


5. Remove the soft protective material you wrapped around the axle (E) in step B on the previous page.

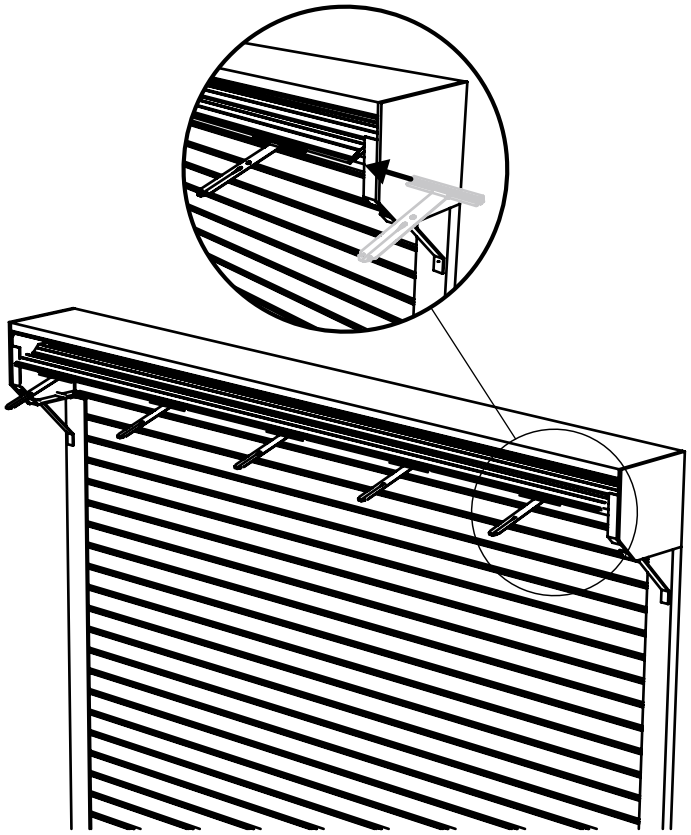


SKIP THIS STEP IF YOUR BOTTOM BAR DOES NOT HAVE D-PULL HANDLES

6. **If your bottom bar (D) has handles on the flat side:**
   Replace the handles on the bottom bar that you removed in step 3.



7. Slide the t-clips (H) provided onto the top of the curtain. Evenly space them along the width of the curtain with the end ones 3” in from each end of the curtain.

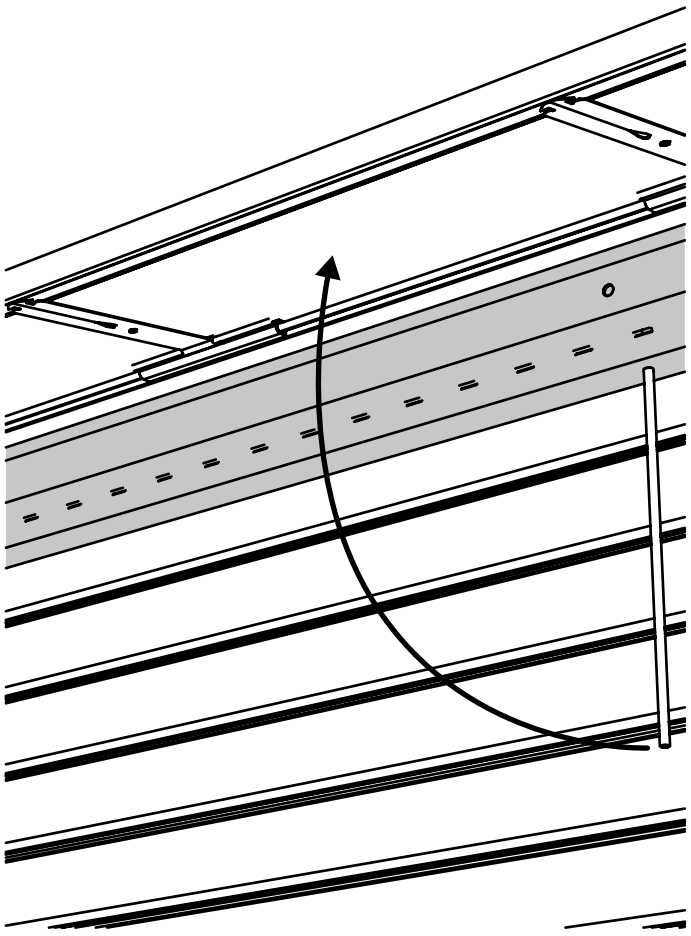


8. Before attaching the curtain to the axle (E) you must tension the axle spring by turning it with the charging handles provided.

   The location to insert charging handles, the direction to turn the axle, and the number of turns to turn the axle is displayed on a label on the axle.

   Insert the charging handles into the axle and turn the axle, to put tension on the spring.

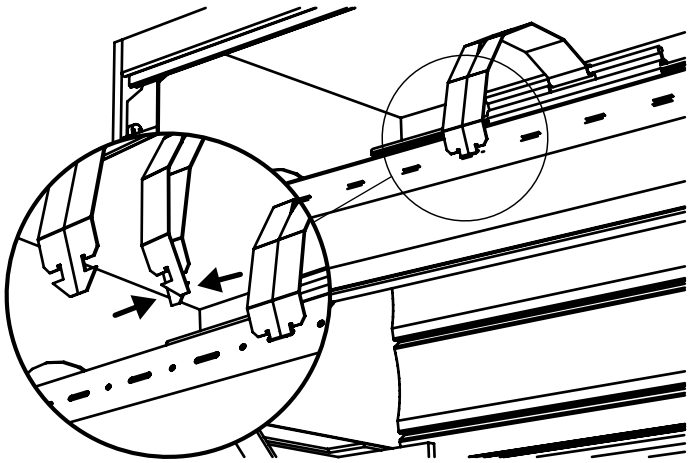
   Use both handles to rotate the axle. Once the first one reaches the top, insert the second one into the next hole and continue turning the axle until the number of turns displayed on the label have been completed.



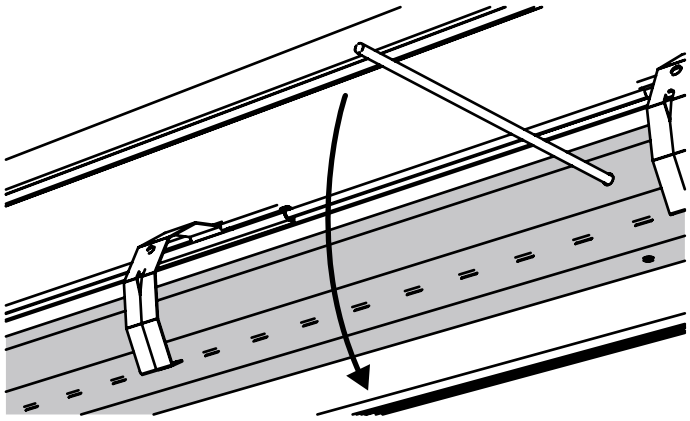
3

9. Attach the t-clips (H) onto the axle (E) by squeezing the arrow-shaped ends, and inserting them into the long narrow slots in the axle.

   Ensure all of the t-clips are inserted into the same row of slots in the axle.



10. Using the charging handles, carefully rotate the axle (E) the opposite way, until you feel the spring tension transfer onto the curtain. Remove the charging handles and allow the curtain to coil up into the box housing (A).



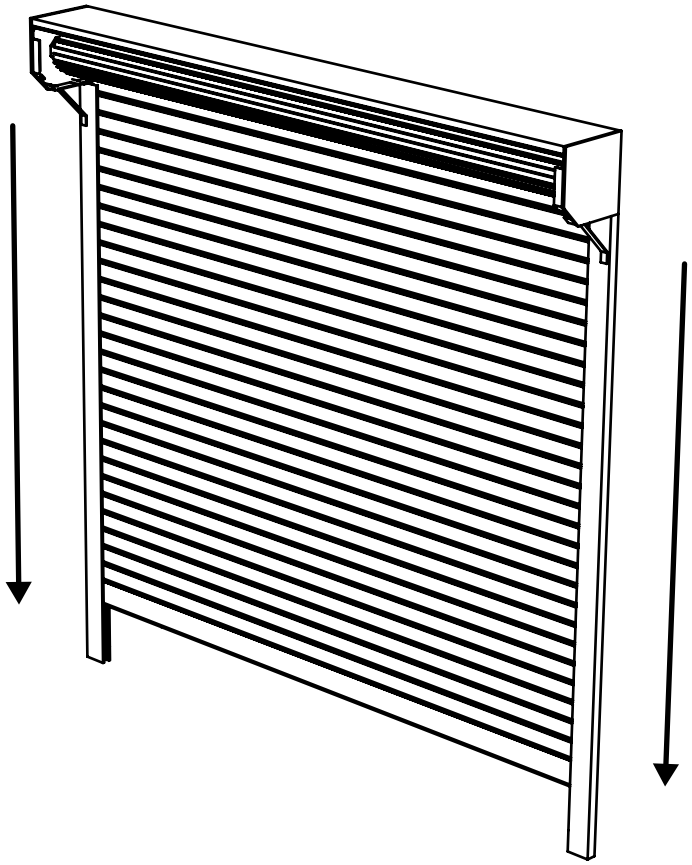
TESTING 4

1. The spring tension has been factory tested, and should now be set at the optimal position for operation.

   Test the shutter operation by opening and closing it. You should be able to operate it easily with one hand.

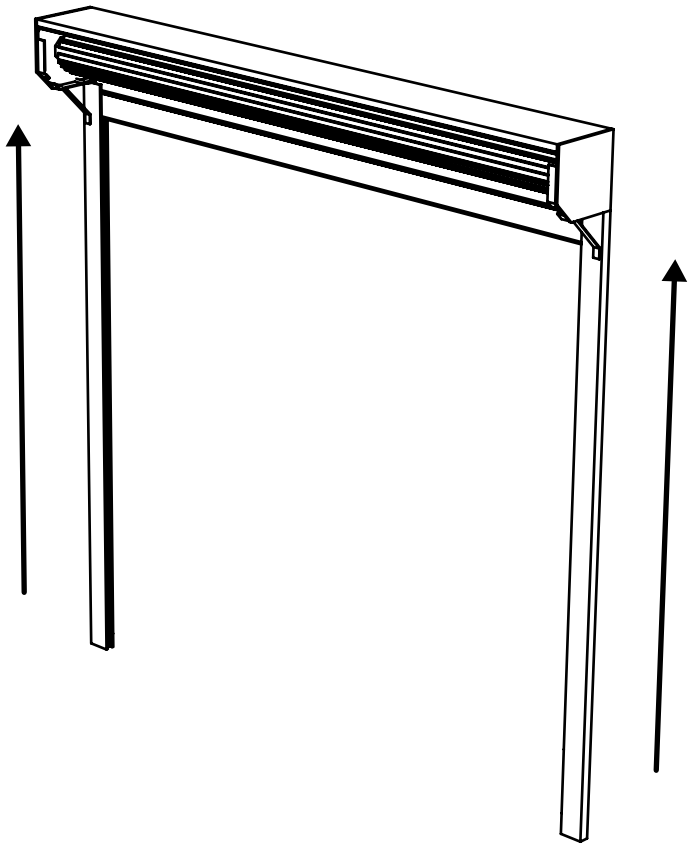
   Closing the shutter:

   When you pull the curtain down to close the shutter, it should stay by itself at (or near) the closed position.



   Opening the shutter:

   When you push the curtain up to open the shutter, the spring tension should pull the curtain open for the last 6" and stay by itself at (or near) the open position.



2. If you need to adjust the spring tension, follow the steps on the next page, stage 5.

5 ADJUSTING

SKIP THIS STAGE IF YOUR SHUTTER PERFORMED WELL IN THE TESTING STAGE

There are two adjustment options. Option 1 is needed if the shutter is too hard to close or opens too easily and hits the top hard. Option 2 is needed if the shutter is too hard to open, does not hold itself open, or closes with too much force (skip to page 20).

OPTION #1

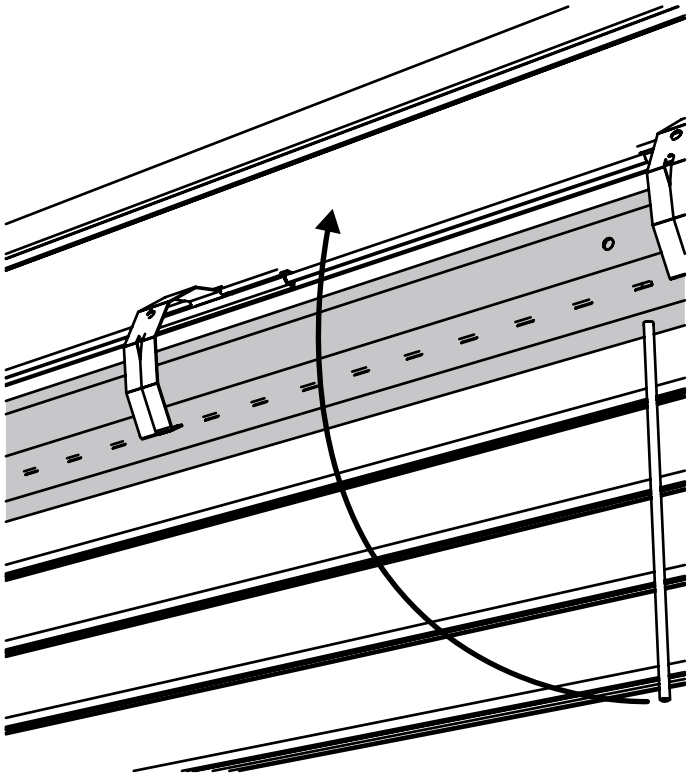
The spring tension is likely too high.
Follow these steps to reduce tension:

1. Put the curtain down into the closed position.

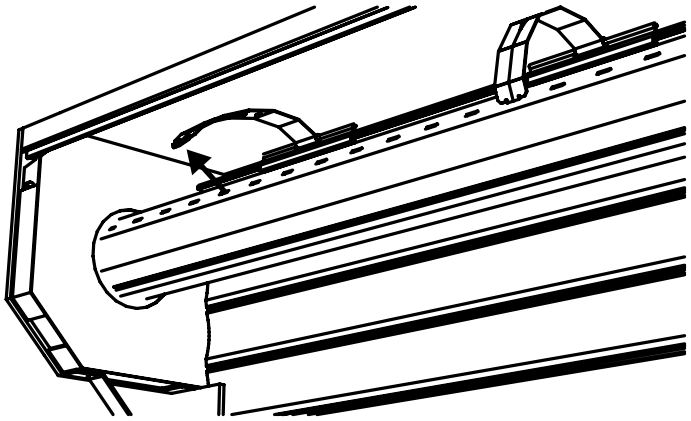
2. Insert the charging handles provided into the axle (E) to turn the axle.

   The location to insert charging handles is displayed on a label on the axle.

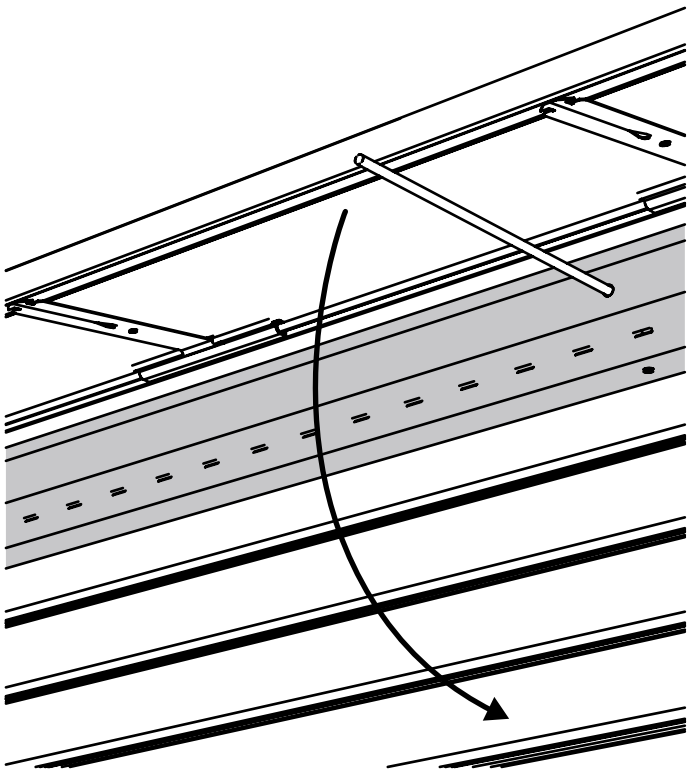
   Use both handles to rotate the axle by moving the handles up from the curtain to the top of the box housing (A). Once the first one reaches the top, insert the second one into the next hole and continue turning. This should lower the curtain. Continue turning the axle until the top of the curtain comes away from the axle and the t-clips (H) are loose.



3. Detache the t-clips (H) from the axle (E).

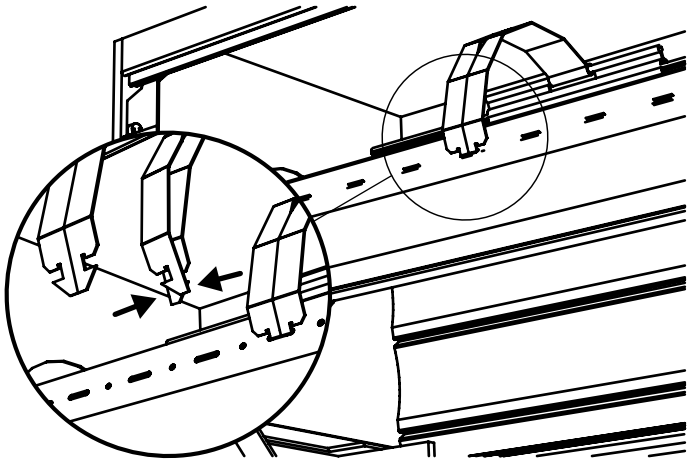


4. Insert the charging handles into the axle (E) again, and turn the axle the opposite way by moving the handles down from the top of the box housing (A) to the curtain. Continue turning the axle for one complete turn (360 degrees).

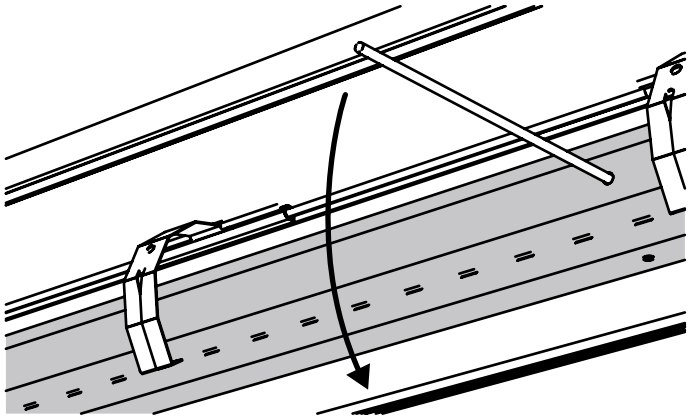


5. Reattach the t-clips (H) onto the axle (E) by squeezing the arrow-shaped ends, and inserting them into the long narrow slots in the axle.

   Ensure all of the t-clips are inserted into the same row of slots in the axle.



6. Using the charging handles, carefully rotate the axle (E) the opposite way, until you feel the spring tension transfer onto the curtain. Remove the charging handles and allow the curtain to coil up into the box housing (A).



7. Return to stage 4 to test the shutter again.

5

OPTION #2

If the shutter is too hard to open, does not hold itself open, or closes with too much force.

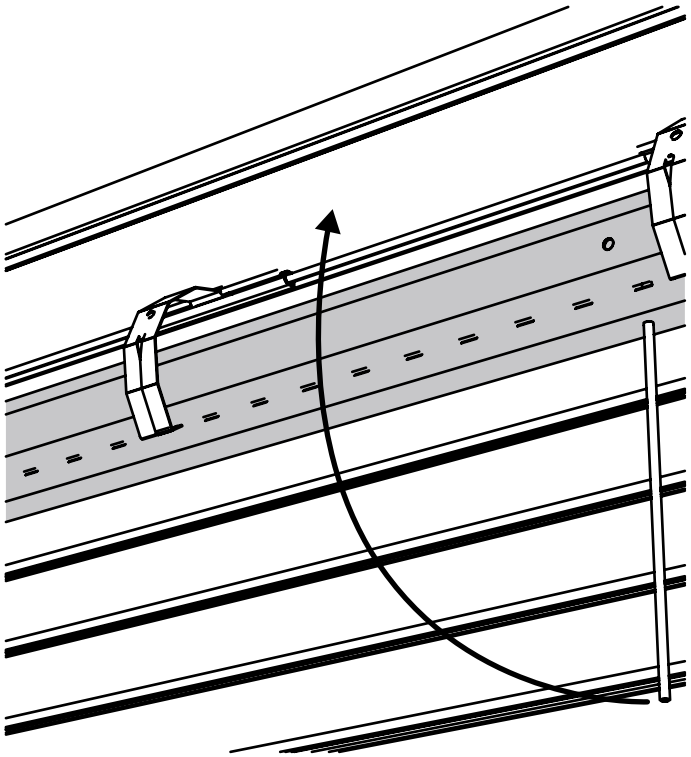
The spring tension may be too low. Follow these steps to increase tension:

1. Put the curtain down into the closed position.

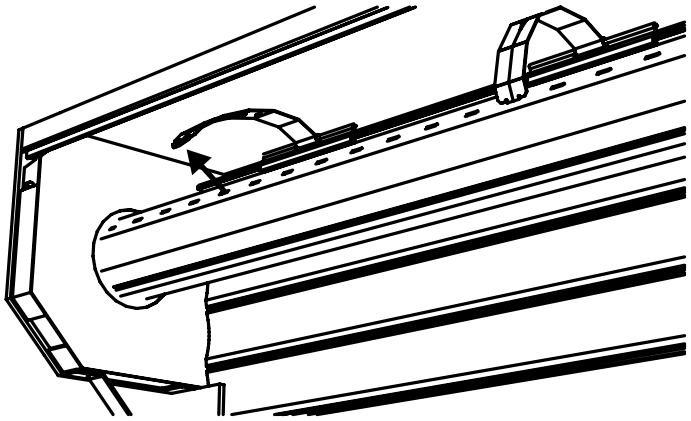
2. Insert the charging handles provided into the axle (E) to turn the axle.

   The location to insert charging handles is displayed on a label on the axle (E).

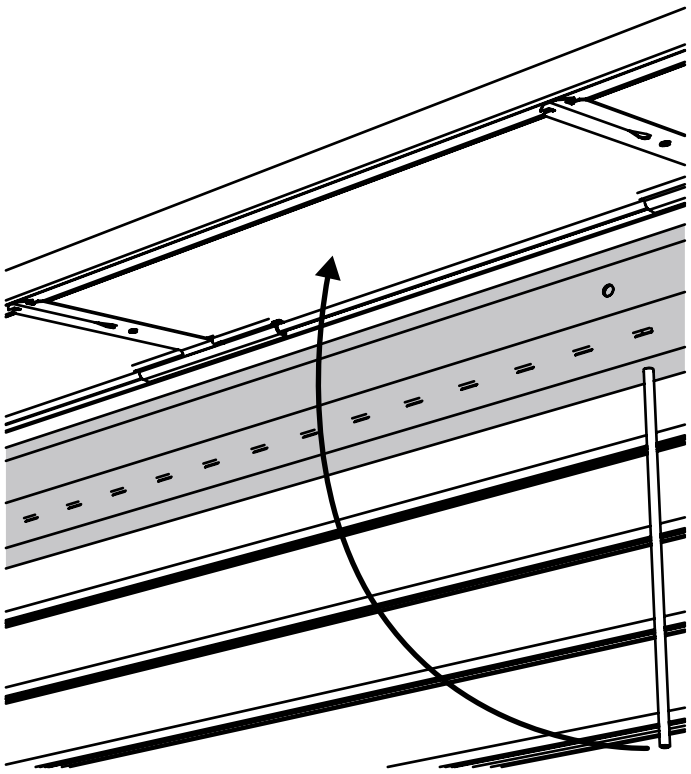
   Use both handles to rotate the axle by moving the handles up from the curtain to the top of the box housing (A). Once the first one reaches the top, insert the second one into the next hole and continue turning. This should lower the curtain. Continue turning the axle until the top of the curtain comes away from the axle and the t-clips (H) are loose.



3. Detache the t-clips (H) from the axle (E).

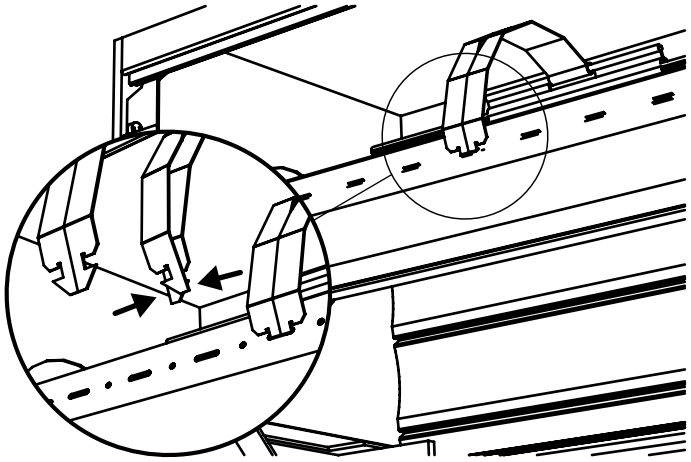


4. Insert the charging handles into the axle (E) again, and continue turning the axle by moving the handles up from the curtain to the top of the box hsouing (A). Turn the axle for one complete turn (360 degrees).

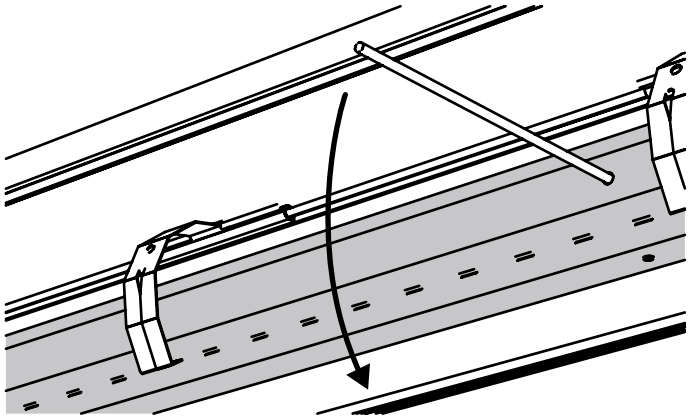


5. Reattach the t-clips (H) onto the axle (E) by squeezing the arrow-shaped ends, and inserting them into the long narrow slots in the axle.

   Ensure all of the t-clips are inserted into the same row of slots in the axle.



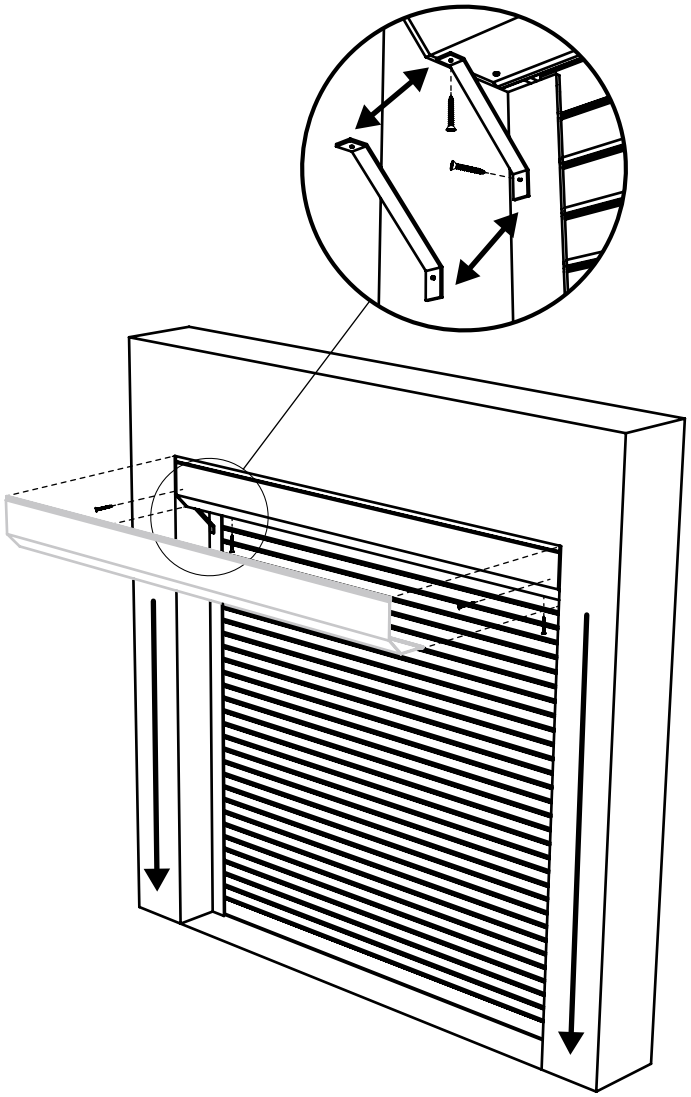
6. Using the charging handles, carefully rotate the axle (E) the opposite way until you feel the spring tension transfer onto the curtain. Remove the charging handles and allow the curtain to coil up into the box housing (A).



7. Return to stage 4 to test the shutter again.

6 COMPLETE

1. Put the curtain down into the closed position.



2. **If your shutter has support brackets:**

   Remove the support brackets (K) in order to complete the next step.

3. Replace the box housing (A) cover lid and secure it with the four screws you removed in stage 1 of the installation.

4. **If your shutter has support brackets:**

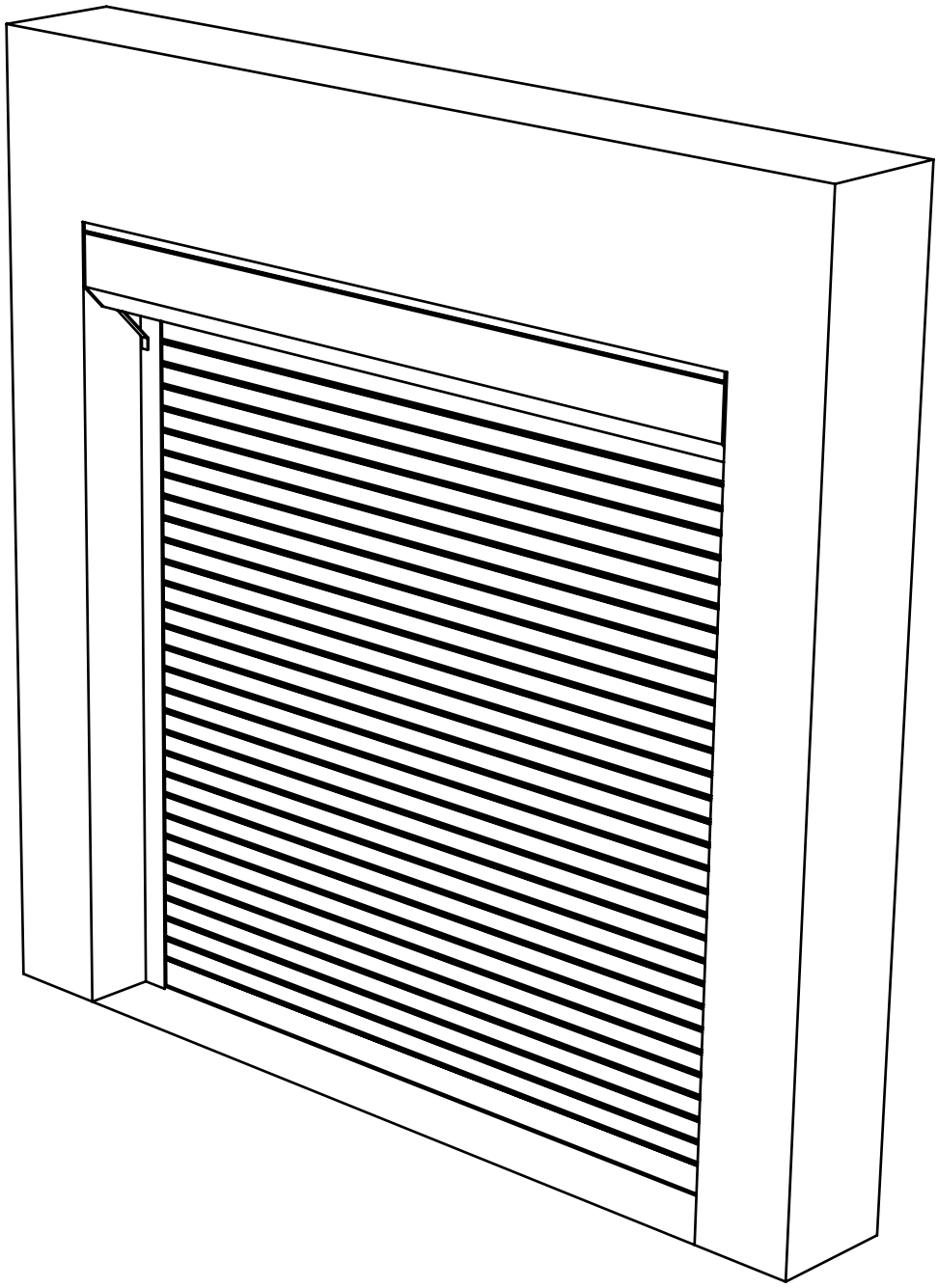
   Replace the support brackets (K) you removed in step 2.

5. **If your shutter is installed outdoors:**

   The shutter must 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.

YOU HAVE COMPLETED THE INSTALLATION OF YOUR DEFENDAGUARD SHUTTER, CONGRATULATIONS!

For technical support on the installation of your shutter, please contact Pentagon.



CONTACT DETAILS:

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Website: www.pentagonshutters.com

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