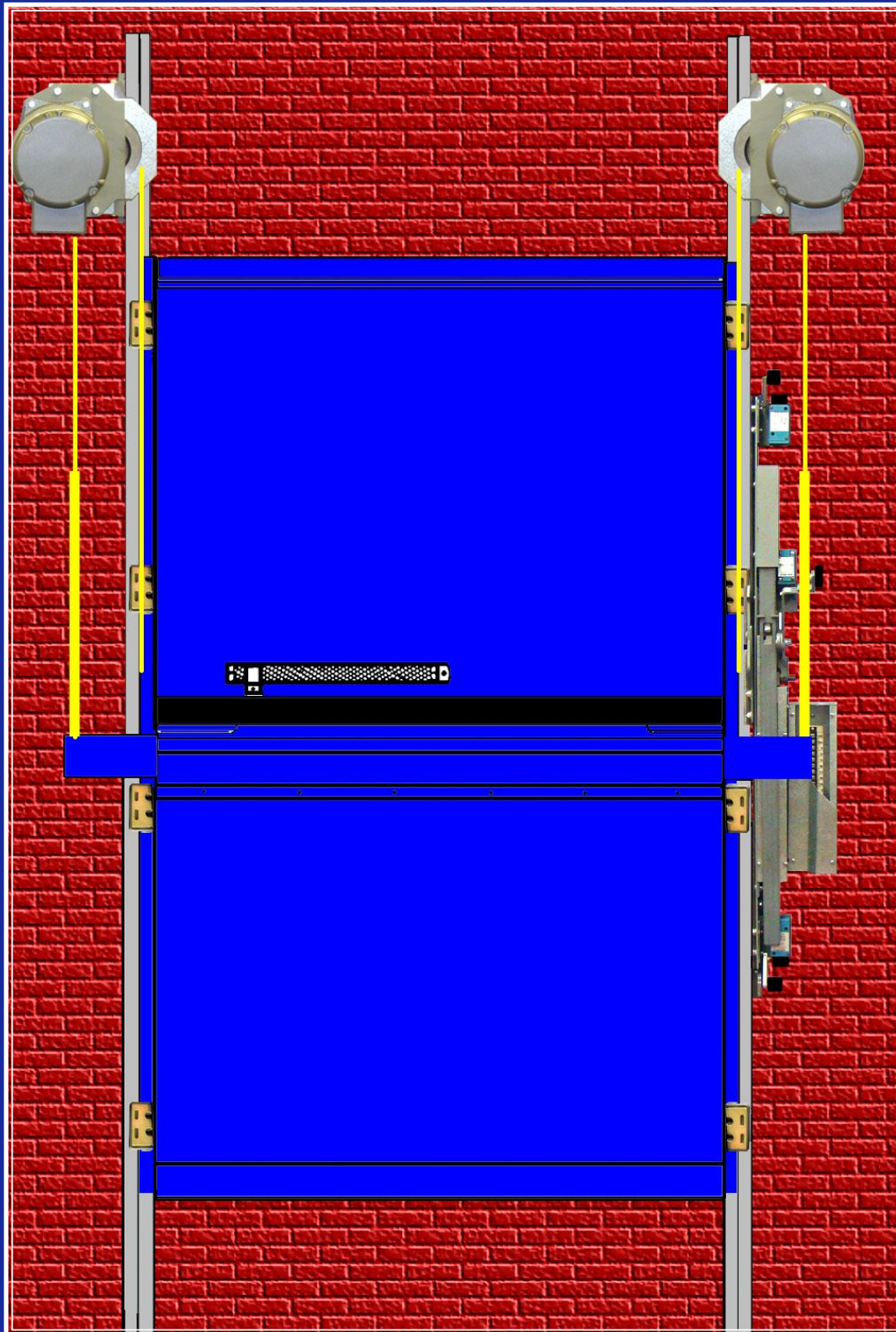




*Opening Quality Doors
Around The World*



Installation Instructions

Bi-Parting Freight Doors - P Series (Power and Manual)

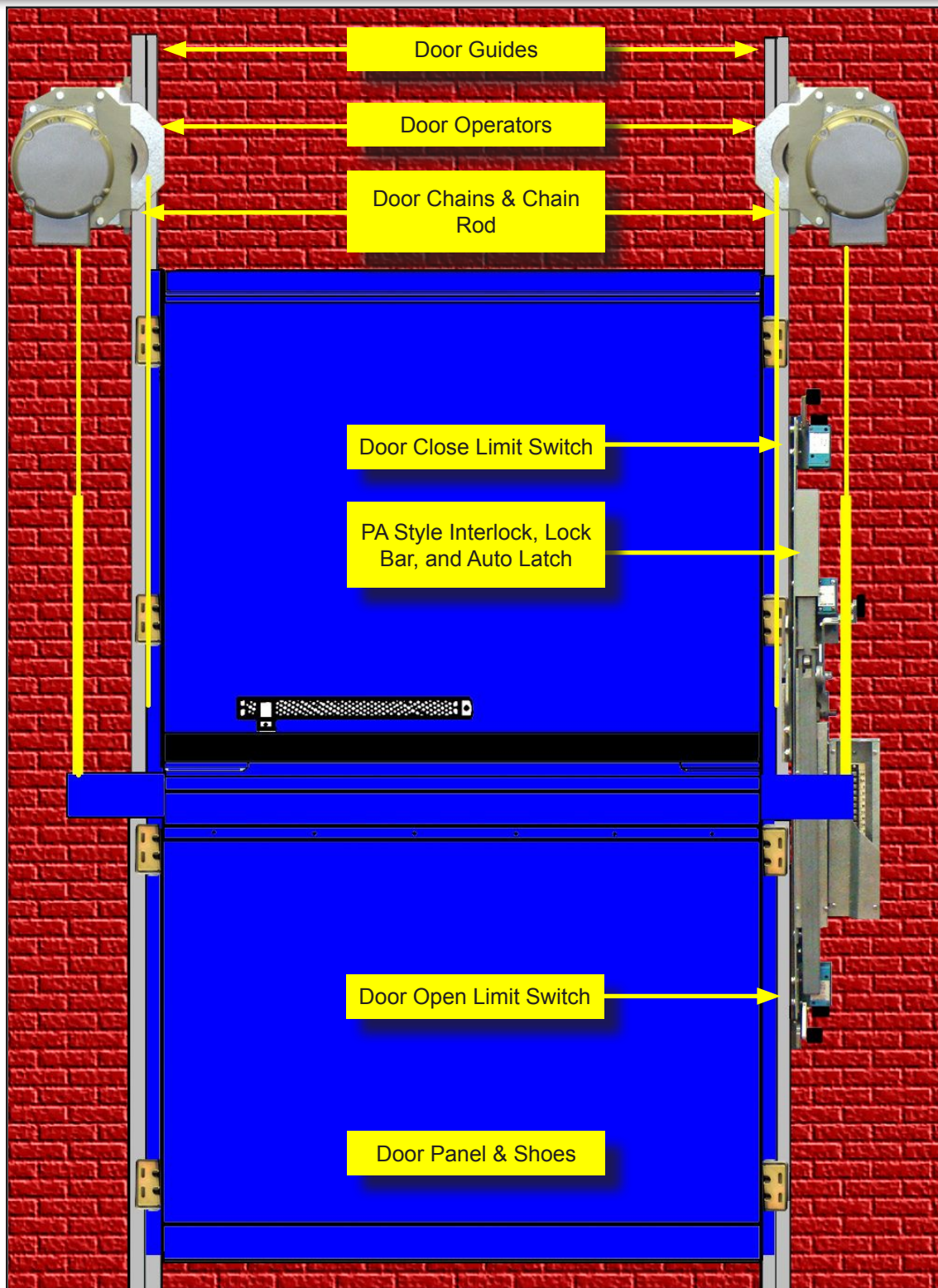
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Additional Documentation Provided By Courion (when applicable)

| | |
|---|---|
| General Layout Drawings | Material Packing List |
| Car Enclosure Installation Instructions | Retiring Cam Installation Instructions |
| Car Gate Installation Instructions | Door Control Installation & Adjustment Manual |
| Wiring Diagrams | Parts & Maintenance Manual |
| Other: | Other: |
| Other: | Other: |

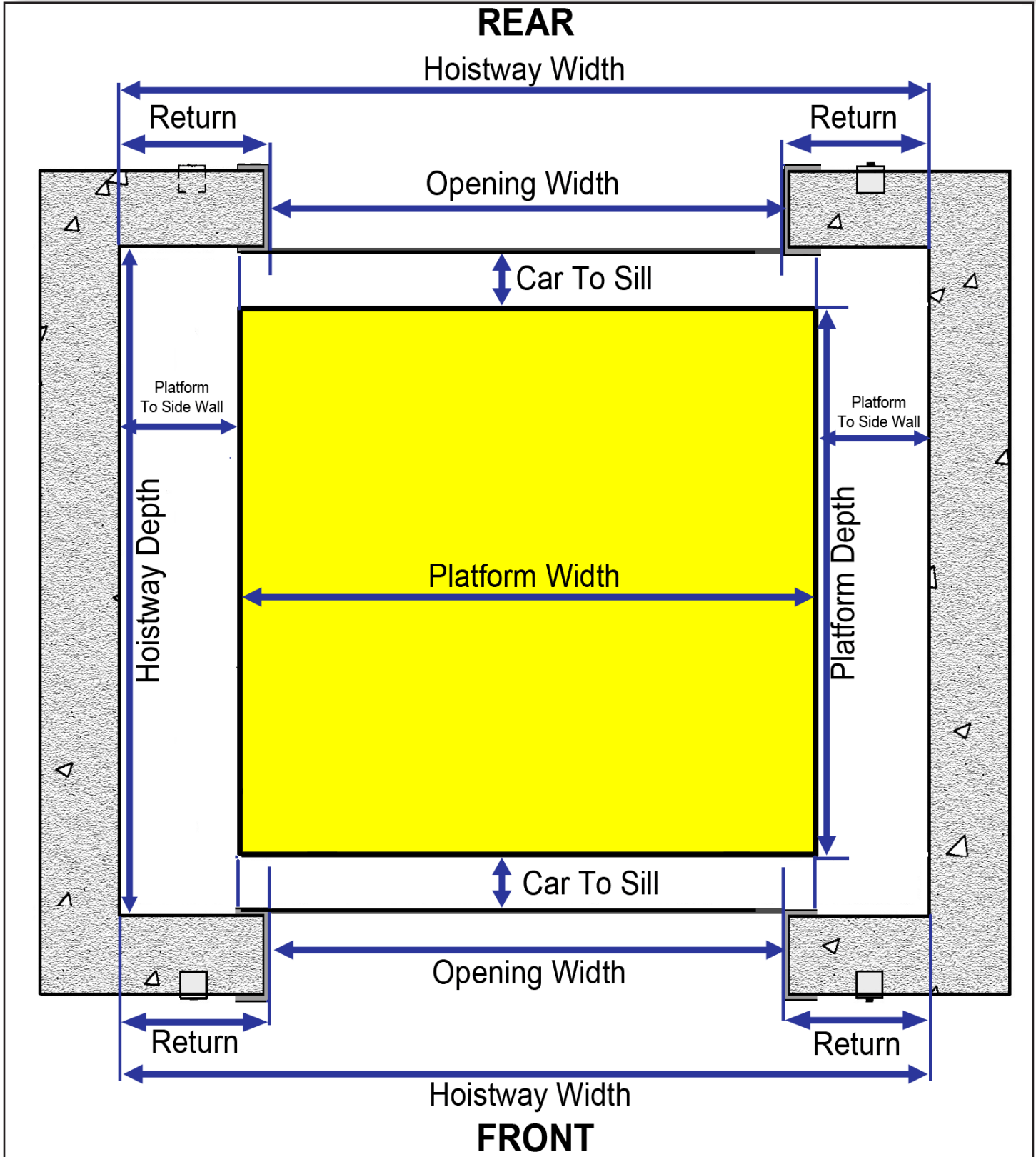
P Series Bi-Parting Freight Door System Layout - Power Operation Shown



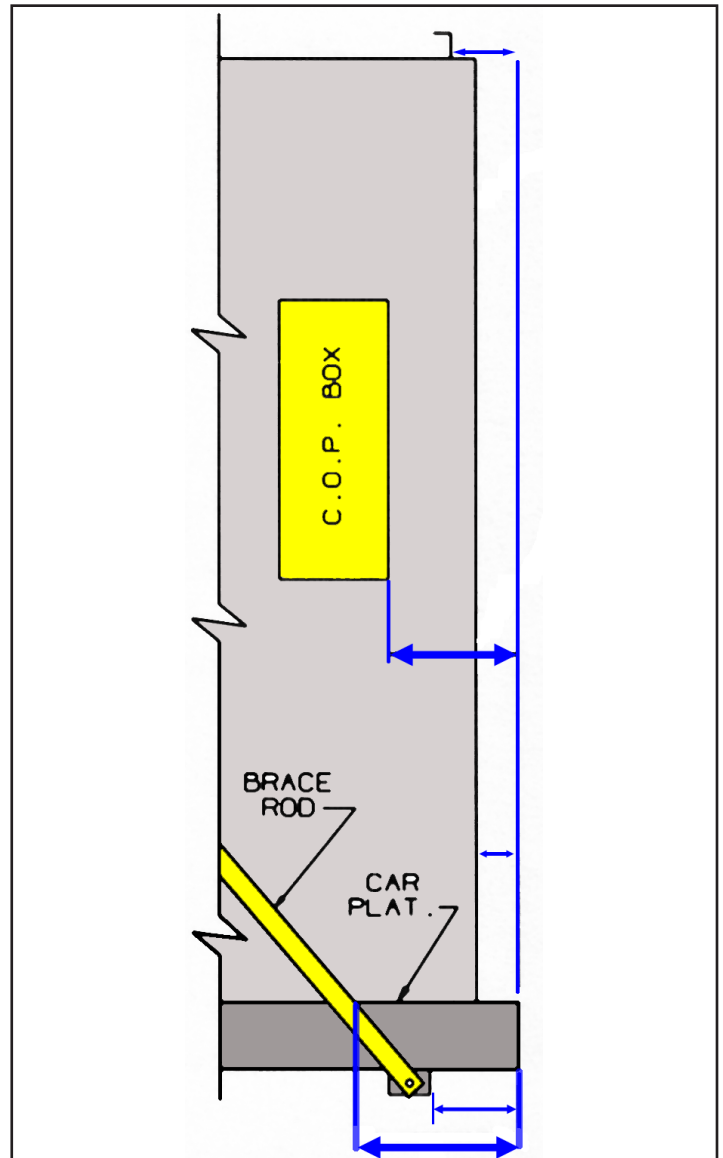
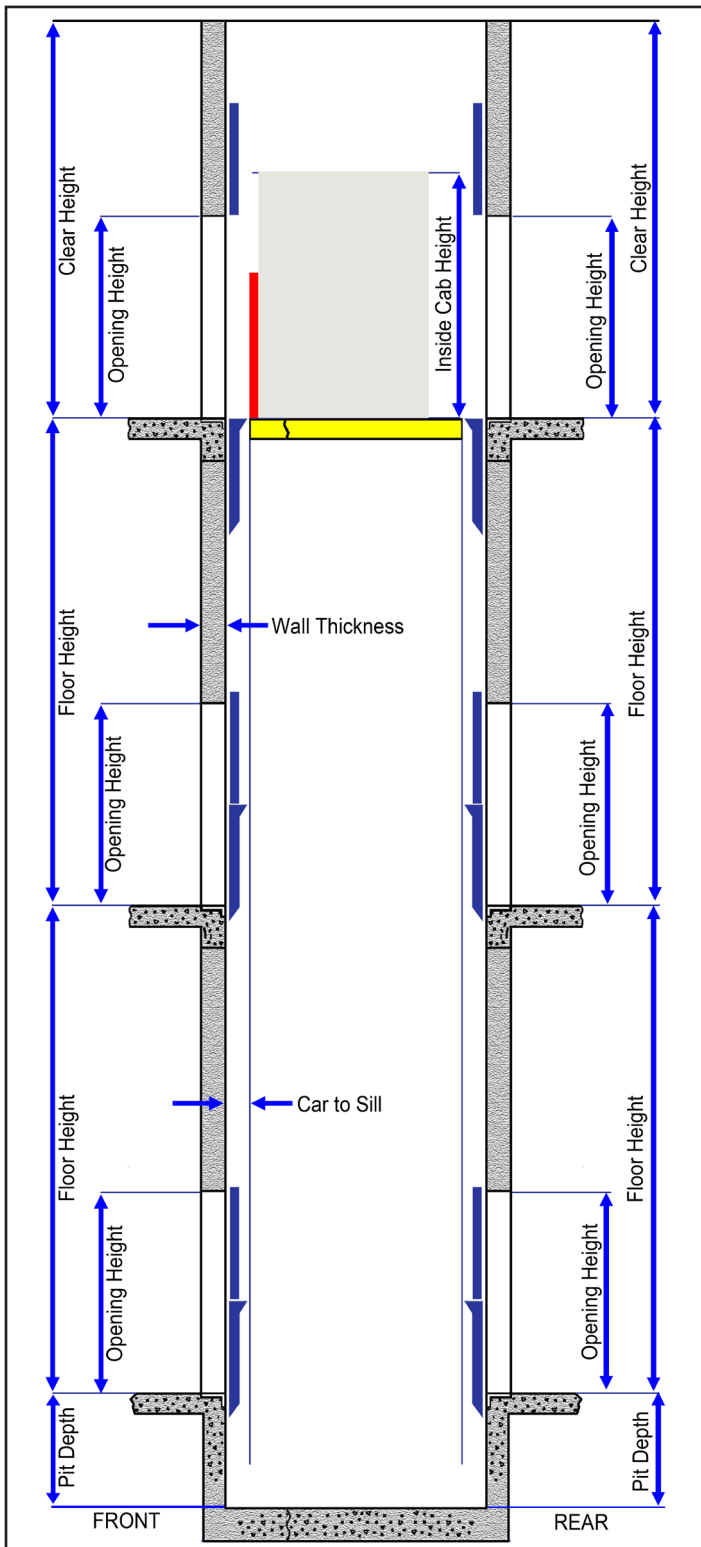
NOTE - Your Equipment may include COURION'S Next Generation iDRIVES and iSENSORS in lieu of Door Limit Switches. Instructions for both are included in this manual.

Hoistway Survey

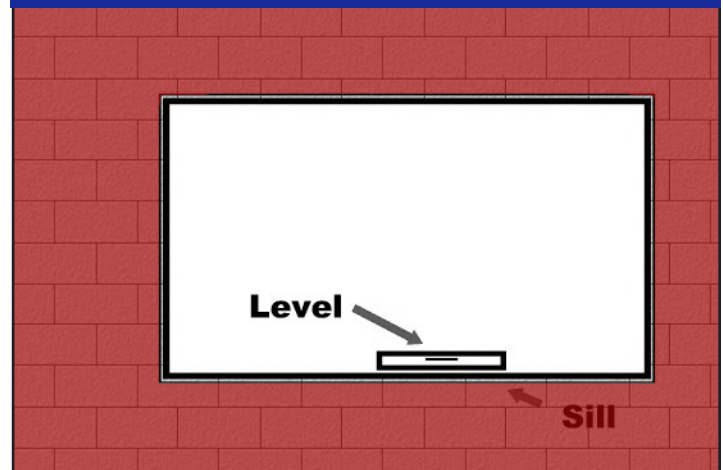
Using COURION's GENERAL DESIGN DRAWINGS (GD Drawings) enclosed with these instructions, verify all dimensions to insure that your COURION Equipment will properly fit in your hoistway.



ENTRANCE FRAMES - Using a plumb line and level, verify that the Entrance Frames are true and plumb (both side-to-side, and up-and-down) with one another

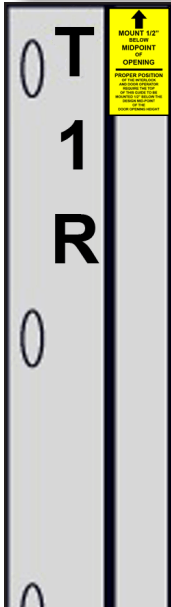


Sills must be level to a tolerance of 1/8" (3mm) for every 8'-0" (2440mm)



Guide Rail Installation

Using a **PLUMB LINE** and the **GAUGE ANGLE** provided by Courion as a guide, attach the Guide Rails to the Entrance Frames and hoistway wall. If you have Drywall Entrance Frames, the Dry-wall Frame Covers must be installed **BEFORE** your Guide Rails are attached to the frames.



COURION PA-Style Guide Rail Identification

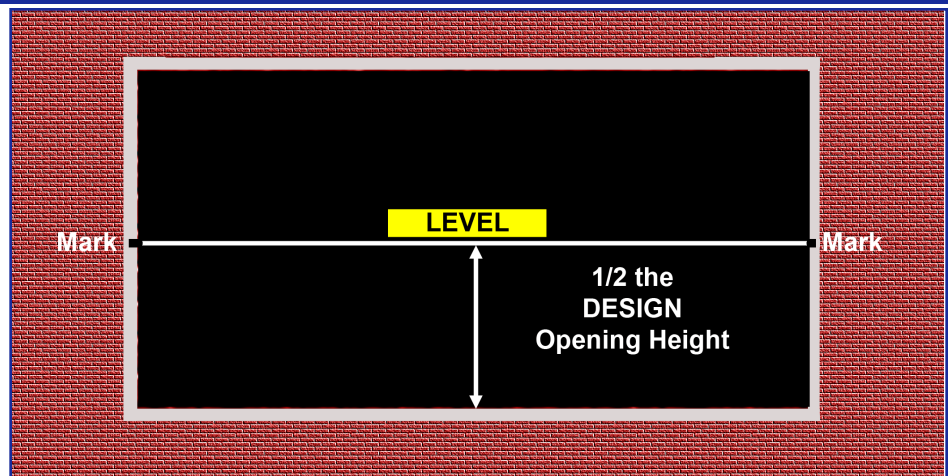
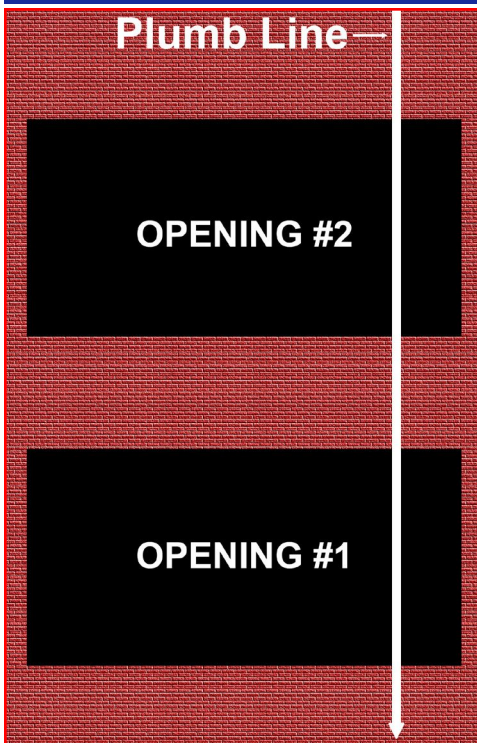
Courion Guide Rails are manufactured and shipped in pairs (left and right) for specific landings. There are three (3) types of guide rails -

UPPER Guides - Marked according to the opening for which they serve as the Upper guide followed by the letter A. (Example: 1A-R = Right Hand Upper Guide for Opening #1)

LOWER and **INTERMEDIATE** (extend from one floor to the next) Guides - Marked according to the opening for which they serve as the Lower guide. (Example: 1R = Right Hand Lower Guide for Opening #1).

T = Top of Guide Rail R = Right Hand L = Left Hand

- 1 Secure a PLUMB LINE from the top of your hoistway to the bottom.
- 2 Using a Level, make a Mark on each side of each Opening at 1/2 (Midpoint) of the **DESIGN Opening Height**. The Design Opening Height may be different from the Actual Opening Height. Please consult Courion's GD-General Design Drawings for the proper Design Opening Height.



CRITICAL
Please refer to Courion's GD-General Design Drawings for the proper DESIGN OPENING HEIGHT.

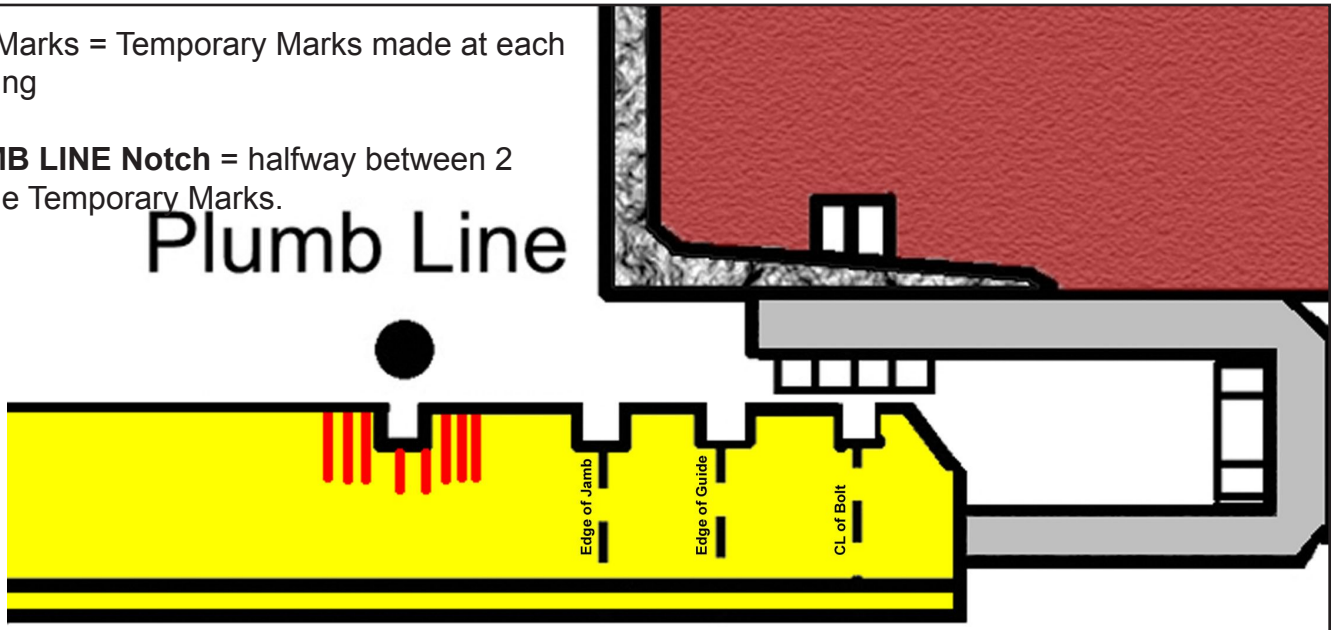
For Immediate Help Call 1-800-533-5760

- ③ At the TOP, MIDDLE, and BOTTOM of each Opening, make a temporary mark on the Gauge Angle at the Plumb Line. Upon completion, make a permanent mark on the Gauge Angle at the HALFWAY POINT between the two outside temporary plumb line marks.

RED Marks = Temporary Marks made at each Opening

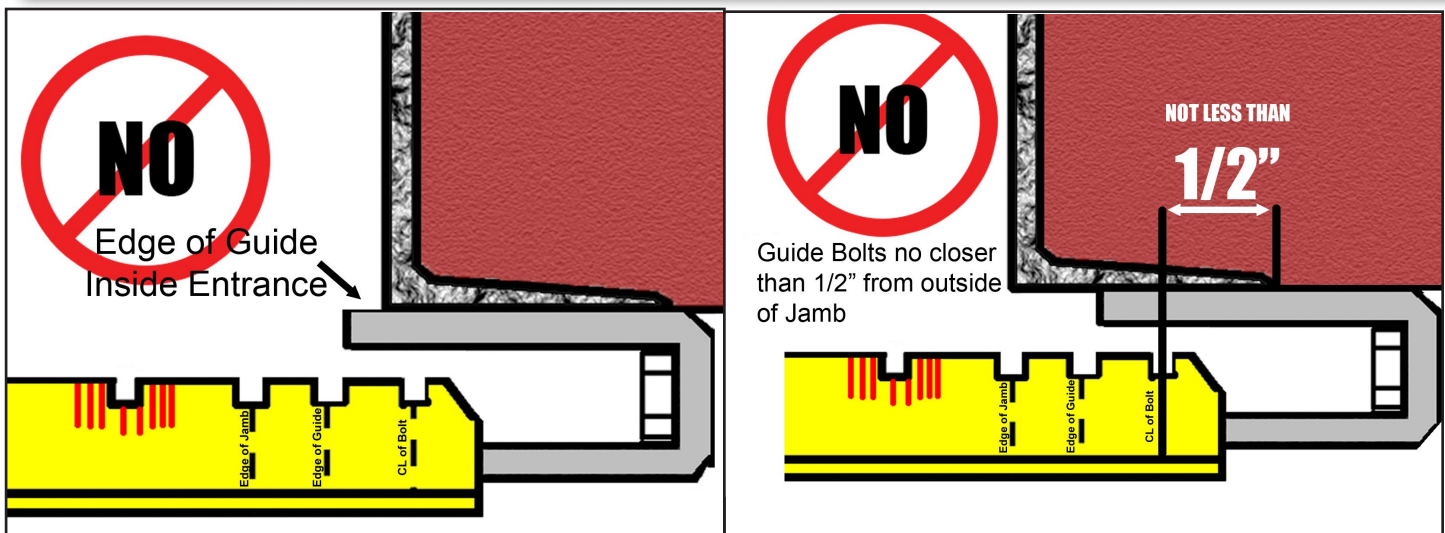
PLUMB LINE Notch = halfway between 2 outside Temporary Marks.

Plumb Line



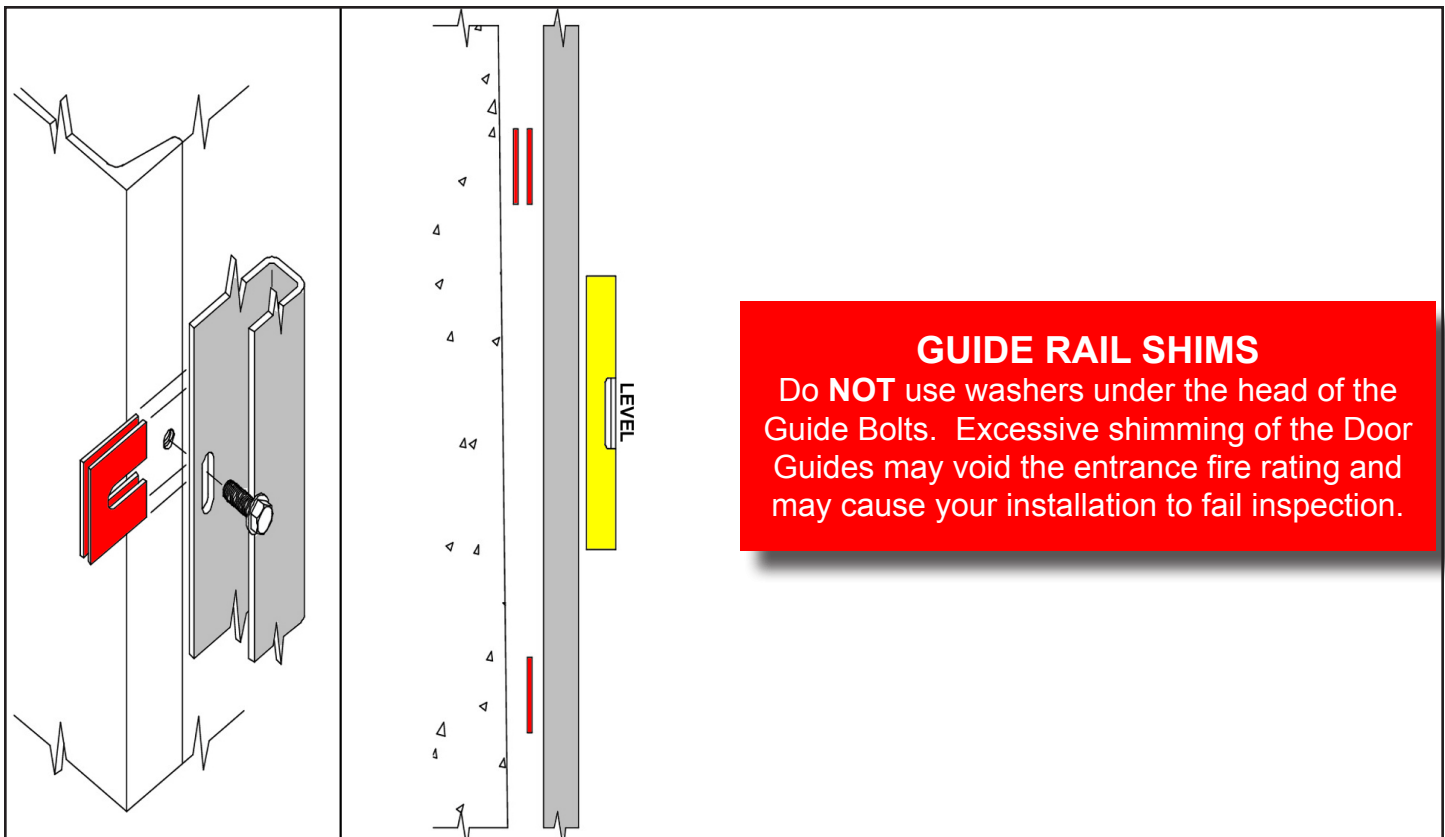
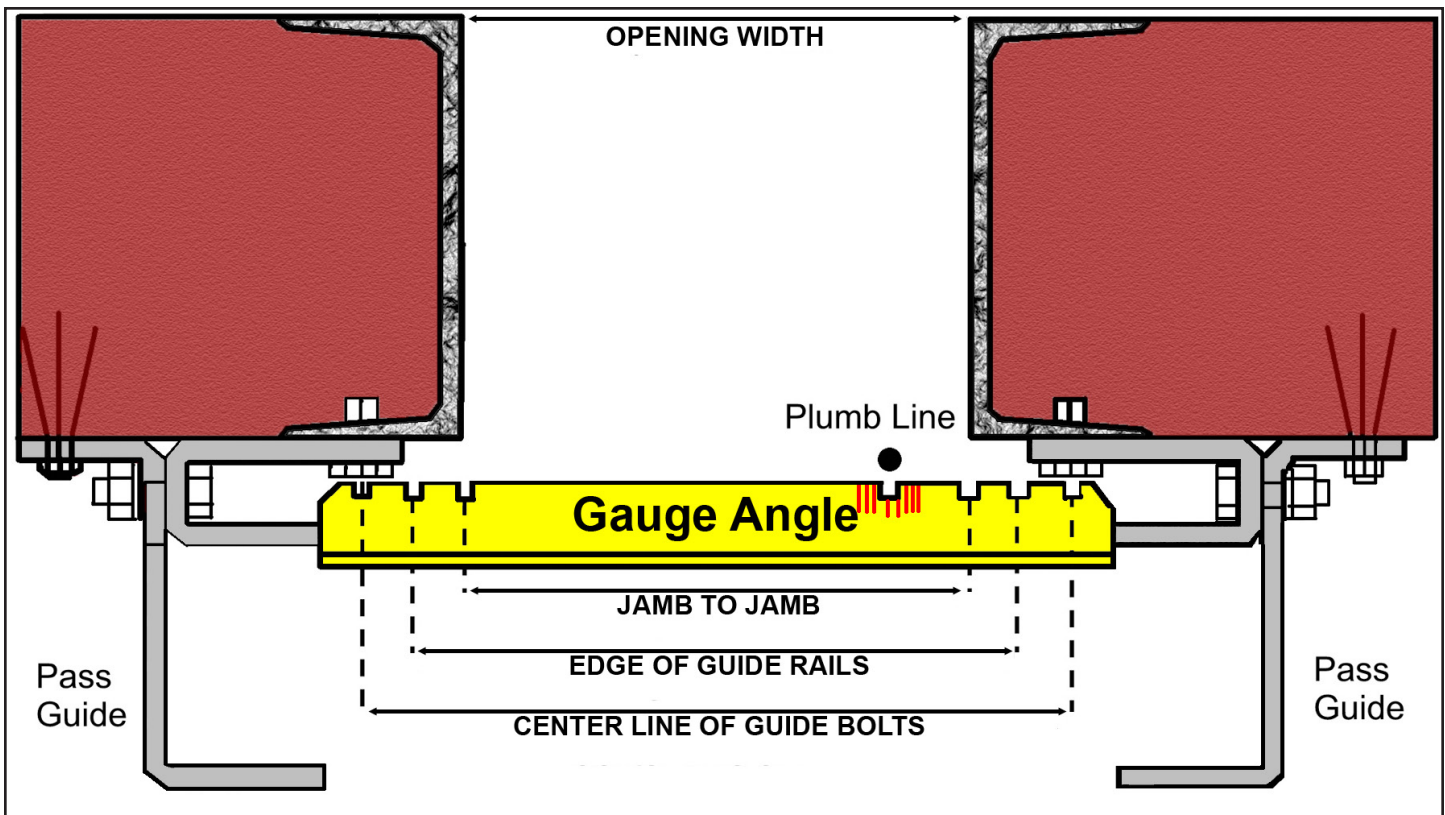
CRITICAL!

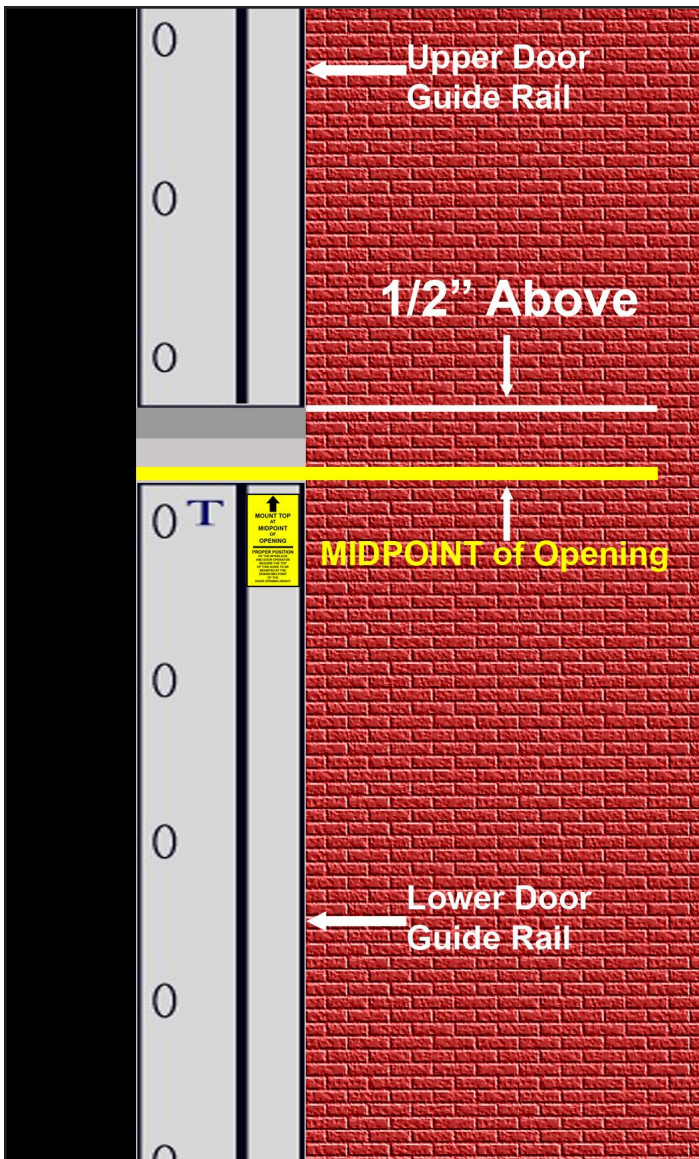
Because the Hoistway Door Guide Rails are set in-line, one above the other, the Entrance Frames and Guide Rails **MUST BE** vertically aligned and plumb with one another. Using the Guide Rail Gauge Angle and the Plumb Line, verify that the Entrance Frames are in-line and plumb. If they are not, STOP and call Courion. In addition, Verify at all Openings and on both sides of the hoistway that (1) the Edge of Guide Mark does NOT fall inside the Entrance Frame, and (2) the Center Line of the Guide Bolt Mark does NOT fall closer than 1/2" (13mm) from the outside edge of the Jamb.



For Immediate Help Call 1-800-533-5760

- ④ At each Opening, align the Plumb Line Notch on the Gauge Angle with the Plumb Line. Using the Gauge Angle as a guide, clamp the Guide Rails into position.





- 5 The LOWER Guide Rail starts at the Design Midpoint Mark and goes DOWN.

The UPPER/INTERMEDIATE Guide Rail starts 1/2" ABOVE the Midpoint Mark and goes UP.

- 6 Once the Guide Rails are clamped into their proper position, secure them to the Entrance Frames using the fasteners provided by Courion.

Mounting slots are spaced 9" on-center in the Door Guides. Install fasteners at the TOP of each slot within the Opening, and in every 4th Slot above and below the Opening. For Openings where the Entrance Frame does not extend above or below the Opening, Courion has provided you with the necessary Guide Lugs and fasteners to anchor the Guide Rails to the block or concrete walls.

An additional Guide Bolt should be installed 1" above the Sill on each side of the Opening. You will need to drill a hole through the Guide Rail and Jamb.

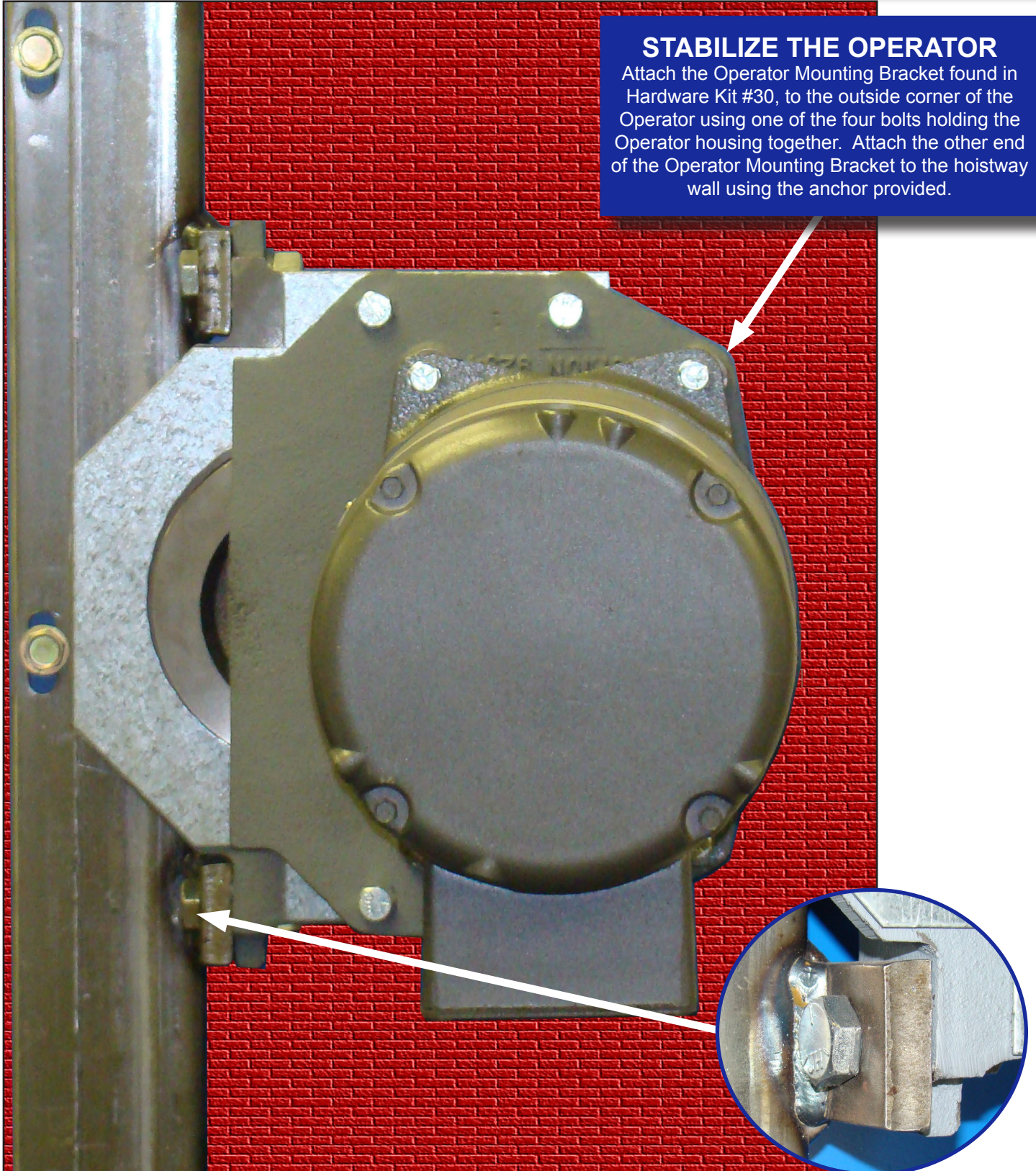
For Immediate Help Call 1-800-533-5760

Door Operator Installation - Power Operation

Fasten a Door Operator to the lugs on the Upper/Intermediate Guide Rail on each side of the Opening.

STABILIZE THE OPERATOR

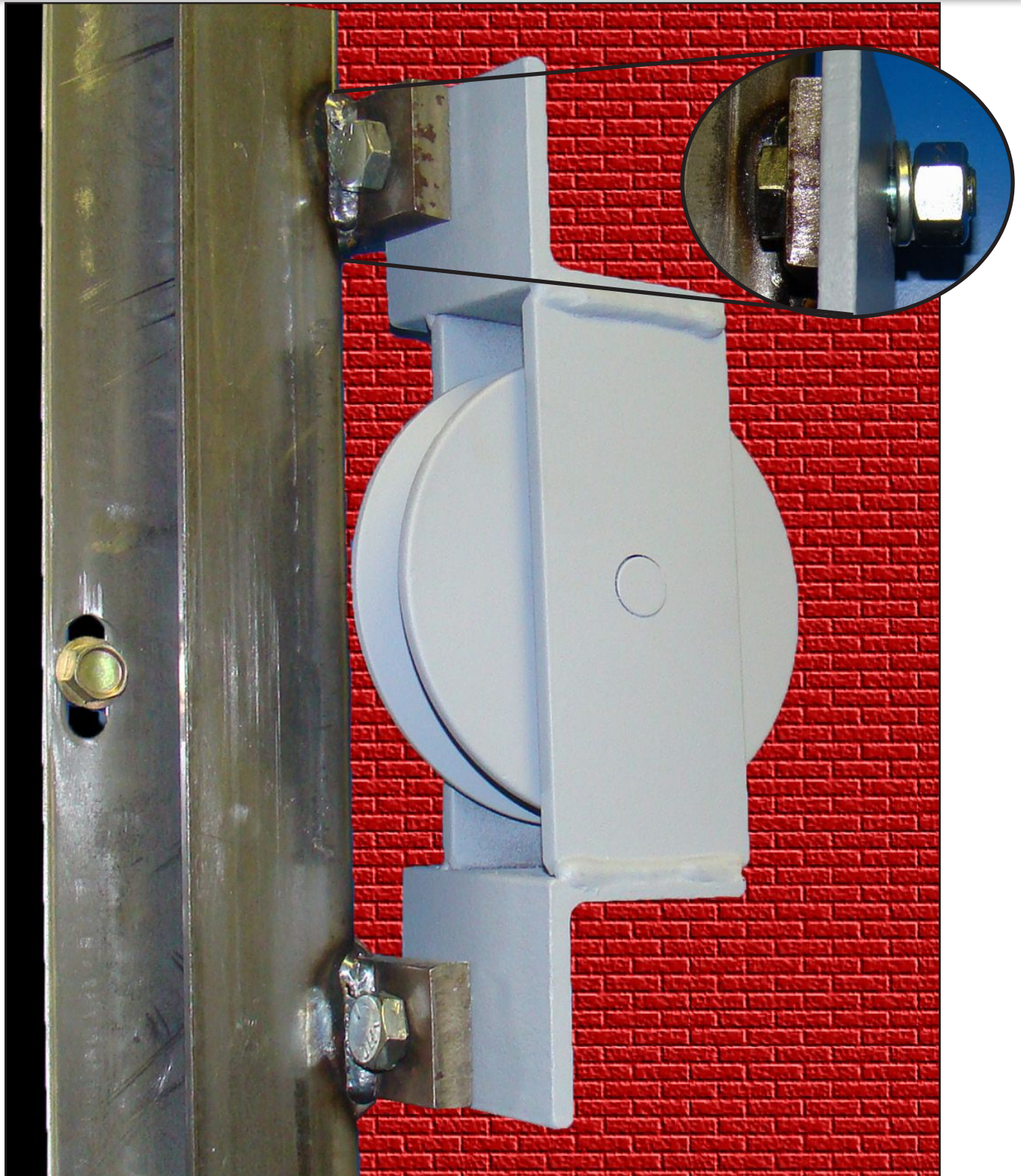
Attach the Operator Mounting Bracket found in Hardware Kit #30, to the outside corner of the Operator using one of the four bolts holding the Operator housing together. Attach the other end of the Operator Mounting Bracket to the hoistway wall using the anchor provided.



For Immediate Help Call 1-314-533-5700

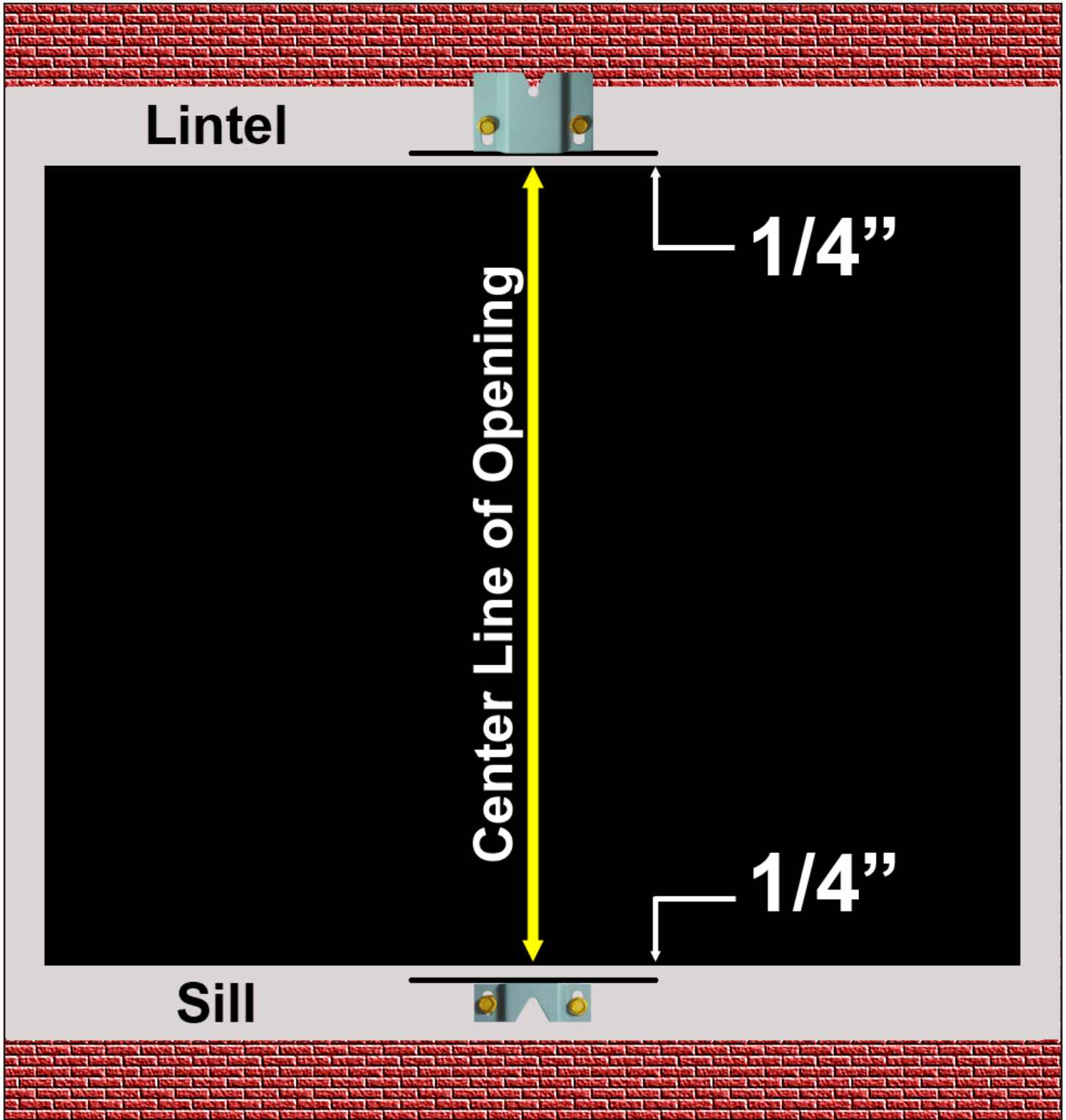
Manual Sheave Installation - Manual Operation

Mount a Manual Door Sheave to the lugs on the Upper/Intermediate Guide Rail on each side of the Opening.



Center Latch Installation - When Applicable

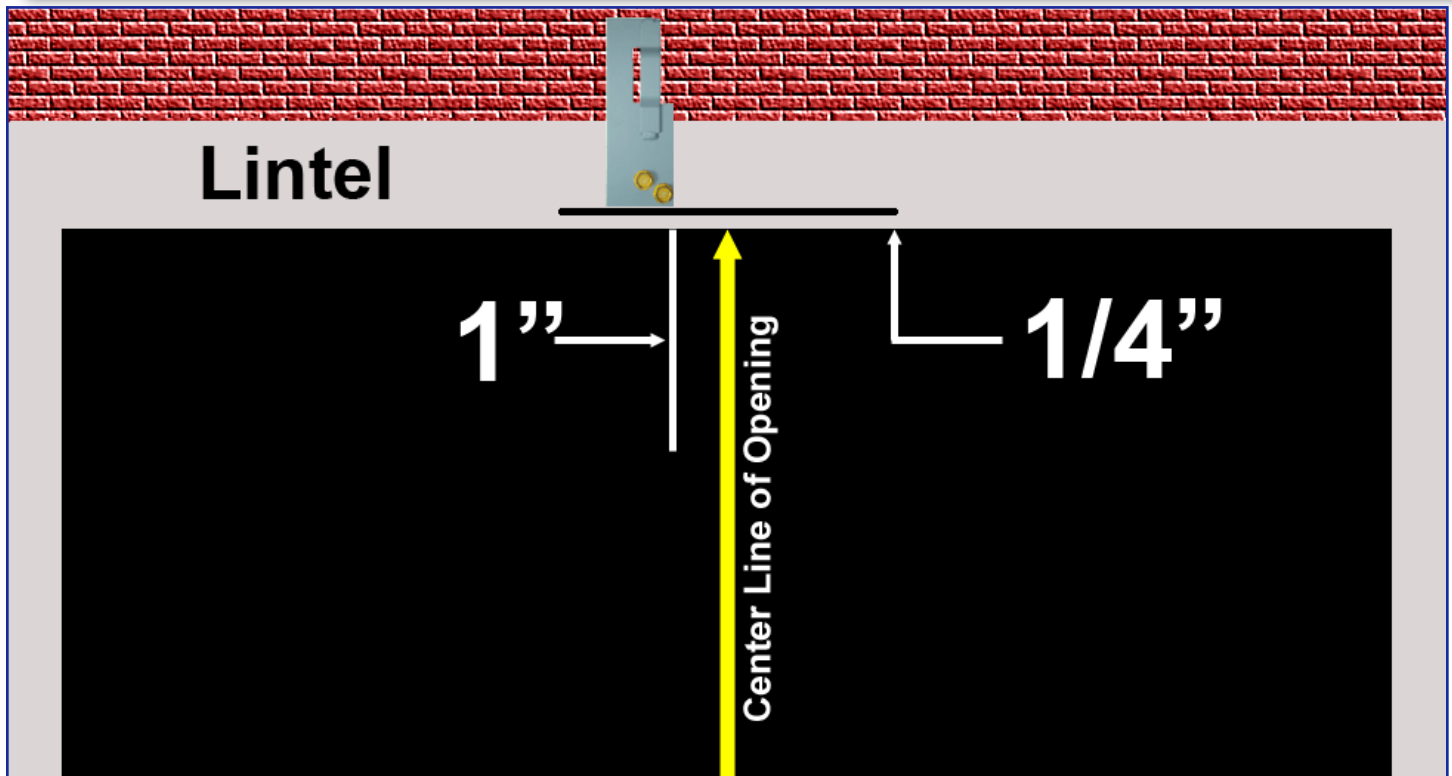
Mount the Center Latch Plates to the center of the Sill and Lintel. Once your Door Panels are installed, adjust the Center Latch Bolt on the Upper and Lower Door Panels so that they engage the Center Latch Plates with minimal interference.



For Immediate Help Call 1-314-533-5700

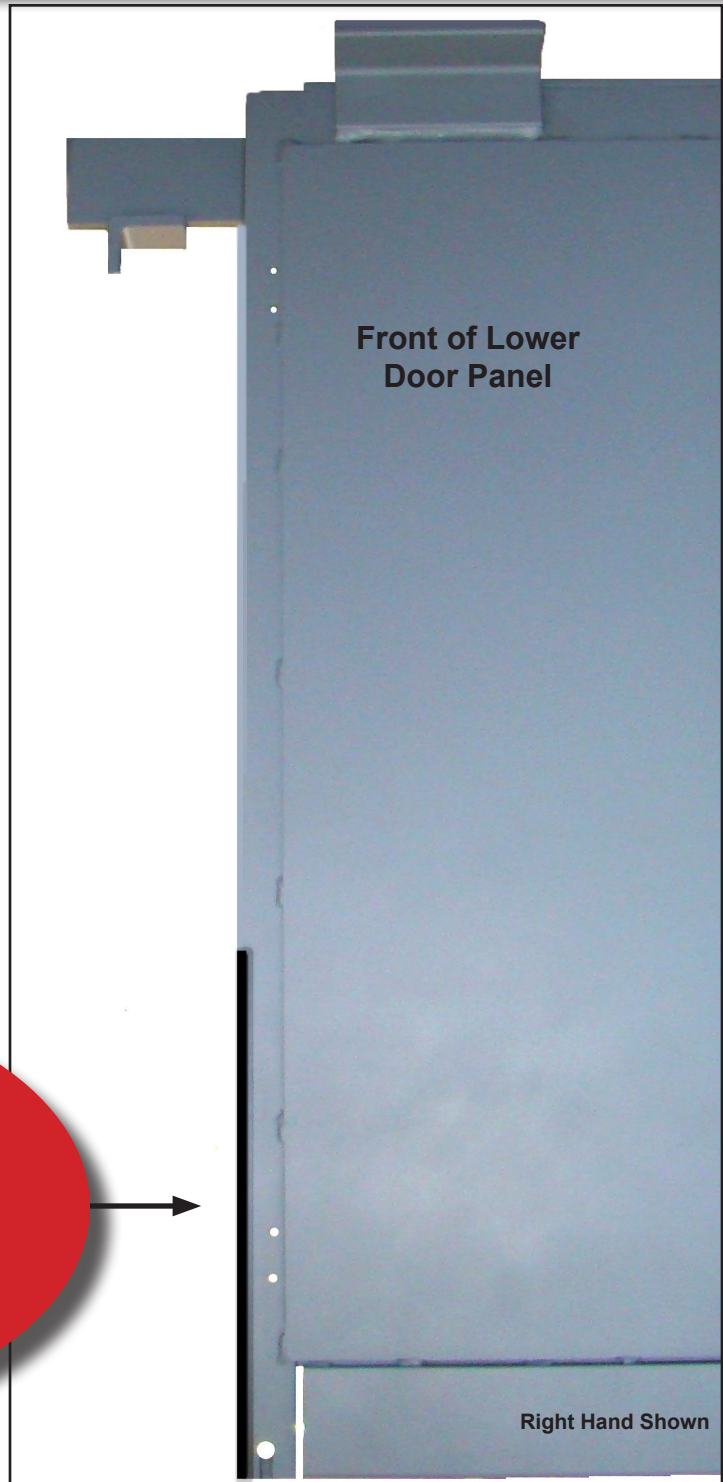
CENTER LINE OF THE OPENING - The Center Line of the Opening is best located at the midpoint between the installed Guide Rails, and should NOT be located at the midpoint between the Jamb.

PASS TYPE DOORS - The Upper Panel Center Latch for Pass Type Doors is offset by 1" (26mm) from the Center Line of the Opening.



iSENSOR Magnet Installation - (Applicable Only If You Have Courion's Next Generation System)

Prior to placing the Door Panels in the Door Guide Rails, attach the Door iSENSOR Magnet to the **LOWER CORNER AND OUTSIDE EDGE** of the Lower Door Panel Shoe Bar on the Interlock Side of the Door Panel.

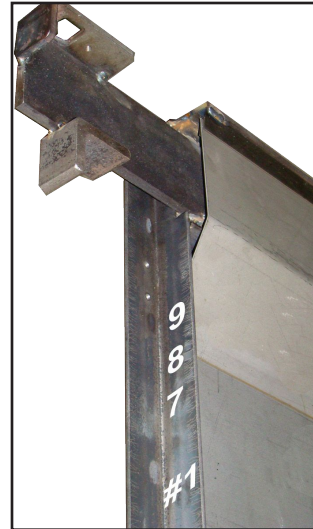
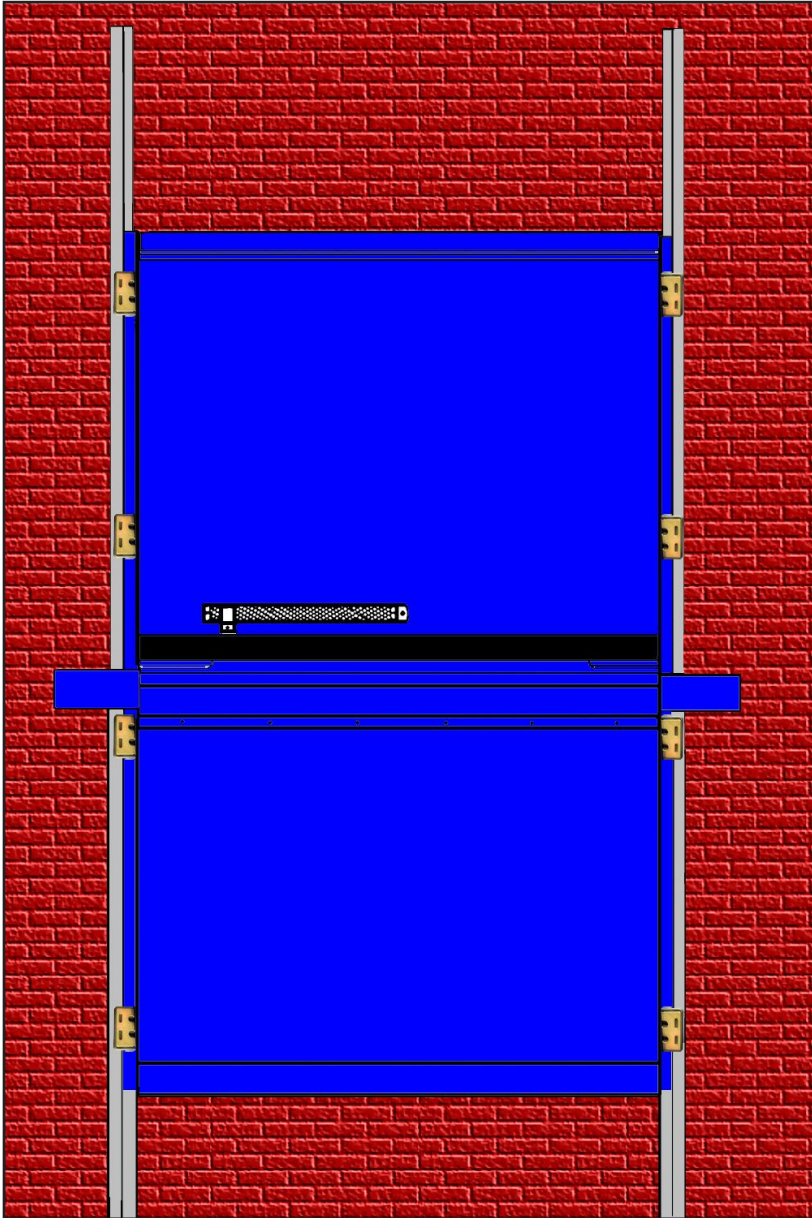


IMPORTANT!

The iSENSOR Magnet should be placed at the **BOTTOM** and on the **VERY OUTSIDE EDGE** of the Lower Door Panel Shoe Angle on the **INTERLOCK** Side of the Opening.

Door Panel Installation

Set the Door Panel(s) in position by inserting the shoe angle of the Door Panel into the Door Guide Rail on one side and then swinging the opposite side into position. Be sure to install each Door Panel at its proper Landing.



987 = The last 3 digits of Courion's Job Number.

#1 = The Opening Number

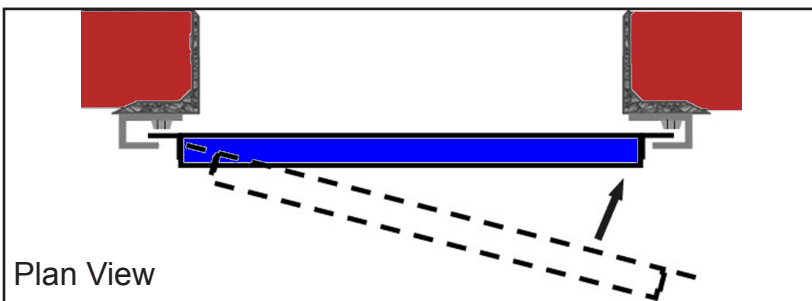
The Opening Number corresponds with the landing designation set out in Courion's General Design Drawings.

IMPORTANT!

Be sure the hoist, hoist support, hoist chains, slings, straps, and any other accessories used to hoist the Door Panels into position are capable of safely supporting the Door Panels. Carefully inspect each component of the hoisting system for damage or wear before use.

DOOR TWIST

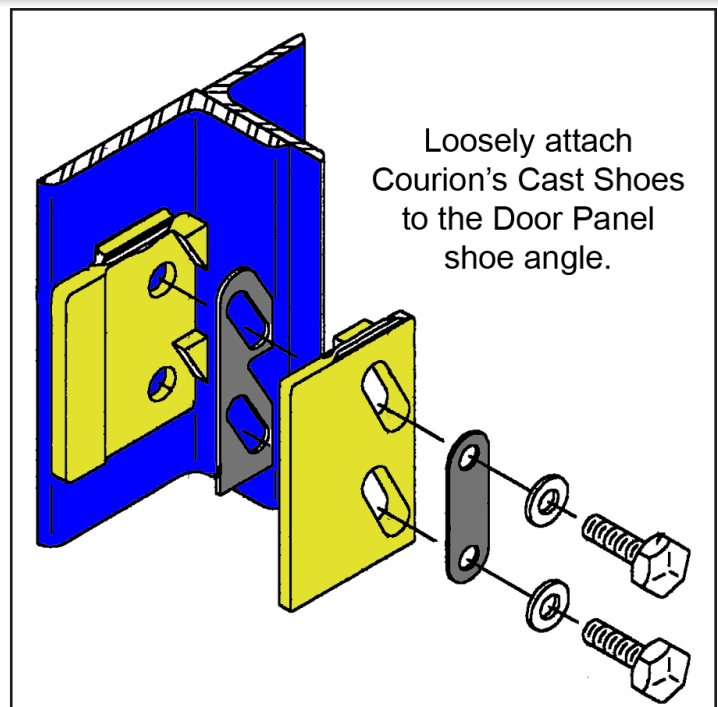
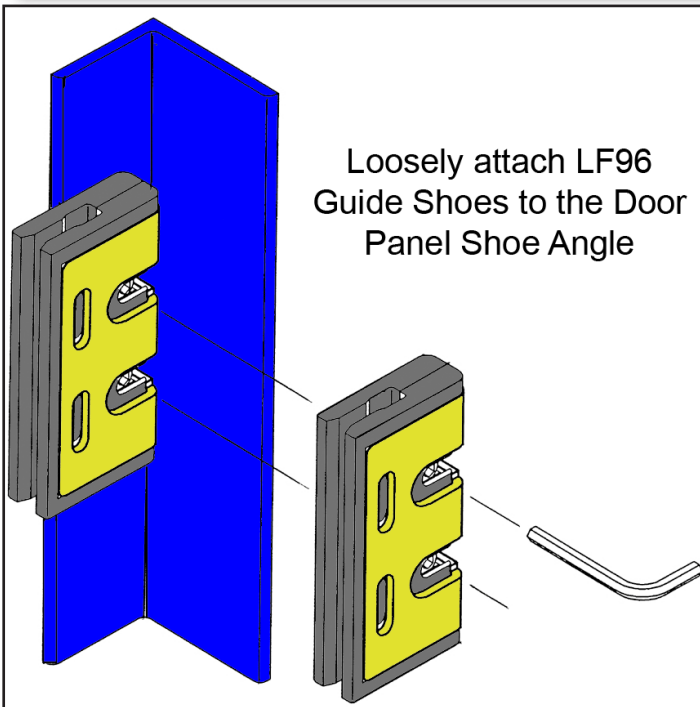
Courion checks each Door Panel for flatness prior to shipment. However, shipping and job site handling may produce some twist or bow in the Door Panel. Check each Door Panel for flatness by pushing the Door Panel against the guide bolts. If both shoe angles are flat against the guide bolts, twist is not present. If one side is not flat against the guide bolts, the Door Panel has some twist in it that must be removed before continuing with the installation.



Plan View

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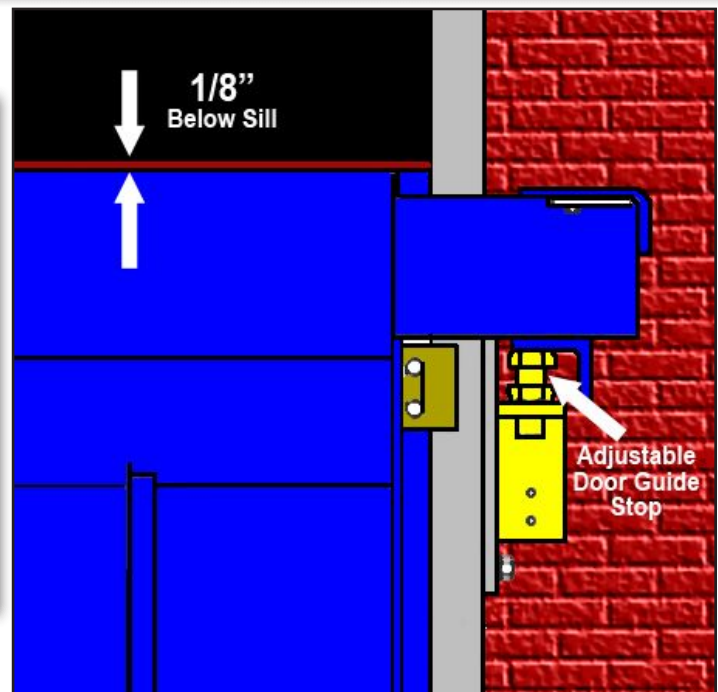
Loosely attach the Guide Shoes to the Door Panels. DO NOT overtighten. The Guide Shoes will be adjusted and tightened after the Door Chains have been installed.



After installing the Door Guide Shoes, open the Door Panels to the FULL OPEN position. When applicable, adjust the Guide Stops to insure that the Lower Door Panel is 1/8" (3mm) below the Sill.

ALERT!

If you have Door Sill Stops and Guide Stops, adjust the Guide Stops on both sides of the Opening so the head of the Guide Stop bolt is 1/8" (3mm) BELOW the lower door arm. The Guide Stops are not designed to support the trucking capacity of the Freight Door. The weight MUST be transmitted to the building through the Sill Stops. The Guide Stops are only a safety backup.

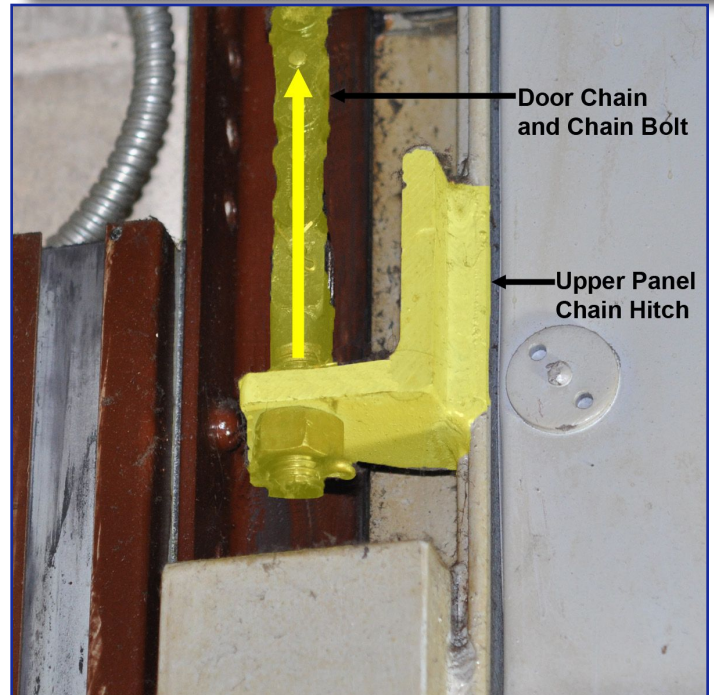
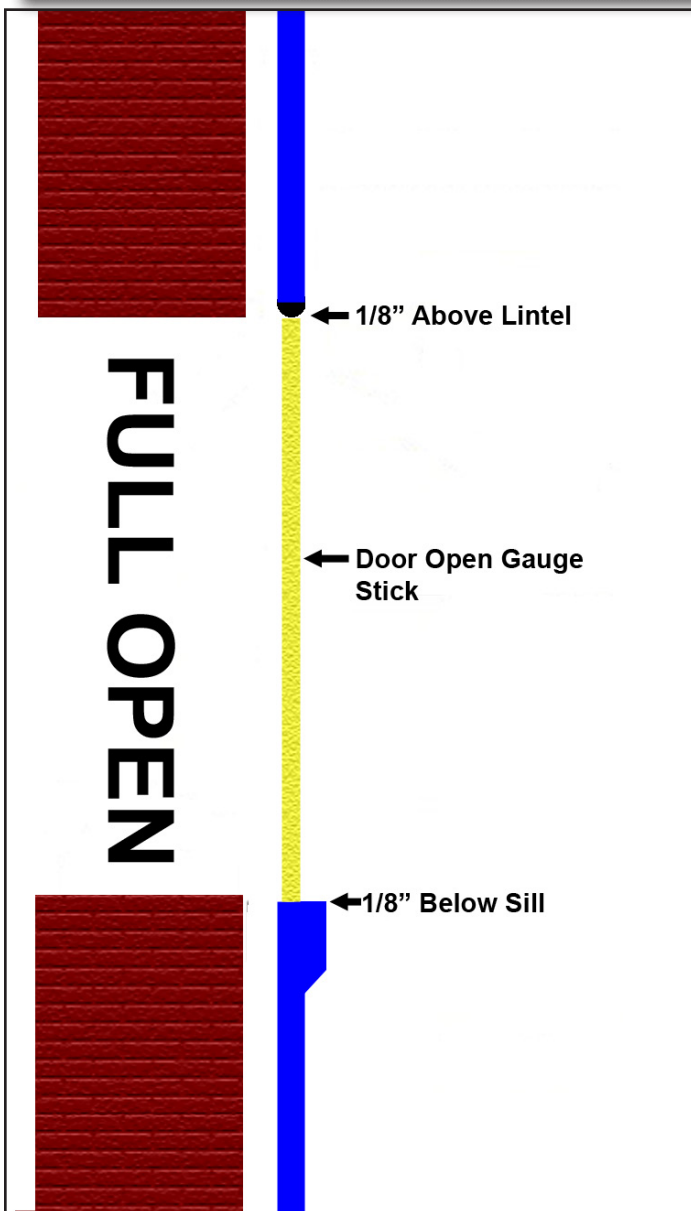


Chain and Chain Rod Installation

With the Door Panels in the FULL OPEN position, install the Hoistway Door Chain Rods and Door Chains on both sides of the Opening. Adjust and tighten the Door Guide Shoes to limit side-to-side play to no more than 1/8" (3mm).

① Using the DOOR OPEN GAUGE STICKS provided by COURION, open the Door Panels to the FULL OPEN position with the Lower Door Panel resting firmly on the Door Guide Stops.

② Thread the Door Chain through the UPPER Door Panel Chain Hitch and over the Door Operator Sheave.

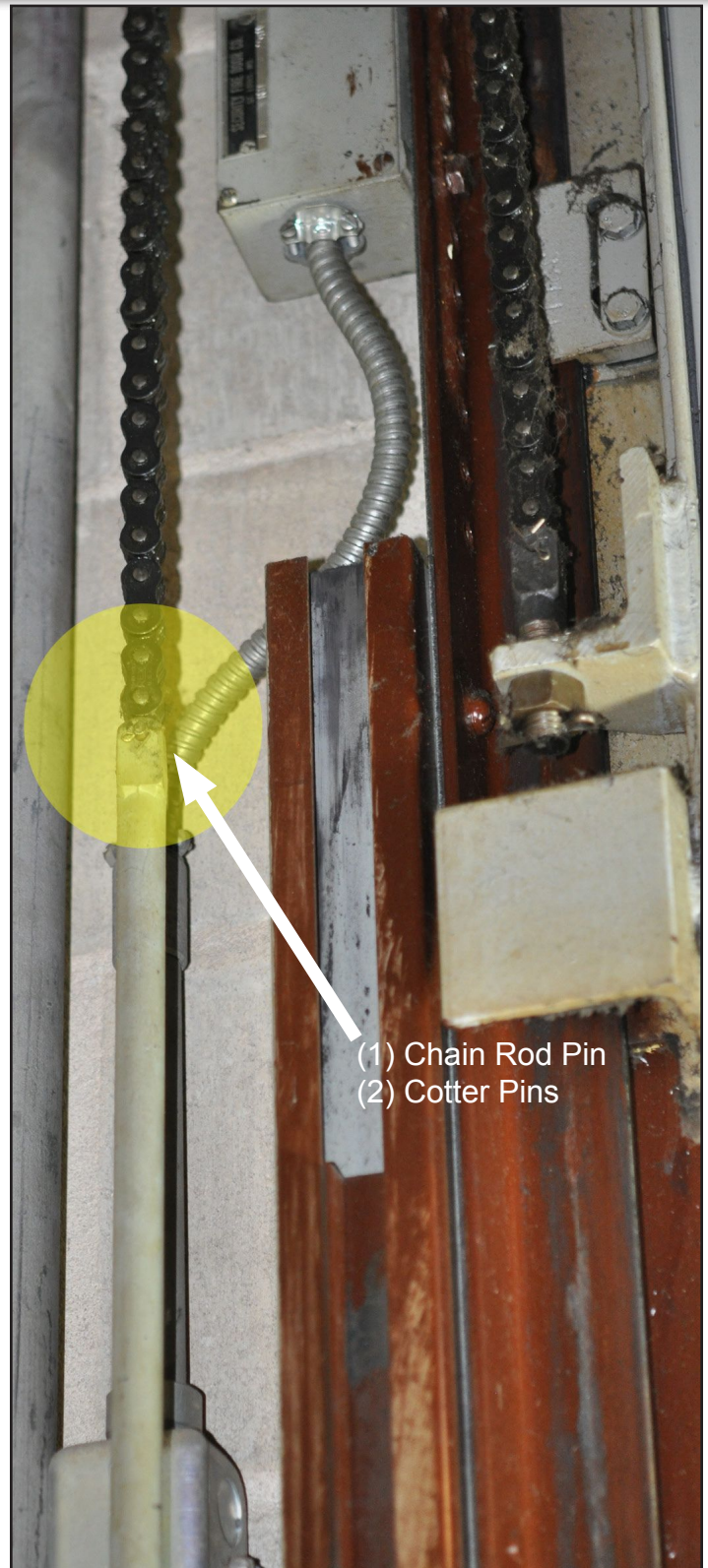
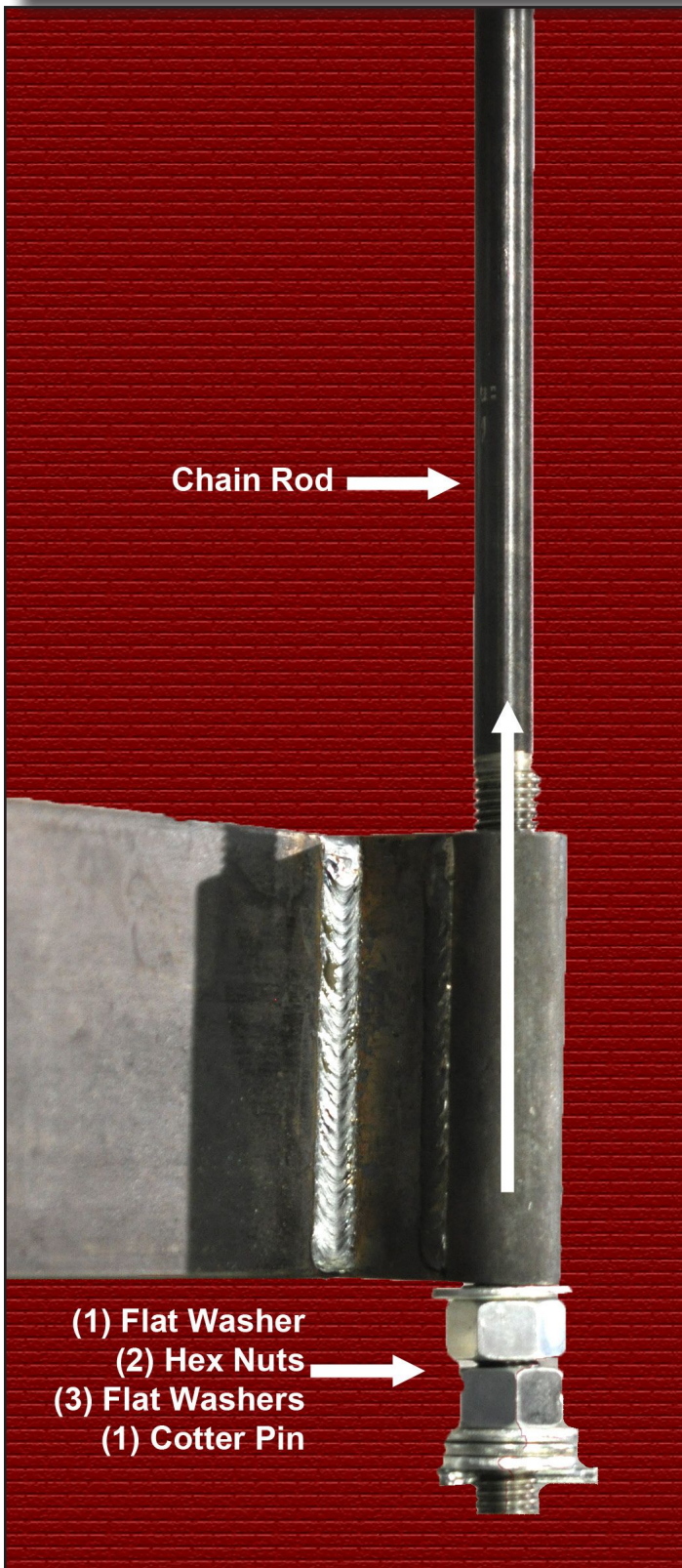


WARNING!

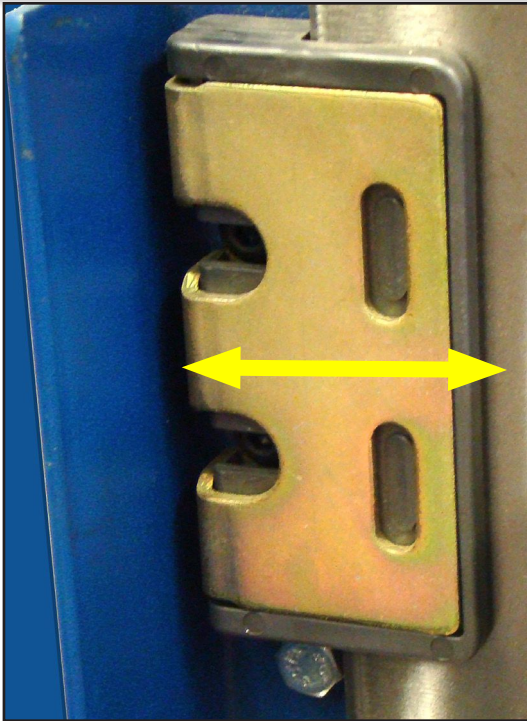
DO NOT USE THE DOOR OPEN GAUGE STICKS TO SUPPORT THE UPPER DOOR PANEL

For Immediate Help Call 1-800-533-5760

- ③ Using the fasteners found in Hardware Kit #09-400613, insert the Door Chain Rods into the Lower Door Arms. With the Door Panels in the FULL OPEN position, mark and cut the Door Chain to permit attachment to the Chain Rod.



- 4 Adjust the Door Shoes to limit side-to-side play to about 1/8" (4mm).

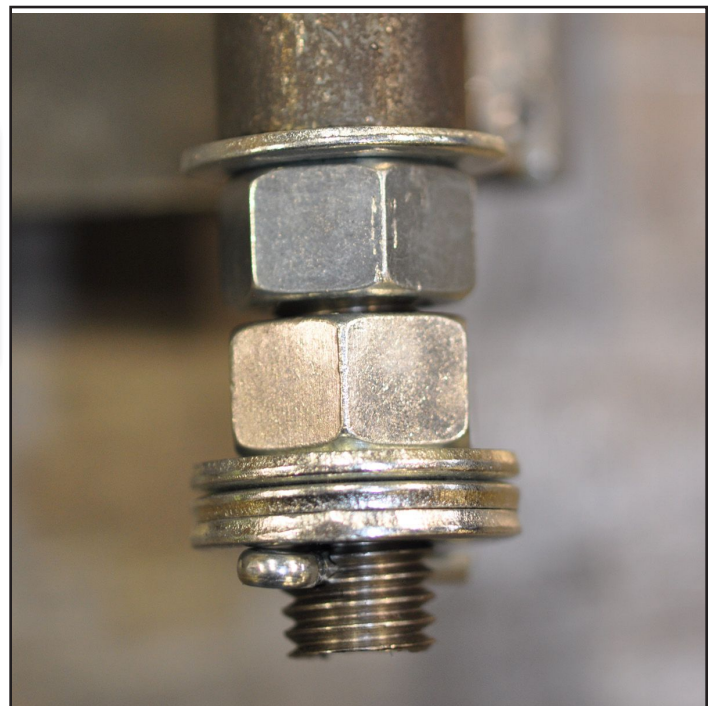


CAUTION!

Excessive force can strip threads in the Door Panel Side Angles.

- 5 With the Door Panels in the **FULL OPEN** position, adjust the Chains and Chain Rods to insure that the Door Panels are **LEVEL** and **PLUMB**. The Lower Door Panel should be resting firmly on the Guide Stops.

The distance between the Upper and Lower Door Panel should be the same on each side of the Opening. Use the Hex Nuts on the Lower Door Chain Rod to insure that the Door Panels are **LEVEL & PLUMB**.



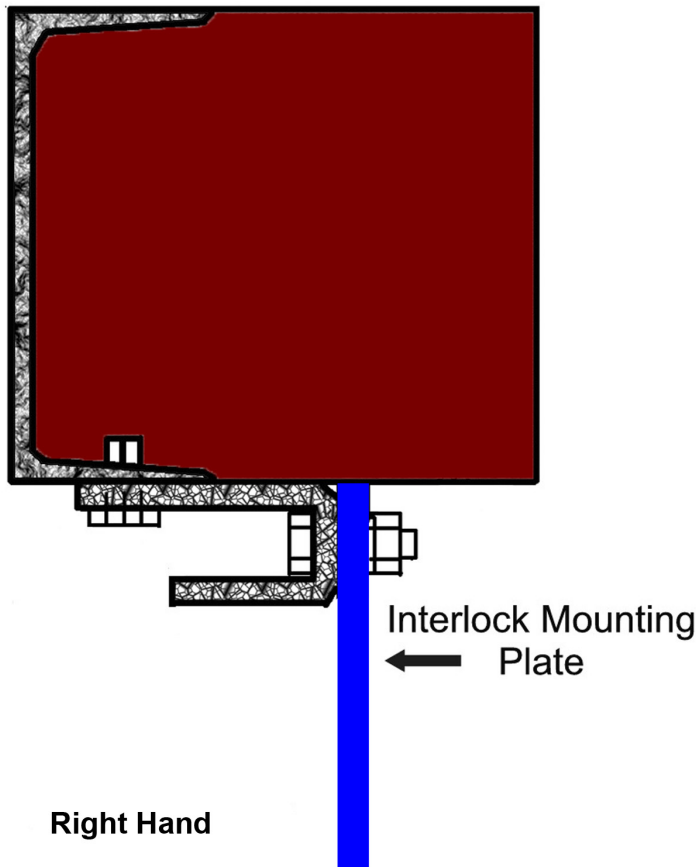
For Immediate Help Call 1-800-533-5760

Door Interlock Installation - Power Operation Only

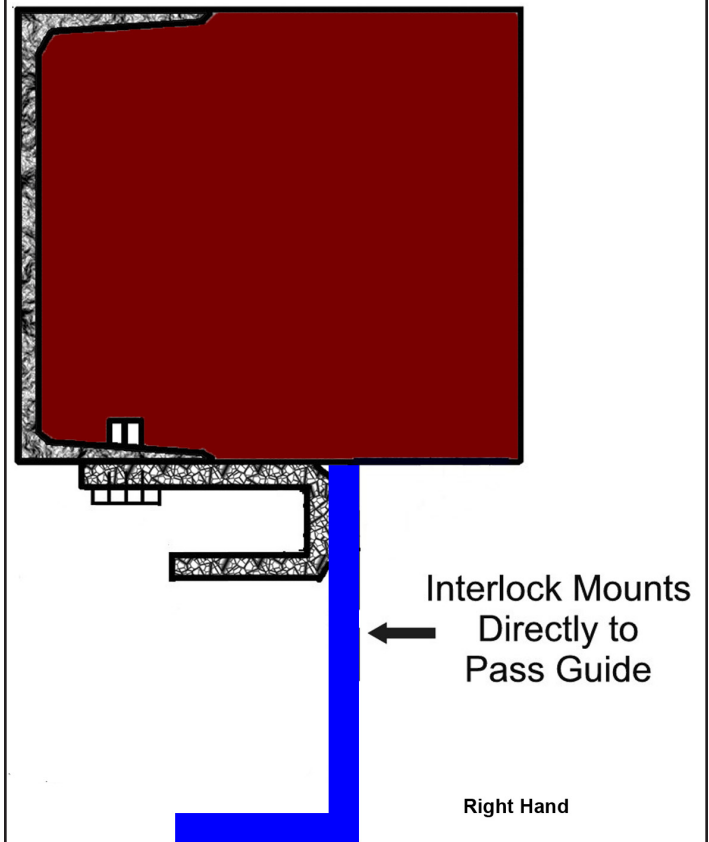
Mount the Interlock Mounting Plate (when applicable), Auto Latch, Interlock, and Interlock Guides to the Door Guide Rails, and Lock Bar to the Lower Door Arm on the Interlock side of the hoistway. Please consult Courion's GD Drawings to determine the proper side of the Opening.

The Interlock Mounting Plate is Job Specific and may vary from those shown below. Please consult your Job Specific Plan Views before starting this step of the installation process.

Regular Guide Rail



Pass Guide Rail

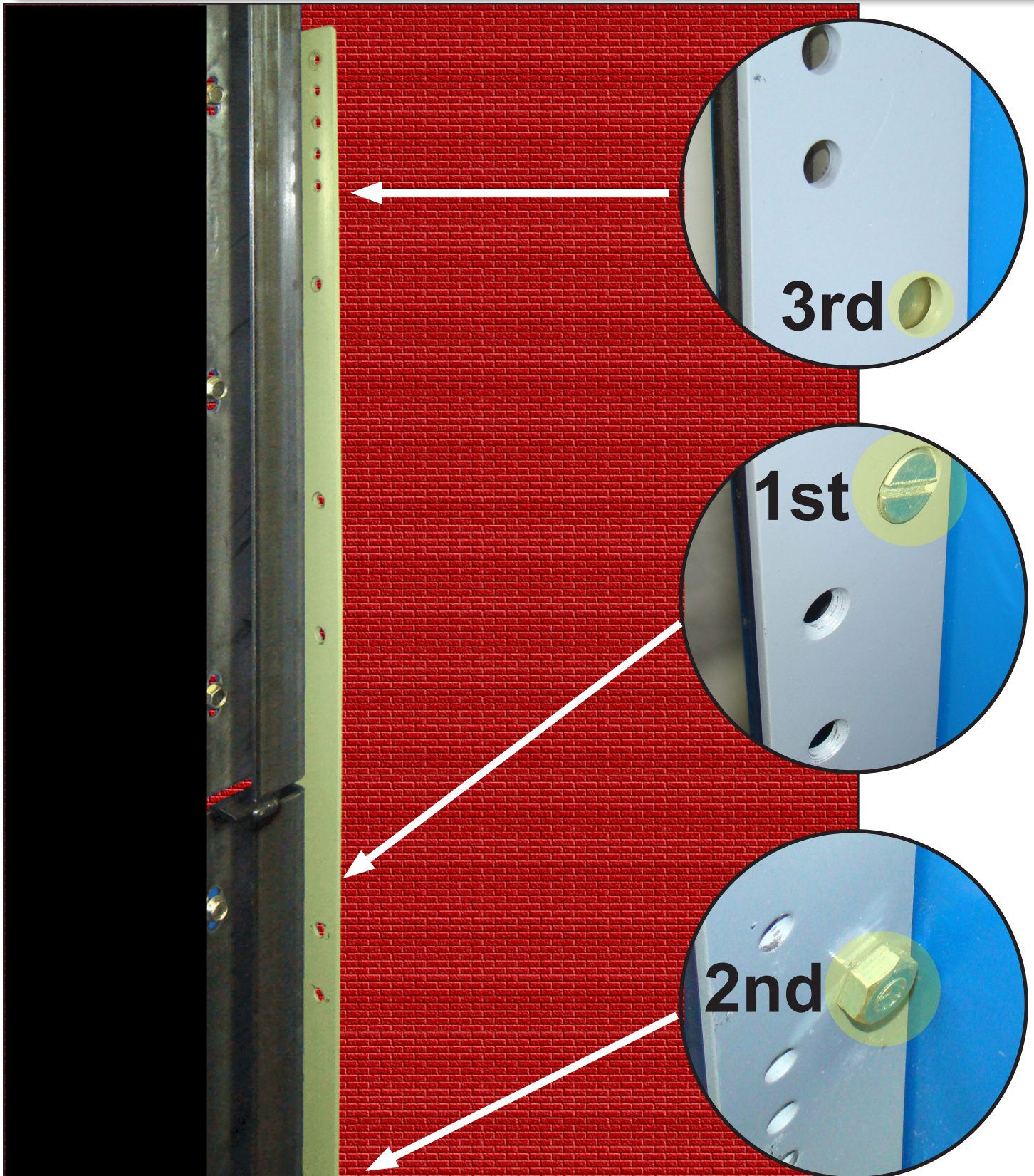


IMPORTANT!

The Interlock Mounting Plate must be plumb and parallel to the Door Guide Rails.

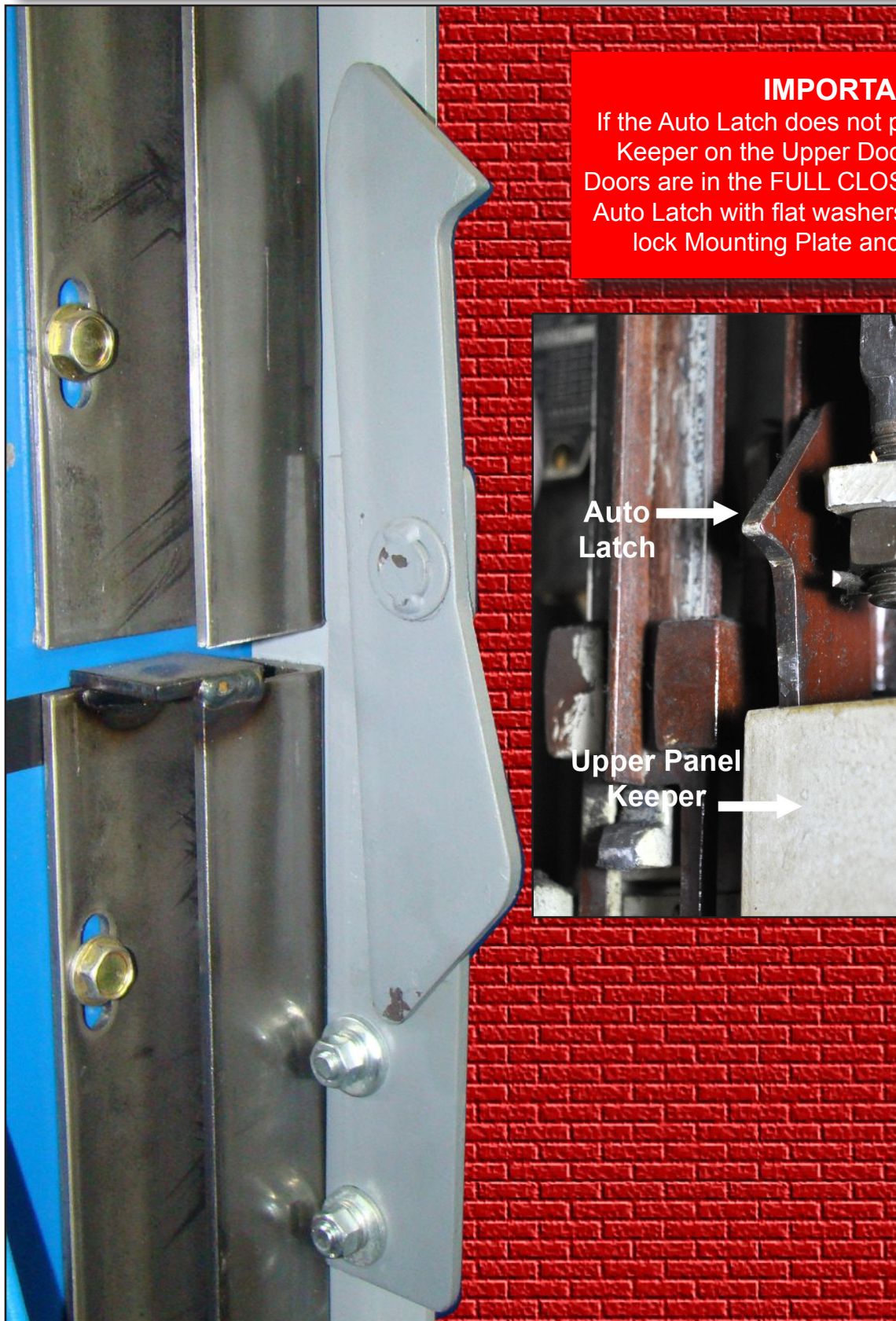
For Immediate Help Call 1-800-533-5760

- ① Mount the Interlock Mounting Plate to the Door Guide Rails by first using the middle counter-sunk hole, then the lower mounting hole, and finally the upper mounting hole. It will be necessary to drill a 17/32" mounting hole in the Upper Door Guide for the final mounting hole.



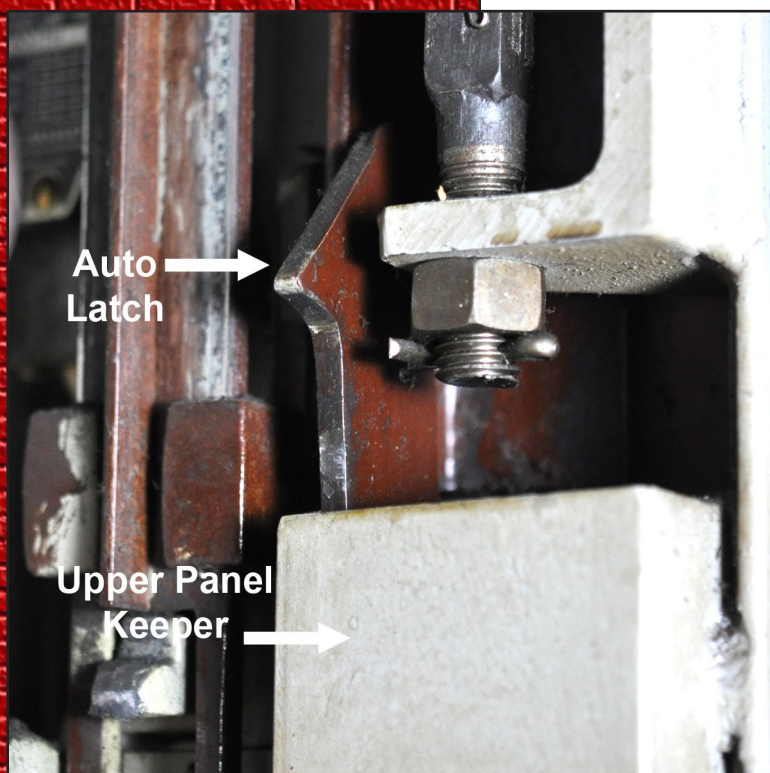
For Immediate Help Call 1-800-533-5760

- 2** Mount the Auto Latch (hook up) to the Rail side of the Interlock Mounting Plate.



IMPORTANT!

If the Auto Latch does not properly engage the Keeper on the Upper Door Panel when the Doors are in the FULL CLOSE position, shim the Auto Latch with flat washers between the Interlock Mounting Plate and the Auto Latch.



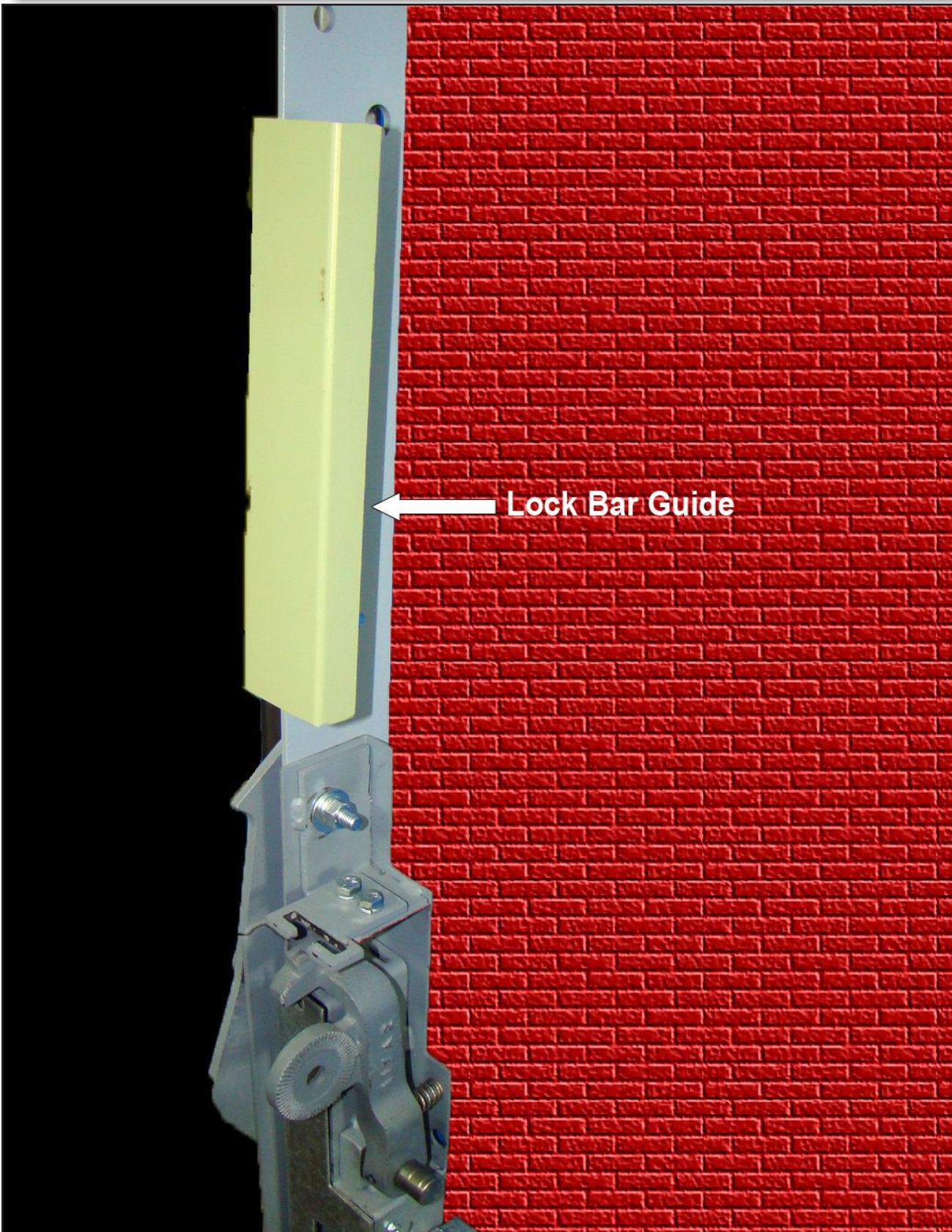
For Immediate Help Call 1-800-533-5760

- 3** Mount the Interlock to the Interlock Mounting Plate. Make sure the Interlock is parallel to the Door Guides.



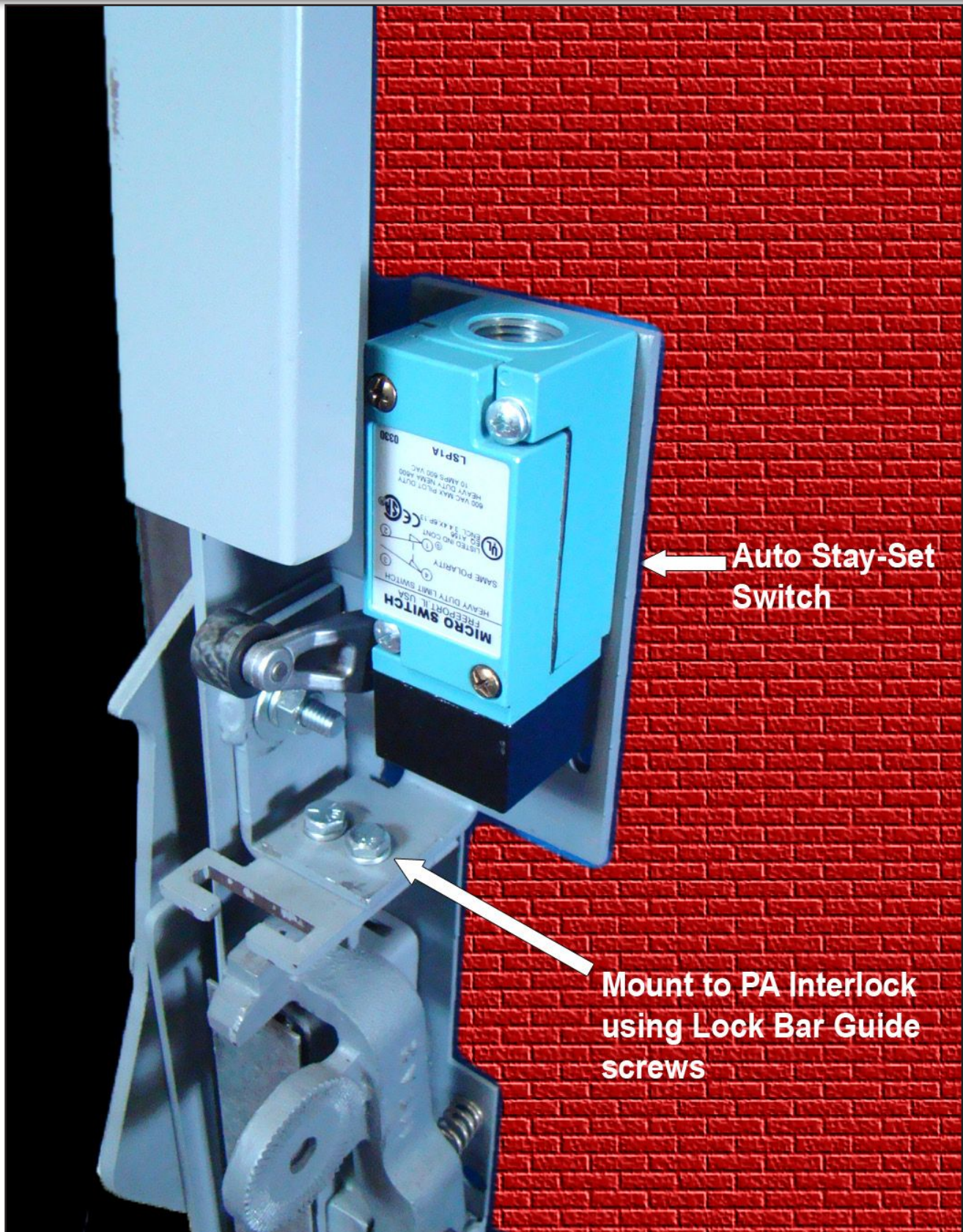
For Immediate Help Call 1-800-533-5760

- 4** Mount the Lock Bar Guides to the Interlock Mounting Plate. Make sure the Interlock is parallel to the Door Guides.

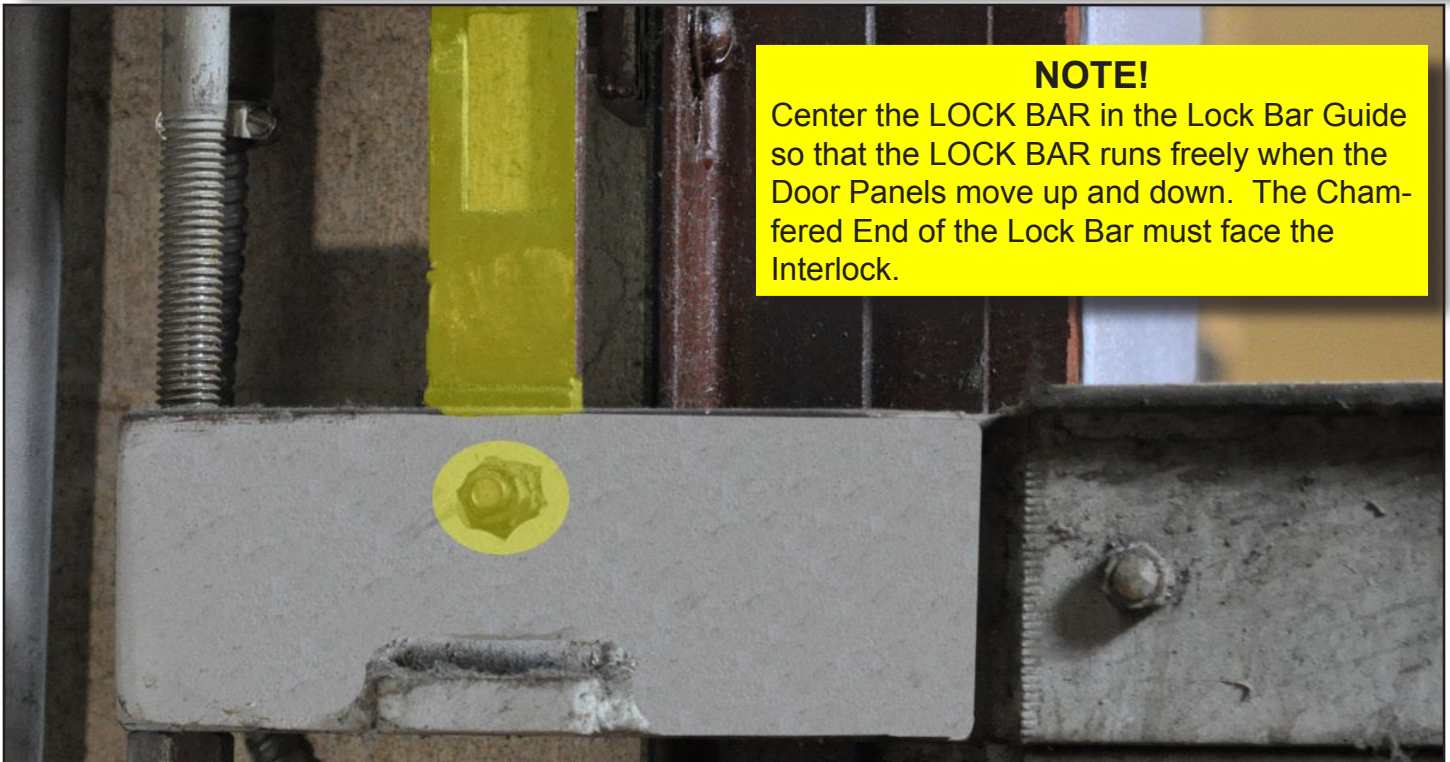


For Immediate Help Call 1-800-533-5760

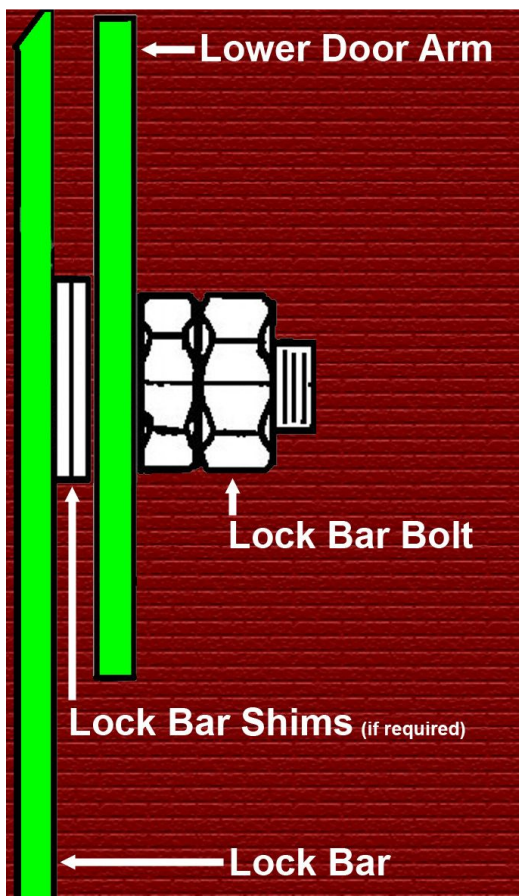
- 5** When applicable, mount the Auto-Sta Set Switch to the PA Interlock using the Lock Bar Guide Fasteners.



- 6** With the Door Panels in the FULL CLOSE position, mount the Lock Bar to the Lower Door Arm using the Lock Bar Bolt provided by Courion.



NOTE!
Center the LOCK BAR in the Lock Bar Guide so that the LOCK BAR runs freely when the Door Panels move up and down. The Chamfered End of the Lock Bar must face the Interlock.



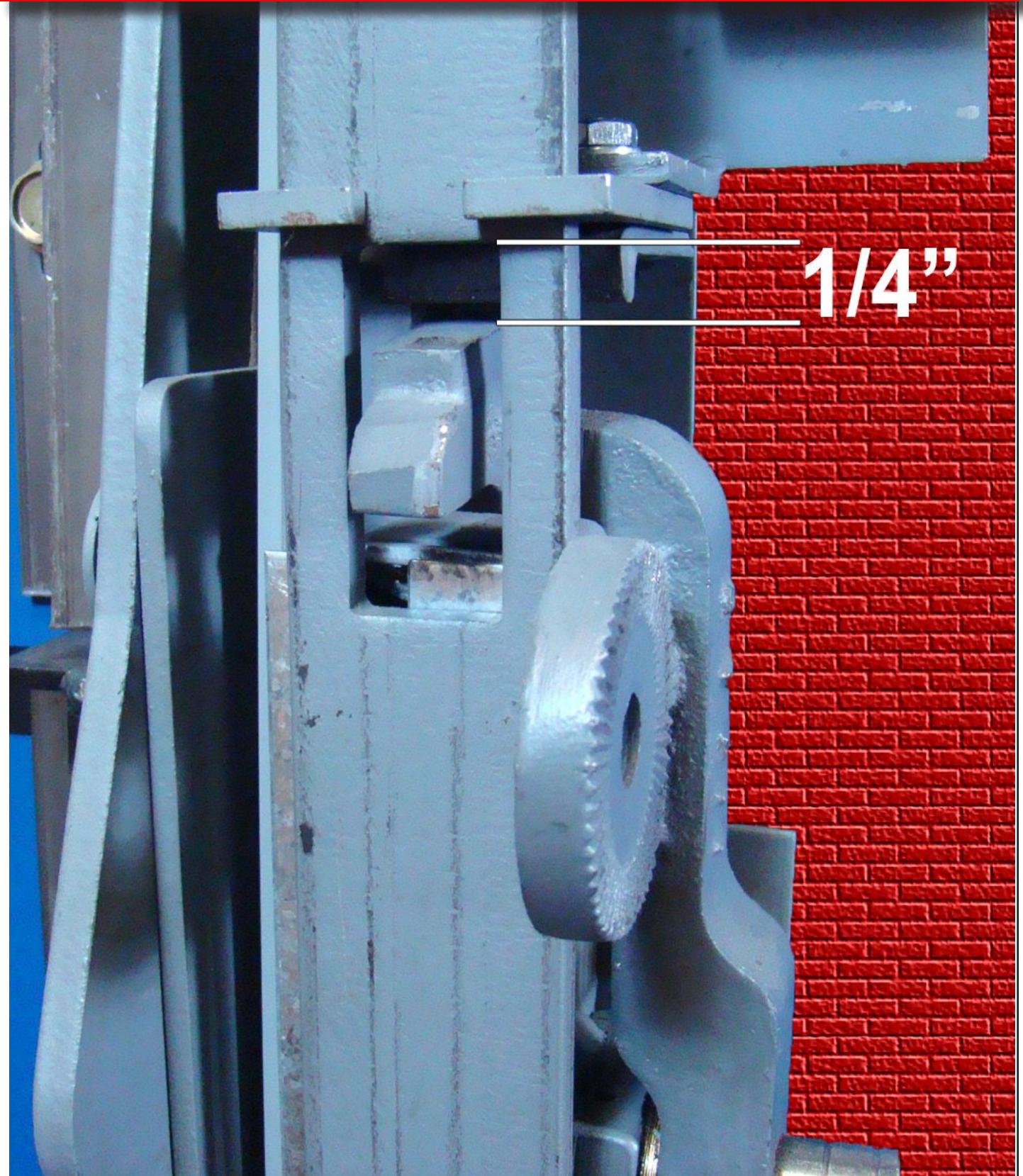
Lock Bar Installation

1. Clamp the LOCK Bar to the Lower Door Arm
2. Drill a 25/64" hole through the Lower Door Arm and LOCK BAR. Locate the hole in the center of the LOCK BAR and about 1" (25mm) down from the top of the Lower Door Arm.
3. Remove the LOCK BAR and countersink the hole for a 3/8" Flat Head Machine Screw.
4. Attach the LOCK BAR to the Lower Door Arm using the LOCK BAR BOLT provided by Courion.
5. The LOCK BAR should pivot on the 3/8" LOCK BAR BOLT.
6. Shim the LOCK BAR if required.

For Immediate Help Call 1-800-533-5760

CRITICAL!

There should be no more than 1/4" (6mm) between the TOP of the Locking Dog and the Top Edge of the Lock Bar hole when the Door Panels are in the FULL CLOSE position.



Side Opposite Latch Installation - When Applicable

With the Door Panels in the FULL CLOSE position, mount the Side Opposite Latch and Side Opposite Latch Bar directly across from the Interlock.

- 1 Attach the **SIDE OPPOSITE LATCH** to the Door Guide Rail using fasteners found in Hardware Kit #135

CRITICAL!

There should be no more than 1/4" (6mm) between the TOP of the Locking Dog and the Top Edge of the Latch Bar hole when the Door Panels are in the FULL CLOSE position.

- 2 Clamp the LATCH BAR to the Lower Door Arm
- 3 Drill a 21/64" hole through the Lower Door Arm and LATCH BAR. Locate the hole in the center of the LATCH BAR and about 1" (25mm) down from the top of the Lower Door Arm.
- 4 Remove the LATCH BAR and tap the Door Arm hole for a 5/16-18 Hex Head Bolt.
- 5 Attach the LATCH BAR to the Lower Door Arm using the 5/16-18 x 1-1/4" Bolt in Hardware Kit #135.
- 6 Shim the LATCH BAR if required.

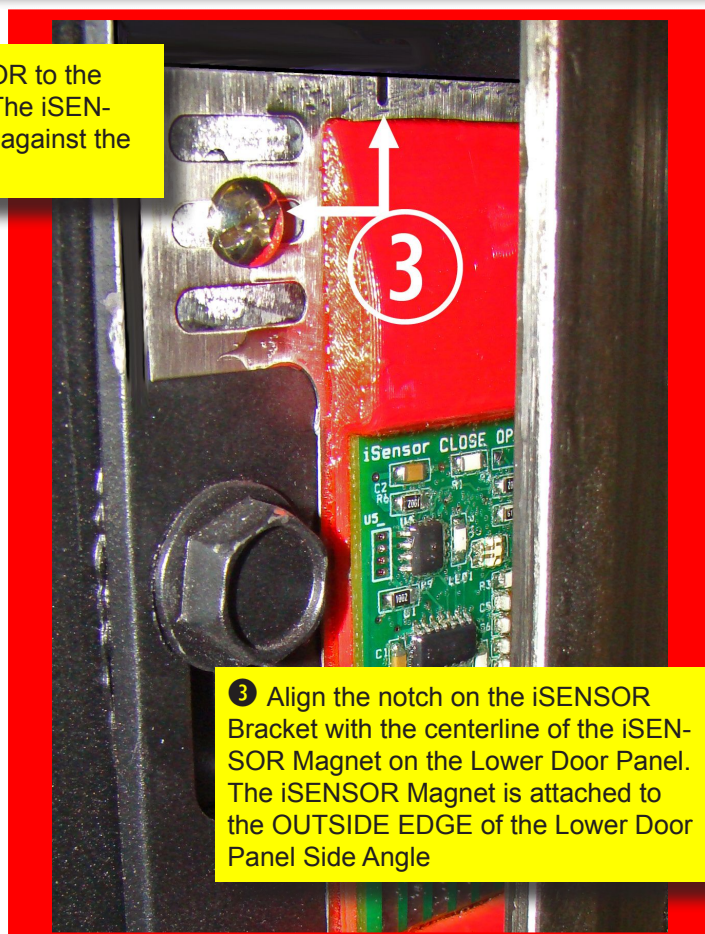
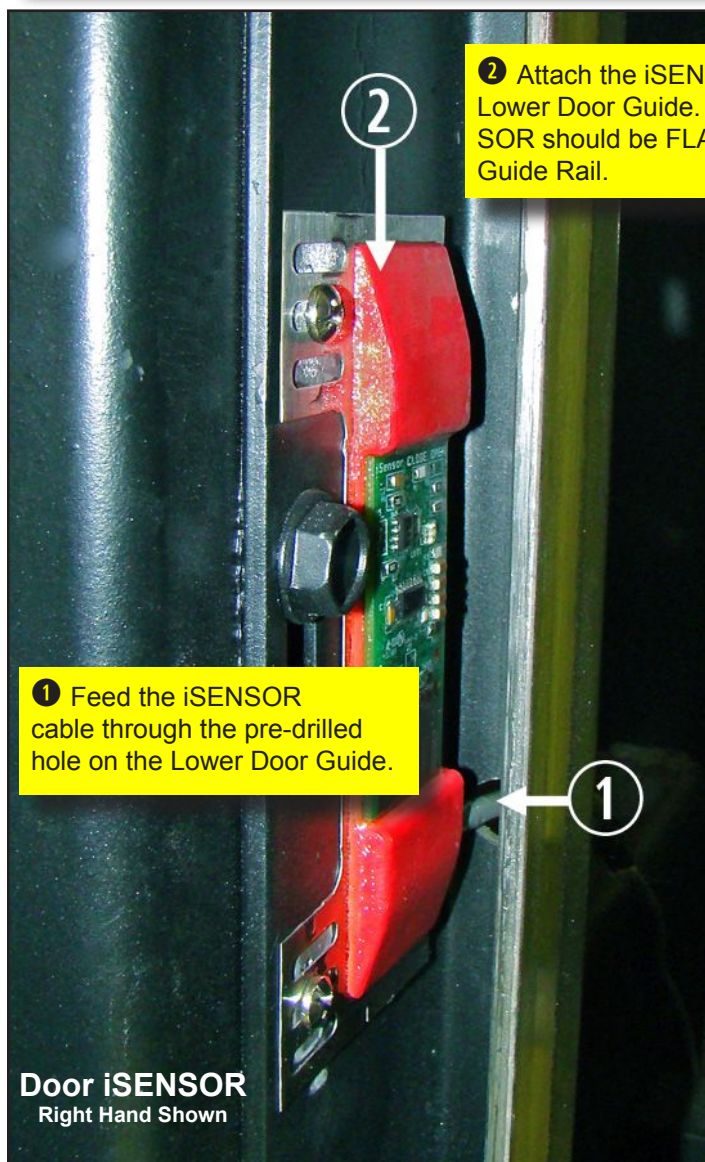
Side View

IMPORTANT - Do NOT install the Side Opposite Latch Roller Arm at this time.

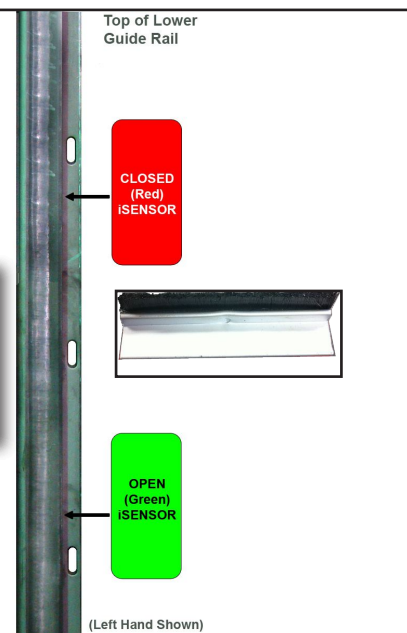
For Immediate Help Call 1-314-533-5700

iSENSOR Installation - (Applicable Only If You Have Courion's Next Generation System)

After the Door Panels have been installed, mount the Door iSENSORS to the Lower Door Guides on the iDRIVE VFD Floor Control side of the hoistway.



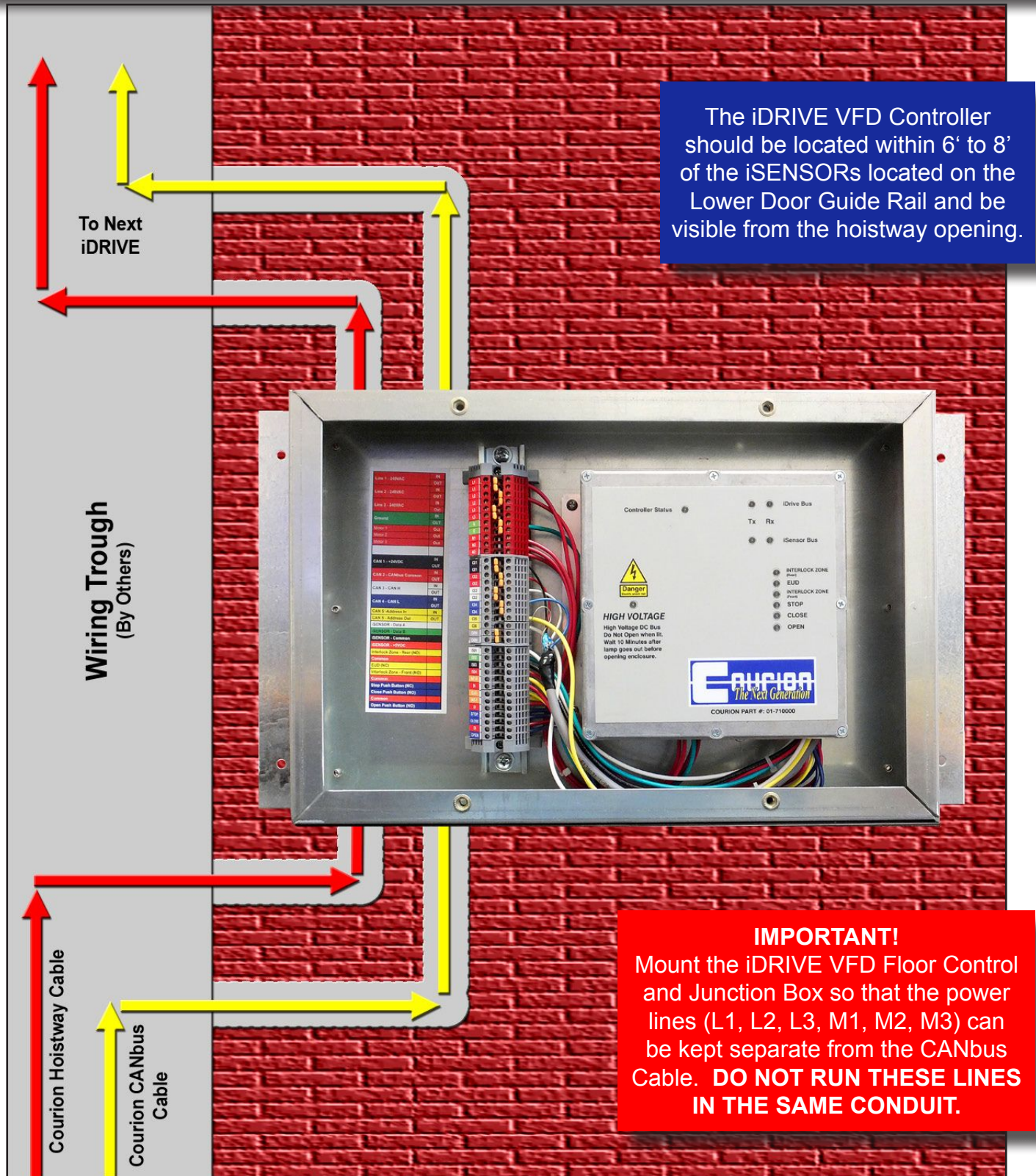
4 Locate a position on the Door Guide about halfway between the Open and Close iSENSOR. Clean the spot on the Door Guide with the alcohol swab and firmly attach the iSENSOR Magnet Brush to the Door Guide.



For Immediate Help Call 1-800-533-5760

iDRIVE VFD Controller Installation - (Applicable Only If You Have Courion's Next Generation System)

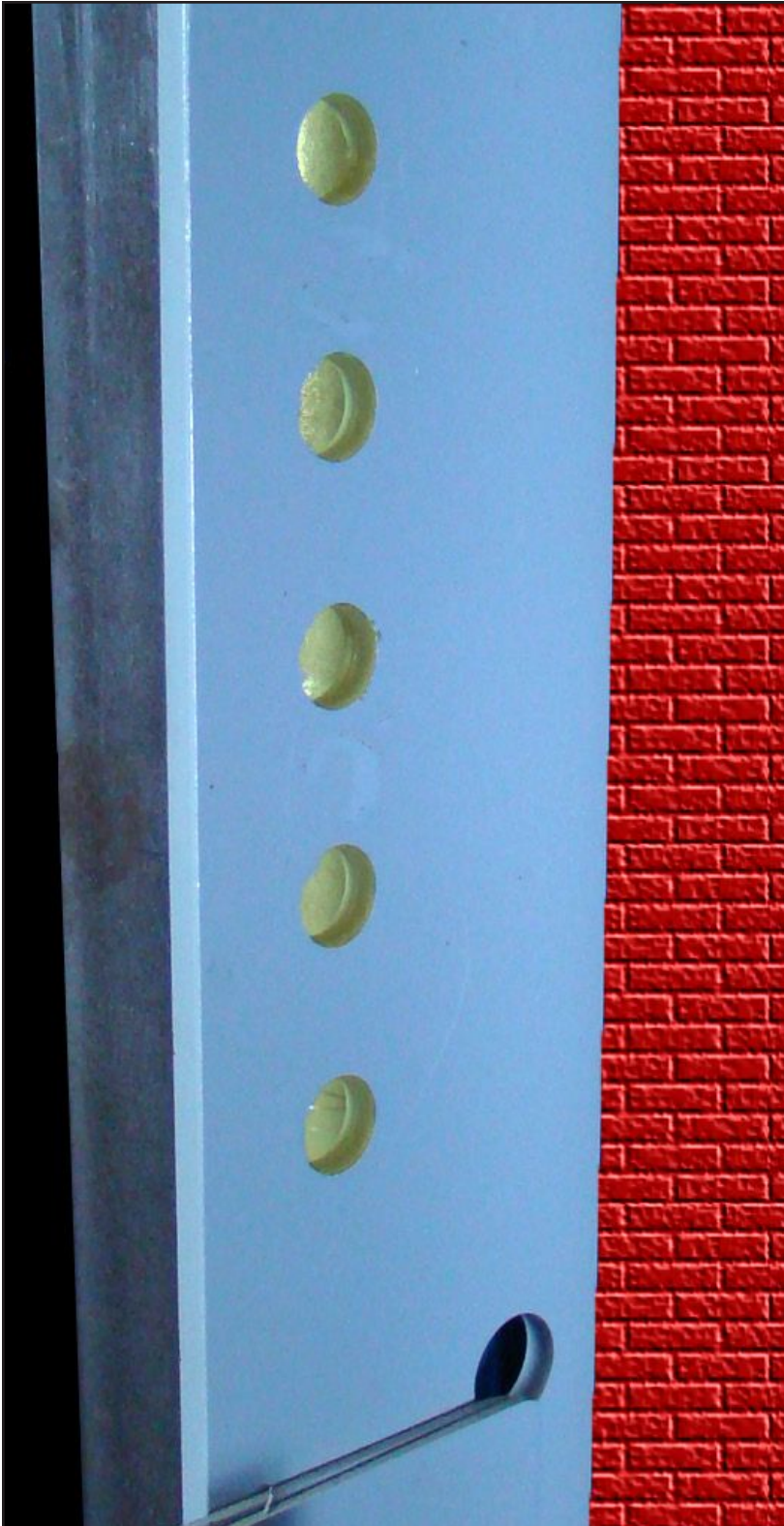
Attach the iDRIVE VFD Floor Control and iDRIVE Floor Junction Box to the Wiring Trough or Hoistway Wall on the Interlock Side of the Hoistway.



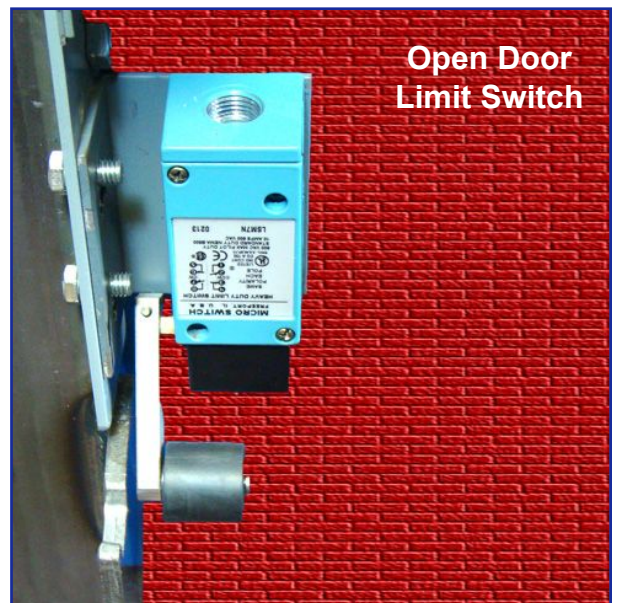
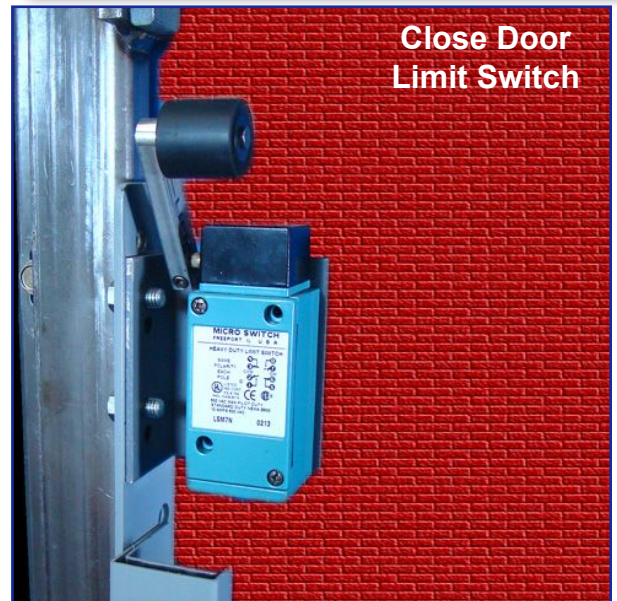
For Immediate Help Call 1-314-533-5700

Door Limit Switch Installation - (Applicable Only If You Do NOT Have Courion's Next Generation System)

With the Door Panels in the FULL CLOSE position, mount the Door Open and Door Close Limit Switches to the Interlock Mounting Plate.



Near each end of the Interlock Mounting Plate (or Pass Guide) there are a series of holes punched on 1" (25mm) centers for mounting the Door Open and Door Close Limit Switches. These incremental holes are used to provide placement adjustment of the switches.



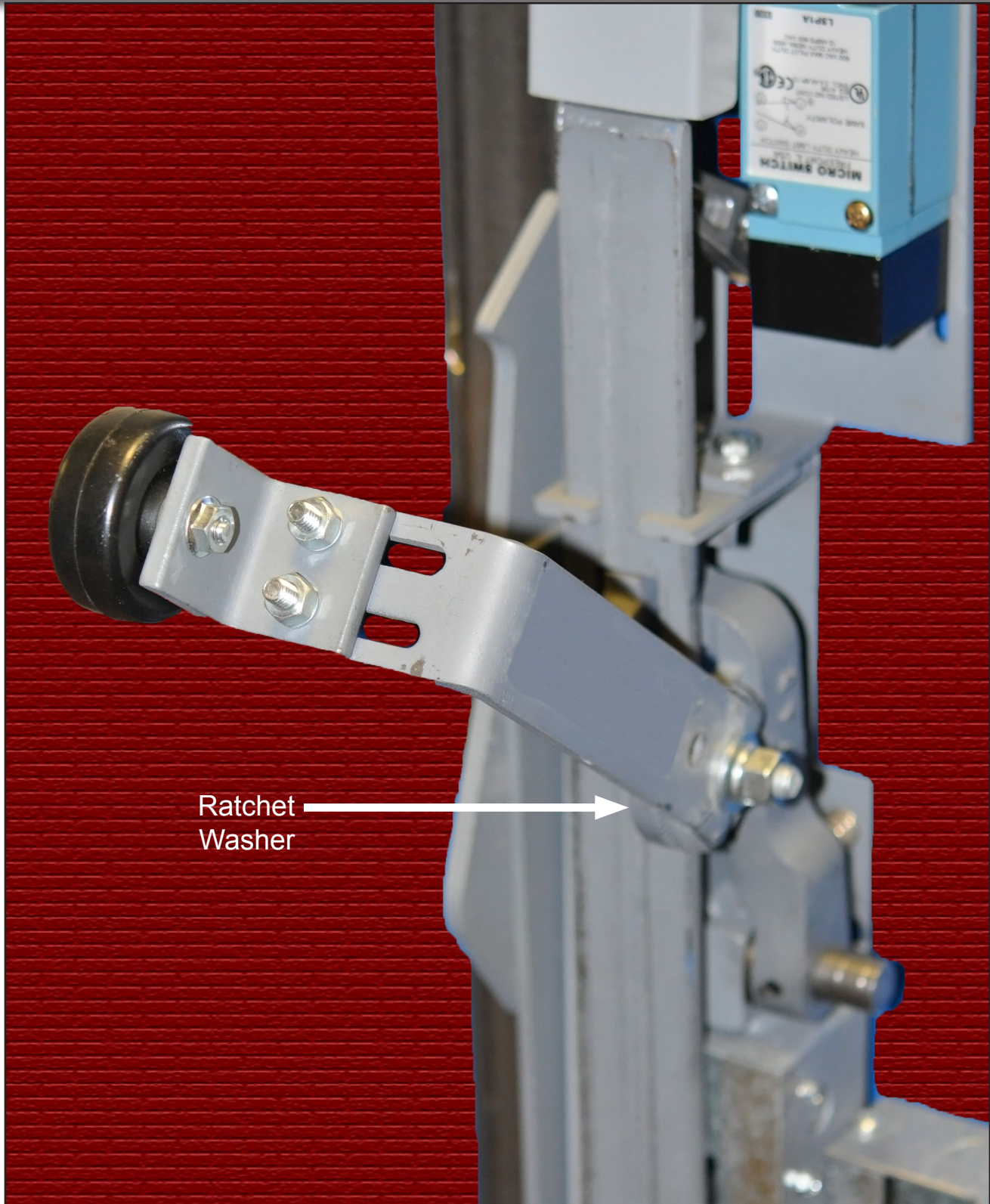
Limit Switch Adjustment - (Applicable Only If You Do NOT Have Courion's Next Generation System)

Adjust the Open and Close Limit Switches so that the Lock Bar actuates the switches when the Door Panel is approximately 6" to 8" (152mm to 203mm) from FULL OPEN or FULL CLOSE.



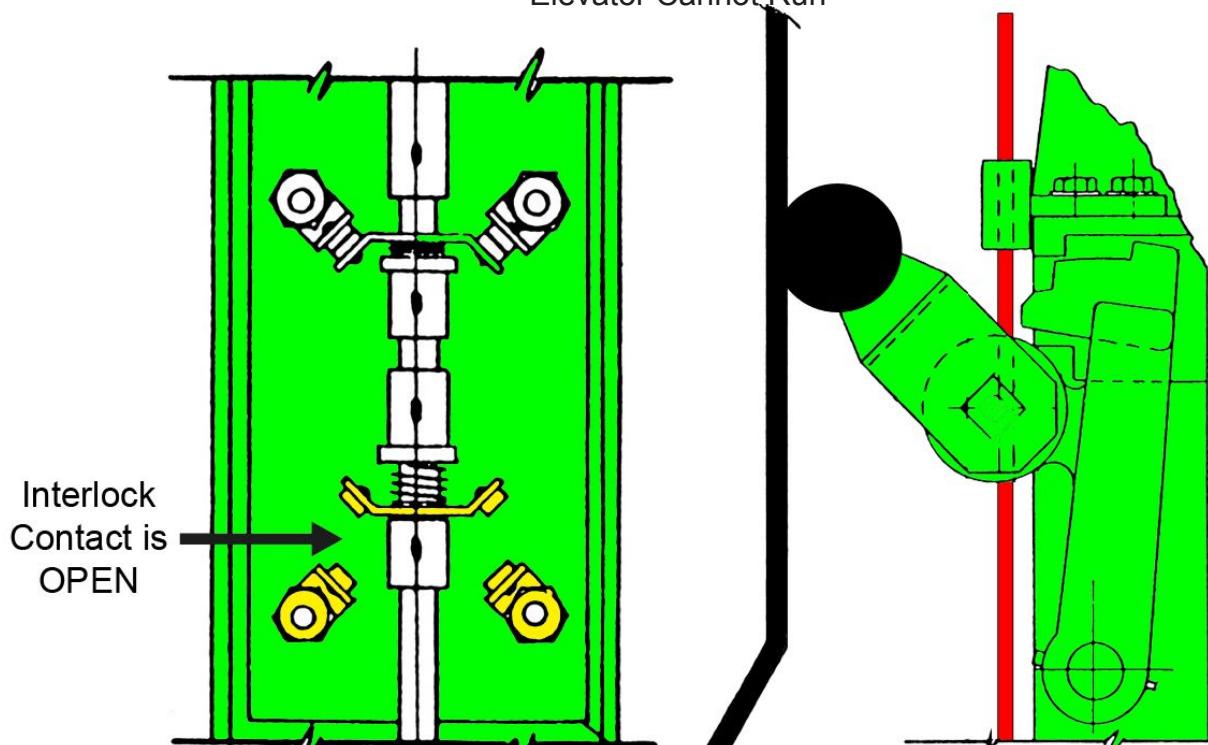
Interlock Roller Arm Installation - (Perform this Step AFTER the Retiring Cam has been installed)

Attach the Interlock Roller Arm to the Interlock. Make sure the Retiring Cam clears the Interlock Roller Arm during the Elevator's travel and that the Retiring Cam properly actuates the Interlock at each floor.



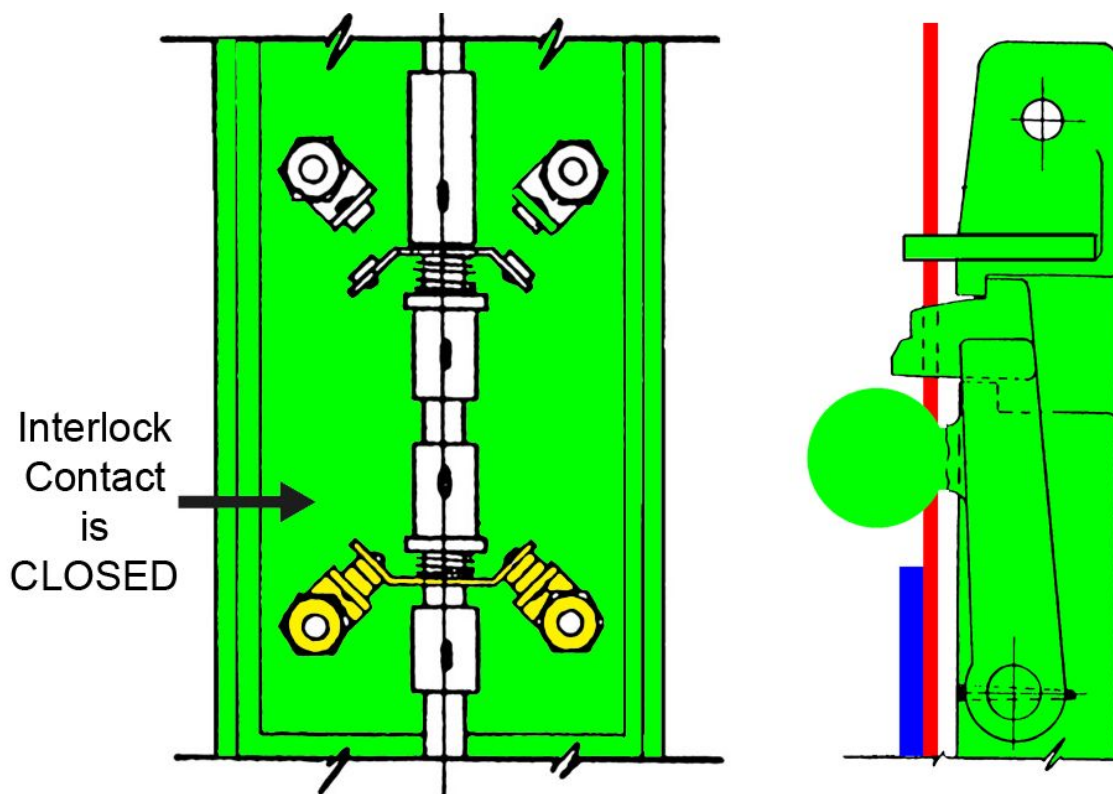
Doors In The UNLOCKED Position

Retiring Cam is Down - Interlock Contact is OPEN - Door Motor Contacts Are CLOSED
Elevator Cannot Run



Doors In The LOCKED Position

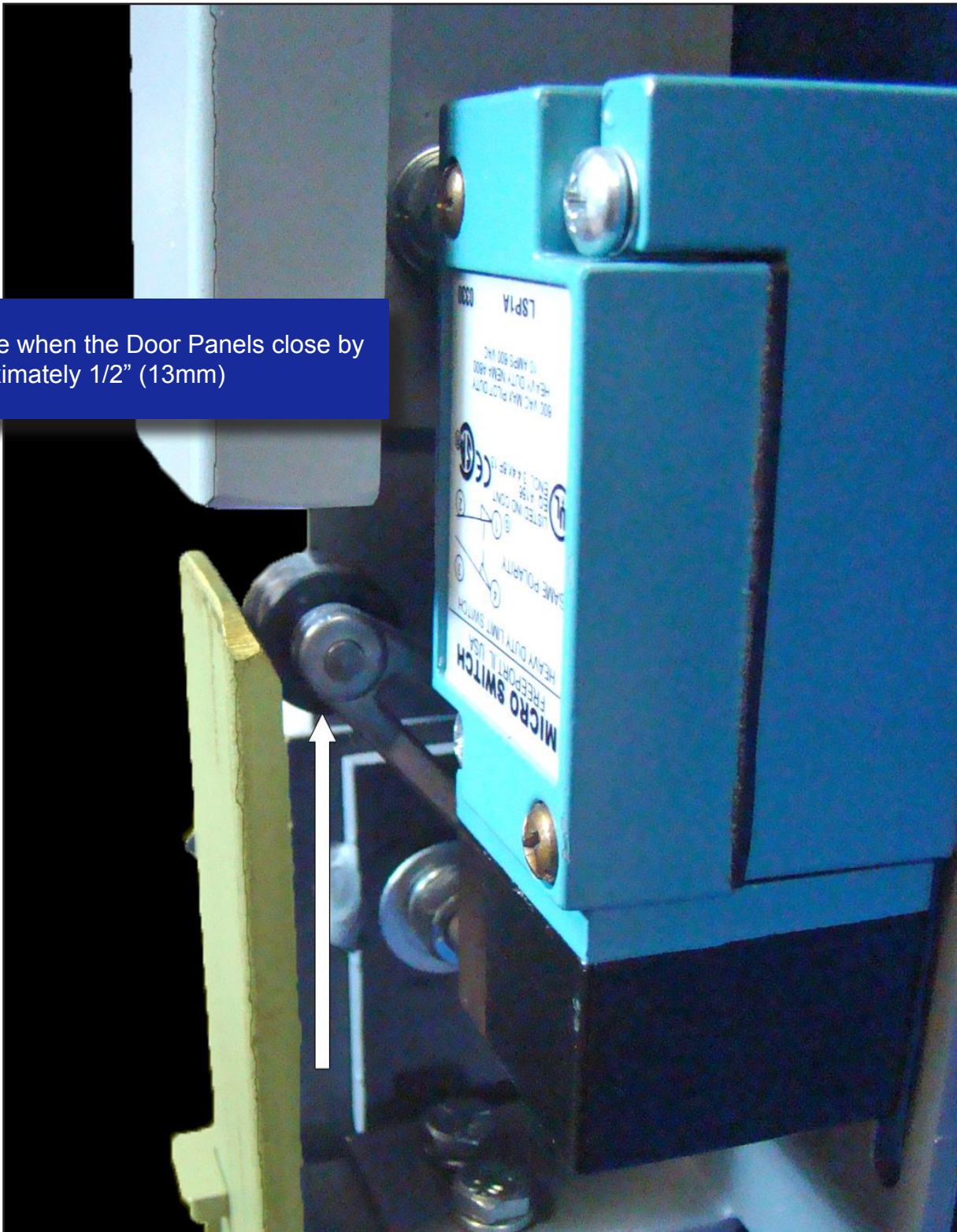
Retiring Cam is Picked - Interlock Contact is CLOSED - Door Motor Contacts Are OPEN
Elevator Can Run



Auto-Sta Set Switch Adjustment

With the Door Panels in the FULL OPEN position, adjust the Auto-Sta Set Switch Roller Arm so that it is actuated if the Door Panels close by approximately 1/2" (13mm).

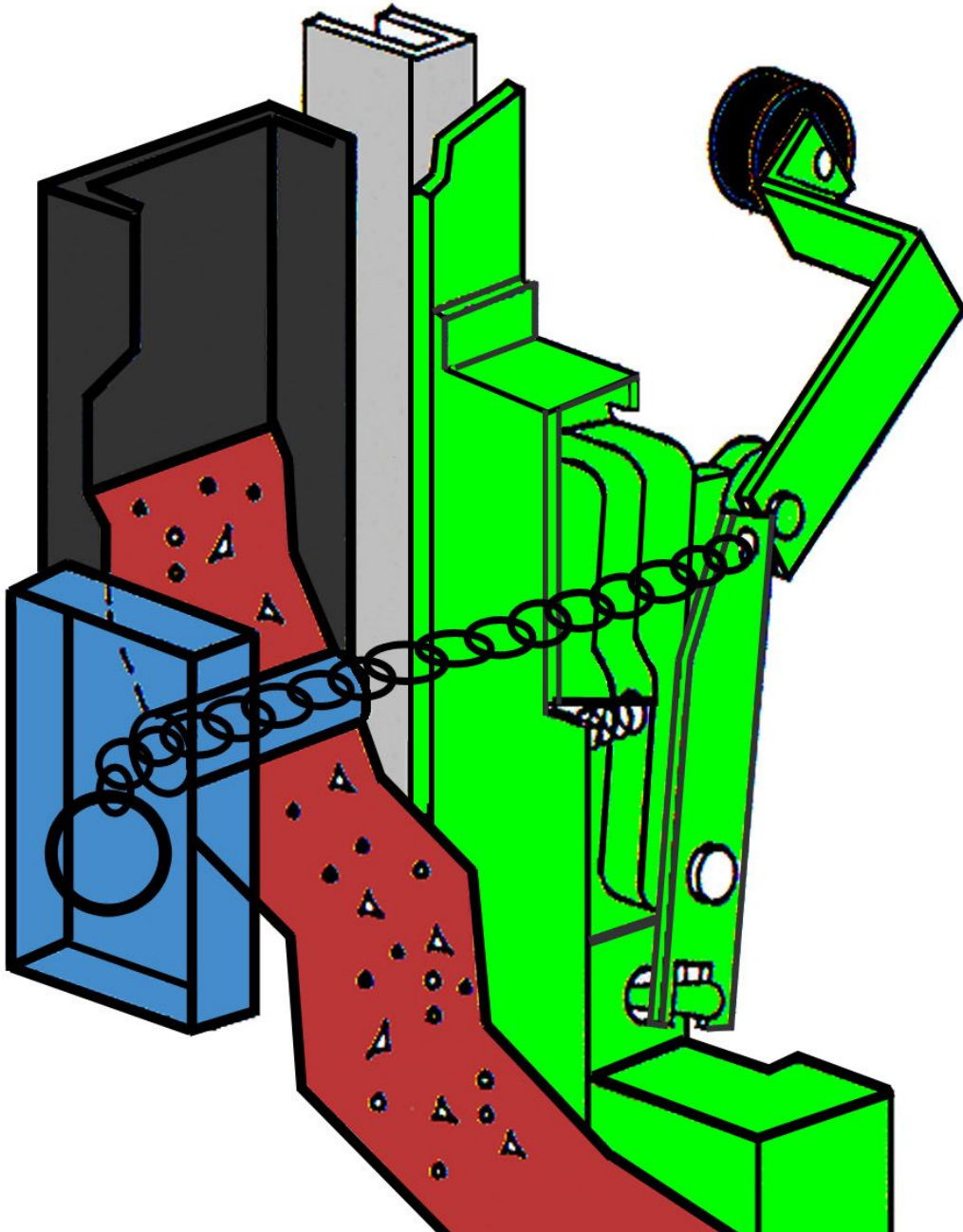
Actuate when the Door Panels close by approximately 1/2" (13mm)



For Immediate Help Call 1-314-533-5700

Emergency Unlocking Device (EUD) Installation

When applicable, install the Emergency Unlocking Device (EUD). Please refer to Courion's General Detail Drawings and note the designated landings for EUD installation.



IMPORTANT!

The EUD should be aligned as closely as possible to the hole in the top of the Interlock Roller Arm.

EUDs are used by qualified personnel to unlock the Hoistway Doors when the car is not present at the landing. For this reason, please limit access to the Emergency Unlocking Device key.

Hoistway Door Adjustment - Courion Bi-Parting Freight Doors

You have completed the mechanical portion of the Hoistway Freight Door Installation. Before proceeding to the Final Check, adjust your hoistway doors for proper operation.

The following steps assume that your Door Guide Rails are plumb and square side-to-side, and front-to-back, and that you have the correct Distance Between Guides (DBG). It also assumes that there is no twist in the Door Panels. If these assumptions are not true, return to the Courion Installation Instructions and make the necessary corrections.

1. Loosen all Guide Shoes on the Upper and Lower Door Panels.
2. Loosen the Chain Rod Positioner on the Interlock Side of the hoistway. (Q-Style Doors Only)
3. Open the Doors to FULL OPEN.
4. Adjust the Door Guide Stops so that the Lower Door Panel is level and 1/8" (4mm) below the Sill.
5. Adjust the Door Chains so that the Upper Door Panel is 1/8" (4mm) above the Header.
6. While standing on the Lower Door Panel, measure up from the Lower Door Panel to the Upper Door Panel Side Angle on both sides of the Opening to insure that the Upper Door Panel is square with the Lower Door Panel. The distance between the Upper and Lower Door Panels should be the same on each side of the Opening.
7. If not, use the Door Chain Rods to raise or lower the Upper Door Panel as required. Once complete, place a level on the Upper Door Panel to make sure it is level.
8. Close the Doors to FULL CLOSE.
9. Adjust the Chains and Chain Rods so that there is a MAXIMUM clearance of 1/4" between the square end of the Chain Rod and the Interlock Locking Actuator (Q-Style) or 1/4" between the Top of the Locking Dog and the Top Edge of the Lock Bar Hole (P-Style). Adjustments to the Door Chains must be the same on both sides of the Opening. Q-Style Doors Only - If you must adjust the Door Chains, remember that for every turn made on the Upper Chain Adjustment Rod, there needs to be a corresponding opposite turn on the Door Chain Rod.
10. Raise and lower the Door Panels several times. Door operation should be smooth and easy.
11. The Chain Rod Positioner on the Interlock Side of the hoistway will self-adjust. Tighten the Chain Rod Positioner. (Q-Style Doors Only)
12. Close the Doors to FULL CLOSE.
13. Make sure the Door Panels are centered side-to-side in the Opening.
14. Push the Door Shoes out so that the Door Shoes are tight against the Door Guides.
15. Back the Door Shoes off 1/16" (2mm) on both sides of the Door Panel and tighten in place. Use caution when tightening the Guide Shoes. Side-to-Side play of the Door Panels should be limited to about 1/8" (4mm).
16. Lube the Door Guide Rails with a light lubricant (hydraulic fluid or light oil - NOT GREASE) and manually operate the Door Panels. Door operation should be smooth and easy, with little to no racking.

Final Check - P Series Freight Doors

You have completed the mechanical portion of the Hoistway Freight Door Installation. Before proceeding to the next step, please check the following items:

- ✓ Attach a Web Strap to each Upper Door Panel and secure in the Door Panel Web Strap Hitch.
- ✓ Inspect all Door Guide Rails to insure that all mounting hardware is tight and secure.
- ✓ Apply a small amount of light oil (NOT GREASE) to the Door Guide Rails.
- ✓ Manually open and close each set of Freight Doors to insure that they move freely in the Door Guide Rails, and that the Door Operators/Manual Sheaves turn freely.
- ✓ Adjust the Door Shoes to limit side-to-side play to 1/8" (2mm). Use caution when tightening the Door Shoes. Excessive force can strip threads in the Door Panel side angles.
- ✓ Adjust the Chain Bolt to insure that the Door Panels are square and level, and reach FULL OPEN and FULL CLOSE.
- ✓ Adjust the position of the Auto-Stop Set Switch (when applicable) so that the switch is actuated by the Lock Bar when the Lower Door Panel is 1/4" to 3/4" from FULL OPEN.
- ✓ With the Freight Doors in the FULL CLOSE position, insure that the MAXIMUM measure between the top of the Locking Dog and the hole in the Lock Bar is no more than 1/4" (6mm).
- ✓ Adjust the Door Open Limit Switch so that it is actuated by the Lock Bar approximately 6" to 8" from FULL OPEN.
- ✓ Adjust the Door Close Limit Switch so that it is actuated by the Lock Bar approximately 6" to 8" from FULL CLOSE.



3044 Lambdin Avenue
St. Louis, Missouri 63115
(800) 533-5760 or (314) 533-5700
(314) 533-5720 (fax)
sales@couriondoors.com
www.couriondoors.com