

R Y T E C

# Clean Roll<sup>®</sup>

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## Installation Manual



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## INTRODUCTION

The information contained in this manual will allow you to install your Rytec Clean-Roll® Door in a manner that will ensure maximum life and trouble-free operation.

Any unauthorized changes in procedure, or failure to follow the steps as outlined in this manual, will automatically void the warranty. Any changes in the working parts, assemblies, or specifications as written that are not authorized by Rytec Corporation, will also cancel the warranty. The responsibility for the successful operation and performance of this door lies with the owner of the door.

**DO NOT OPERATE OR PERFORM MAINTENANCE ON THIS DOOR UNTIL YOU READ AND UNDERSTAND THE INSTRUCTIONS CONTAINED IN THIS MANUAL.**

If you have any questions, contact your Rytec representative or call the Rytec Technical Support Department at 800-628-1909. Always refer to the serial number of the door when calling the representative or Technical Support. The serial number plate is located on the side of the left side column cover.

The wiring connections and schematics in this manual are for general information purposes only. A wiring schematic is provided with each individual door specifically covering the control panel and electrical components of that door.

### UL Non-Compliance for Sanitary Applications

The manually assisted egress version of the Clean-Roll door is not UL approved for sanitary applications.

### DOOR SERIAL NUMBER(S)

Your DOOR SERIAL NUMBER can be found in these locations. The side of the left side column (approximately eye level), and on the door of the System 4 control panel. (See Figure 1.)

**IMPORTANT:** *When installing multiple doors of the same model but in different sizes, verify the serial number on the control panel with the one on the side column.*

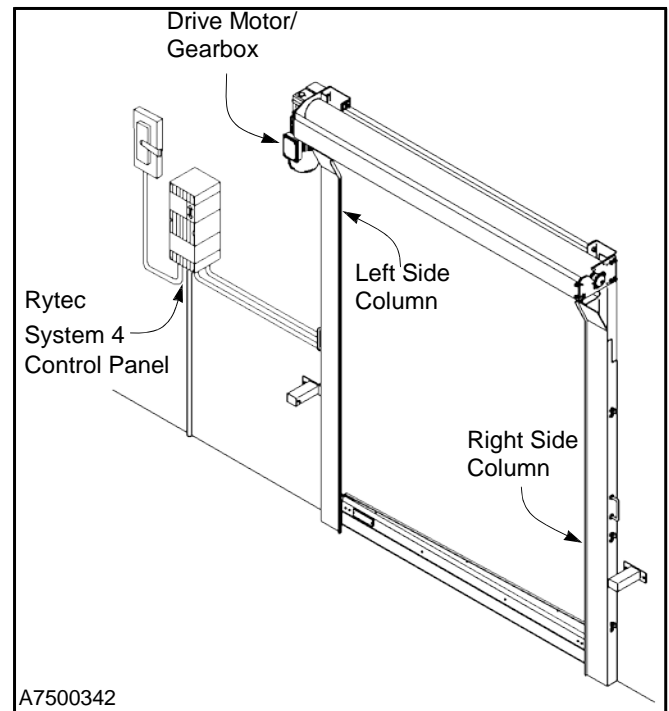


Figure 1

## HOW TO USE MANUAL

Throughout this manual, the following key words are used to alert the reader of potentially hazardous situations, or situations where additional information to successfully perform the procedure is presented:



**WARNING** is used to indicate the potential for personal injury, if the procedure is not performed as described.



**CAUTION** is used to indicate the potential for damage to the product or property damage, if the procedure is not followed as described.

**IMPORTANT:** **IMPORTANT** is used to relay information **CRITICAL** to the successful completion of the procedure.

**NOTE:** **NOTE** is used to provide additional information to aid in the performance of the procedure or operation of the door, but not necessarily safety related.

## INSTALLATION—MATERIAL, TOOLS, AND EQUIPMENT

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### INSTALLATION

#### MATERIAL, TOOLS, AND EQUIPMENT

*NOTE: Depending on the installation requirements, the wall anchoring components (threaded rod, anchor bolts, etc.) may need to be stainless steel.*

1. Threaded rod ( $\frac{1}{2}$ -in. diameter) and other various wall anchor hardware and material. Concrete anchor bolts ( $\frac{1}{2}$ -in. diameter). (See “ANCHORING METHODS” on page 3.)
2. Assorted shim stock.
3. Double-sided tape (to temporarily hold shims).
4. Carpenter’s or spirit level (4-ft. minimum length).
5. Carpenter’s square.
6. Hammer drill.
7. Masonry drill bit (for  $\frac{1}{2}$ -in. diameter anchors).
8. Three or four bar clamps (48in. long).
9. Hammer or mallet, and block of wood.
10. Crowbar or pry bar.
11. Assorted hand tools (pliers, tape measure, etc.).
12. Socket and wrench sets.
13. Water level, line level, or transit.
14. Two ladders (taller than height of door opening).
15. Forklift (see “Forklift Requirements” on page 2).
16. USDA/FDA approved, food-grade caulk (two tubes provided with door).

#### ADDITIONAL REQUIREMENTS

##### Labor and Site Requirements

1. Two installers.
2. An electrician is required for making all electrical connections. (See “Electrician’s Responsibilities” on page 2.)

*NOTE: All electrical work must be performed in accordance with local and state building codes.*

3. Unlimited accessibility to the door opening during the entire installation process. No traffic should be allowed to pass through the opening while the door is being installed.

##### Forklift Requirements

1. A forklift supplied by the customer, dealer, or installer is mandatory for the safe and proper installation of this door. The forklift should have:
  - 2,000-pound lift capacity
  - minimum height ability — door height plus 12 in.
  - side-shift capability (desired)

##### Electrician’s Responsibilities

For complete details on the responsibilities of the electrician, refer to the Rytec System 4 Drive & Control Installation & Owner’s Manual.

1. Install fused disconnect and Rytec control panel. (See Figure 2 for typical installation.)
2. Install all necessary conduit tubing.

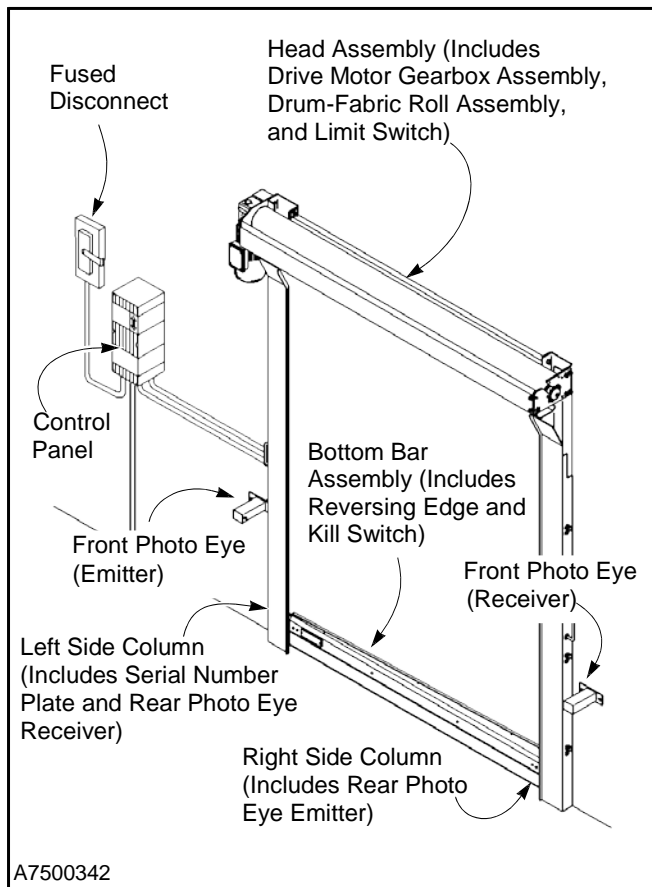
***NOTE: Separate high and low voltage conduit.***

3. Run electrical power lines to disconnect.
4. Run power lines from disconnect to control panel.
5. Run power lines from control panel to upper junction box.
6. Run power lines from control panel to door motor.
7. Run low-voltage cables from door to control panel.
8. Mount rear photo eyes.
9. Wire low-voltage safety devices and activators (if used).

#### GENERAL ARRANGEMENT OF DOOR COMPONENTS

Figure 2 shows the location of the major components of the door and the general placement of the associated sub-assemblies for a typical installation.

This illustration is provided to you for informational purposes only. It should not be relied upon solely during the installation of your door and its sub-assemblies.



**Figure 2**

*NOTE: Figure 2 shows the front side of the door. Left and right are determined when viewing the front side of the door.*

## ANCHORING METHODS

Correct anchoring of the side columns to the wall and the floor is important for the smooth and safe operation of the door. The wall material should be strong enough to support the weight of the door and all wall anchors.

Figure 3 through Figure 6 show anchoring methods for various types of walls. Use the method that is best suited for your particular installation site.

*NOTE: Depending on the installation requirements, the wall anchoring components (threaded rod, anchor bolts, etc.) may need to be stainless steel.*

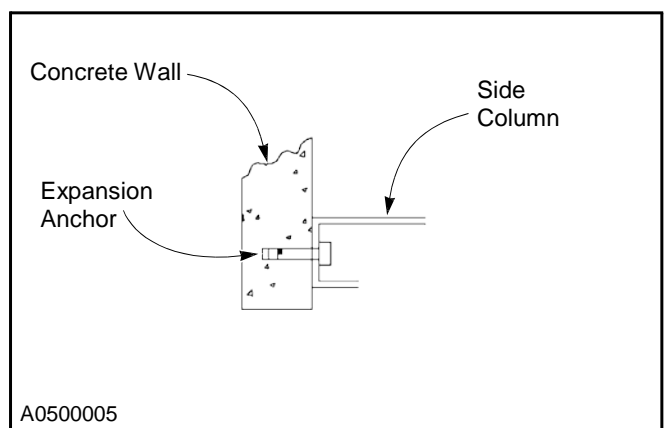
All necessary anchoring hardware and material required for the installation of this door is the responsibility of the door owner. If you have any questions, call your Rytec representative or the Rytec Technical Support Department at 800-628-1909.

**IMPORTANT: For USDA applications, all precautions should be taken to prevent exposed threads — the use of acorn nuts is recommended.**

*NOTE: Use 1/2-in. diameter threaded through bolts or 1/2-in. diameter threaded rods to anchor the door to all wall applications.*

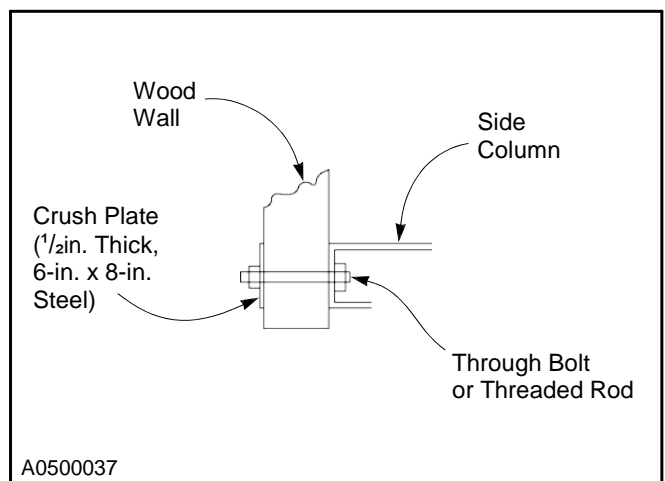
*If expansion anchors are used, a quarterly inspection should be implemented for safe and secure door operation.*

## Concrete, Block, or Brick Walls



**Figure 3**

## Wood, Block, Brick, or Insulated Walls



**Figure 4**



## INSTALLATION—UNCRATING

### Insulated Wall

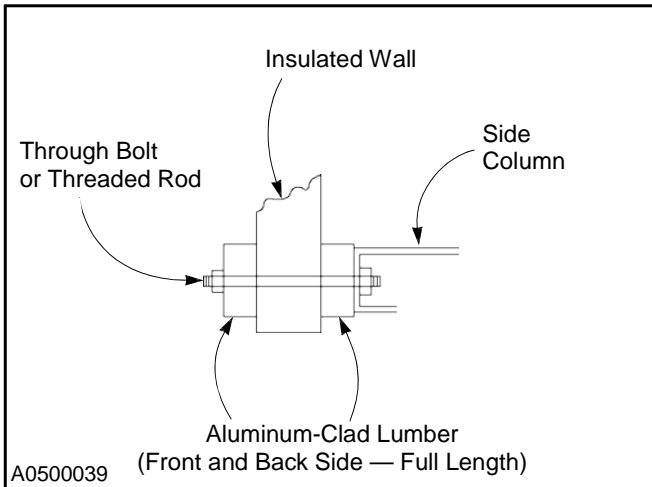


Figure 5

### Insulated Wall

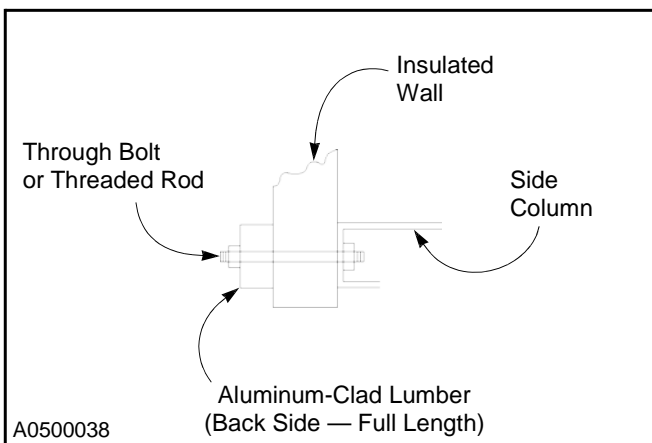


Figure 6

## UNCRATING

Your Rytec door has been crated to allow for minimal handling of assemblies during the installation process.

**NOTE:** Remove parts and sub-assemblies from the shipping crate in the order directed throughout this manual.

To open the crate, first remove the top of the crate and then the front of the crate.

### LOCATING CENTERLINE OF DOOR OPENING

**NOTE:** Accurate measurements are critical for the proper installation and operation of your Rytec door. Verify all measurements.

1. Measure the width of the door opening.
2. Divide the measurement in half to locate the centerline. Then mark the centerline along the floor. (See Figure 7.)

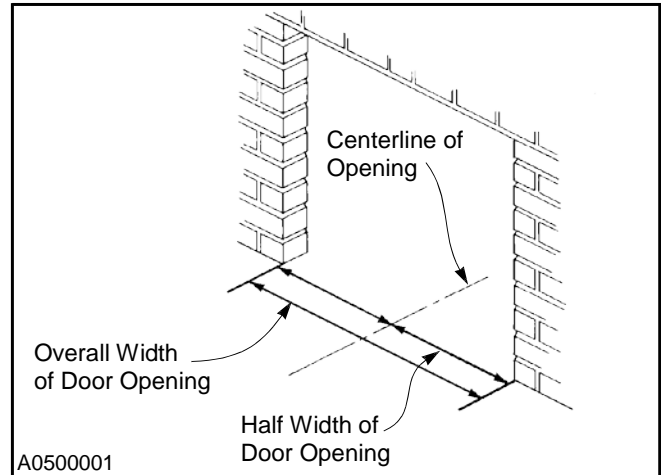


Figure 7

### LOCATING SIDE COLUMNS

1. Locate the layout drawing of the door. It should be attached to the small parts carton packed inside the shipping crate. This drawing identifies the production width of your door.
2. Using the centerline as a reference point, lay out and mark half of the door's production width along the floor. (See Figure 8.)



This door is equipped with a breakaway bottom bar assembly. To ensure that it works properly, the width of the door opening must not be smaller (narrower) than the production width of the door. If the width of the opening is narrower than the width of the door, do not proceed with the installation. Contact your Rytec representative or Rytec Technical Support Department at 800-628-1909.

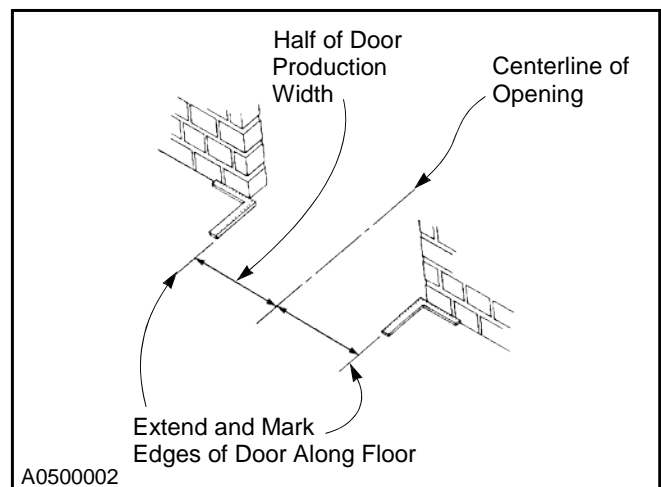
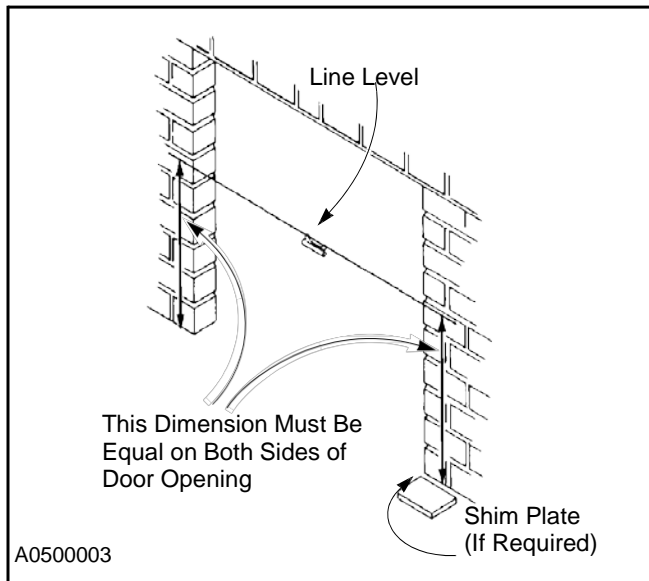


Figure 8

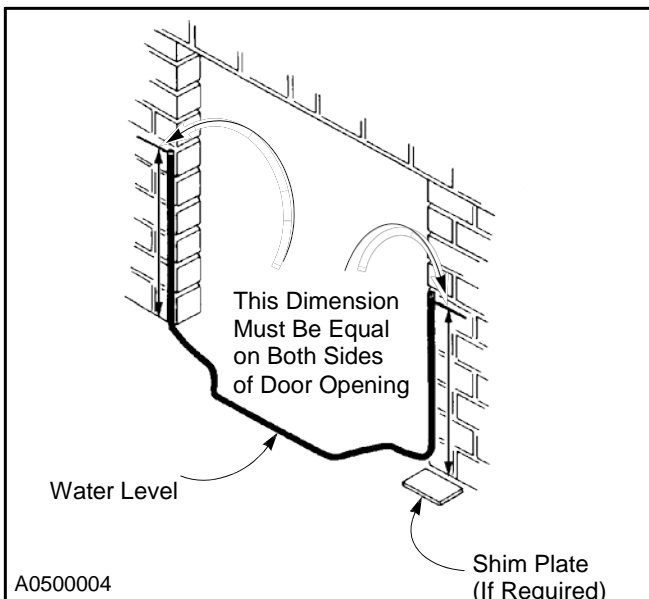
3. With a carpenter's square placed against the wall, mark both sides of the door along the floor. Extend a line (about 12in. long) along each edge.
4. Check the floor for level across the door opening. The floor must be level from side to side, to within  $\frac{1}{8}$  in. If one side of the opening is higher than the other, a shim under the side column will be required.

Figure 9 and Figure 10 show two methods that can be used to ensure level side columns.

**NOTE:** Contact the Rytec Technical Support Department if the floor is more than 1 in. out of level.



**Figure 9**



**Figure 10**

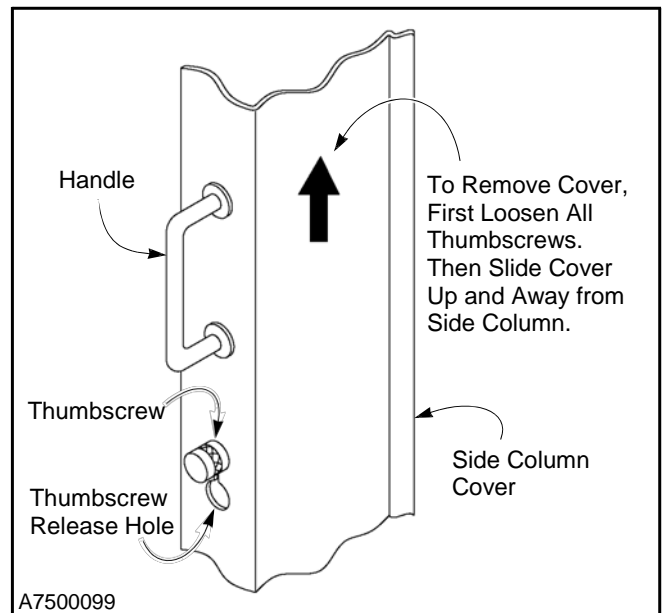
## SIDE COLUMNS

The location of the motor was determined at the time the door was ordered. DO NOT attempt to move the motor without first contacting the Rytec Technical Support Department at 800-628-1909.

1. Remove the motor-mount side column from the shipping crate. This side column can be identified by the junction box installed along one side.

**NOTE:** To remove a side column cover, loosen all the thumbscrews that hold the cover to the column — do not completely remove the thumbscrews.

2. Loosen all thumbscrews on the side column cover. Then remove the cover by lifting it up and away from the side column. (See Figure 11.)



**Figure 11**

3. Stand the side column on the floor. Place it against the wall, just outside the line indicating the production width of the door. Use bar clamps to temporarily secure the side column to the wall. (See Figure 12.)

## INSTALLATION—SIDE COLUMNS (MANUALLY ASSISTED EGRESS DOOR)

**IMPORTANT:** *It is critical that the side columns are mounted square and plumb with the wall, and level across the door opening. Using a 4-foot level and carpenter's square will help ensure the columns are correctly set. Place shims where necessary.*

*In addition, the use of bar clamps will allow you to temporarily secure the columns to the wall, while allowing you to make slight adjustments during the installation process.*

### **WARNING**

Before drilling any holes, ensure no electrical wires, water pipes, or gas lines, etc., are buried in the floor or hidden in the wall.

4. Once the side column is set plumb and square, anchor it to the wall. (See Figure 12.) Predrilled anchor holes have been provided in the side column. Do not securely tighten the anchors at this time — they will be tightened once the seal assembly has been installed.

**NOTE:** Use 1/2-in. expansion shell or stud-type anchors for concrete walls. Use through bolts or threaded rods for brick walls and other applications where expansion anchors are not appropriate.

5. Mount the opposite side column to the wall in the same manner as described above.

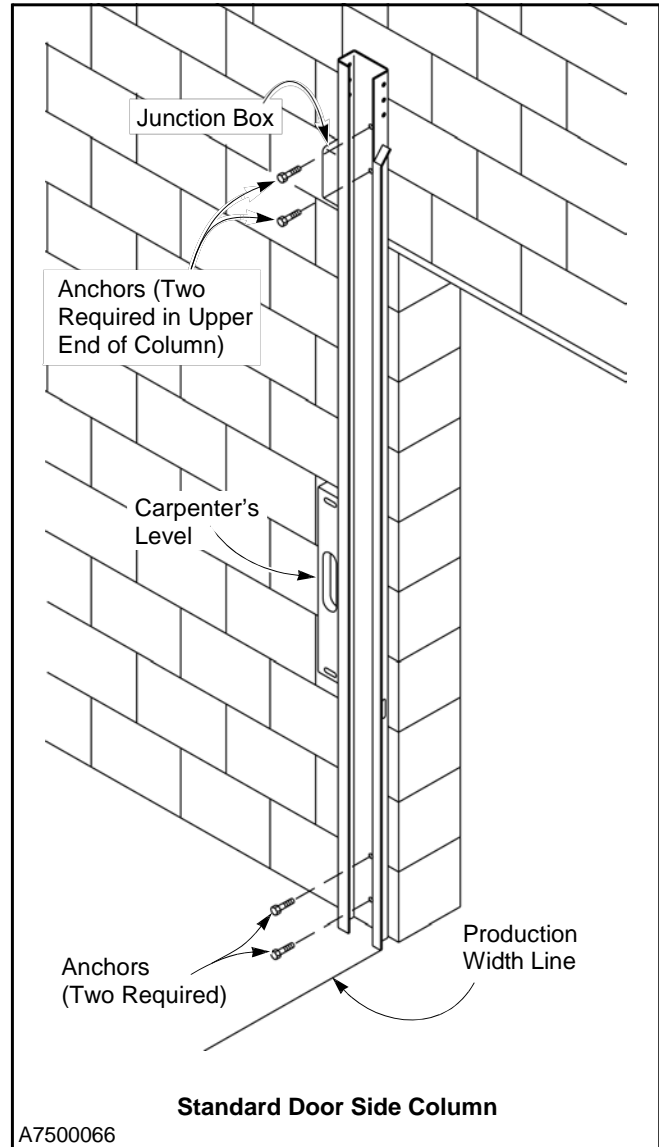


Figure 12

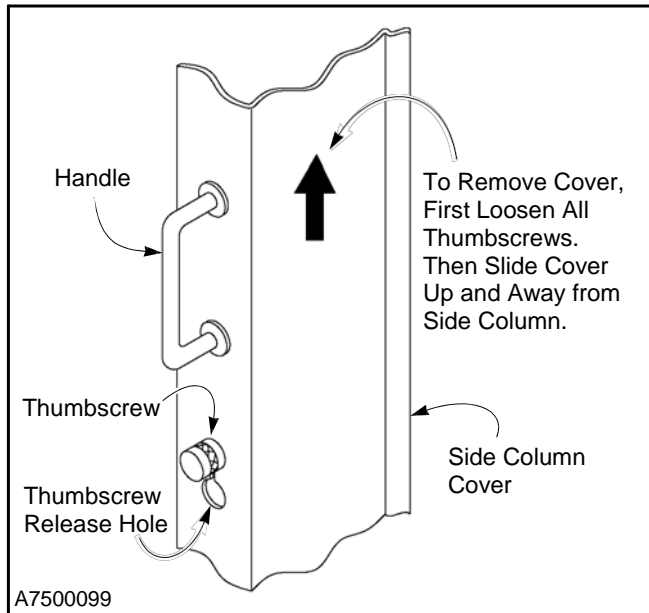
### **SIDE COLUMNS (Manually Assisted Egress Door)**

The location of the motor was determined at the time the door was ordered. DO NOT attempt to move the motor without first contacting the Rytec Technical Support Department at 800-628-1909.

1. Remove the motor-mount side column from the shipping crate. This side column can be identified by the junction box installed along one side.

**NOTE:** To remove a side column cover, loosen all the thumbscrews that hold the cover to the column — do not completely remove the thumbscrews.

2. Loosen all thumbscrews on the side column cover. Then remove the cover by lifting it up and away from the side column. (See Figure 11.)



**Figure 13**

3. Stand the side column on the floor. Place it against the wall, just outside the line indicating the production width of the door. Use bar clamps to temporarily secure the side column to the wall. (See Figure 12.)

**IMPORTANT:** It is critical that the side columns are mounted square and plumb with the wall, and level across the door opening. Using a 4-foot level and carpenter's square will help ensure the columns are correctly set. Place shims where necessary.

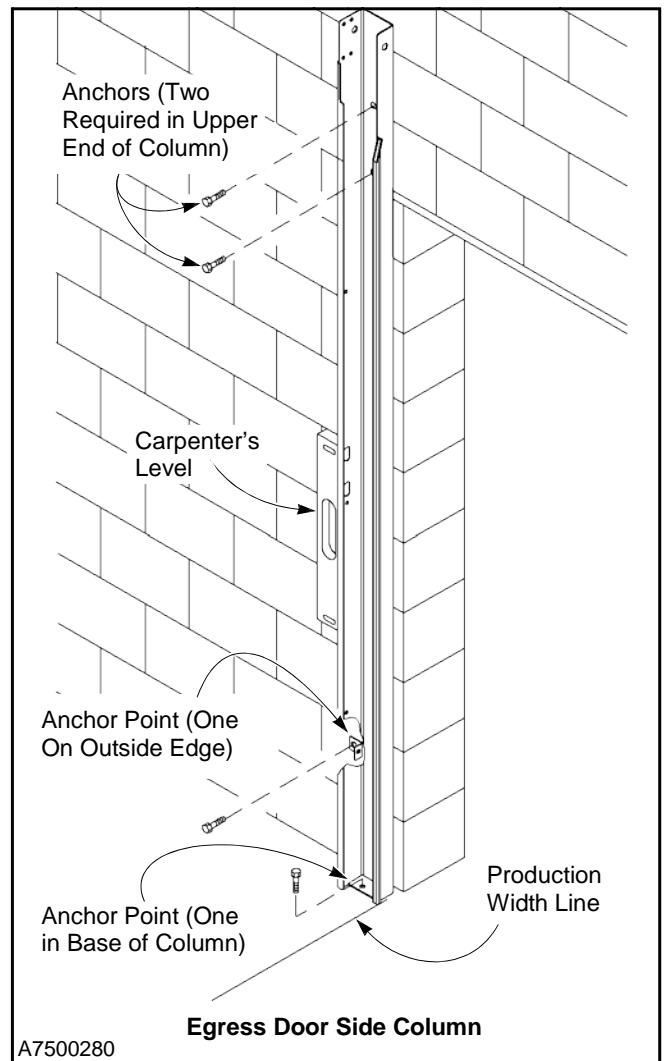
*In addition, the use of bar clamps will allow you to temporarily secure each side column to the wall, while allowing you to make slight adjustments during the installation process.*



Before drilling any holes, ensure no electrical wires, water pipes, or gas lines, etc., are buried in the floor or hidden in the wall.

4. Once the side column is set plumb and square, anchor it to the wall. (See Figure 12.) Predrilled anchor holes have been provided in the side column near the upper end, through the base, and through one mounting tab along the outside edge of each column. Do not securely tighten the anchors at this time — they will be tightened once the seal assembly has been installed.

**NOTE:** Use 1/2-in. expansion shell or stud-type anchors for concrete walls. Use through bolts or threaded rods for brick walls and other applications where expansion anchors are not appropriate. It is also important to use a low-profile style anchor for any anchor points in the lower half of the side column to allow clearance for the counterweight that will be installed in each side column later on.



**Figure 14**

5. Mount the opposite side column to the wall in the same manner as described above.

## INSTALLATION—SPREADER BAR (STANDARD DOOR ONLY)

### SPREADER BAR

**IMPORTANT:** A spreader bar is not included if the door was shipped with a hood kit. Therefore, disregard the information in the following steps that pertain to the two cord grips and the spreader bar.

Instead, route the photo eye cable in such a way that the cable will clear the drum-fabric roll assembly and the hood once the drum and hood are installed. Refer to “DRUM-FABRIC ROLL ASSEMBLY” on page 9 and “HOOD (Optional Item)” on page 23.

1. Locate the photo eye wire cable coiled in the right side column. At the factory, one end of this cable was threaded onto the end of the photo eye that is mounted in the side column. (See Figure 15.)

**NOTE:** The transmitter and receiver can be identified two ways. The transmitter is designated SMT 3000 on the white label or by a single green light that comes on at the clear end of the transmitter. (See Figure 15.) The receiver is designated SMR 3215 on the white label or by a yellow light that illuminates only when it is in proper alignment with the transmitter. (See Figure 16.) When the cable is connected to the photo eye, there is only a 1/4-inch window to see the green or yellow LED light.



Figure 15

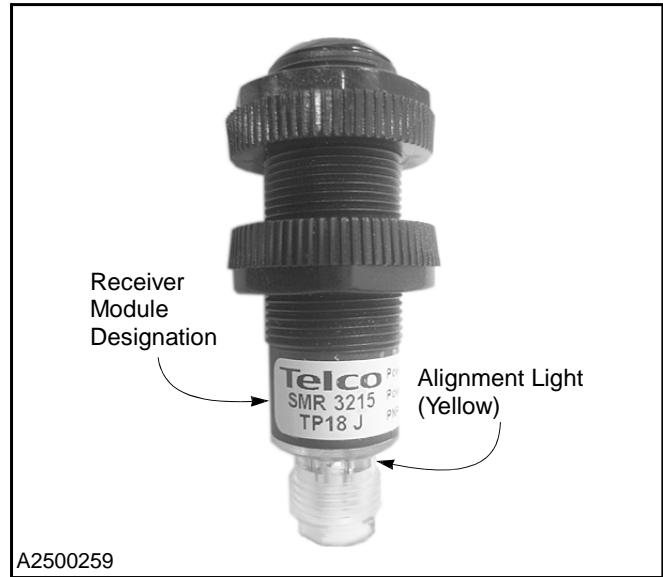


Figure 16

2. Unroll the cable and pass the free end through the cord grip located near the top of the side column. Make sure to route the cable through the cord clips located in the column before passing it through the cord grip. (See Figure 17.)

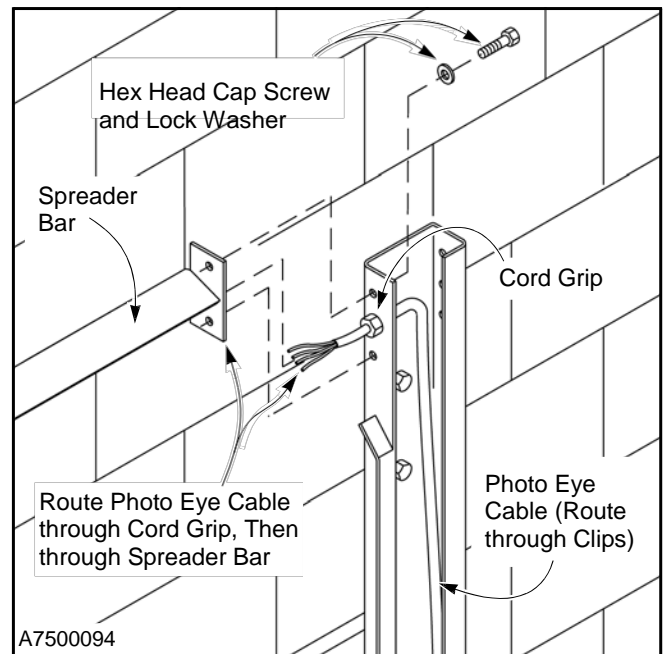


Figure 17

3. Locate the spreader bar in the shipping crate and hold it between the side columns, near the top of each column.
4. Continue routing the photo eye wire cable through the spreader bar assembly and through the cord grip near the top of the opposite side column.

5. Attach the spreader bar to the inside face of each side column using four  $\frac{3}{8}$ -16 x  $\frac{1}{2}$ -in. hex head stainless steel cap screws and lock washers located in the small parts carton.
6. Pull the slack from the wire cable. Tighten the cord grip in each side column.
7. Remove the cover from the junction box on the side column. Save all hardware.
8. Unroll the second photo eye wire cable. Route both cables through the cord grips in the back of the junction box. (Make sure you route the second wire cable under the wire clips in the side column.)
9. Pull slack from each wire cable. Tighten the two cord grips in the back of the junction box.
10. Check the overall squareness of the side columns and make any necessary adjustments until they are plumb and square.

*NOTE: If either column requires a slight repositioning, use a block of wood and a mallet to nudge the column into position.*

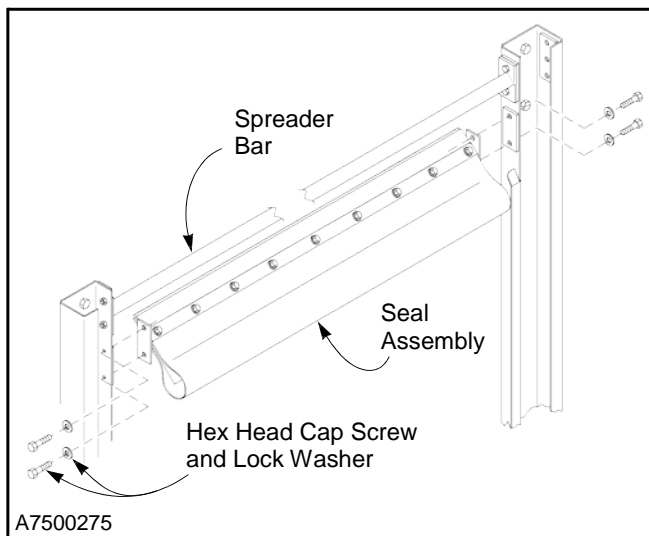
11. Tighten all wall anchors and mounting hardware.
12. Remove the bar clamps used to temporarily hold the columns to the wall.

## SEAL ASSEMBLY

### Standard Door

1. Attach the seal assembly to the lower mounting plate along the inside edge of each side column (the plates below the spreader bar). The vinyl seal should be hanging down toward the front of the door. (See Figure 18.)

Each end of the seal assembly is held in place with two  $\frac{3}{8}$ -16 x  $\frac{1}{2}$ -in. hex head stainless steel cap screws and lock washers.



**Figure 18**

*NOTE: The hardware is located in the small parts carton that is shipped with the door.*

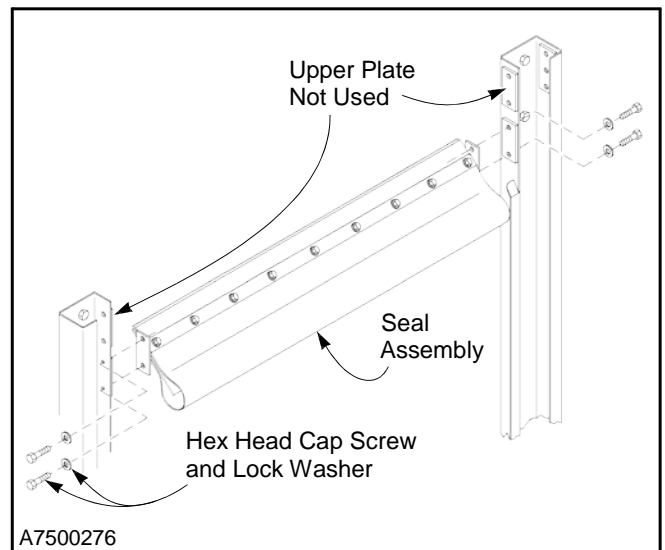
2. After the seal assembly is in place, make sure the hardware securing the spreader bar and the seal assembly to the side columns is tight.

### Egress Door

1. Locate the seal assembly in the shipping crate.
2. Attach the seal assembly to the lower mounting plate along the inside edge of each side column (the upper set of plates are not used on the egress door). The vinyl seal should be hanging down toward the front of the door. (See Figure 19.)

Each end of the seal assembly is held in place with two  $\frac{3}{8}$ -16 x  $\frac{1}{2}$ -in. hex head stainless steel cap screws and lock washers.

*NOTE: The hardware is located in the small parts carton that is shipped with the door.*



**Figure 19**

3. After the seal assembly is in place, make sure the hardware securing the seal assembly to the side columns is tight.

## DRUM-FABRIC ROLL ASSEMBLY

1. Install the bearing support bracket on the outside face of the bearing side column. This slotted bracket is held in place by four  $\frac{3}{8}$ -16 x 1-in. stainless steel hex head cap screws and lock washers. The bracket and mounting hardware are located in the small parts carton. (See Figure 20.)

## INSTALLATION—DRUM-FABRIC ROLL ASSEMBLY

The bearing support bracket can be bolted to the side column in two different positions. If the drum-fabric roll assembly includes wind ribs, the bracket is mounted to the side column using the back two pairs of holes at the end of the bracket to allow room for the larger-diameter drum-fabric roll assembly. If wind ribs are not included, the support bracket is mounted using the next-to-last two pairs of holes.

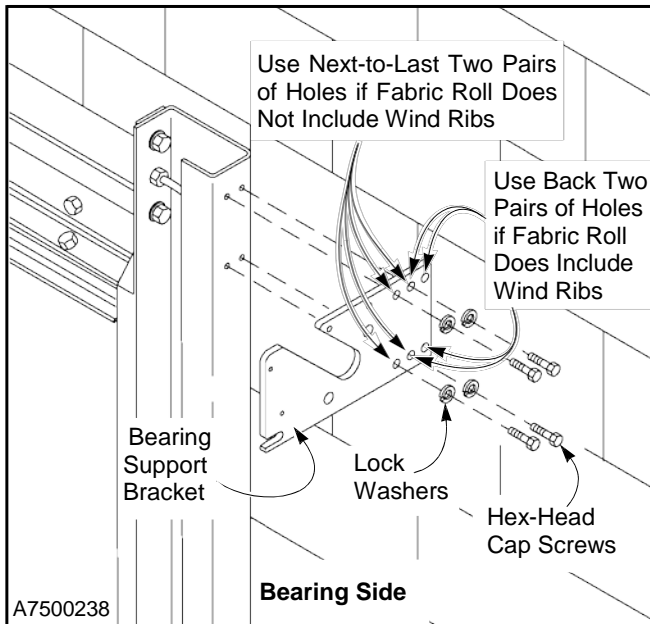


Figure 20



To protect the drum-fabric roll assembly from damage when lifting it from the shipping crate, place sufficient padding between it and the forklift. Do not remove the shipping bands from around the fabric roll. Secure the entire assembly to the forklift prior to lifting it in place. Also, keep the drum-fabric roll assembly level at all times — failure to do so could result in the motor sliding off the end of the assembly.

**IMPORTANT:** Install the drum-fabric roll assembly with the door panel and the bottom bar assembly hanging off the back of the drum.

2. With a forklift, lift the drum-fabric roll assembly from the shipping crate.
3. Remove the dust cover from the drive bearing and loosen the set screws on the end of the bearing. (See Figure 21.)

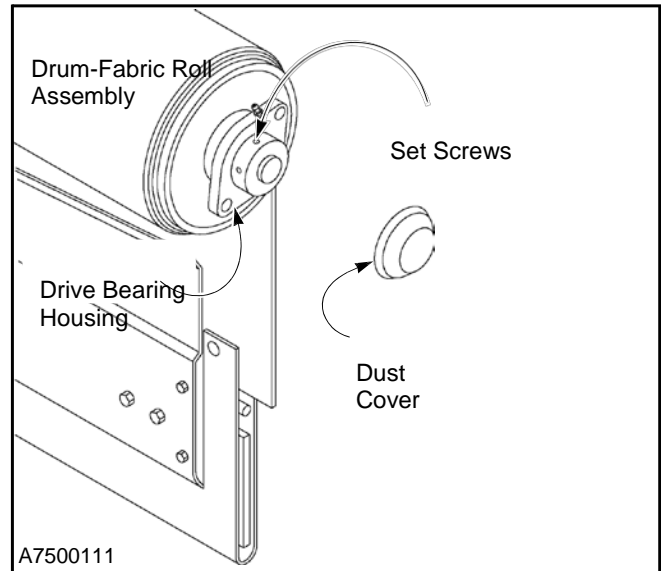


Figure 21

4. Lift the drum-fabric roll assembly over both side columns and then lower it in place. As the assembly is lowered, the drive bearing housing located on the bearing end of the roll assembly must be on the outside face of the bearing support bracket. (See Figure 22.)

Once the bearing end of the fabric roll assembly is lowered into the support bracket, **do not** install the bearing mounting hardware or tighten the set screws at this time.

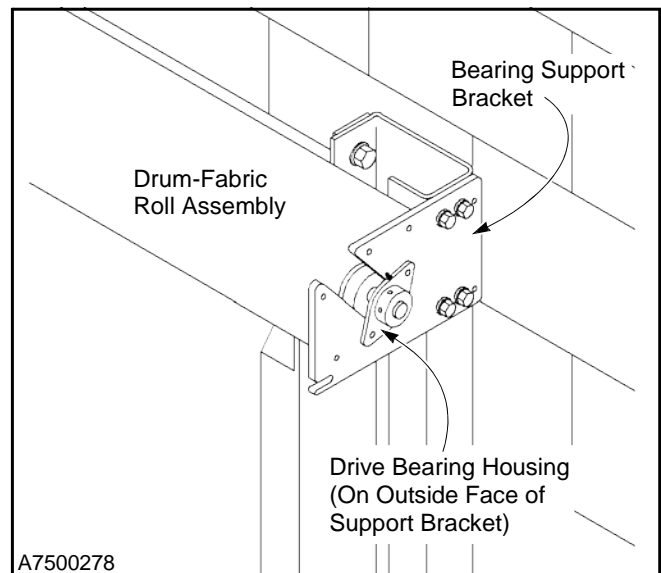


Figure 22

5. The other end of the drum-fabric roll assembly comes from the factory with a motor support bracket mounted on the side of the motor gearbox assembly. And like the bearing support bracket installed earlier, the motor support bracket can be bolted to the side column in two different positions.

Use the back two pairs of holes at the end of the support bracket if the drum-fabric roll assembly **does include wind ribs**. Or use the next-to-last two pairs of holes if the drum-fabric roll assembly **does not include wind ribs**. (See Figure 23.)

**Do not** install the mounting hardware that secures the support bracket to the side column at this time. This will be completed in the next step.

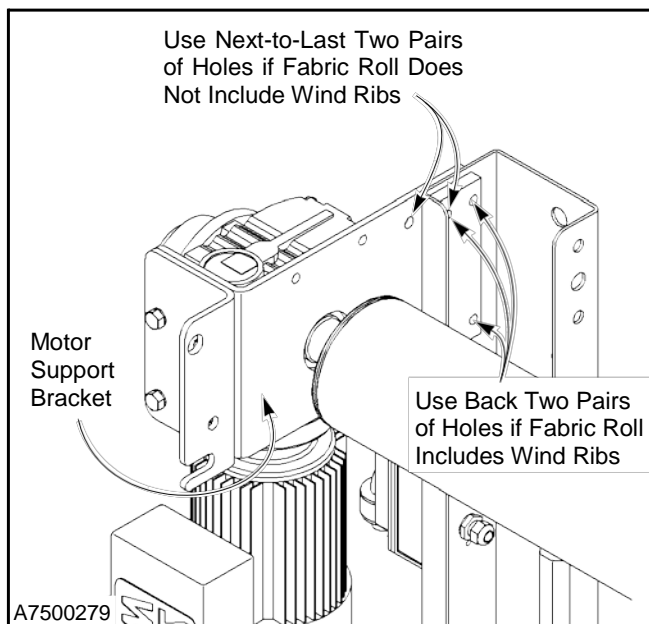


Figure 23

6. The motor support bracket on a door with a **1-hp** motor is mounted directly to the side column using four  $\frac{3}{8}$ -16 x 1-in. stainless steel hex head cap screws and lock washers. When installing the screws, be sure to use the proper sets of holes as detailed in step 5 above. The mounting hardware is located in the small parts carton. (See Figure 24.)

The motor support bracket on a door with a **1½-hp, 2-hp, or 3-hp** motor is mounted to the side column with a 1-in. thick spacer between the support bracket and the side column using four  $\frac{3}{8}$ -16 x 2-in. stainless steel hex head cap screws and lock washers. Use the proper sets of holes as detailed in step 5. The mounting hardware and the spacer plate are located in the small parts carton. (See Figure 25.)

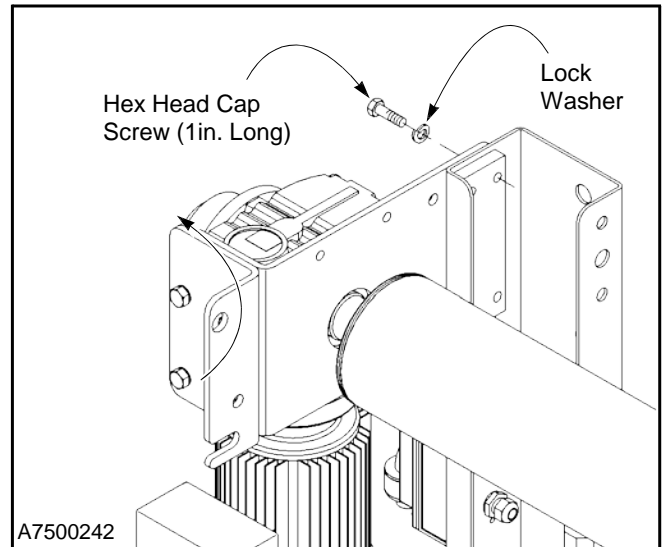


Figure 24

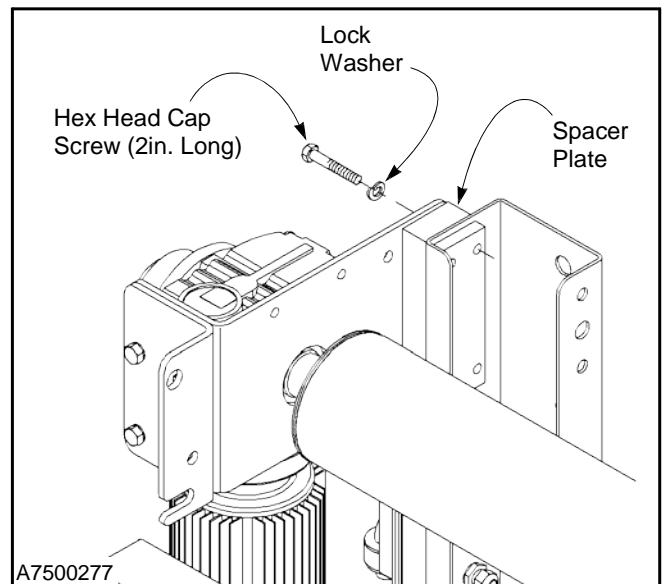


Figure 25

7. Now mount the bearing housing to the support bracket using two  $\frac{3}{8}$ -16 x 1½-in. stainless steel hex head cap screws, lock washers, and acorn nuts. The mounting hardware is located in the small parts carton. (See Figure 26.)



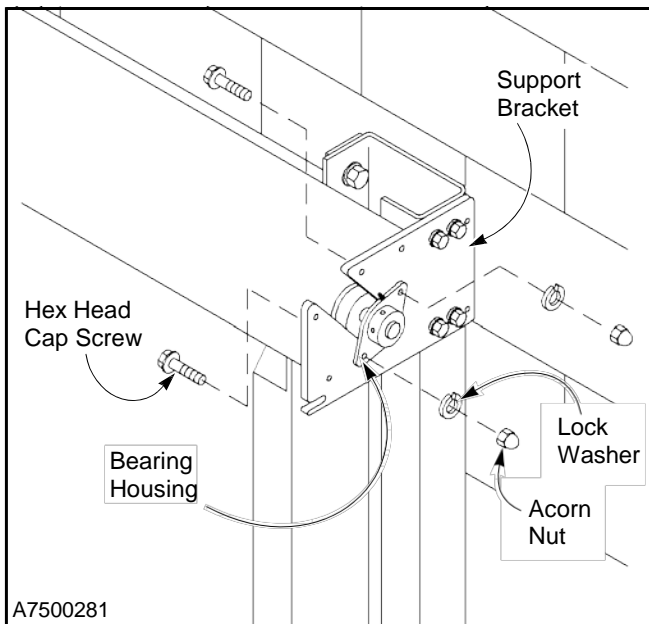


Figure 26

**IMPORTANT:** Tighten all cap screws to 20 lb-ft.

8. Tighten all cap screws at both ends of the drum-fabric roll assembly to 20 lb-ft.
9. Tighten the set screws on the drive bearing.
10. Install the dust cover on the drive bearing. (See Figure 27.)

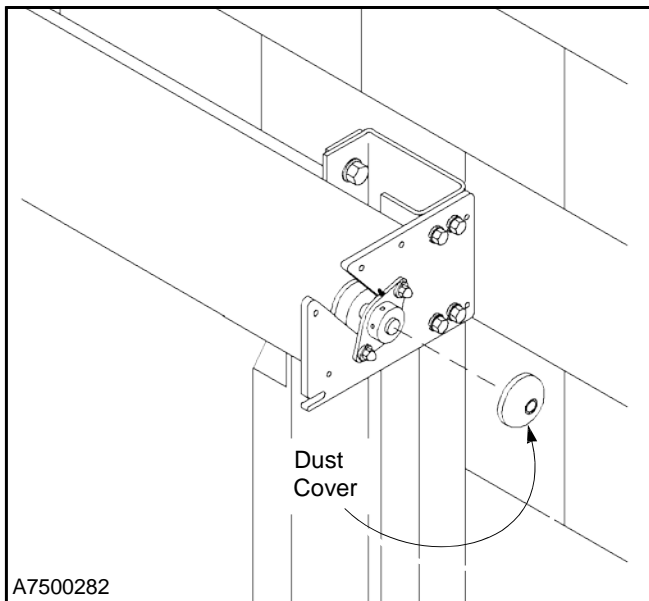


Figure 27

**NOTE:** The drum-fabric roll assembly cannot be made level by adjusting the drive motor or the drive bearing — if the drum-fabric roll assembly needs to be adjusted, one of the side columns must be repositioned.

11. Check the drum-fabric roll assembly for level by placing a carpenter's level across the top of the assembly. Make any necessary adjustments to the appropriate side column to achieve level across the length of the assembly. (See Figure 28.)

Once all adjustments are complete, tighten all hardware securing both side columns to the wall.

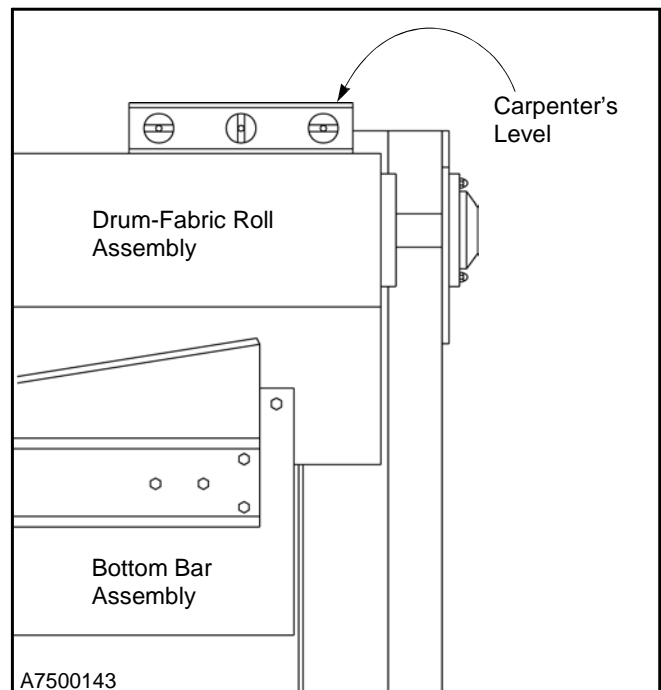


Figure 28

## COUNTERWEIGHTS (Manually Assisted Egress Door)

### **! WARNING**

A counterweight assembly can weigh up to 100 pounds. Make sure that safe lifting procedures are followed and that the counterweights are securely supported during their installation.

If not handled properly, a counterweight can damage door components and cause serious personal injury.

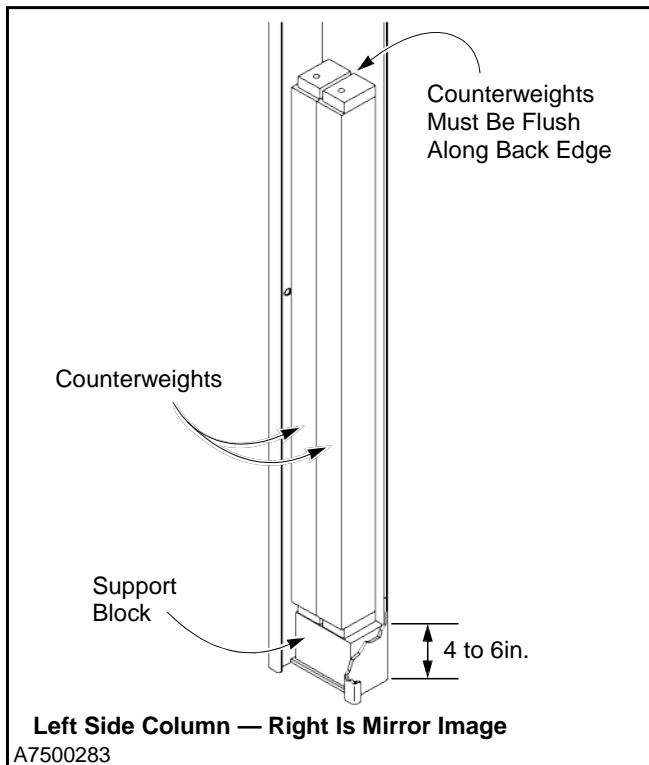
A manually assisted egress door utilizes a counterweight assembly in each side column. Each assembly is connected to the drum-fabric roll with a nylon strap attached to the end of the roll.

For shipping, both counterweight assemblies were assembled at the factory. But you will be required to disassemble each counterweight assembly and reassemble each one inside its respective side column because a fully assembled counterweight assembly will not fit through the side column opening.

**NOTE:** *Do not release or unroll the nylon strap located at each end of the head assembly until instructed to do so.*

The two counterweight assemblies were packed in the shipping crate. Remove both assemblies from the crate following all handling and safety precautions.

1. With the side column covers removed, place a support block in the bottom of each side column. Each block must be wide enough to support two counterweights and tall enough to support them 4 to 6 in. off the floor.
2. Disassemble one counterweight assembly. As you remove the various pieces of hardware, take note as to how they fit together for reassembly.
3. Place the two counterweights in one side column. The counterweights are properly positioned in the column when the steel plate welded to the ends of each weight are flush along the back edge. (See Figure 29.)

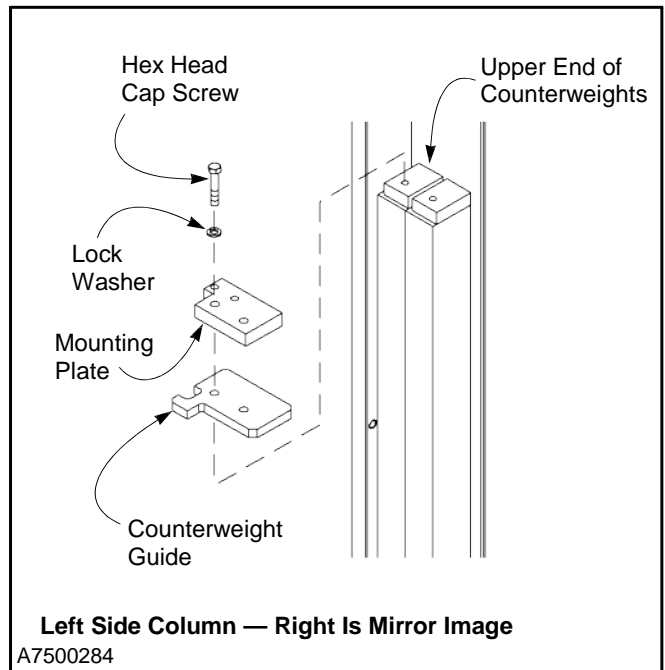


**Figure 29**

4. At the upper end of the two weights, reconnect them with the plastic counterweight guide and the steel mounting plate. The guide and plate are mounted using two  $\frac{3}{8}$ -in. stainless steel lock washers and two  $\frac{3}{8}$ -16 x 2-in. stainless steel hex head cap screws installed through the front pair of holes in the mounting plate. Be sure to place the plastic guide between the plate and weights. (See Figure 28.)

Also, the guide and plate must be installed with their hooked and notched edge toward the outer edge of the side column (the edge opposite the door opening). The hooked and notched edges allow the counterweight assembly to clear the mounting hardware used to secure the cover to the side column — as the counterweight travels up and down when the door opens and closes.

In addition, the plastic guide prevents the counterweight from moving around in the side column as the door is operated. During the first few door open and close cycles, the plastic guide might rub against the side column — this is normal until the guide wears smooth to the shape of the column.



**Figure 30**

5. Install the second counterweight assembly in the other side column as described above.
6. With both counterweight assemblies in place, mount two strap plates to the upper end of each assembly. Use two  $\frac{3}{8}$ -in. stainless steel lock washers and two  $\frac{3}{8}$ -16 x 1 $\frac{1}{2}$ -in. stainless steel hex head cap screws for each set of straps. Install the screws through the threaded pair of holes near the back of each mounting plate — but do not tighten either set of screws at this time. (See Figure 29.)

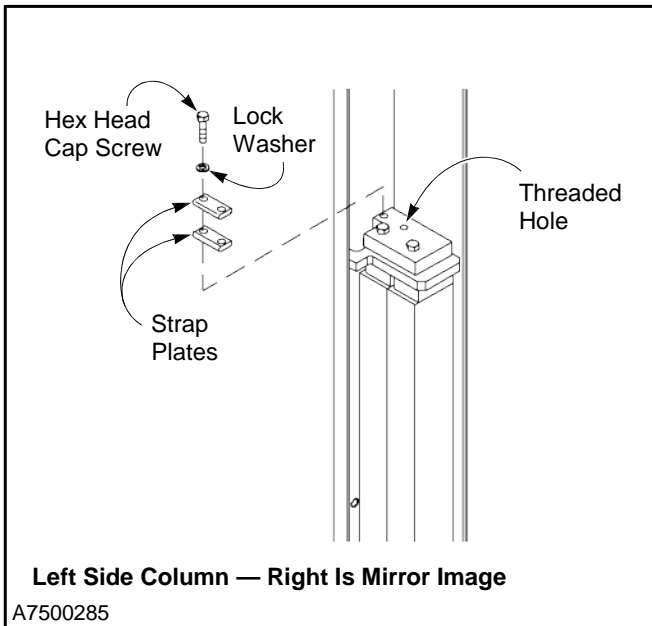


Figure 31

**NOTE:** The counterweight straps are each shipped with two initial wraps around their respective counterweight spool. **DO NOT** add or remove any wraps to or from either spool at any time.

7. Untie the nylon strap located at each end of the drum-fabric roll assembly. Do not add or remove any wraps of strap to or from the spool at any time.
8. Route the free end of each strap over the top of its associated counterweight pulley located near the top of the side column. Then allow the strap to hang free off the back of the pulley. (See Figure 32.)

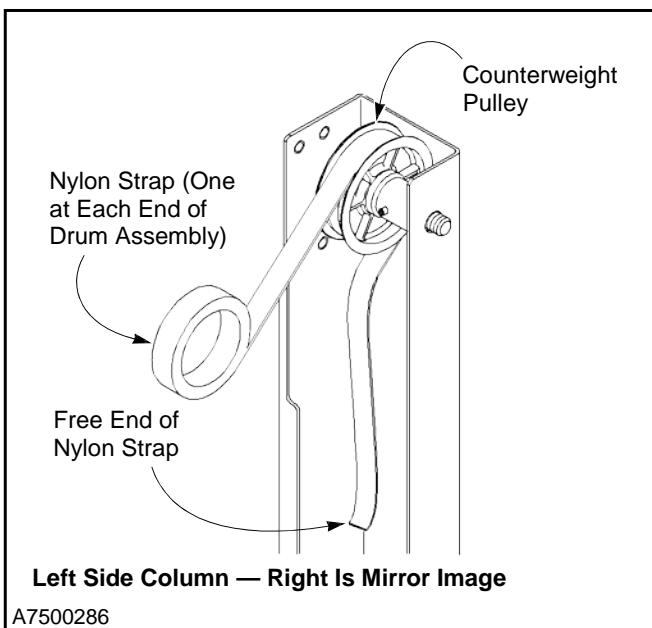


Figure 32

9. Now attach the free end of each strap to its associated counterweight. The end of each strap is routed through the back of the counterweight clamp plates located at the upper end of the weight. Before the clamp plate screws are tightened, be sure to tightly pull the slack from each strap. (See Figure 33.)

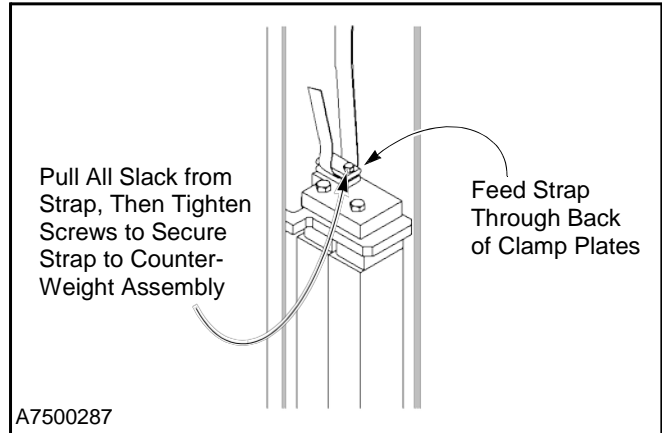


Figure 33

10. Locate the motor gearbox hand crank that was packed for shipping in the small parts carton. Then connect the crank to the shaft of the motor gearbox. The shaft is accessed through the hole in the bottom end of the motor. (See Figure 34.)
11. Pull down and hold the brake release lever located on the side of the motor. Then lower the door by working the crank until the counterweights just lift off the support blocks. (See Figure 34.)

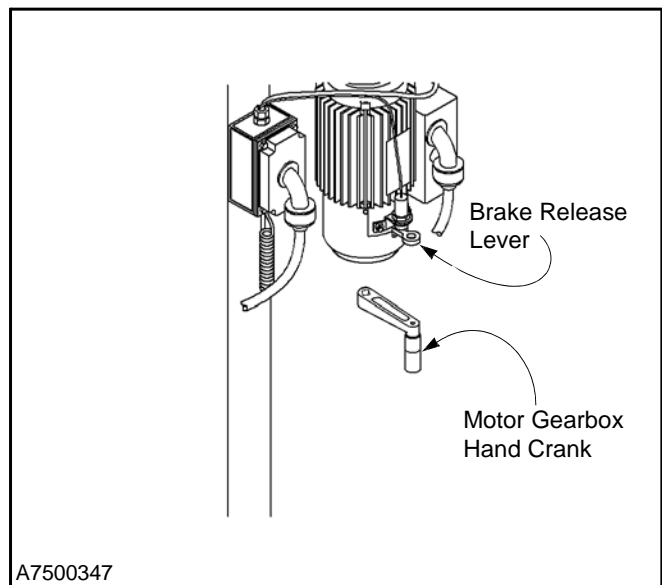


Figure 34

12. Release the lever to set the brake and lock the door and counterweights in their current position.

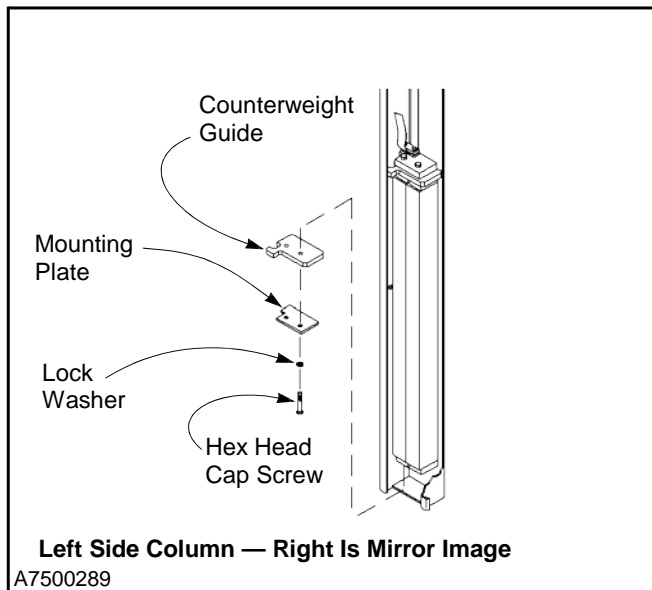
13. Inspect the nylon strap connection at the top of each counterweight. The straps must be tightly secured between the clamp plates.

## **WARNING**

**Securely support each counterweight assembly before performing the following procedure. A counterweight can weigh up to 100 pounds. If not handled properly, a counterweight can damage door components and cause serious personal injury.**

14. With the counterweights tightly secured to the straps and the bottom of each counterweight positioned at a comfortable working height, place the appropriate support block under each counterweight assembly. Each support block must safely hold the full weight of the counterweight, while allowing you access to the bottom of each counterweight to attach the lower sets of guides and plates.
15. Install a counterweight guide and mounting plate on the bottom end of each counterweight assembly. Use two  $\frac{3}{8}$ -in. stainless-steel lock washers and  $\frac{3}{8}$ -16 x 2-in. stainless steel hex head cap screws through the front pair of holes in each assembly.

Be sure the plastic counterweight guide is between the mounting plate and the counterweight. The guide and plate must be installed with their hooked edge toward the outer edge of the side column — the edge opposite the door opening. (See Figure 35.)

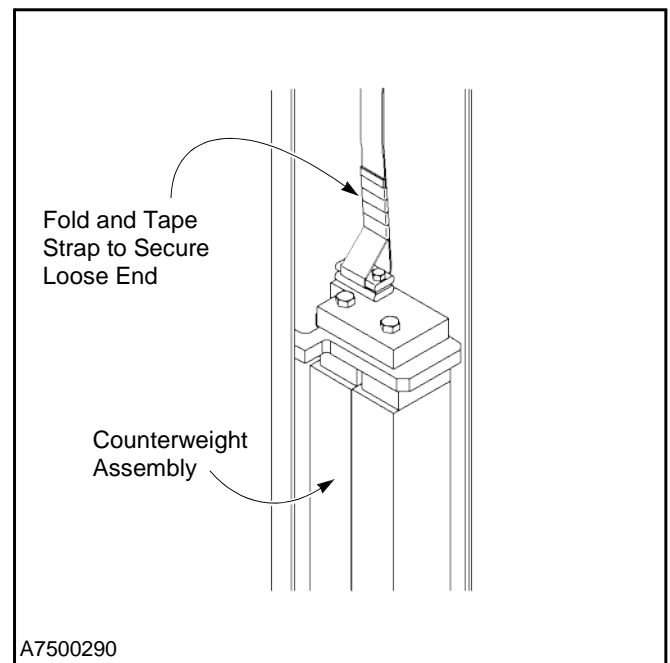


**Figure 35**

16. Manually lower the door with the hand crank to lift the counterweights off the support blocks. Then remove the blocks.
17. Continue to manually lower the door with the hand crank. As the door reaches the fully closed position, check to make sure the counterweights do not hit the pulley system near the top of each side column.

With the door fully closed, the counterweights should stop a few inches from the pulley system. With the door fully open and the support blocks removed, the counterweights should rest a few inches off the floor. If either counterweight is out of position, make the necessary adjustment to the nylon strap following all counterweight handling and safety precautions.

18. After all adjustments are complete, trim any excess strap to within 6 in. of the clamp plates. Then fold and tape the loose end of the strap to the main length of strap. Trim the other strap, as necessary, and tape the loose end. (See Figure 36.)



**Figure 36**

### **EGRESS BRAKE RELEASE ROPE (Manually Assisted Egress Door Only)**

A manually assisted egress door uses a rope system connected to the electric brake release lever located on the side of the drive motor. When the rope is pulled and held, the brake releases the motor to allow the door to be opened by hand.

The brake release rope system is designed to be operated from either side of the door. The rope and associated hardware are located in the small parts carton.

## INSTALLATION—EGRESS BRAKE RELEASE ROPE (MANUALLY ASSISTED EGRESS DOOR)

1. Tie one end of the rope to the eyelet at the end of the electric brake release lever located on the side of the drive motor. (See Figure 37.)

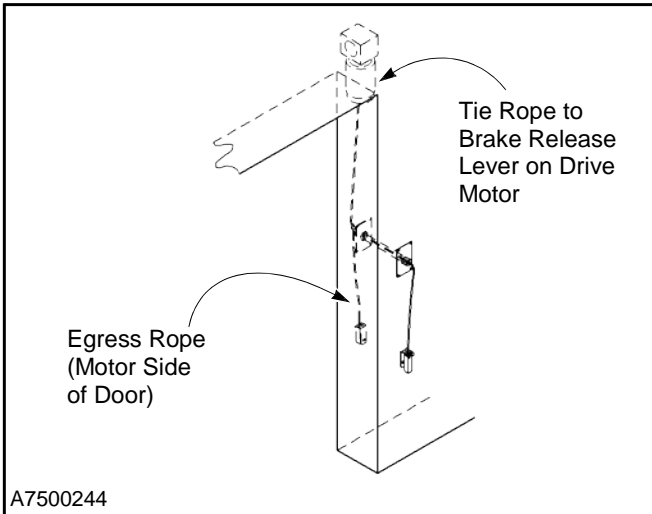


Figure 37

2. Feed the free end of the rope through a rope handle. Then tie a knot in the rope so that the end of the rope and handle hang about 48in. off the floor. (See Figure 38.)

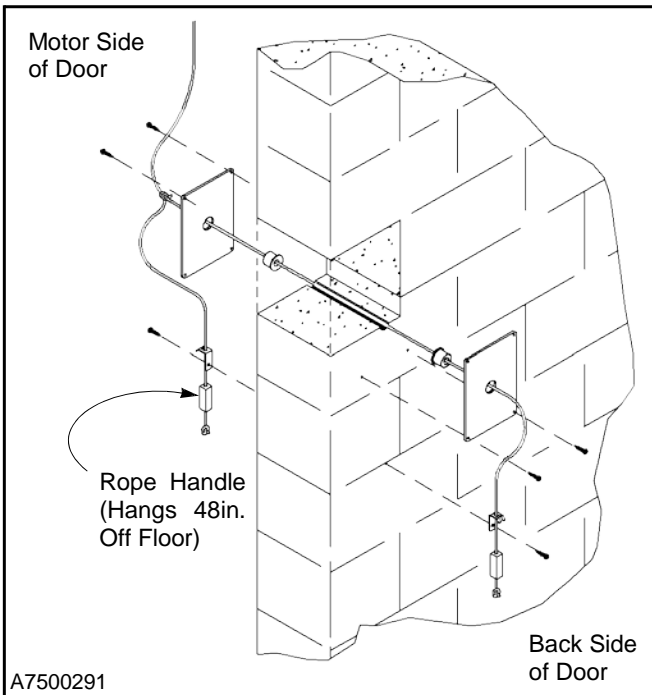


Figure 38

3. Attach a crimp to the rope, just below the knot to prevent the rope from fraying. Then cut the excess rope off just below the crimp. The crimp is located in the small parts carton. (See Figure 38.)
4. Using hardware appropriate for the wall, mount a handle hook to the wall. (See Figure 39.)

*NOTE: During normal door operation, the rope handle must hang free and not be locked under the hook.*

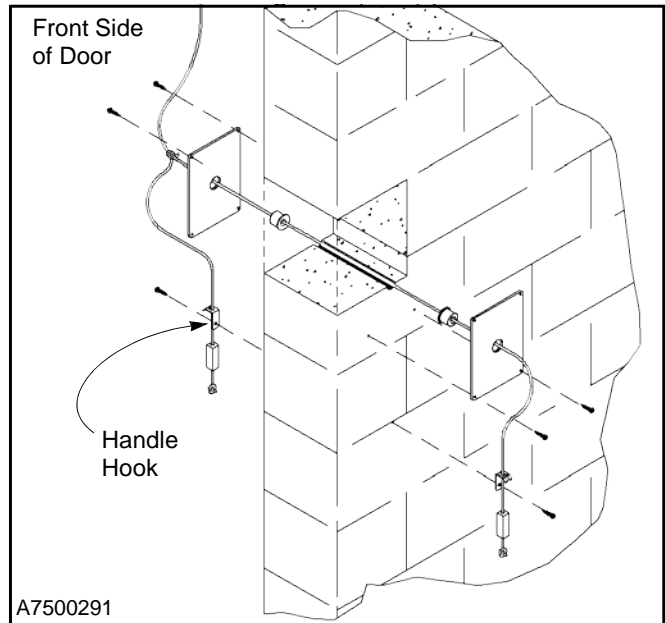


Figure 39

5. Drill a 1-in. hole through the wall 12in. above the handle hook. (See Figure 40.)

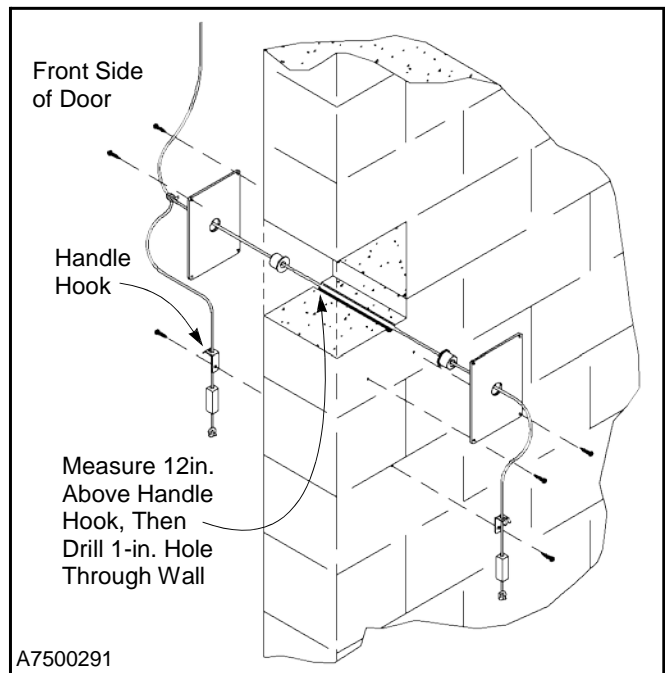


Figure 40

6. Using hardware appropriate for the wall, mount a brake release mounting plate over each end of the 1-in. hole. Center the mounting plate rope bushing over the hole as you position each plate. (See Figure 41.)

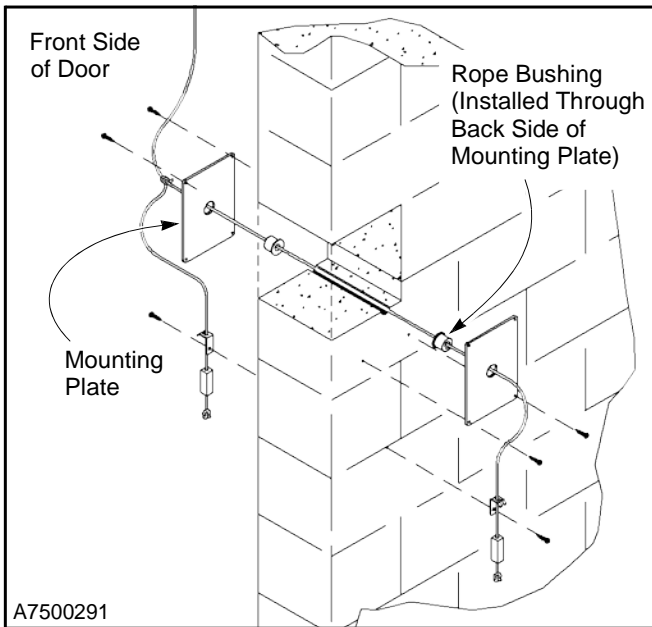


Figure 41

7. Tie a second rope to the first rope as far up the first rope as possible. Then feed the free end of the second rope through the wall plates. Be sure the knot used to connect the two ropes will not slip when either rope is pulled tightly. (See Figure 42.)

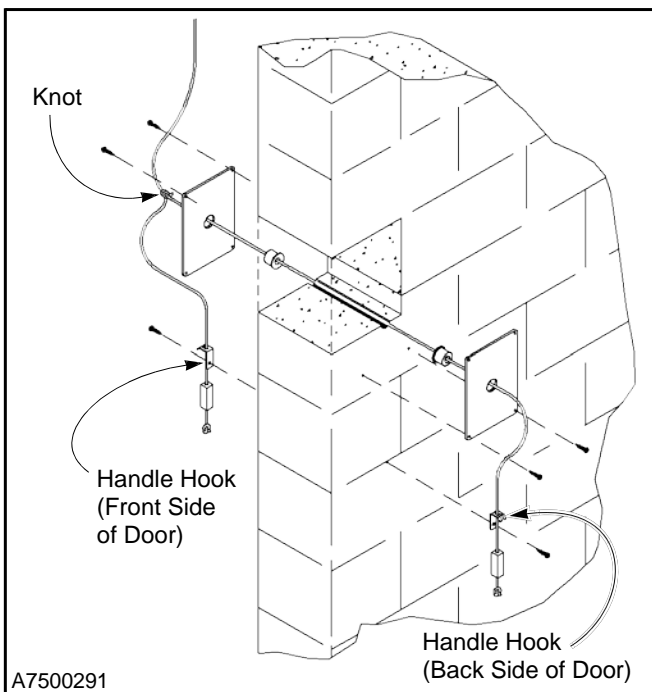


Figure 42

8. Feed the free end of the second rope through a second rope handle located in the small parts carton. Tie and crimp the rope so that the handle hangs 12in. down from the center of the mounting plate. Cut off any excess rope below the crimp.
9. Release the front rope handle from its handle hook. Then mount a second handle hook on the back side of the door in the same manner as the front hook. Secure the brake release labels to the wall near the brake release handle and hook.

**IMPORTANT:** When both rope handles are hanging free, the motor brake lever must be fully released to ensure the motor brake is engaged.

*During normal door operating conditions, both rope handles must not be locked under their respective handle hook. Both ropes must hang freely.*

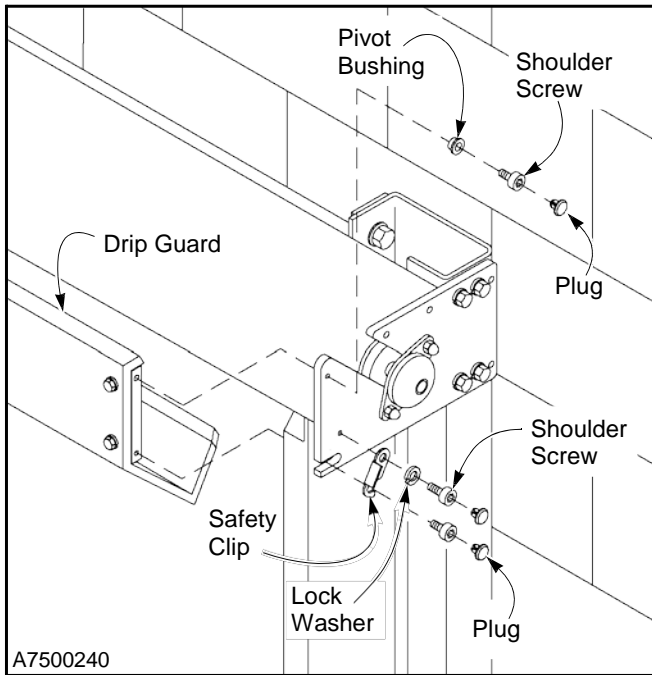


**When the door is opened by hand, door travel must be kept under control to avoid damage by ensuring the bottom bar does not run into the drum assembly.**

## DRIP GUARD

1. Install the drip guard assembly using pivot bushings and stainless steel socket head shoulder screws. Also install a safety clip at each end of the drip guard using flat washers and shoulder screws. Then cap the head of each shoulder screw with a plastic plug. The hardware and plugs are located in the small parts carton. (See Figure 43.)

## INSTALLATION—INSTALL ENCODER



**Figure 43**

**NOTE:** A safety clip at each end is required to secure the drip guard.

2. Lock the drip guard in place with a safety clip, a  $\frac{3}{8}$ -in. lock washer, and a thumbscrew at each end. The clip, washer, and thumbscrew are located in the small parts carton.

### INSTALL ENCODER

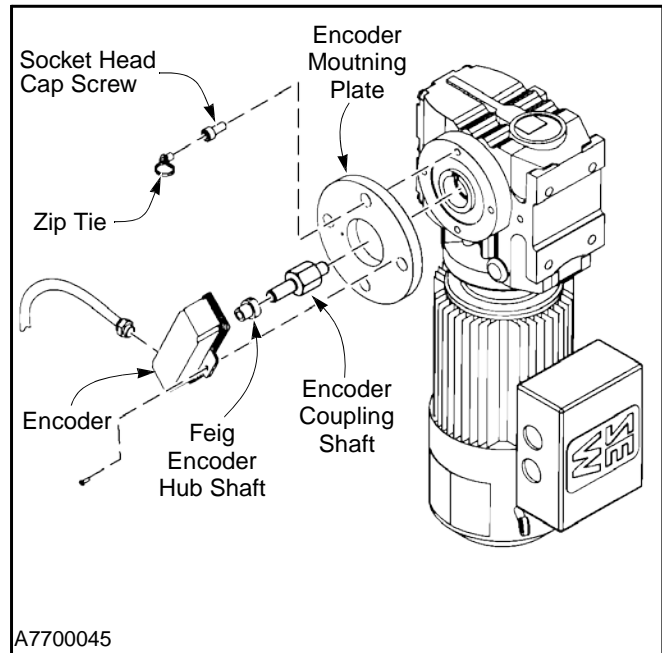
1. Install the encoder coupling shaft to the end of the motor drive shaft using a  $\frac{1}{2}$ -13 x 1-in. hex head cap screw, Eurodrive washer, and split lock washer.

**NOTE:** Use a mild thread locker on the encoder coupling shaft.

2. Install the Feig encoder hub shaft end to the end of the encoder coupling shaft and tighten the set screw.

**NOTE:** Use a mild thread locker on the set screw.

3. Install encoder mounting plate with encoder using four M8 x  $1\frac{1}{4}$  x 18 mm socket head cap screws.
4. Connect encoder cable to the cable from the System 4 control panel.
5. Install plastic zip tie into socket head screw and secure the encoder cable. (See Figure 44.)



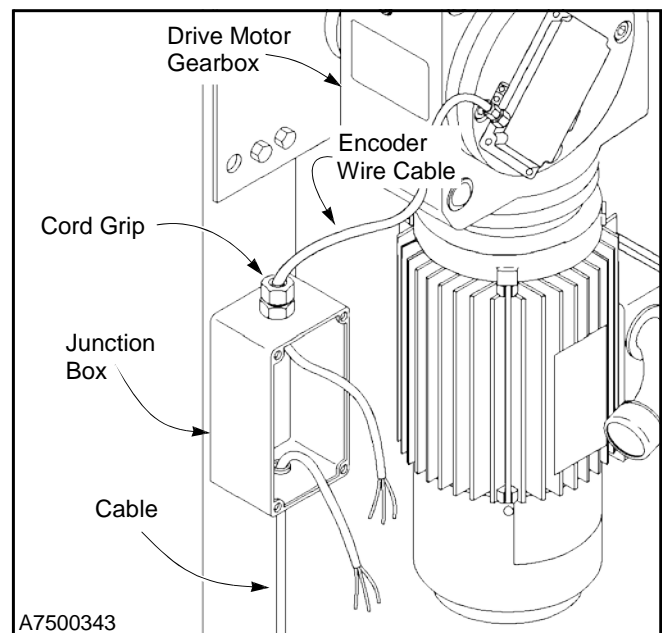
**Figure 44**

**NOTE:** The zip tie that is used to secure the encoder cable is of a special design. The ribbed end inserts into the valley of the socket head cap screw.

All hardware is located in the small parts carton.

### ELECTRICAL WIRING ROUTING

1. Route the encoder wire cable from the drive motor through the upper cord grip in the junction box. Then tighten the cord grip. (See Figure 45.)



**Figure 45**

## ELECTRICAL WIRING ROUTING

1. Route the encoder wire cable from the drive motor through the upper cord grip in the junction box. Then tighten the cord grip. (See Figure 45.)

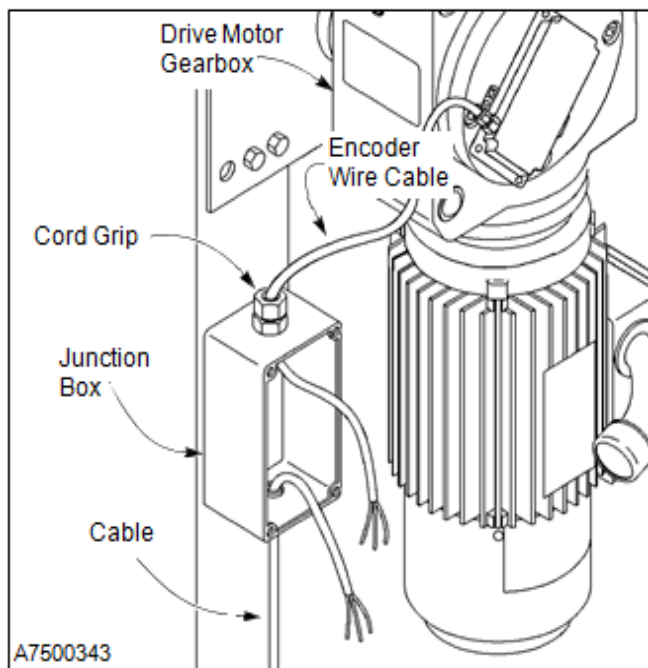


Figure 45

2. Route the motor wires to the control panel through the flexible conduit at the motor. (See Figure 46.)

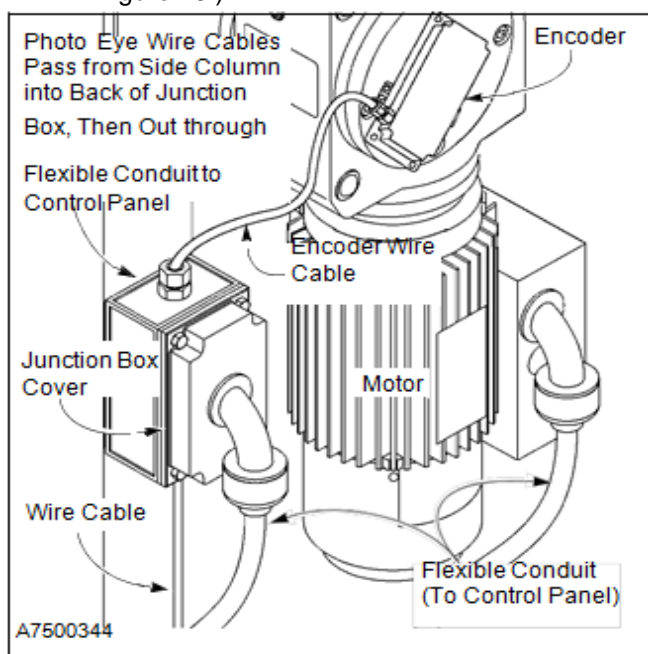


Figure 46

3. Route the photo eye cable from the junction box to the control panel. If required, splice the wires (do not splice the encoder wire cable) at the junction box and route them through the flexible conduit attached to the junction box cover.
4. Without splicing, route the encoder cable from the junction box out through the flexible conduit to the control panel.
5. See Rytec System 4 Drive & Control Installation & Owner's Manual for control panel connections.
6. Reattach the junction box cover with the saved screws.

## CONTROL PANEL AND ELECTRICAL CONNECTIONS

For information on installing the System 4 Drive & Control panel & initial door start-up procedure, see the System 4 Drive & Control Installation & Owner's Manual.

The control panel is mounted directly to the wall. (See Figure 47 and Figure 48.)

**IMPORTANT:** The encoder wire cable must not be spliced. Route the cable from the junction box out through the flexible conduit to the control panel.

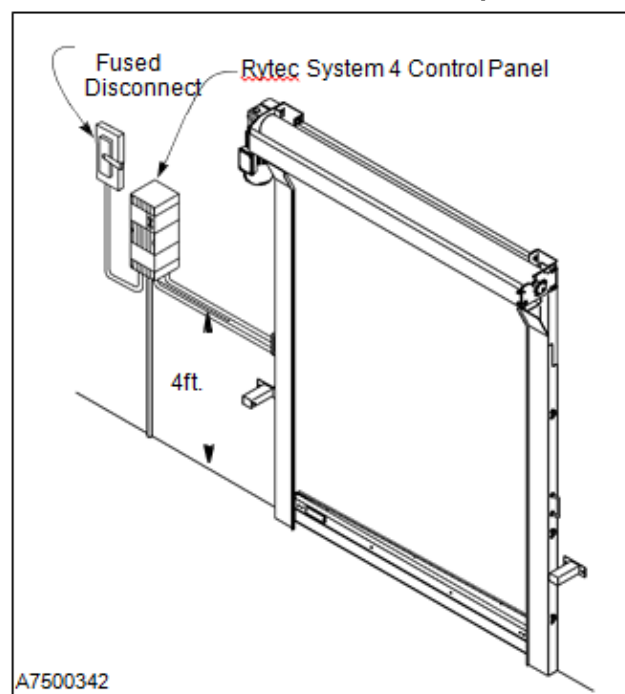


Figure 47



## INSTALLATION—PHOTO EYES

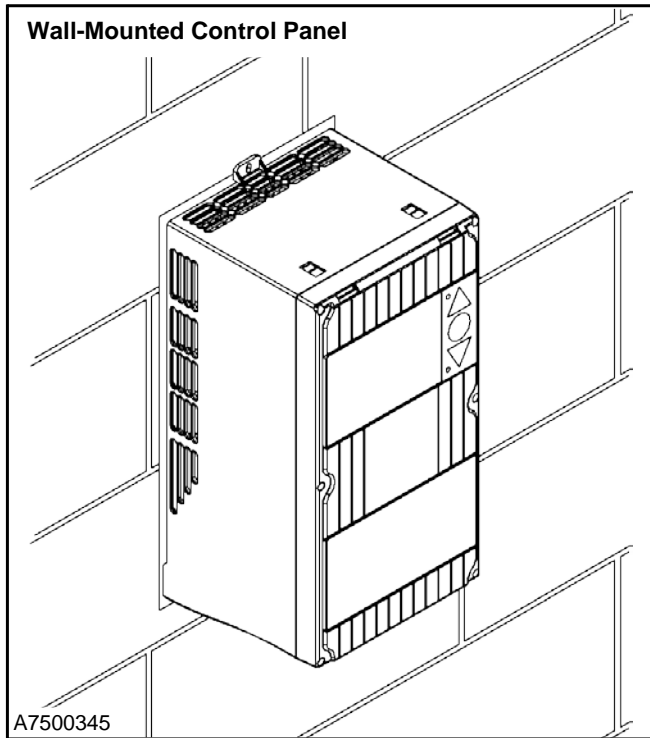


Figure 48

### PHOTO EYES



**The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.**

**NOTE:** The Clean-Roll door is shipped with two sets of photo eyes. One set monitors the back side of the door. The other set monitors the front side of the door. Each set consists of an emitter module and a receiver module. The set of eyes that monitors the back side of the door was installed at the factory (one eye in each side column). The door owner will need to install the set that monitors the front of the door.

The photo eyes are provided as a safety feature. With the eyes correctly installed, interrupting either set of eyes, as the door is closing, will reverse the direction of the door and hold it in the fully open position until the interruption is removed.

### Field-Installed Eyes

The front photo eyes, their required wire cables, and mounting brackets are located in the small parts carton. You must provide the hardware to install the brackets on your particular wall.

**NOTE:** The front set of eyes is to be located on the wall, adjacent to the front side of the door. Each eye must be located 12–36 in. above the floor and as close to the door as possible. They must also be mounted directly across from each other. (See Figure 49.)

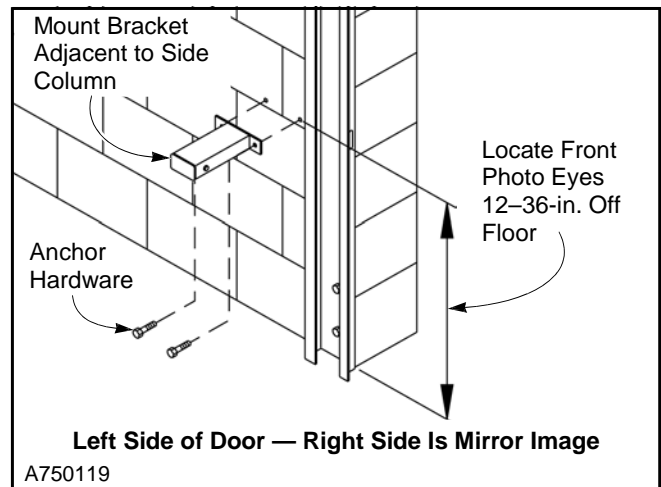


Figure 49

1. After the mounting brackets are in place, install the emitter module in the left bracket and the receiver module in the right bracket.

**NOTE:** The transmitter and receiver can be identified two ways. The transmitter is designated SMT 3000 on the white label or by a single green light that comes on at the clear end of the transmitter. (See Figure 50.) The receiver is designated SMR 3215 on the white label or by a yellow light that illuminates only when it is in proper alignment with the transmitter. (See Figure 51.)

When the cable is connected to the photo eye, there is only a 1/4-inch window to see the green or yellow LED light.

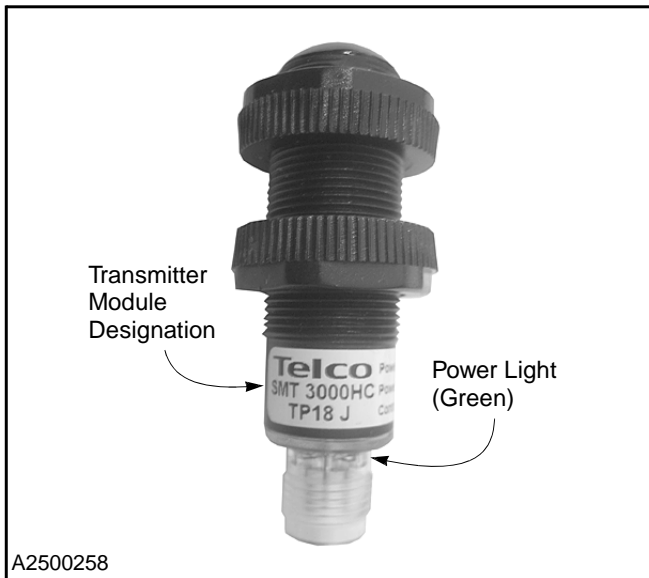


Figure 50



Figure 51

## CAUTION

Position the large plastic nuts found on the end of each photo eye so that the lens on either eye does not protrude too far past the edge of the mounting bracket. If a lens sticks out too far, that photo eye will be susceptible to damage.

2. Thread the connector found on the terminated end of each wire cable onto the end of the photo eyes.

**NOTE:** Be sure the path through which the wire cables are routed hides and protects them from damage. If necessary, run conduit to each mounting bracket to protect the cables.

3. Route the wire cables from the field-installed photo eyes to the control panel in a manner conforming to all applicable codes and regulations. Shielded cable is recommended for all photo eye wires.
4. See Rytec System 4 Drive & Control Installation & Owner's Manual for information and procedure for connecting photo eyes to the control panel.
5. After all work is complete, clean the lens of each photo eye using window cleaner and a soft, clean cloth.

## PHOTO EYES (Manually Assisted Egress Door)

Photo eyes for a manually-assisted egress door work the same as photo eyes for a standard door. (See "PHOTO EYES" on page 20.) The exception to this is the set of eyes used to monitor the back side of the door are remotely mounted on the back side of the wall, opposed to being factory-installed in the side columns.

When mounting the front and back sets of photo eyes for a manually assisted egress door, install them as described above for the front set of eyes for a standard door, while making sure the emitters and receivers from both sets of eyes are installed diagonally across from each other to avoid one set of eyes from interfering with the other set of eyes.

## PHOTO EYE TESTING AND ADJUSTMENT

## WARNING

Take precautions to prevent the door from being operated as you perform the following procedure.

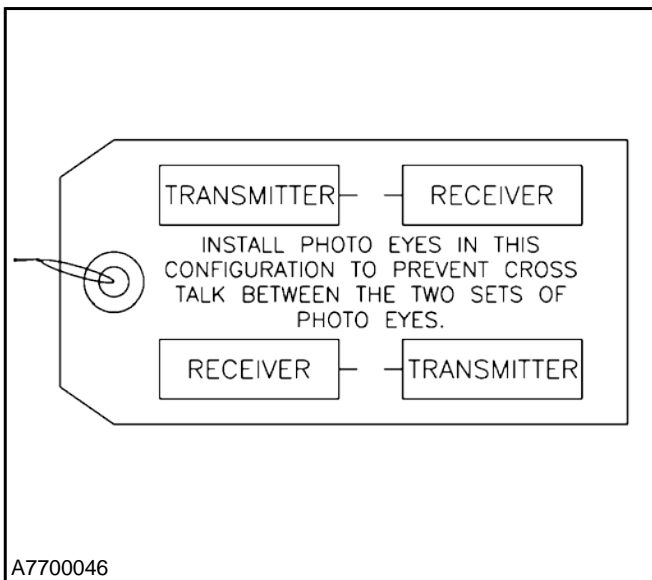
Your Rytec Clean-Roll Door is equipped with two sets of photo eyes that monitor the front and back sides of the door. The purpose of these photo eyes is to hold the door open or, if the door is closing, reverse the direction of the door if a person or object crosses the path of either photo eye beam. After the obstruction breaking the photo eye beam is removed:

- If the door was originally opened by an automatic activator, the door will close automatically.
- If the door was originally opened by a non-automatic activator, the door will remain open until it is closed by the non-automatic activator.

## INSTALLATION—PHOTO EYE TESTING AND ADJUSTMENT

**NOTE:** The photo eyes are not intended to be used as door activators and will not open the door when it is closed.

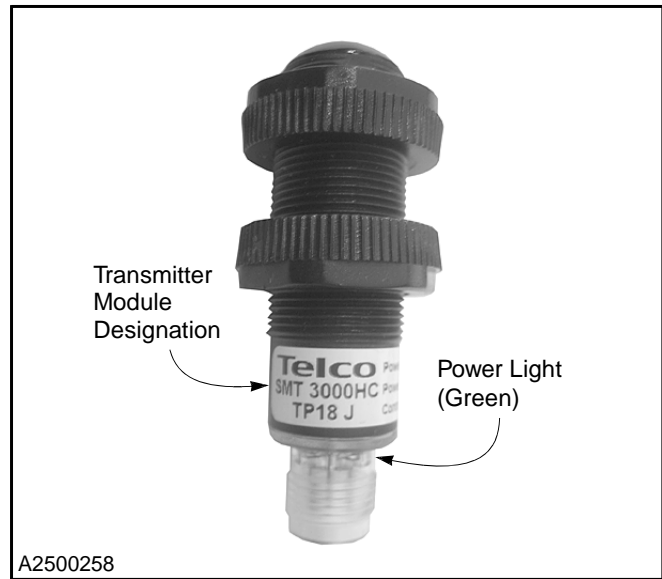
Each set of photo eyes consists of an emitter module and a receiver module. To prevent one set of photo eyes from interfering with the other set, the emitters and receivers have been mounted diagonally across from each other — each side column has an emitter module and a receiver module from each set of eyes. (See Figure 52.)



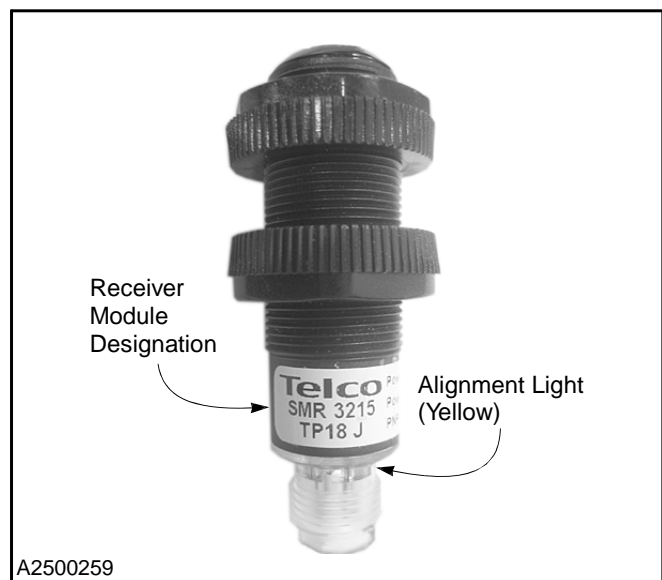
**Figure 52**

The transmitter and receiver can be identified two ways. The transmitter is designated SMT 3000 on the white label or by a single green light that comes on at the clear end of the transmitter. (See Figure 53.) The receiver is designated SMR3215 on the white label or a yellow light that illuminates only when it's in proper alignment with the transmitter. (See Figure 54.)

**NOTE:** When the cable is connected to the photo eye, there is only a 1/4-inch window to see the green or yellow LED light. (See Figure 54.)



**Figure 53**



**Figure 54**

### Testing Photo Eye Modules

With power on, the green light indicates the photo eye module is powered up. When the yellow light on the receiver module is also lit, the emitter and receiver modules are properly aligned.

Placing your hand in front of the receiver breaks the light path and causes the yellow light to go out. Removing your hand causes the yellow light to go back on.

## Troubleshooting

If any of the green lights are not lit, check to make sure power is turned on, and that all wiring has continuity and is installed and connected correctly. If the green lights are on, but the yellow light is off, check the alignment of the emitter and receiver modules. Also, clean the lens of each eye using window cleaner and a soft, clean cloth.

## CAULKING

**IMPORTANT:** For installations that are to meet USDA requirements, use a high-quality, food-grade caulk. For all other installations, use a high-quality exterior caulk.

Caulk between the photo eye mounting brackets and the wall, between the top seal bracket assembly and the wall, where the side columns meet the wall and the floor, and at any connection points where the conduit enters the control panel.

## SIDE COLUMN COVERS

1. Install a side column cover by aligning the side column thumbscrews with the holes in the cover. Then push the cover tight against the column and slide it down until it locks in place. (See Figure 55.)
2. Tighten the thumbscrews to secure the covers.

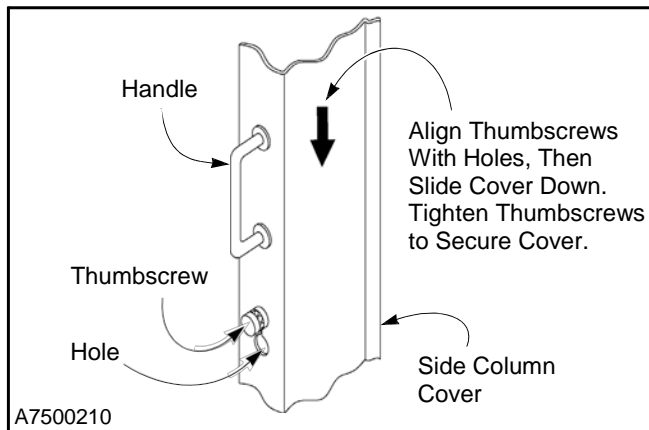


Figure 55

## HOOD (Optional Item)

1. Mount the left and right hood mounting brackets to the motor and bearing support brackets. Use two  $\frac{3}{8}$ -in. stainless steel lock washers and  $\frac{3}{8}$ -16 x  $\frac{3}{4}$ -in. stainless steel hex head screws for each bracket. (See Figure 56.)

**NOTE:** Mount the hood brackets on the outside face of the motor and bearing brackets, with the brackets pointed toward each other.

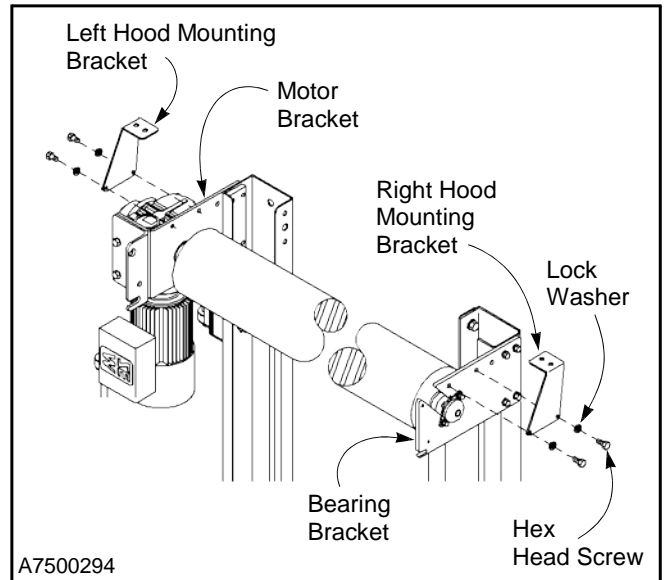


Figure 56

2. Mount the spreader between the side columns. The spreader is attached to the upper most pair of holes along the inside edge of each side column. Use two  $\frac{3}{8}$ -in. stainless steel lock washers and  $\frac{3}{8}$ -16 x  $\frac{3}{4}$ -in. stainless steel hex head screws at each end of the spreader. (See Figure 57.)

Assemble the remaining components of the hood as shown in Figure 57 using the indicated hardware. To make it easier, first assemble the hood on the floor.

Then lift the assembly in place while sliding the back edge of the center hood piece into the lip of the spreader. Secure the hood to the spreader and the two hood mounting brackets with the indicated hardware.

## INSTALLATION—OPEN- AND CLOSE-LIMIT DOOR POSITIONS

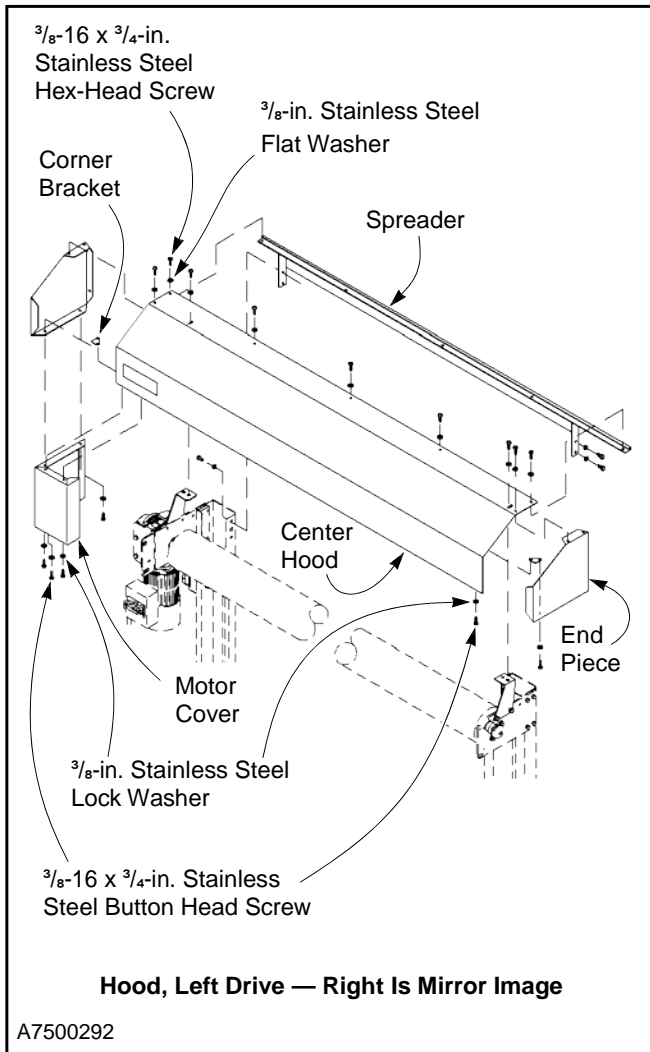


Figure 57

### OPEN- AND CLOSE-LIMIT DOOR POSITIONS

See the Rytec System 4 Drive & Control Installation & Owner's Manual for the proper procedure for setting the open and close door limits. The close- and open-limit door positions are detailed below.

#### Close-Limit Position

**NOTE:** In a USDA application, the door will be fully closed when the vinyl seal along the bottom bar is approximately 2 in. from the floor. In all other applications, the seal will rest on the floor — with the reversing edge inside the seal slightly above the floor.

Depending on the application of the door (USDA or normal), the close-limit position should be adjusted so that the door is in one of the positions shown in Figure 55 and Figure 58.

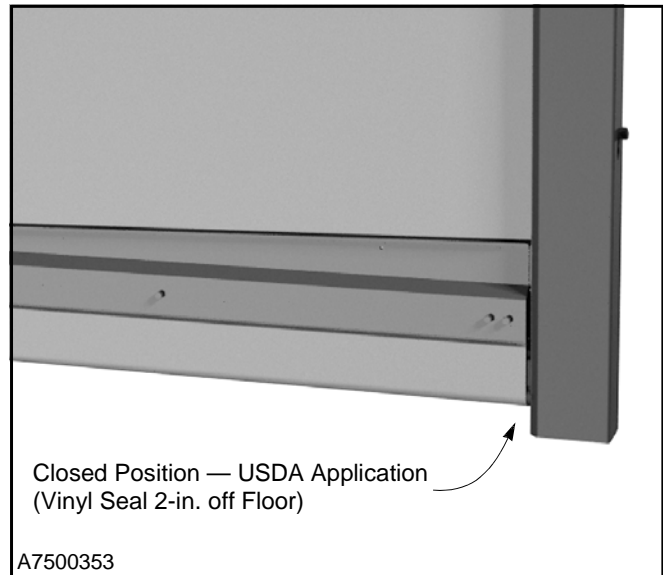


Figure 58

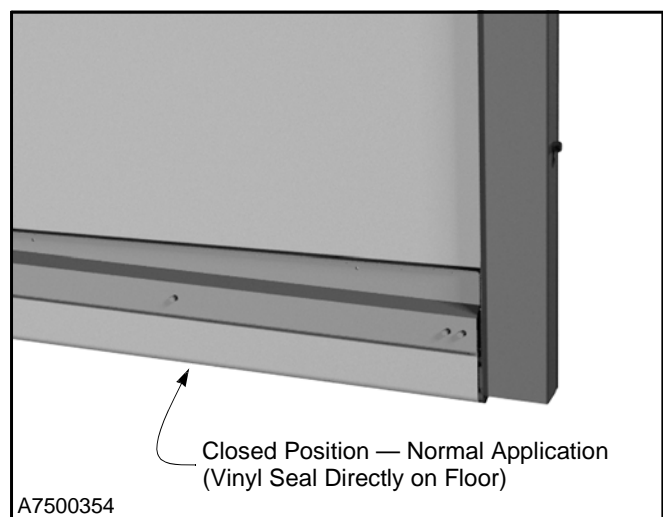


Figure 59

#### Open-Limit Position



**If the door open limit is not properly adjusted, do not allow the door to run past the fully open position — damage to the door or bottom bar assembly could result.**

The open limit position should be adjusted so that the bottom edge of the vinyl seal is even with the notch on the outside edge of the side column cover. (See Figure 60.)

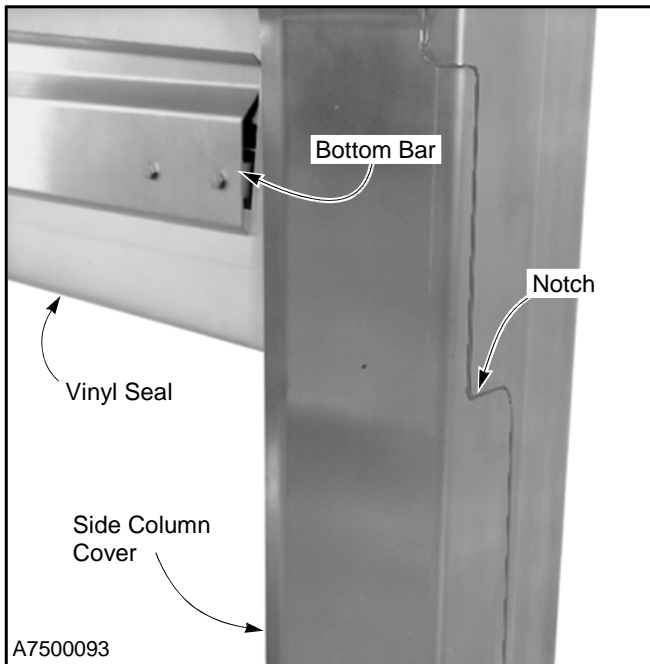


Figure 60

## REVERSING EDGE SWITCH INSPECTION AND ADJUSTMENT

### Reversing Edge Switch Inspection



Do not stand under the door panel when checking the reversing edge operation. If the reversing edge switch is not working properly, the panel could strike the person performing the check.

1. To check the reversing edge switch operation, run the door through the down cycle. As the door is lowering, hit the bottom of the reversing edge. If the reversing edge switch is operating properly, the door should immediately reverse and run to the fully open position. Push the down key on the control panel to close the door after the check is completed. If the door does not reverse, proceed to the next step.
2. The reversing edge switch is located inside the bottom bar assembly. To inspect or adjust the switch, remove the access cover from the face of the bottom bar assembly. (See Figure 61.)

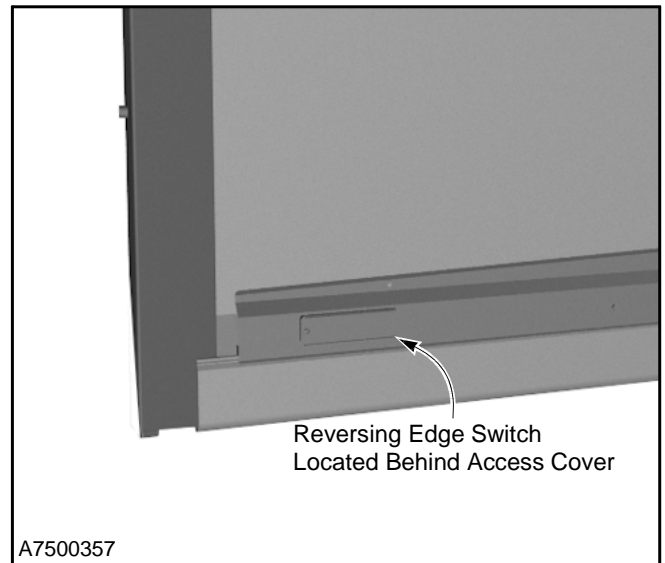


Figure 61

3. Make sure the clear PVC hose is in tight contact with the air input post so that air leakage cannot occur and vibration will not cause the hose to fall off. (See Figure 62.)

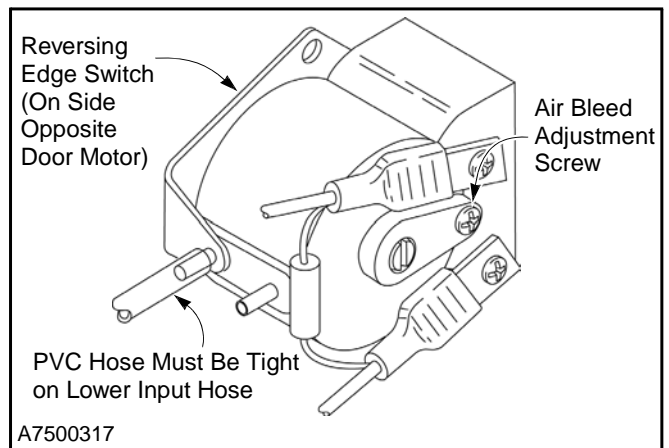


Figure 62

4. The air bleed has been set at the factory and should not require adjustment. The air bleed is set by turning the air bleed adjustment screws, located on the front and back of the switch, fully clockwise but not too tight. Then the screws are turned back counter-clockwise one full turn.

## INSTALLATION—KILL SWITCH INSPECTION

### Reversing Edge Switch Adjustment

1. The reversing edge switch is a normally open contact. The PVC hose is on the lower air input post. (See Figure 63.)

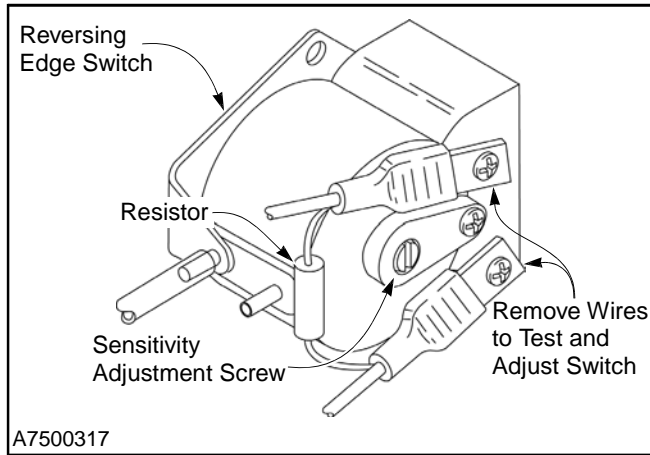


Figure 63

2. To adjust the switch, remove the wires and resistor from the contact terminals and attach an ohmmeter across the two terminals.
3. Turn the small adjustment screw, located on the face of the switch, clockwise or counterclockwise until continuity is achieved. Then turn the screw a three-quarter turn counterclockwise. The ohmmeter should no longer show continuity. Turning the screw counterclockwise decreases sensitivity; turning it clockwise increases sensitivity.
4. Replace the access cover on the bottom bar.

**NOTE:** If the reversing edge switch is set too sensitive, the door may reverse directions during the closing cycle without the reversing edge coming in contact with an object. If this occurs, readjust the reversing edge switch.

### KILL SWITCH INSPECTION

Kill switches have been mounted at each end of the bottom bar assembly. The purpose of these switches is to prevent the door from being operated if the breakaway bottom bar becomes separated from one or both of the side columns.



**Take precautions to prevent the door from being opened or closed while performing the following procedure.**

1. Move the door so that the bottom bar assembly is approximately head or chest height.

2. Push the breakaway bottom bar out of the side column. It should not be possible to restart the door.

**If the kill switch operated properly:** Reinstall the bottom bar into the side column. (See “RESET-TING BOTTOM BAR ASSEMBLY” on page 26.)

**If the kill switch did not operate properly:** Check wiring. If wiring is OK, repair or replace the switch.

### RESETTING BOTTOM BAR ASSEMBLY



**The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.**

1. Turn off power to the door.

**NOTE:** If the door panel is ajar at a height at which the panel material cannot easily be guided into the side column channel, the side column covers can be removed to reset the door panel and bottom bar.

2. Work the door panel material into the channel of the side column. (See Figure 64.)



Figure 64

3. Work the bottom bar until the breakaway tab snaps into the channel of the side column. (See Figure 65.)



**Figure 65**

4. Work the end of the vinyl seal into the side column.
5. If necessary, repeat the above steps for the opposite side of the door panel.
6. Turn on power to the door.

*NOTE: Once the kill switches are activated, the control panel will read "AJAR" and require a manual reset.*

7. Reset the control panel.
8. Check the operation of the door.

## **CLEANING DOOR**

Once the installation of the door is complete, clean the door as described in the "Door Cleaning" procedure located in the Clean-Roll Door Owner's Manual.

## **FINAL CHECKS**

*NOTE: Check the following items after the door has cycled approximately 20 times.*

**Side Columns:** Check that side columns are plumb and square and that all anchor bolts are tightly secured.

**Counterweights (Egress Door Only):** Check that the counterweight assembly in each side column travels smoothly as the door is opened and closed. Make sure the nylon strap connected to each counterweight assembly is tightly secured.

**Drum Assembly:** Check that all mounting hardware is in place and tightly secured. Fabric roll should be level and track straight and smoothly as the door is opened and closed.

**Bottom Bar:** Smoothly travels up and down within the side columns.

**Limit Switches:** Adjusted properly. Up and down travel of the door should be as described in "Setting Door Limits" in the Rytec System 4 Drive & Control Installation & Owner's Manual.

**Motor:** Cycles the door in the proper direction when the button is pressed.

**Reversing Edge:** Works properly. As the door is closing, if the reversing edge makes contact with an object, the door should immediately return to the fully open position as described in "REVERSING EDGE SWITCH INSPECTION AND ADJUSTMENT" on page 25.

**Timers:** Automatic timers must be set to ensure that the door closes properly, as described in the Rytec System 4 Drive & Control Installation & Owner's Manual.

**Activators:** Operate as specified by manufacturer.

**Caulk:** Ensure that the photo eyes, side columns, top seal bracket, and control panel are caulked as described in "CAULKING" on page 23.

The control panel enclosure must be caulked where it meets the wall.

The front photo eye brackets must be caulked where they meet the wall. The back photo eye brackets (egress door only) must be caulked where they meet the wall.

**Kill Switch:** When the bottom bar assembly is separated from either end bracket, the kill switch must operate as described in "KILL SWITCH INSPECTION" on page 26.

**Photo Eyes:** Make sure the photo eyes are working as described in "PHOTO EYE TESTING AND ADJUSTMENT" on page 21.

**Cleanliness Inspection:** Before placing the door in service, clean the door as described in the "CLEANING DOOR" procedure as described in the Clean-Roll Door Owner's Manual.



## NOTES

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