

R Y T E C

Fast-Seal®

Owner's Manual



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[Revision: AD (2021-03-24), R0215002, ©Rytec Corporation 2005]

FAST SEAL MODELS LIMITED WARRANTY

Rytec Corporation ("Seller"), an Illinois corporation with its principal place of business at One Cedar Parkway, PO Box 403, Jackson, WI 53037, warrants to the original registered end-user commercial purchaser ("Buyer") that the **Fast Seal® Models FS1000 & FS1500** ("Product") sold to the Buyer will be free of defects in materials and workmanship (ordinary wear and tear excepted) for the time periods set forth below:

- **Mechanical** components for a period of **Two (2) Years** from the date of shipment of the Product from the Seller's plant ("Shipment").
- **Electrical** components for a period of **Two (2) Years** from Shipment.
- **Motor** for a period of **Five (5) Years** from Shipment.
- **Standard door panels**, including **Standard 3-ply Rylon™**, for **Five (5) Years** from Shipment.
- **Standard door panels**, including **Standard 2-ply Rylon™**, for **Three (3) Years** from Shipment.
- **Optional door panels**, including **Optional Screen**, for a period of **One (1) Year** from shipment.
- **Counterweights and tension springs** for the lifetime of the door.
- **Wireless Mobile Unit Batteries, Vinyl Loop Seal, Vision Windows, Velcro™, Coil Cords**, are considered wear items and are not covered under this Limited Warranty.
- **Aftermarket parts, accessories and assemblies** for a period of ninety (90) days from the date of Shipment.

Remedies. Seller's obligation under this Limited Warranty is limited to repairing or replacing, at Seller's option, any part which is determined by Seller to be defective during the applicable warranty period. Such repair or replacement shall be the Seller's sole obligation and the Buyer's exclusive remedy under this Limited Warranty.

Labor. Except in the case of aftermarket parts, accessories and assemblies, labor is warranted for one year. This means that Seller will provide warranty service without charge for labor in the first year of the warranty period. Thereafter, a charge will apply in to any repair or replacement under this Limited Warranty. In the case of aftermarket parts, accessories and assemblies, Seller will provide replacement parts only.

Claims. Claims under this Limited Warranty must be made (i) within 30 (thirty) days after discovery and (ii) prior to expiration of the applicable warranty period. Claims shall be made in writing delivered to the Seller at the address provided in the first paragraph of this warranty. Buyer must allow Seller and Dealer, or their agents, a reasonable opportunity to inspect any Product claimed to be defective and shall, at Seller's option, either (x) grant Seller and Dealer or their agents access to Buyer's premises for the purpose of repairing or replacing the Product or (y) return of the Product to the Seller, f.o.b. Seller's factory.

Original Buyer. This Limited Warranty is made to the original Buyer of the Product and is not assignable or transferable. This Limited Warranty shall not be altered or amended except in a written instrument signed by Buyer and Seller.

Not Warranted. Seller does not warrant against and is not responsible for, and no implied warranty shall be deemed to cover, damages that result directly or indirectly from: (i) the unauthorized modification or repair of the Product, (ii) damage due to misuse, neglect, accident, failure to provide necessary maintenance, or normal wear and tear of the Product, (iii) failure to follow Seller's instructions for installation, operation or maintenance of the Product, (iv) use of the Product in a manner that is inconsistent with Seller's guidelines or local building codes, (v) movement, settling, distortion, or collapse of the ground, or of improvements to which the Products are affixed, (vi) fire, flood, earthquake, elements of nature or acts of God, riots, civil disorder, war, or any other cause beyond the reasonable control of Seller, (vii) improper handling, storage, abuse, or neglect of the Product by Buyer or by any third party.

DISCLAIMERS. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER REPRESENTATIONS AND WARRANTIES, EXPRESS OR IMPLIED, AND THE SELLER EXPRESSLY DISCLAIMS AND EXCLUDES ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PURPOSE. SELLER SHALL NOT BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES OF LAW, WITH RESPECT TO THE PRODUCTS SOLD OR SERVICES RENDERED BY THE SELLER, OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO.

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Product Descriptions. Any description of the Products, whether in writing or made orally by the Seller or the Seller's agents, including specifications, samples, models, bulletins, drawings, diagrams, engineering or similar materials used in connection with the Buyer's order, are for the sole purpose of identifying the Product and shall not be construed as an express warranty. Any suggestions by the Seller or the Seller's agents regarding the use, application, or suitability of the Product shall not be construed as an express warranty unless confirmed to be such in writing by the Seller.

Limited Warranty Void. This Limited Warranty shall be void in its entirety if:

- a. The Product is modified in a manner not approved in writing by Seller; or
- b. Buyer fails to maintain the Product in accordance with instructions contained in the Owner's Manual for the Product.

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INTRODUCTION

INTRODUCTION

The information contained in this manual will allow you to operate and maintain your Rytec Fast-Seal® Door in a manner which 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 inside the left side column.

DOOR SERIAL NUMBER(S)

Your *DOOR SERIAL NUMBER* information can be found in three universal locations. These are on the inside of either side column cover (approximately eye level), on the drive motor in the head assembly, and inside the System 4 control panel. Typically it can also be found on the left front face of Head Assembly Weldment. (See Figure 1)

IMPORTANT: *When installing multiple doors, verify and match the serial numbers of all assemblies. i.e. from the control panel, side columns, head assembly and any others.*

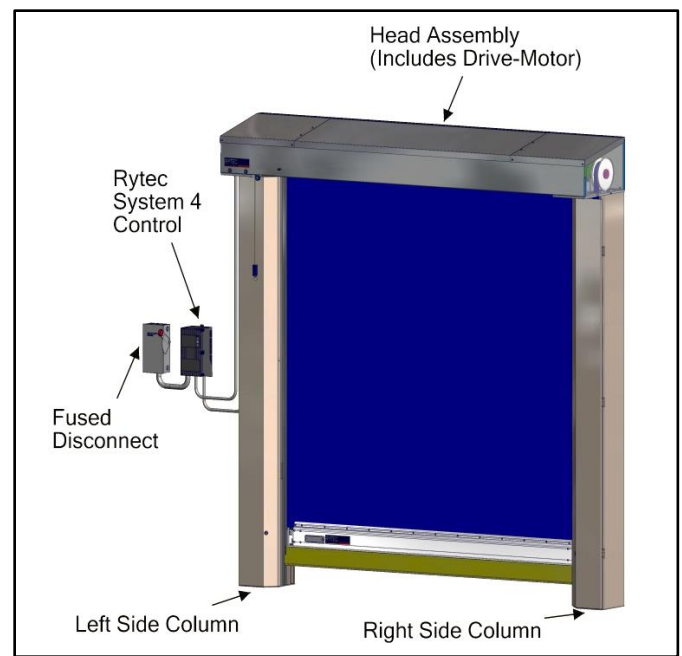


Figure 1

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.

GENERAL ARRANGEMENT OF DOOR COMPONENTS

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

This illustration is provided to you for general information purposes only. It should not be relied upon solely for operating or performing maintenance on your door and its sub-assemblies

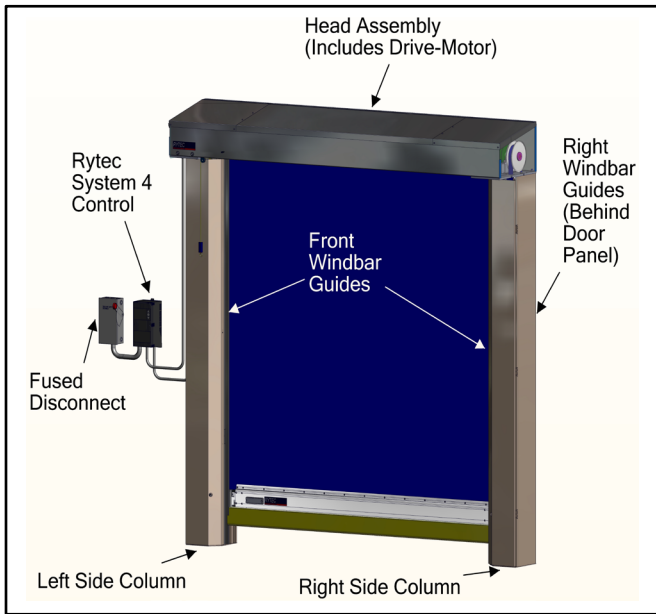


Figure 2

NOTE: The illustration above shows the front of the door. Left and right are determined as seen facing the front of the door.

OPERATION

CONTROL PANEL

The Fast-Seal door is equipped with the Rytec System 4 Drive & Control, a solid-state, microprocessor-based control system designed exclusively to operate Rytec high-performance doors. It provides connections for multiple activators, close delay timers, and status indicators. All command functions to operate the drive and control system are software controlled. For information on control panel operation, see the Rytec System 4 Drive & Control Installation & Owner's Manual.

PHOTO EYES

Your Rytec Fast-Seal 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.

NOTE: The safety 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 a transmitter module and a receiver module. To prevent one set of eyes from interfering with the other set, the transmitters and receivers have been mounted diagonally across from each other. Each side column has a transmitter module and a receiver module from each set of eyes. (See Figure 3)

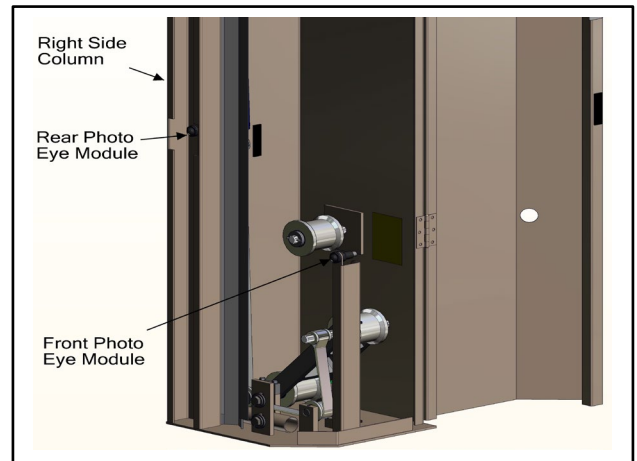


Figure 3

OPERATION—BOTTOM BAR ASSEMBLY

BOTTOM BAR ASSEMBLY

The bottom bar assembly provides two functions: break-away capability and reversing edge.

NOTE: Any door over 24 feet wide or any door with strapless windbars will be non-breakaway and will have steel cover plates on both ends of the bottom bar.

Breakaway Capability

At each end of the bottom bar assembly is an end bracket. These end brackets support the bottom bar during normal operation. However, upon impact, the assembly is designed to allow the bottom bar to separate from either end bracket if the door is struck by a vehicle or load passing through the door.

A kill switch located at each end of the bottom bar will stop the door when the bar has separated from either end bracket. This helps to prevent damage to the bottom bar, and door panel. (See Figure 4)

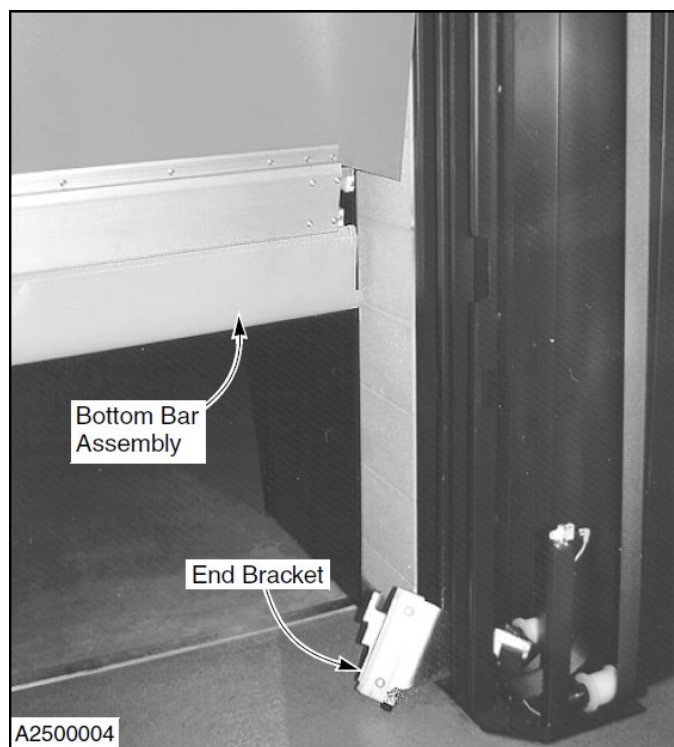


Figure 4

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 the power to the door.
2. Open the side column cover.
3. Slide the door panel fabric back between the seals in the side column. (See Figure 5)

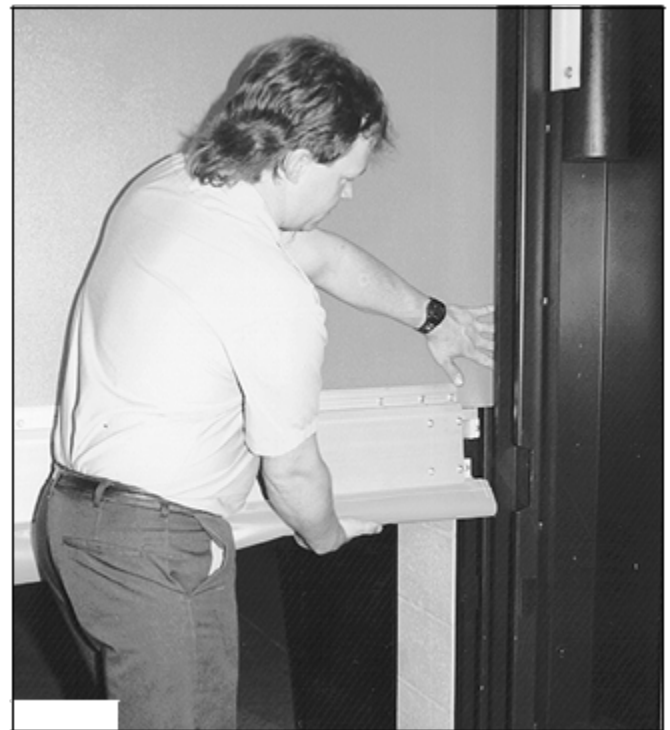


Figure 5

NOTE: Moving the bottom bar assembly and door panel slowly back and forth through the door opening will help work the fabric, from the top down, back in place between the seals in the side column.

4. Unlatch the release handle on the spring tension assembly. (See Figure 6)

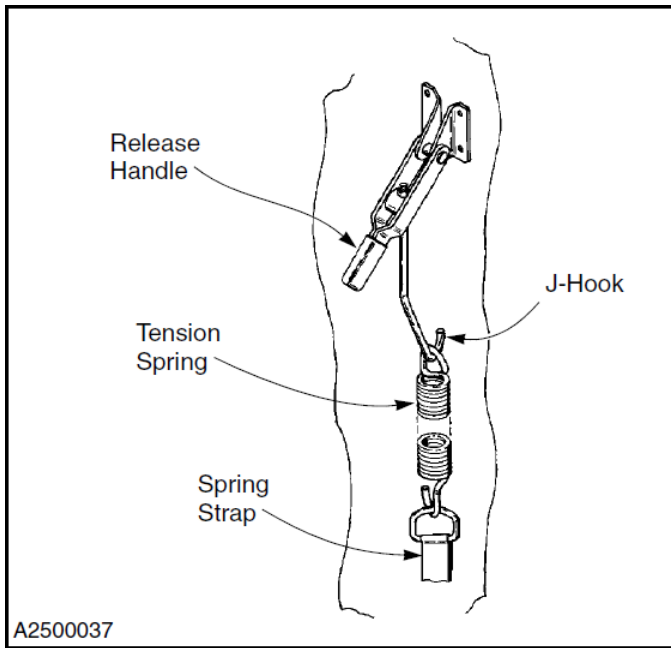


Figure 6

⚠ WARNING

When the spring tension assembly is stretched tight, it could rapidly move downward when released. When releasing the handle, make sure to keep your hands and fingers out from under the handle to prevent them from getting pinched.

5. If the end bracket is in front of the spring tension assembly, release the motor brake and reposition the door panel (as required) until it is possible to reconnect the end bracket to the bottom bar.
6. Insert the end bracket into the end of the bottom bar assembly. They are properly connected when the spring plunger on the end of the bottom bar assembly snaps into the end bracket. (See Figure 7)

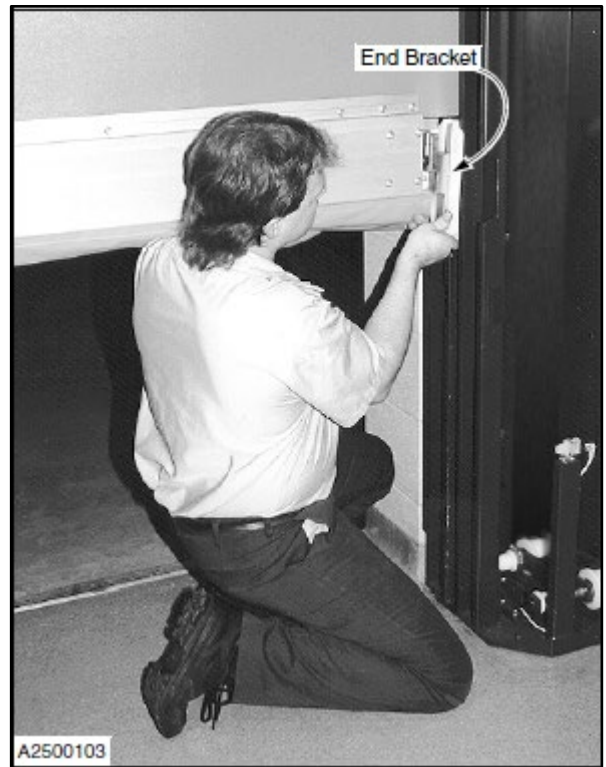


Figure 7

7. Check the tension strap and spring strap to ensure they are not twisted or out of alignment with the guide rollers.
8. Reapply tension to the tension strap by raising the spring release handle and locking it in place. (See Figure 8)

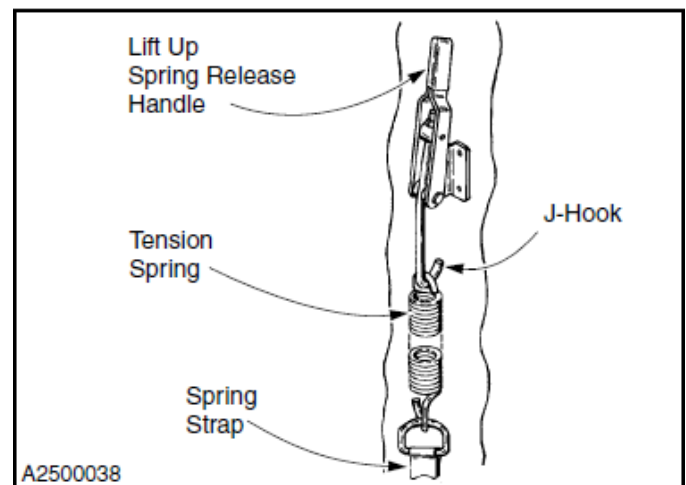


Figure 8

OPERATION—POWER DRIVE SYSTEM

9. Check the alignment of the end bracket and the bottom bar assembly. They must be flush at the front and back edges. (See Figure 9)

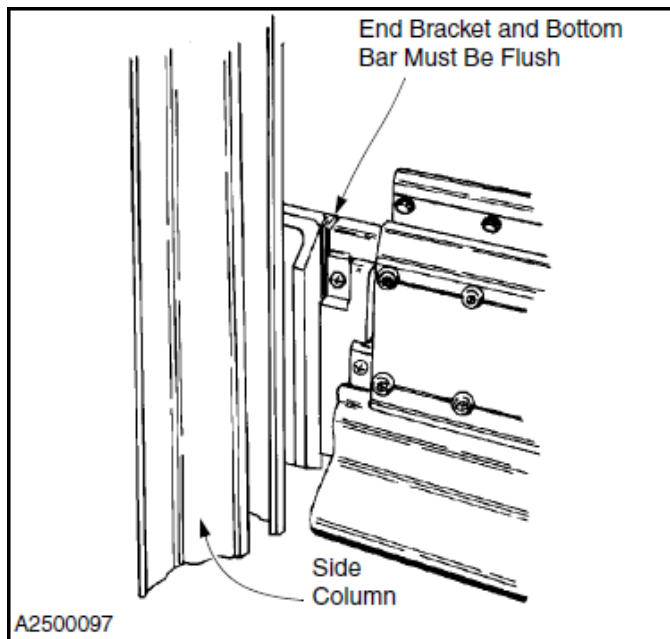


Figure 9

10. Close and fasten the side column cover.
11. Restore electrical power and push and Hold the RESET to clear the DOOR AJAR error.

NOTE: Anytime the bottom bar breaks away from either end bracket, a kill switch is activated. After the end brackets are reattached, the control panel must be reset before the door will operate again.

12. Operate the door a few times to make sure it is working correctly.

Reversing Edge

A pneumatically operated reversing edge is mounted along the lower edge of the bottom bar assembly. (A few models of the Fast-Seal Door are fitted with an electrically operated reversing edge. It performs the same function as a pneumatic edge.)

If this pressure-sensitive edge comes in contact with an object in the path of the door panel as it is closing, the control system will reverse the door and move it to the full-open position. (See Figure 10)

NOTE: Anytime the reversing edge is activated, remove the object in the door opening, then reset the control panel by pressing the Stop/Reset key.

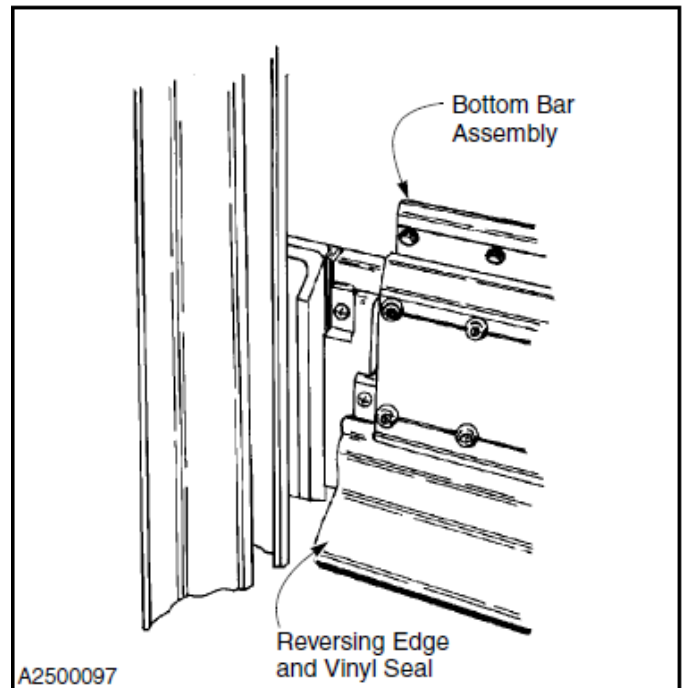


Figure 10

POWER DRIVE SYSTEM

The Fast-Seal power drive system consists of an electric motor/brake assembly and a gearbox. The power drive system can be mounted on either the left or right end of the fabric drum.

The electric motor is used to drive the fabric drum. The brake mechanism prevents the motor (fabric drum) from turning when electrical power to the motor is turned off or during a power interruption. A release cable leading from the end of the motor/brake assembly is provided to override the brake mechanism. Pulling the cable will release the brake and allow you to manually reposition the door panel. Releasing the cable sets the brake, which locks the panel in place.

A drive chain connects the gearbox to the fabric drum, by way of a pair of sprockets. The tension of the drive chain is adjusted by repositioning a sliding plate assembly that the drive system is mounted on. (See Figure 11)

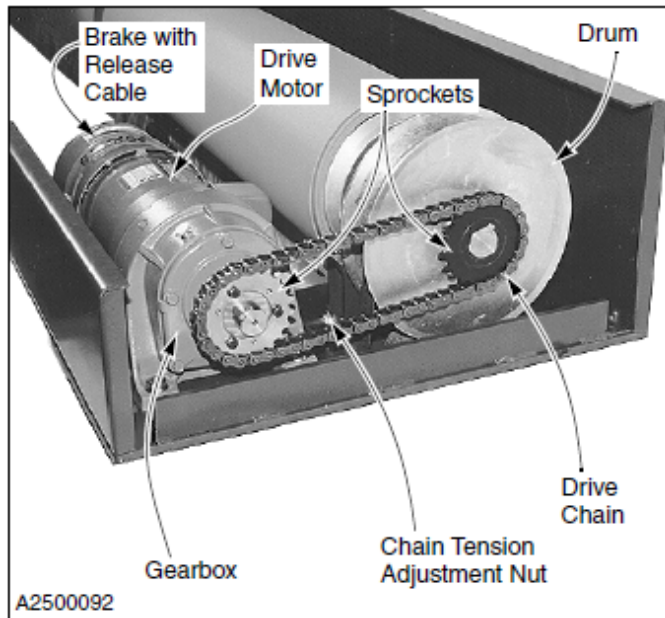


Figure 11

COUNTERBALANCE SYSTEM

The door is counterbalanced by means of counterweights. The counterweights are located in the side columns. They reduce the load against the drive motor by assisting the motor with opening and closing the door panel. (See Figure 12)

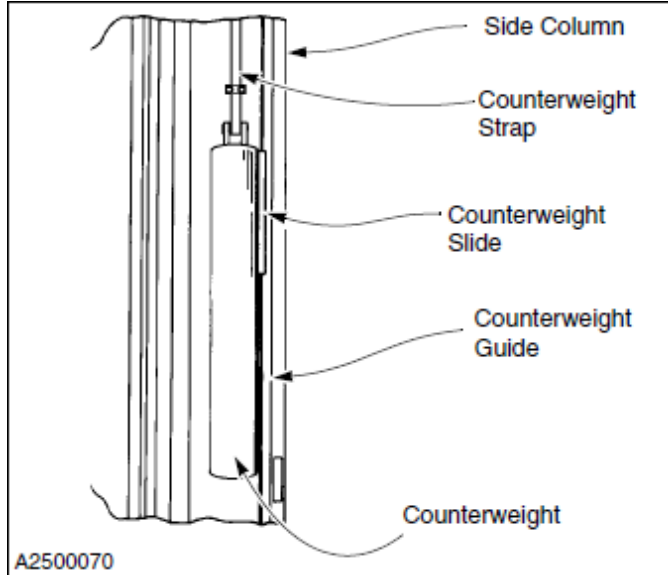


Figure 12

PLANNED MAINTENANCE

RECOMMENDED SCHEDULE

NOTE: The following maintenance schedule is recommended. (See Table 1)

Table 1

	Daily	Quarterly
Damage Inspection		
Door Operation		
Reversing Edge Switch Test		
Photo Eye Test		
Mounting Hardware		
Fabric Panel Inspection		
Weather Seal Inspection		
Door Open- and Close-Limit Position Inspection		
Drive Chain Inspection		
Bottom Bar Inspection		
Kill Switch Inspection		
Breakaway Assembly and End Bracket Inspection		
Counterweight Inspection		
Door Tension Inspection		
Windbar Inspection (Windbars Are Optional)		
Control Panel and Activator Inspection		
Electrical Connection Inspection		
Lubrication		
Wall Anchor Inspection		
Safety Decal Inspection		

PLANNED MAINTENANCE—DAILY INSPECTION

DAILY INSPECTION

Damage Inspection

Visually inspect the door for damaged components such as torn fabric panel, dented side column, bent bottom bar, or damaged photo eyes. (See Figure 13)

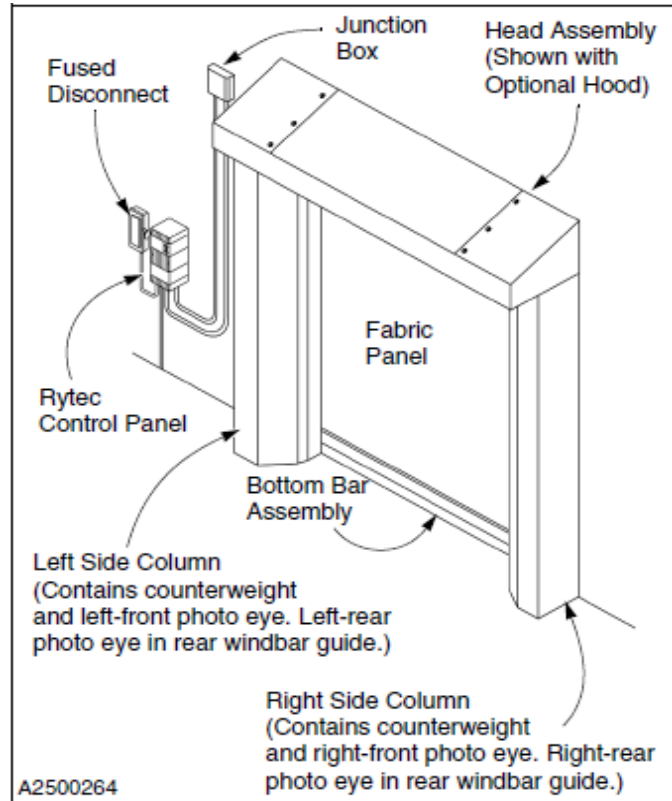


Figure 13

Head Assembly: Inspect for dents or damage that may prevent the door from opening or closing properly.

Door Panel: Inspect panel for holes, tears, and worn areas. If equipped with windows, inspect them for damage or dirt that may impair vision — clean or replace as required.

Door Panel Seals: Inspect door panel seals between windbar guides for holes, tears, and worn areas.

Side Columns and Covers: Inspect for damage that may prevent the door from operating properly.

Photo Eyes: Inspect the lens of each photo eye for damage or dirt that may prevent the photo eyes from working properly — clean or replace as required.

Bottom Bar: Inspect the bottom bar for damaged, missing, or loose hardware. Inspect the yellow vinyl seal along the lower edge of the bottom bar for tears and holes. Inspect the edge itself.

Inspect all counterweight components such as rollers, springs, and straps for damage and wear. Clean components as required to ensure proper operation of the door. (See Figure 14)

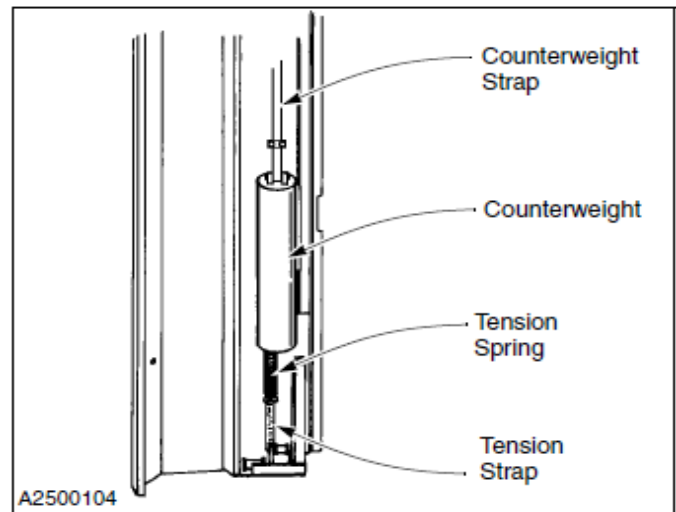


Figure 14

Counterweights and Straps: Counterweights must be properly adjusted. Counterweight straps must be in good working condition, securely attached to the counterweights and the drum assembly, and tracking properly on all rollers.

Tension Straps: Tension straps must be in good working condition, securely attached to the end brackets and drum assembly, and tracking properly on all rollers.

Spring Tension Assembly: Inspect each spring tension assembly to make sure that the spring straps are not worn or damaged, that each strap is securely fastened to the tension spring and the H-bracket, and that the tension springs are not stretched. (See Figure 15)

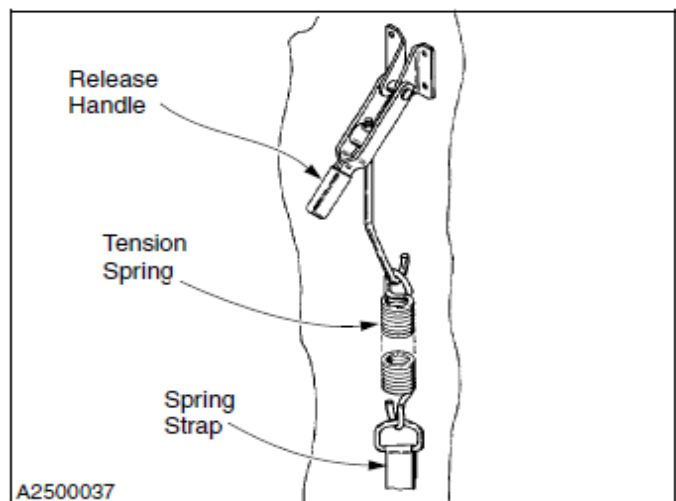


Figure 15

Door Operation

Run the door through four or five complete cycles to make sure that it is operating smoothly and efficiently without binding or unusual noises. DO NOT continue to operate the door if it is not running properly, as this could cause additional damage.

Reversing Edge Switch Test



Do not stand under the door panel while testing the door reversing function. If the reversing edge switch is not working properly, the panel could strike the person performing the test. Also, do not continue to use the door if the reversing edge is not operating properly.

1. To test the reversing edge switch, first close the door. As the door is closing, hit the bottom of the reversing edge. If the reversing edge switch is operating correctly, the door will reverse direction and move to the full-open position.
2. If the door does not reverse direction, proceed to "Pneumatic Reversing Edge Switch Adjustment" on page 20.

Otherwise, reset the control panel and close the door.

NOTE: Anytime the reversing edge is activated, remove the object in the door opening, then reset the control panel by pressing the enter key.

Photo Eye Test

NOTE: Two sets of photo eyes have been provided with the Fast-Seal door. They are factory installed in the side columns and are used as a safety device to prevent the door from closing if an object is in the path of the door panel. The photo eyes are not meant to be used as door activators. Both sets of eyes must be working correctly for the door to operate.

1. Raise the door to the full-open position by pressing the up key on the control panel.
2. Place an object between the front photo eyes.
3. Press the down key on the control panel. The door should not operate.

4. Remove the object and cycle the door to verify that the front set of eyes is working properly. If the front set of photo eyes is not working properly, the photo eyes may be dirty. Clean the lens of each eye as required, using window cleaner and a clean, soft cloth. If cleaning does not resolve the problem, see "PHOTO EYE ADJUSTMENT" on page 18.
5. Repeat the above steps on the rear set of photo eyes.

QUARTERLY INSPECTION

Mounting Hardware

1. Turn off the power to the door.



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

2. Make sure all nuts, bolts, and set screws are tight throughout the door. Example: motor mounting bolts, through-wall mounting bolts, floor anchors, sprocket set screws, etc. (See Figure 16 through Figure 19)

FABRIC DRUM

NOTE: On a door equipped with a hood, it may be necessary for you to remove the hood to gain access to all components inside the head assembly.

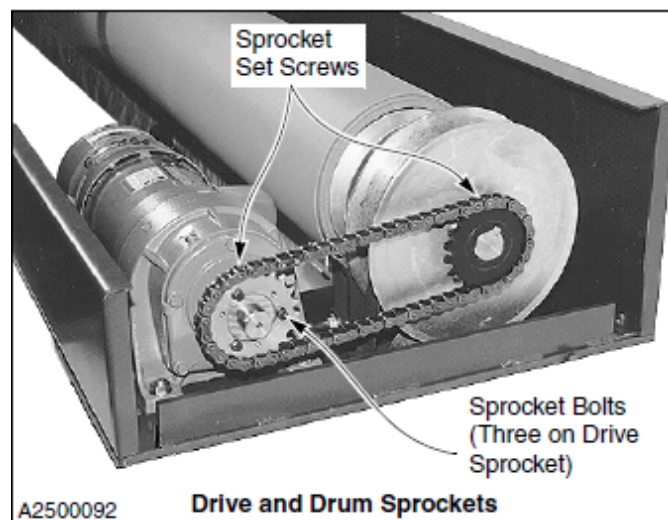


Figure 16

PLANNED MAINTENANCE—QUARTERLY INSPECTION

HEAD ASSEMBLY

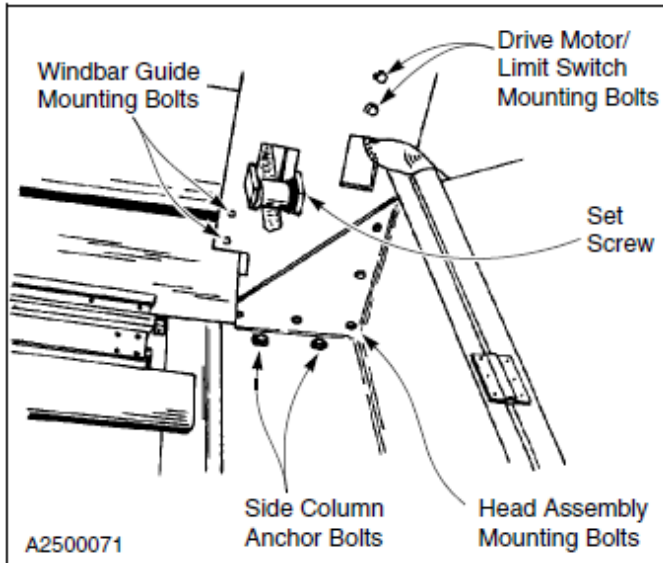


Figure 17

SIDE COLUMN

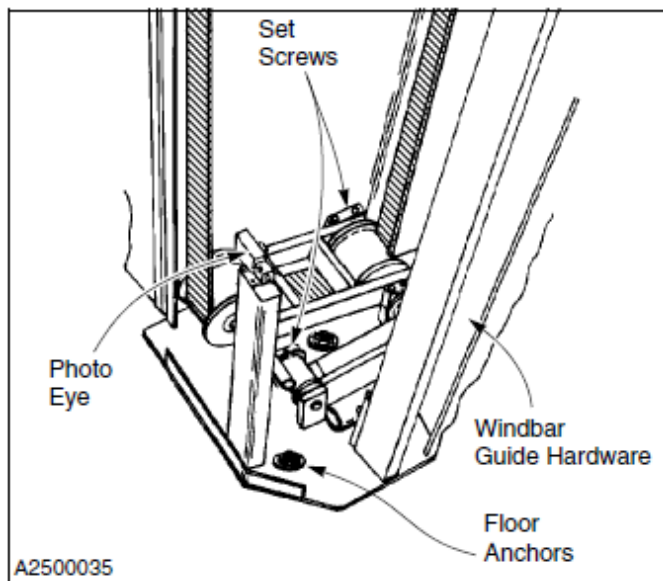


Figure 18

BOTTOM BAR

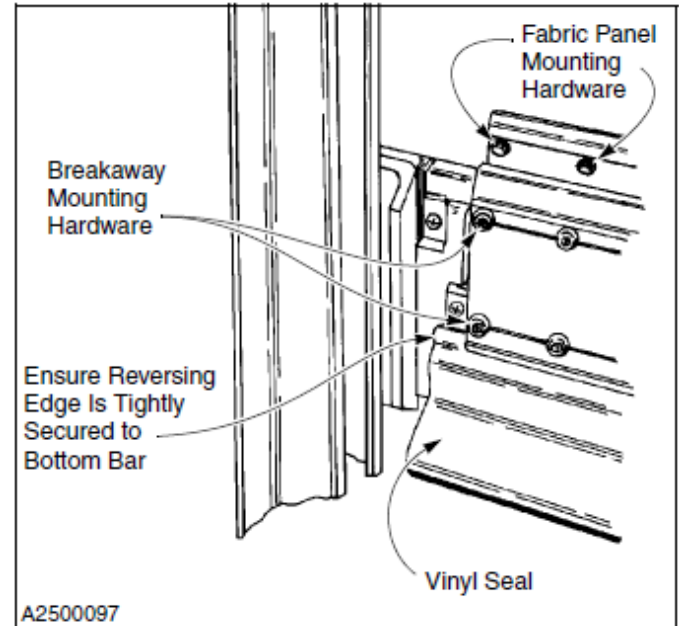


Figure 19

3. Turn on the power to the door.

Fabric Panel Inspection

1. Turn off the power to the door.

⚠ WARNING

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

2. Inspect the entire surface of the fabric panel for tears and holes. Repair or replace as required.
3. If equipped with windows, inspect them for damage or dirt that may impair vision — clean or replace the windows as required.

NOTE: When cleaning the windows, use any good brand of household window cleaner. Do not use an abrasive cleaner or a petroleum-based solvent.

4. Check to ensure that the fabric panel is securely fastened to the bottom bar assembly. Tighten or replace hardware as required.
5. Turn on the power to the door.

Weather Seal Inspection and Replacement

1. Turn off the power to the door.



WARNING

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

HEAD ASSEMBLY

NOTE: The weather seal is mounted on the underside of the head assembly, behind the fabric drum.

Inspect the weather seal for wear or damage. Replace if necessary.

SIDE COLUMNS

Inspect the weather seal in each side column for tears and holes. Replace if necessary. (See Figure 20)

NOTE: The weather seal is held in the track by crimping the ends of the track.

To replace the weather seal, loosen each crimp and slide a new seal in the track. Then re-crimp the track to secure the seal.

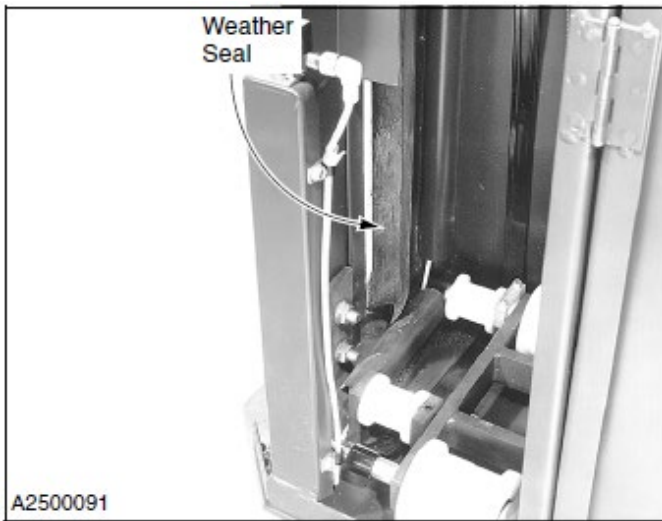


Figure 20

2. Turn on the power to the door.

Door Open- and Close-Limit Position Inspection

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

CLOSE-LIMIT POSITION

The close limit should be adjusted so that the door travel allows the yellow vinyl loop located along the bottom bar assembly to gently seal against the floor. (See Figure 21)

NOTE: The lower rubber bumper on each end bracket should be $\frac{1}{2}$ to 1 in. from the bottom of the side column. (See Figure 21)

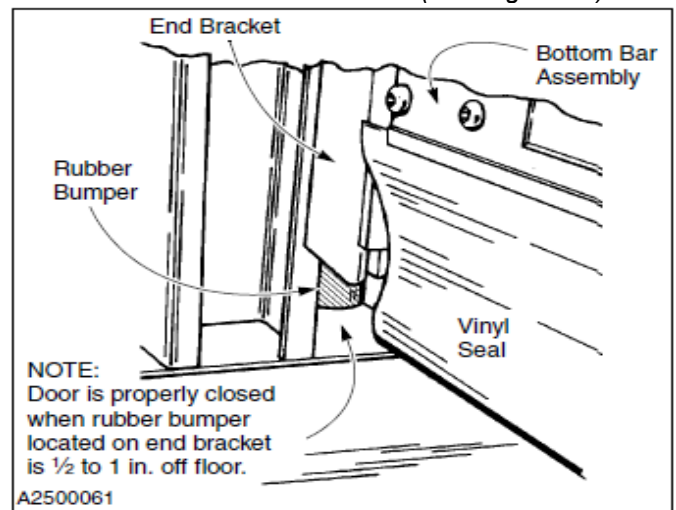


Figure 21

OPEN-LIMIT POSITION

The open limit should be adjusted so that the door travel allows the yellow vinyl seal on the bottom bar assembly to clear the top of the door opening — without the upper rubber bumper on each end bracket contacting the top of the side column. (See Figure 22)

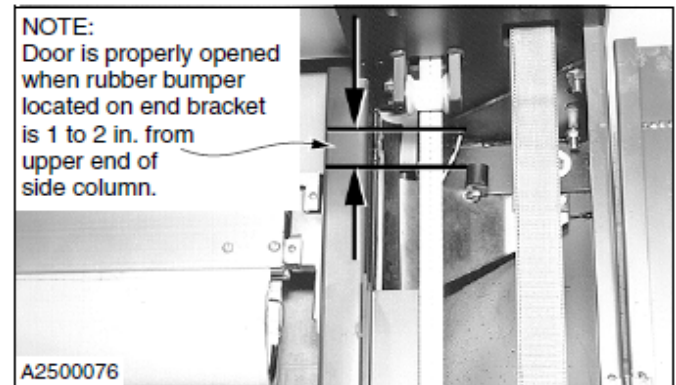


Figure 22

PLANNED MAINTENANCE—QUARTERLY INSPECTION

Drive Chain Inspection

1. Turn off the power to the door.

WARNING

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

When adjusted properly, the drive chain should have a maximum deflection of $\frac{1}{4}$ in. at the center of the chain.

Also, the master link should be properly secured with the retainer clip. (See Figure 23)

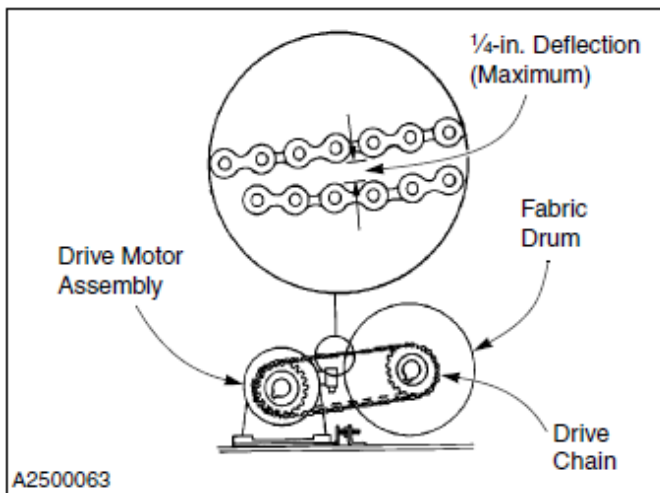


Figure 23

If the drive chain requires adjustment, see “DRIVE CHAIN ADJUSTMENT” on page 22.

2. Turn on the power to the door.

Bottom Bar Assembly Inspection

1. Turn off the power to the door.

WARNING

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

2. Check the hardware used to secure the breakaway assembly to the bottom bar. Tighten as required. (See Figure 24)

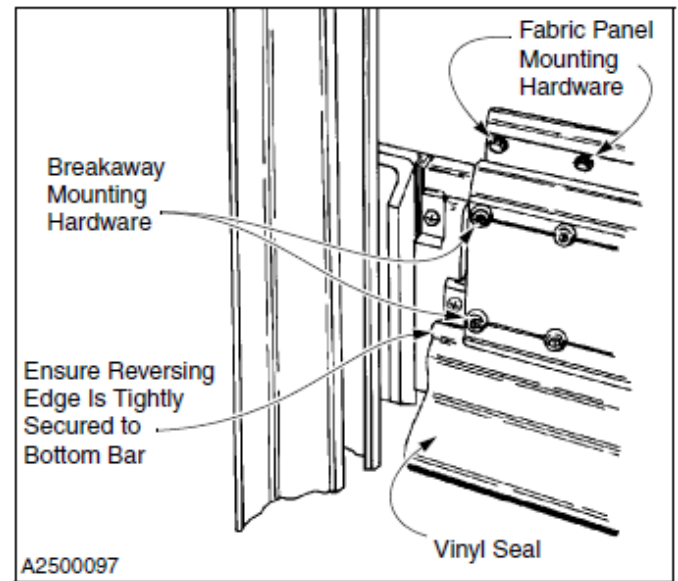


Figure 24

3. Check the reversing edge to see that it is tightly secured to the bottom bar.
4. Inspect the vinyl loop on the bottom bar for abrasions or tears. Replace if required.
5. Turn on the power to the door.

Kill Switch Inspection

A kill switch has been mounted in each end of the bottom bar assembly. The purpose of this switch is to prevent the door from operating if the breakaway bottom bar becomes separated from either side column.

WARNING

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

1. Position the door panel so that the bottom bar assembly is at a comfortable working height.
2. Push on one end of the bottom bar assembly to disconnect it from the end bracket. It should not be possible to operate the door through the control panel.

If the kill switch operated correctly: Reconnect the bottom bar assembly to the end bracket and repeat the procedure on the other end of the bottom bar. (See “Resetting Bottom Bar Assembly” on page 3)

If the kill switch did not operate correctly:

Ensure the magnet in the end bracket is in place. Also check that the kill switch is installed in the end of the bottom bar assembly and that it is not cracked or damaged. If a magnet or kill switch is replaced, use Loctite® 1495, or an equivalent adhesive to secure them in place. (See Figure 25)

To troubleshoot a kill switch, see “Kill Switch Troubleshooting” on page 21.

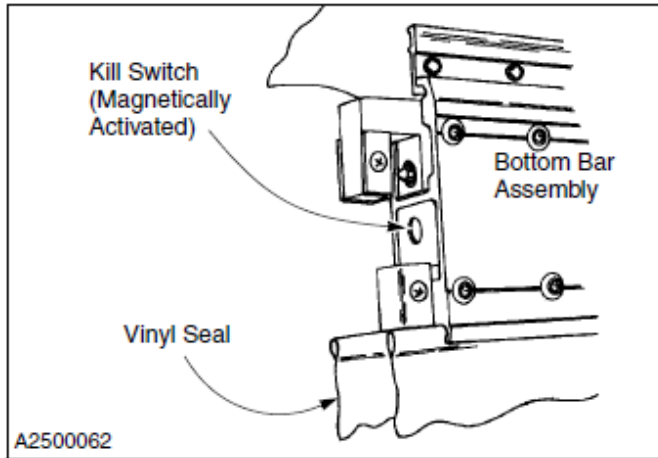


Figure 25

Breakaway Assembly and End Bracket Inspection

1. Turn off the power to the door.



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

2. With both end brackets disconnected from the bottom bar assembly, check the wear pads on each end of the bottom bar for excessive wear or damage. Replace pads if required. (See Figure 26)

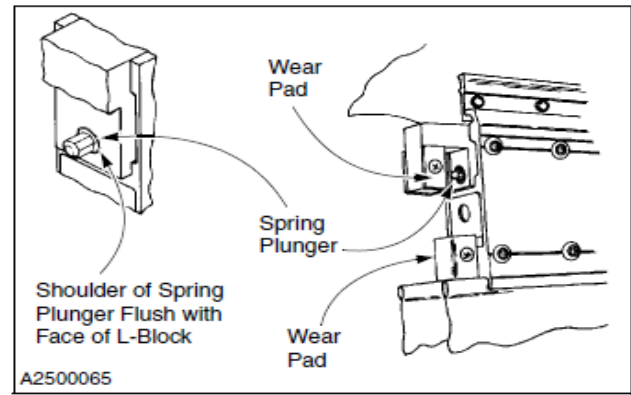


Figure 26

3. Check the adjusted position of each spring plunger located on the ends of the bottom bar assembly. The shoulder of each plunger should be flush with the L-block on the end of the bottom bar. If adjustment is necessary, see “Spring Plunger Adjustment” on page 20.

NOTE: The normal position of the spring plunger is as shown in Figure 26. If your door is subject to high wind conditions, increase the holding strength of the plunger by adjusting it out a few turns. (Moving it too far out could make it difficult for you to reassemble the bottom bar.)

4. Check the rubber bumpers on each end bracket. The bumpers must be in place and tightly secured to the top and bottom of each bracket. Replace if necessary. (See Figure 27)

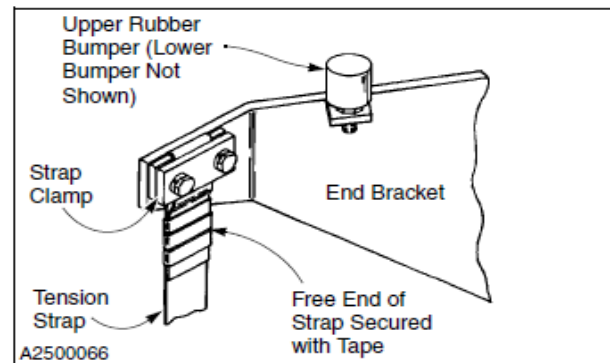


Figure 27

5. Make sure the tension straps are tightly secured to the end brackets. The loose end of each strap should be secured with tape.

1. Loctite® is a registered trademark of Loctite Corporation.

PLANNED MAINTENANCE—QUARTERLY INSPECTION

6. Inspect the bottom bar slides and mounting hardware on each end bracket for wear. Replace as required. (See Figure 28)

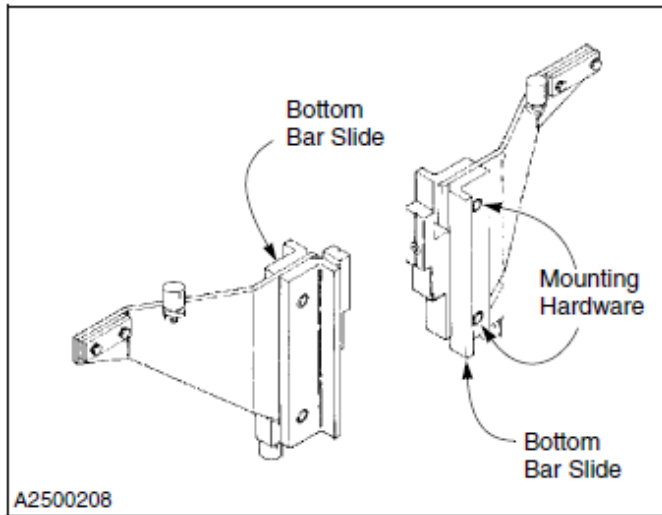


Figure 28

7. After the inspection of the bottom bar assembly and both end brackets is complete, reattach the end brackets. (See "Resetting Bottom Bar Assembly" on page 3)

8. Turn on the power to the door.

Counterweight Inspection

1. Turn off the power to the door.

WARNING

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

2. Check to ensure that all counterweight slides are properly attached and correctly placed in their respective mounting brackets. (See Figure 29 and Figure 30)

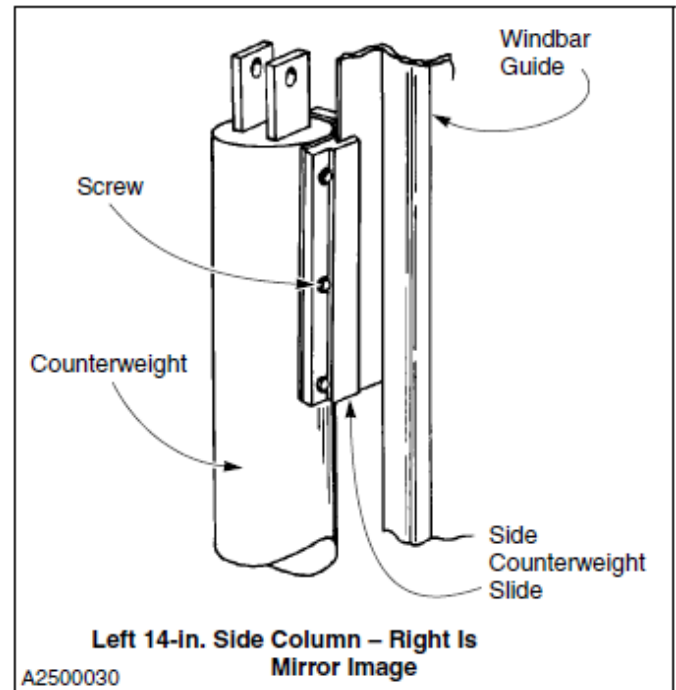


Figure 29

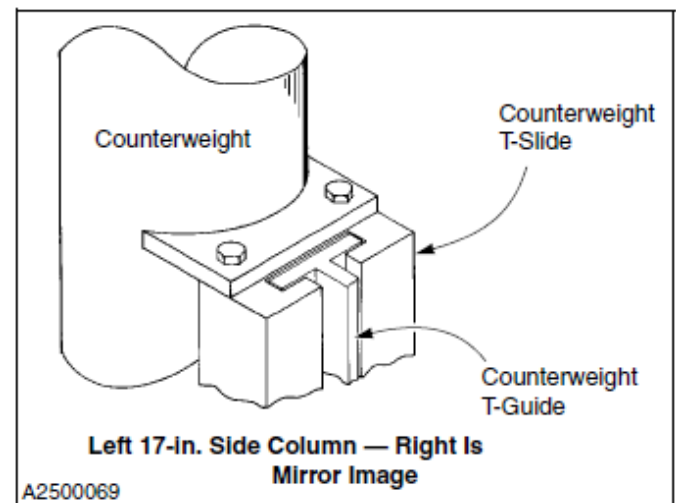


Figure 30

3. Inspect the counterweight straps for stretch. With the door in the full-open position, the counterweights will hang at their lowest point in the side column. The distance from the bottom of the counterweight to the base of the side column should measure 20 to 24 in. (See Figure 31)

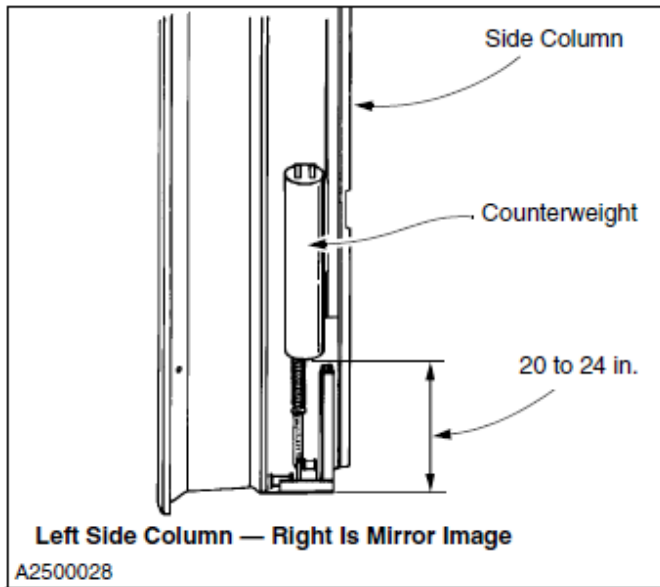


Figure 31

4. If a strap has stretched to the point where the counterweight is not in the position as shown in Figure 31, reposition the counterweight by adjusting the strap. (See "COUNTERWEIGHT STRAP ADJUSTMENT" on page 23)
5. Inspect each counterweight strap for wear and tear. Make sure the straps track smoothly and evenly on all rollers. Replace straps as required. (See "COUNTERWEIGHT STRAP REPLACEMENT" on page 31)
6. Turn on the power to the door.

Door Tension Inspection

⚠ WARNING

Take precautions to prevent the door from being operated as you perform the following procedure. Also, be cautious around moving parts exposed in side columns.

1. Move the door to the half-open position.
2. Check the position of the H-bracket forward roller in each side column. They should both be 3 to 4 in. above the side column base plate. (See Figure 32)

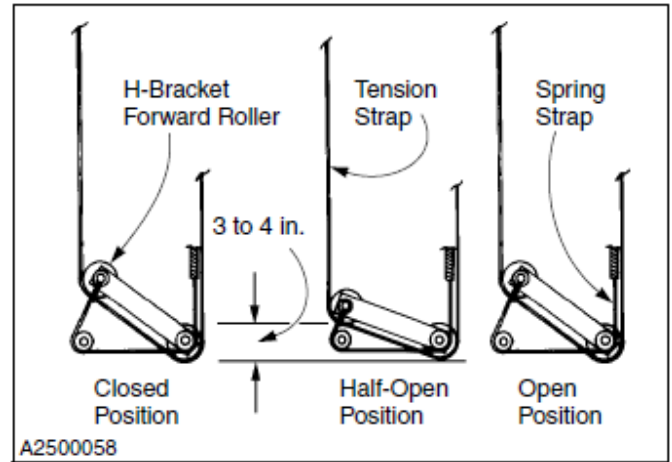


Figure 32

3. Run the door through a complete cycle. Check the position of the H-brackets when the door reaches the full-open and -closed positions. If either H-bracket is not as shown in Figure 32, adjust the tension strap. (See "TENSION STRAP ADJUSTMENT" on page 24)

NOTE: Taller doors are equipped with an idler roller in each side column. If your door uses idler rollers, the tension strap should be routed as shown in Figure 34.

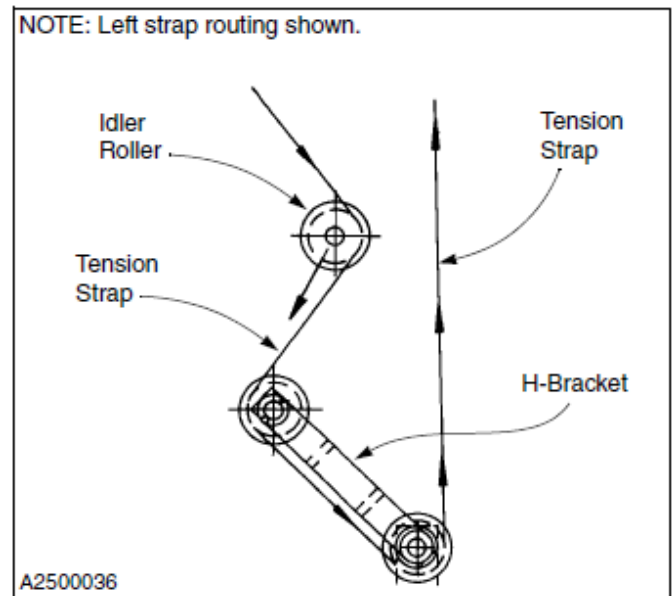


Figure 33

NOTE: Right strap routing shown.

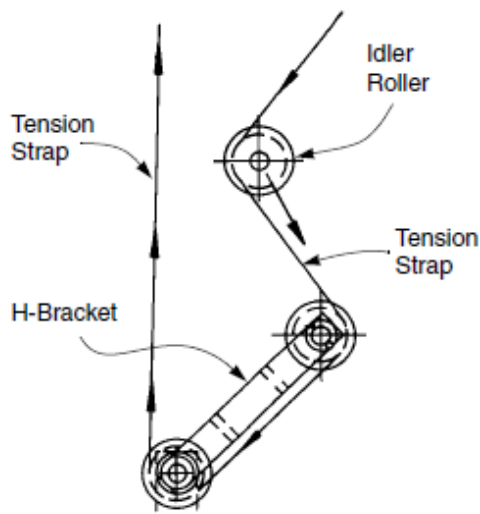


Figure 34

4. Inspect each tension strap for wear and tear, and frayed edges. Replace if required. (See "TENSION STRAP REPLACEMENT" on page 30)
5. Inspect each spring strap for wear and tear, and frayed edges. (See Figure 35) Replace if required. (See "SPRING STRAP REPLACEMENT" on Page 29)

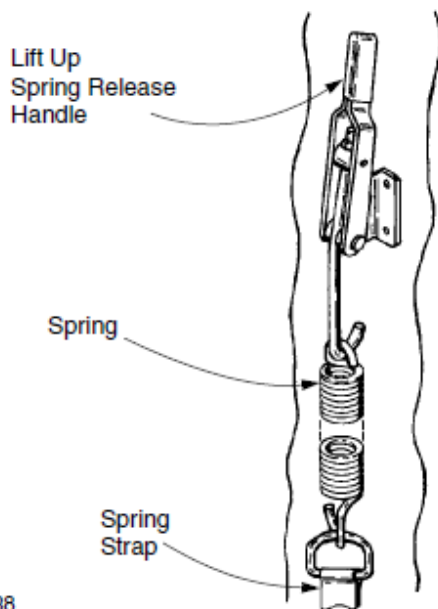


Figure 35

Windbar Inspection

STRAPPED WINDBAR (IF INSTALLED)

1. Move the door panel to the open position.
2. Turn off the power to the door.



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

3. Inspect all strapped windbars (if installed). A front, strapped windbar should fall between the bottom of the fabric drum and the top of the bottom bar. A rear, strapped windbar should fall between the upper end of the rear windbar guide and the top of the bottom bar. (With front and rear windbars installed, once the front windbar is positioned, the rear windbar should fall directly behind it.) (See Figure 36)
4. If a strapped windbar is out of position or not level, adjust the windbar. (See "STRAPPED WINDBAR ADJUSTMENT (OPTIONAL SYSTEM)" on page 26)
5. Inspect each windbar strap for wear and tear, and frayed edges. Replace as required. (See "WIND-BAR STRAP REPLACEMENT" on page 27)
6. Check the windbar end caps. They should each be tightly secured to the end of the windbar. Replace damaged end caps and any loose rivets holding the end caps in place.

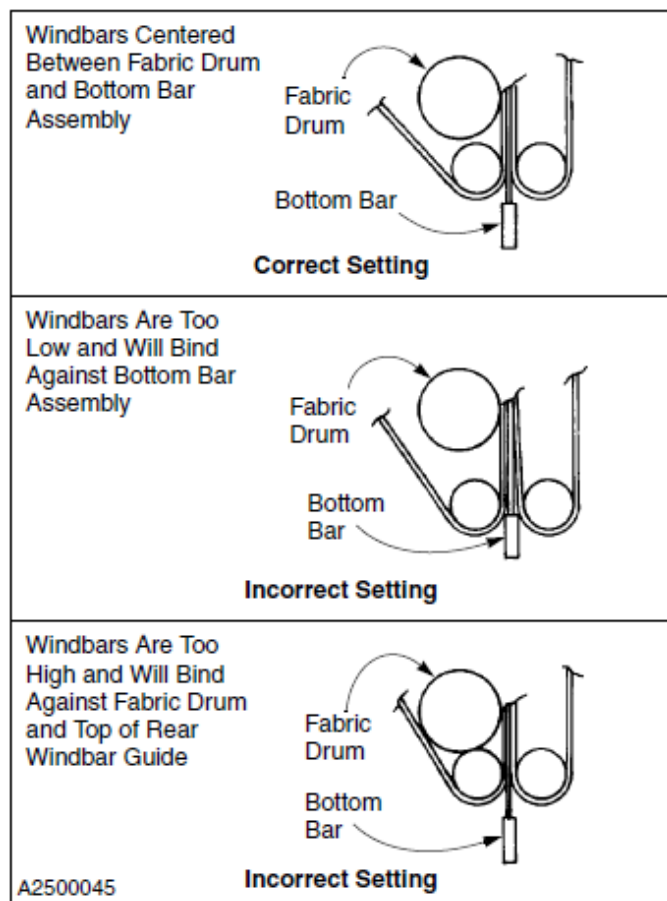


Figure 36

7. Turn on the power to the door.
- STRAPLESS WINDBAR (IF INSTALLED)

1. Move the door panel to the closed position.
2. Turn off the power to the door.

⚠ WARNING

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

3. Inspect the strapless windbars (if installed). Check the windbar end caps. They should each be tightly secured to the end of the windbar. Replace damaged end caps.
4. Check the pickup brackets along the bottom bar assembly. Also check the windbar stops located in the windbar guides. Replace any worn, damaged, or missing hardware as required.
5. Turn on the power to the door.

Control Panel and Activator Inspection

1. Ensure all associated warning and safety labels are intact, clean, and easy to read. Replace as needed.
2. Check the control panel for proper operation. If any adjustments or repairs are necessary, refer to the Rytec System 4 Drive & Control Installation & Owner's Manual. The manual was shipped with the control panel.

3. Operate the door five or six complete cycles with each activator installed and used with the door. A typical activator may be a floor loop, pull cord, push button, motion detector, radio control, etc.

The open cycle is controlled by an activator. The close cycle is controlled by an activator or by a programmable timer internal to the control panel.

Electrical Connection Inspection

1. Turn off the power to the door.

⚠ WARNING

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

2. Inspect control panel wiring. See Rytec System 4 Drive & Control Installation & Operation Manual.
3. Inspect all electrical connections inside the head assembly junction box. Connections must be tight.
4. Inspect all electrical connections pertaining to the power drive system. Connections must be tight.
5. Turn on the power to the door.

Lubrication

1. Turn off the power to the door.

⚠ WARNING

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

2. **Drive Chains:** The drive chains should be lubricated with a good-quality grade of heavy lubricating oil. (See Figure 37)

PLANNED MAINTENANCE—QUARTERLY INSPECTION

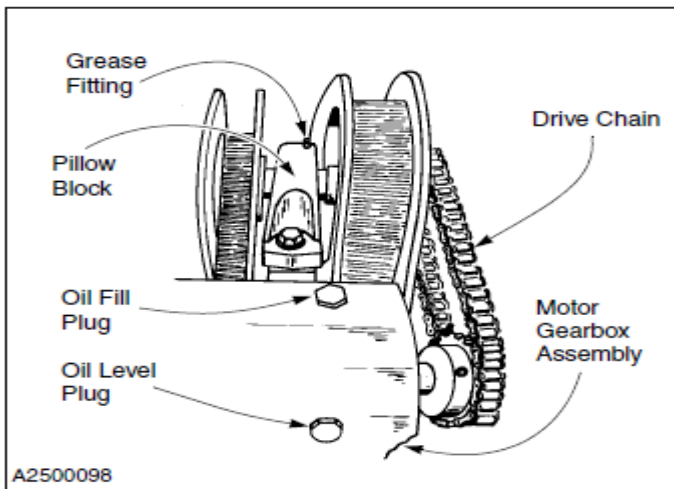


Figure 37

3. **Pillow Block Bearings:** Each end of the fabric drum is supported by a pillow block bearing. At the grease fitting on each bearing, lubricate the bearings using a lithium-based grease conforming to NLGI, Grade 2 Standard. Use a medium-viscosity, low-torque grease with an approved operating temperature range of -30° to $+200^{\circ}\text{F}$. (See Figure 37)
4. **Upper Rollers:** The upper end of each tension strap travels on an upper roller. These rollers, located near the ends of the head assembly, each spin on a shaft that must be lubricated with a good quality grade of heavy lubricating oil. (See Figure 38)

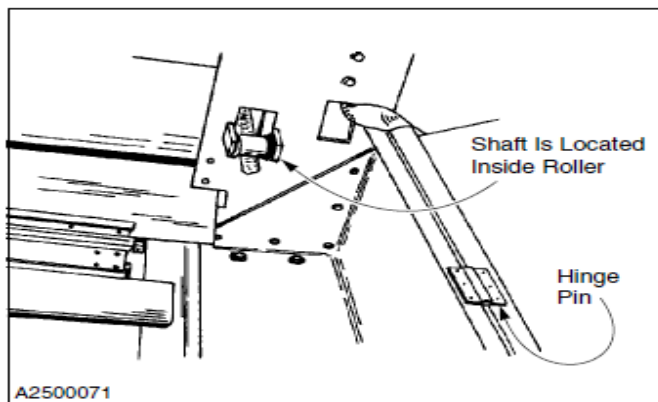


Figure 38

5. **Hinge Pins:** All side cover hinge pins must be lubricated with a good quality penetrating oil to prevent the hinges from rusting. (See Figure 38)

6. **Tension, Spring, and Idler Rollers:** The lower end of each tension strap and both spring straps each travel on a pair of rollers located in the bottom of the side columns. These rollers spin on shafts that must be lubricated with a good-quality grade of heavy lubricating oil. (See Figure 39)

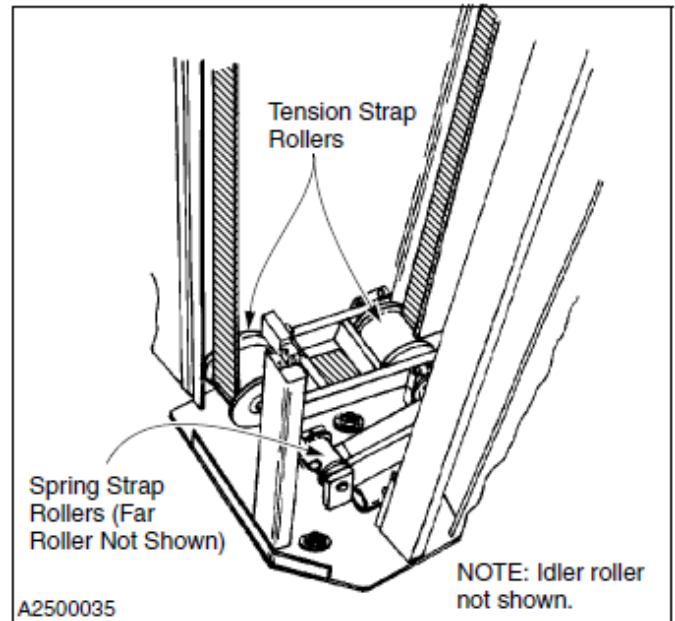


Figure 39

7. **Spring Plungers:** A spring plunger at each end of the bottom bar assembly must be lubricated with a good quality penetrating oil. (See Figure 40)

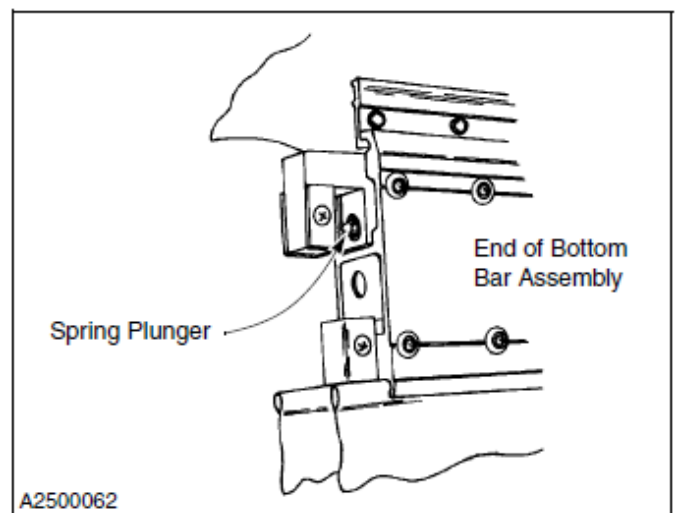


Figure 40

8. Turn on the power to the door.

Wall Anchor Inspection

1. Turn off the power to the door.



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

2. Gain access to wall anchors. See appropriate section in the manual(s).
3. Inspect for loose or worn wall anchor(s).
4. Tighten, repair, or replace wall anchor(s) as needed.

NOTE: Restrict access to the area around the door and remove it from service if any repairs are needed. All repairs must be done in accordance with building codes.

5. When all repairs and adjustments have been made, restore power to the door and return to service.

Safety Decal Inspection

Safety decals are vital to the door. This is to inform the owner and operators of procedures, proper operation, and possible hazardous situations. See Figure 21 for a sample of how a safety decal should look at all times.

1. Check text on safety decals. It must be clear and readable. Replace decals as necessary.
2. Check for worn-out safety decals. Replace if they are ripped, torn, or missing information.

NOTE: Notify building maintenance of any safety decal discrepancies.



Figure 41

ADJUSTMENTS

PHOTO EYE ADJUSTMENT

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 42) The receiver is designated SMR3215 on the white label or by a yellow light that illuminates only when in proper alignment with the transmitter. (See Figure 43)

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.

ADJUSTMENTS – PHOTO EYE ADJUSTMENTS



Figure 42

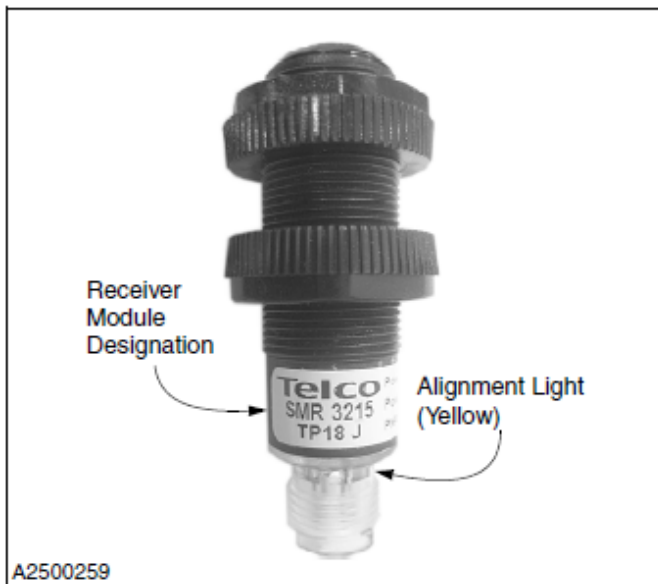


Figure 43

Testing Photo Eyes

With the power on, the green light on the transmitter indicates the photo eye module is powered up. When the yellow light on the receiver module is also lit, the transmitter 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 the yellow light will go back on.

Troubleshooting

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

1. Turn on the power to the door.
2. Move the door to the half-open position.

! WARNING

Take precautions to prevent the door from being operated as you perform the following procedure. Also, be cautious around moving parts exposed in side columns.

3. Open the side column covers and locate the front set of photo eye modules. At the factory, they were mounted on a tall, heavy-duty bracket that is located in the front, inside corner of each side column. (See Figure 44)

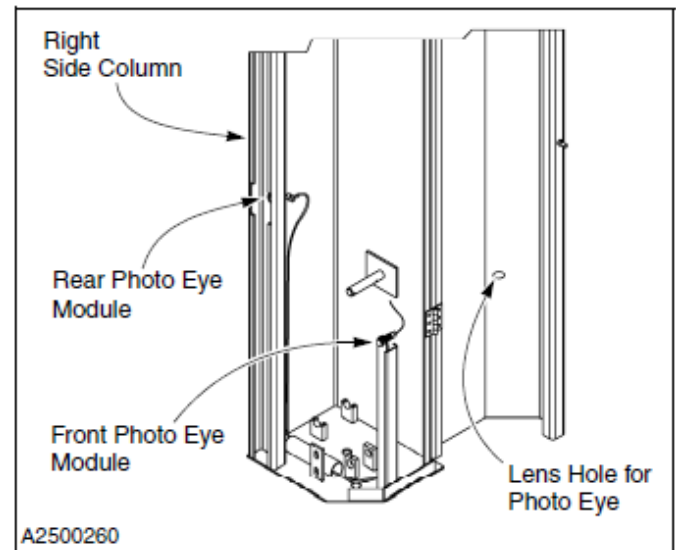


Figure 44

4. If either bracket appears bent or out of position, adjust the bracket until the photo eye lens is aligned with the lens hole in the side column cover. (The rear set of photo eyes are mounted directly to the rear windbar guides — it is unlikely that these eyes will ever require aligning, unless serious damage to either windbar guide occurs.)
5. Observe the indicator lights to verify that both sets of photo eyes are aligned. The green light indicates the transmitter photo eye is powered up. When the yellow light on the receiver module is also lit, the transmitter and receiver modules are properly aligned.

BOTTOM BAR ASSEMBLY ADJUSTMENT

Spring Plunger Adjustment

The bottom bar assembly is equipped with a spring plunger at each end. The plungers aid in holding the bottom bar to the end brackets. (See Figure 45)

The tension on each plunger has been set at the factory and should not require field adjustment. If the door is subject to severe wind loading, the plungers may need to be readjusted to prevent the bottom bar assembly from inadvertently releasing from either end bracket.

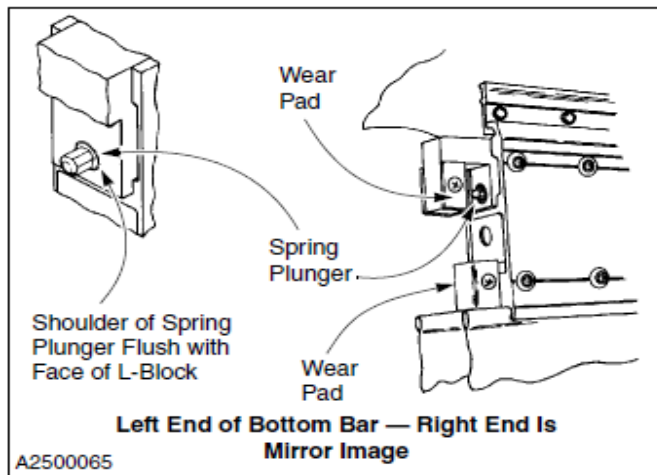


Figure 45

1. To adjust either plunger, first position the door panel so that the bottom bar assembly is at a comfortable working height.
2. Turn off the power to the door.



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

3. Push on the end of the bottom bar assembly to disconnect the bar from the end bracket.
4. To adjust the tension of the spring plunger, use a $\frac{5}{16}$ -in. wrench to move the plunger in or out. Moving the plunger in will decrease the tension; moving it out will increase the tension. (If the plunger is moved too far out, you will not be able to reconnect the end bracket to the bottom bar.)
5. After the tension is adjusted, reconnect the bottom bar assembly to the end bracket. (See "Resetting Bottom Bar Assembly" on page 3)
6. Turn on the power to the door. Then operate the door several times to make sure it is working correctly.

Pneumatic Reversing Edge Switch Adjustment



Do not stand under the door panel when making this adjustment. If the reversing edge switch is not working properly, the panel could strike the person performing the adjustment.

To test the reversing edge switch, close the door. As the door is closing, hit the reversing edge. If the reversing edge switch is operating correctly, the door will reverse direction and move to the full-open position and the countdown timer to close the door will begin to count down. The System 4 controller is set to three reversing edge impacts before opening and remaining open, requiring the door to be reset. The number of reversing edge impacts is adjustable through the System 4 parameters and can be lowered if needed. Please contact Rytec Technical Support if necessary.

If the door does not reverse, check the air bleed and sensitivity of the reversing edge switch. The switch is in the bottom bar on the side opposite the door motor.

REVERSING EDGE SWITCH AIR BLEED CHECK

1. The reversing edge switch is located under the Ry-Wi cover 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 46)

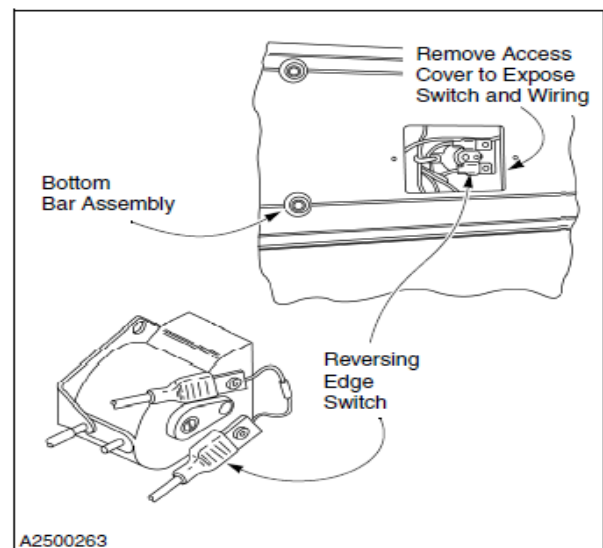


Figure 46

ADJUSTMENTS—MOTOR BRAKE ADJUSTMENT

2. Make sure the clear PVC hose is in tight contact with the air input post so that air leakage cannot occur and that vibration will not cause the hose to fall off. Make sure the hose is not kinked. (See Figure 47)
3. The air bleed has been set at the factory and should not require adjustment. To check the air bleed, turn the air bleed adjustment screws located on the front and back of the switch fully clockwise but do not overtighten. Then turn the screws back counter-clockwise one full turn. (See Figure 47)

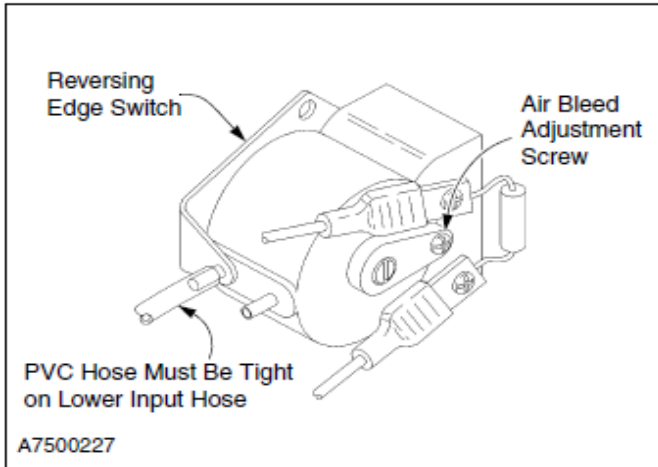


Figure 47

REVERSING EDGE SWITCH SENSITIVITY ADJUSTMENT

1. The reversing edge switch is a normally-open contact. The PVC hose is on the lower air input post. To adjust the switch, first remove the wires and resistor from the contact terminals and attach an ohmmeter across the two terminals. (See Figure 48)
2. Turn the adjustment screw, located on the face of the switch, clockwise or counterclockwise until continuity is achieved. Ohmmeter should no longer show continuity. Turning the screw counterclockwise decreases sensitivity. Turning the screw clockwise increases sensitivity. (See Figure 48)

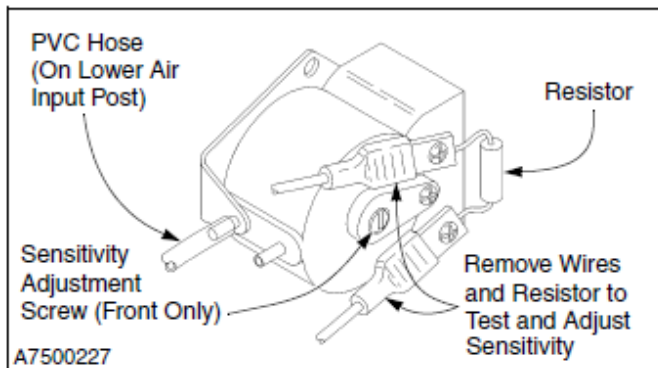


Figure 48

3. Reattach resistor and wires and then replace the access cover on the bottom bar.

NOTE: If the reversing edge switch is too sensitive, the door may reverse direction during the closing cycle without the reversing edge coming in contact with an object. If this occurs, adjust the sensitivity of the switch.

Kill Switch Troubleshooting

1. Remove the access cover from the bottom bar assembly. Retain all hardware.
2. Locate and disconnect the two wires that connect each kill switch to the kill switch coil cord.
3. Using an ohmmeter, measure the resistance across each switch by placing the ohmmeter across each pair of wires — one set of wires at a time.

Magnet directly in front of switch: Ohmmeter indicates circuit has continuity — meter reads nearly zero ohms.

Magnet away from switch: Ohmmeter indicates circuit has no continuity — meter reads open line (OL) or infinite ohms.

4. Reconnect both sets of wires once any necessary repairs are made. Then reattach the access cover.
5. Repeat kill switch inspection as necessary.

MOTOR BRAKE ADJUSTMENT

1. Remove the manual brake release lever.
2. Loosen hex-head bolts retaining the dust cover to the motor assembly. Remove the cover.

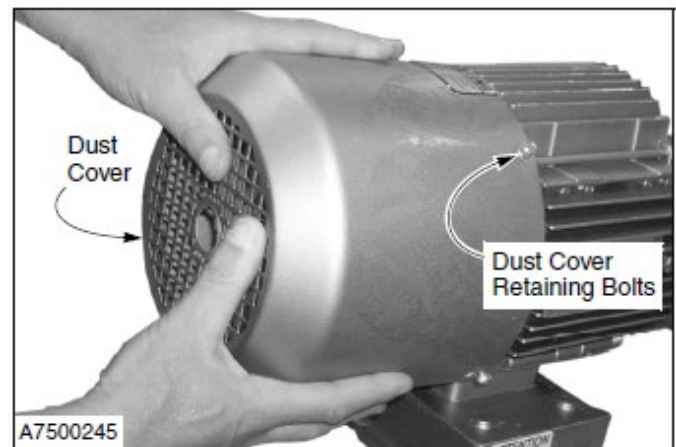


Figure 49

3. Remove sealing band. (See Figure 50)

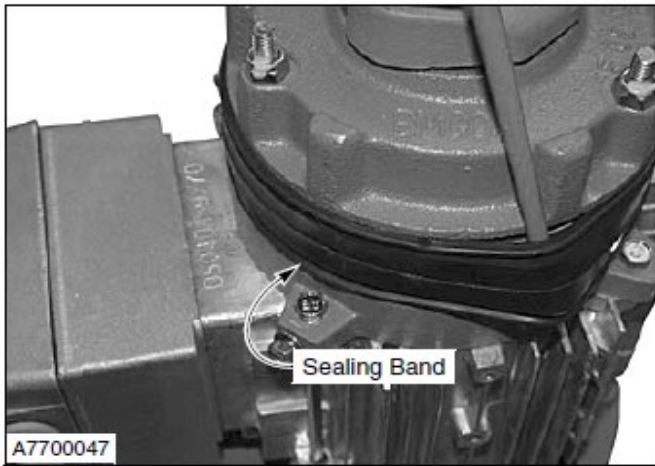


Figure 50

4. Using a feeler gauge and a nut driver, adjust the retaining nuts until you achieve the proper air gap (0.010–0.024-in.). (See Figure 51 and Figure 52)

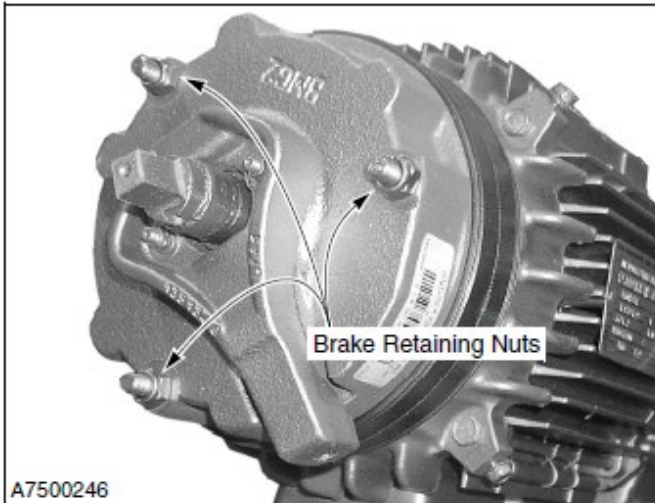


Figure 51

CAUTION

All retaining nuts and air gap must be equally set throughout the entire circumference of the brake, or the parts will wear unevenly.

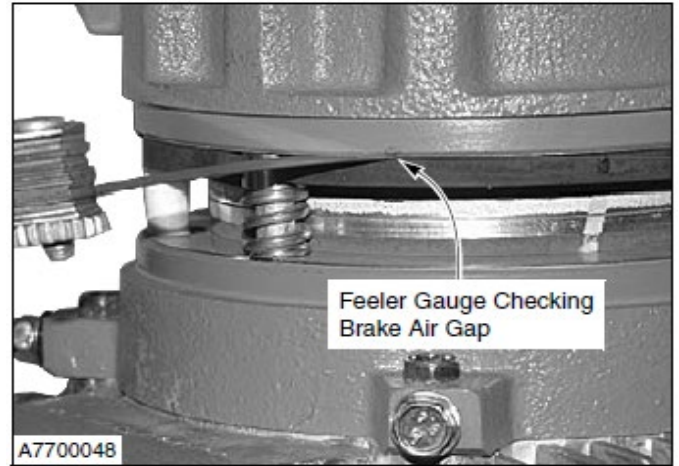


Figure 52

5. Reinstall the dust cover and the manual brake release lever.
6. Restore power to the door and perform an operations check.

DRIVE CHAIN ADJUSTMENT

1. Turn off the power to the door.

WARNING

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

2. Verify the amount of tension in the drive chain. A correctly tensioned chain will deflect no more than $\frac{1}{4}$ in. (See Figure 53)

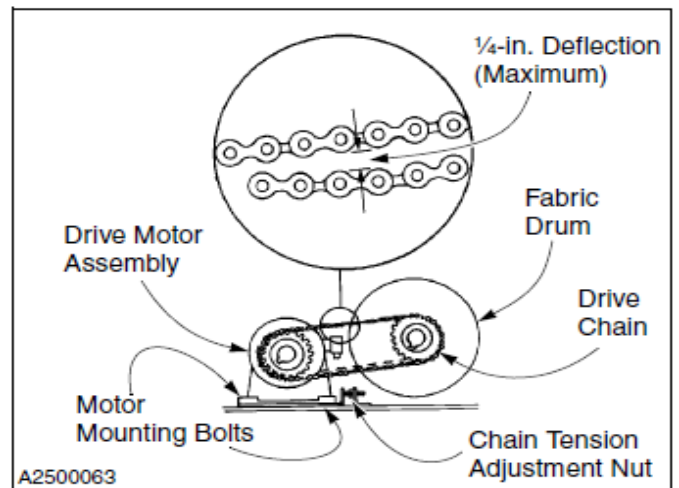


Figure 53

ADJUSTMENTS—COUNTERWEIGHT STRAP ADJUSTMENT

3. Loosen the four motor mounting bolts securing the motor mounting plate to the base of the head assembly.
4. Release the motor brake by pulling on the brake release cable. Continue pulling on the cable to keep the brake disengaged.
5. To adjust the tension of the chain, turn the chain tension adjustment nut in the appropriate direction to increase or decrease tension.
6. With the chain tension set, release the brake cable and tighten the motor mounting bolts to secure the motor and lock in the adjustment.

NOTE: Make sure the sprockets on the end of the drive motor and the fabric drum are aligned with each other prior to securing the mounting plate.

7. Turn on the power to the door.

COUNTERWEIGHT STRAP ADJUSTMENT

1. Move the door to the full-open position.
2. Turn off the power to the door.



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

3. Make sure the motor brake is locked. The brake release lever must be in the locked position.
4. Securely support the counterweight at the position shown in Figure 54.

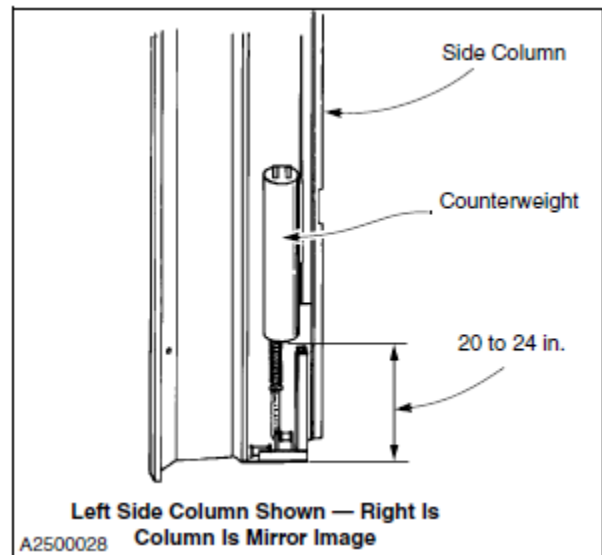


Figure 54

5. Adjust the length of the counterweight strap as required to achieve the position shown in Figure 54
6. Remove the support from the counterweight and allow it to hang free. If required, readjust strap to position the counterweight as shown in Figure 54.

NOTE: The 20 to 24 in. dimension is adequate for proper operation of most doors manufactured by the Rytec Corporation. However, for some very wide or short doors, the counterweight may have to be moved closer to the bottom of the side column (special counterweights with side weights may be above the 20 to 24 in. dimension).

Release the brake and manually move the door to the fully closed position. Check the distance between the top of the strap clamp plate assembly and the upper guide roller—it should be no less than 1 or 2 inches. (See Figure 55)

Move the door to the full-open position. Check the position of the counterweight. It should be above the H-bracket located in the bottom of the side column. Also, both slides on a 17-in. side column counterweight must be on the counterweight guide. Adjust the strap as necessary only after placing the appropriate support under the counterweight.

The barrel roller assembly is slotted to make adjustments. Simply loosen the two bolts mounting the roller bracket and rotate the bracket in the appropriate direction to ensure proper tracking of the counterweight strap. (See Figure 55)

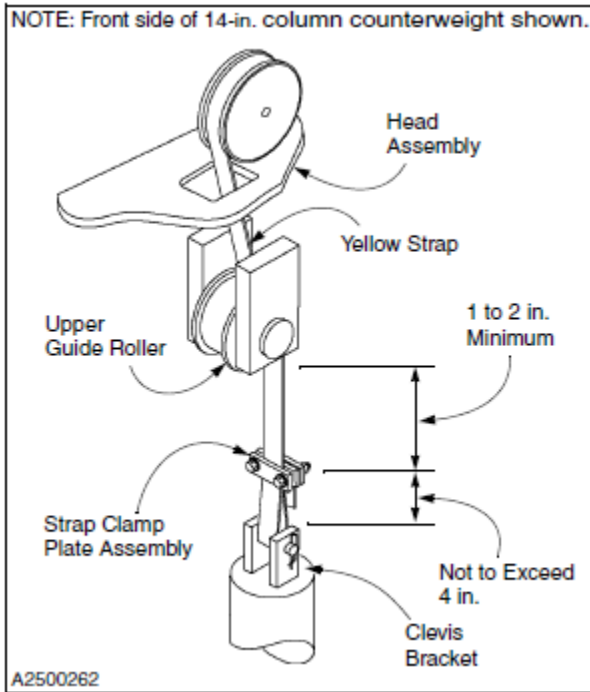


Figure 55

7. After all adjustments are complete, cut off any excess strap to within 6 in. of the strap clamp plate assembly. Then fold and tape the loose end of the strap to the main length of strap. (See Figure 56)

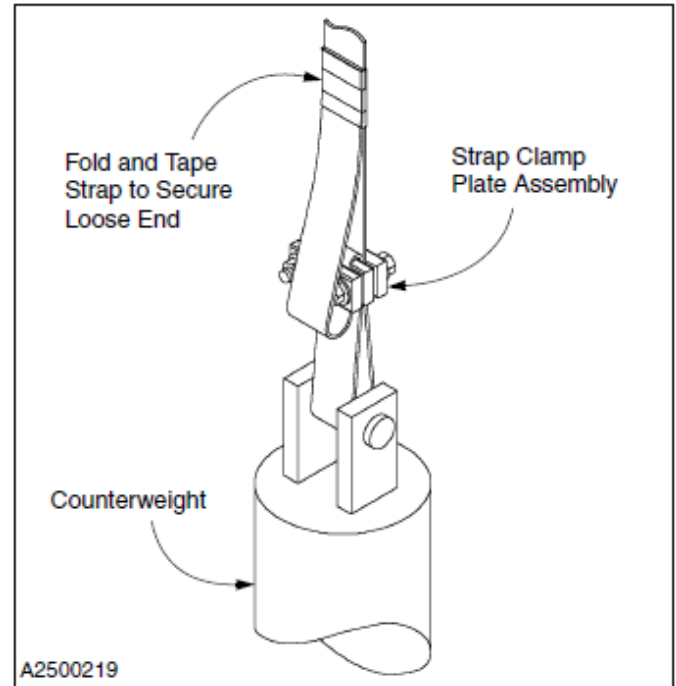


Figure 56

8. Turn on the power to the door.
9. Repeat the above procedure on the counterweight in the other side column.

TENSION STRAP ADJUSTMENT

1. Move the door to the half-open position.
2. Turn off the power to the door.

! WARNING

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

3. Make sure the motor brake is locked. The brake release lever must be in the locked position.
4. Remove tension from the strap by moving the handle of the spring tension assembly down.

! WARNING

When the spring tension assembly is stretched tight, it could rapidly move downward when released. When releasing the handle, make sure to keep your hands and fingers out from under the handle to prevent them from getting pinched. (See Figure 57)

ADJUSTMENTS—TENSION STRAP ADJUSTMENT

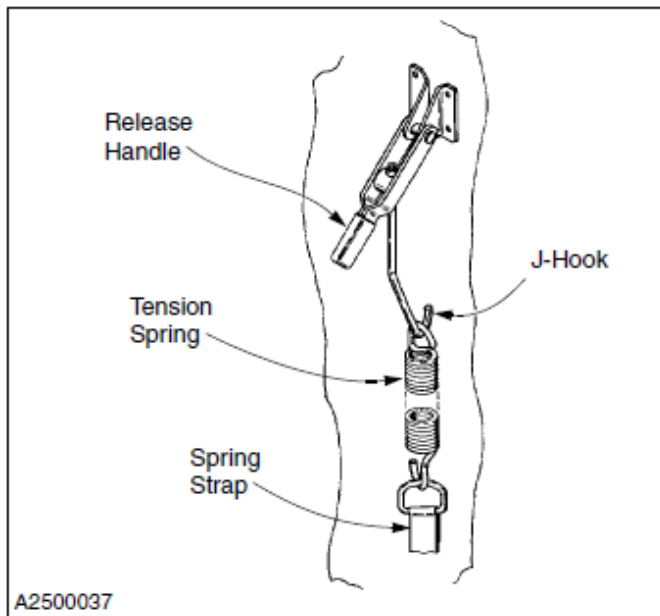


Figure 57

5. Raise and block the front H-bracket roller approximately 7 to 8 in. off the bottom of the side column. (See Figure 58)

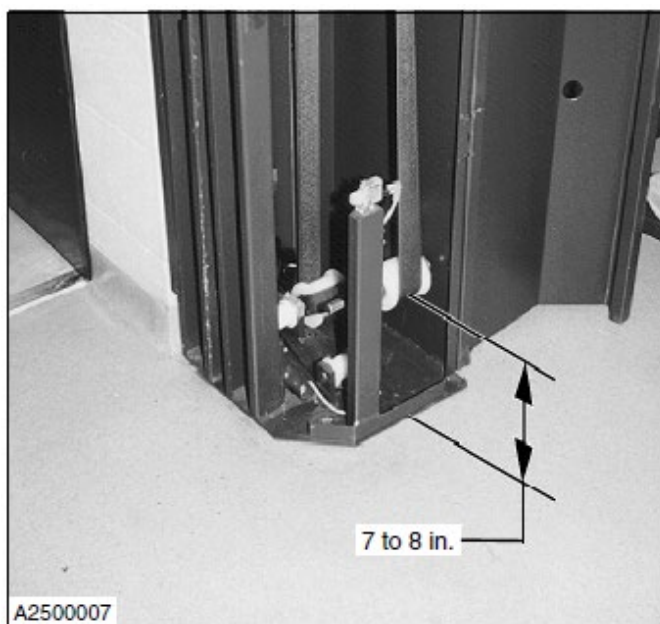


Figure 58

6. Remove the tape from the end of the tension strap.
7. Loosen the tension strap clamp bolts. (See Figure 59)

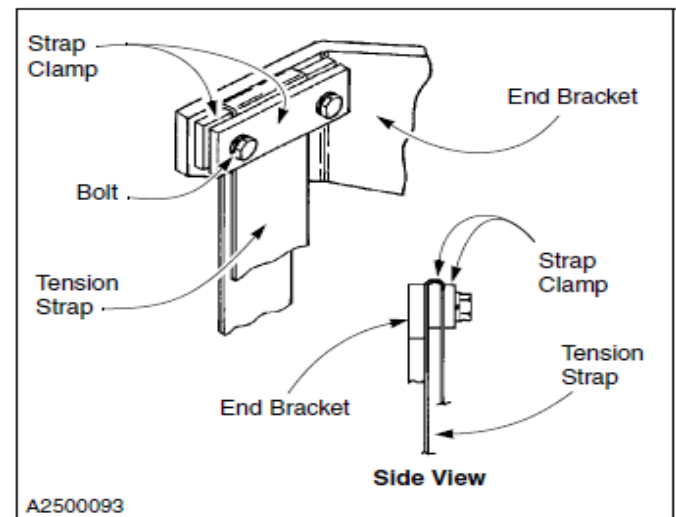


Figure 59

8. Pull the tension strap through the end bracket strap clamps, as required, to position the front H-bracket roller as shown in Figure 58.
9. Tighten the strap clamp bolts.
10. Remove the blocking.
11. Add tension to the strap by moving the handle of the spring tension assembly to its full up position. (See Figure 60)

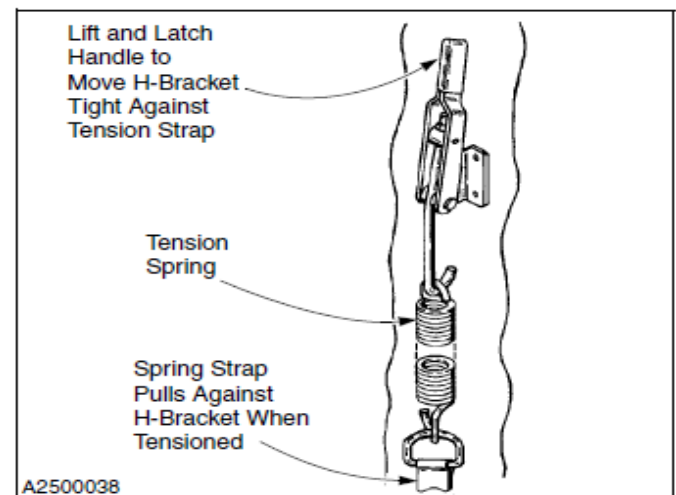


Figure 60

12. Turn on the power to the door.
13. Cycle the door three or four times to verify that it is operating correctly.

ADJUSTMENTS—STRAPPED WINDBAR ADJUSTMENT (OPTIONAL SYSTEM)

⚠ WARNING

Take precautions to prevent the door from being opened or closed while performing the following inspection. Moving parts are exposed when the side column cover is open.

14. Check the height of the H-bracket forward roller when the door is at the half-open position. It will have dropped below the 7 to 8 in. described in step 5, but should not drop below 3 to 4 in. above the side column base plate. The H-bracket should also be in the positions shown in Figure 61 as the door moves up and down. It should never go below the 3 to 4 in. position. Readjust as required.

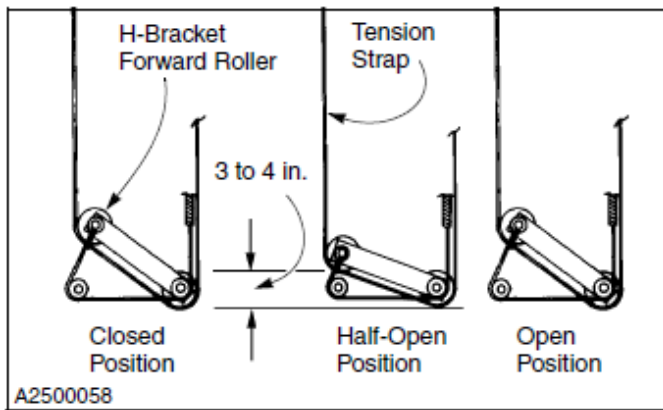


Figure 61

15. Turn off the power to the door.

⚠ WARNING

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

16. Re-tape the end of the tension strap.
17. Turn on the power to the door.

STRAPPED WINDBAR ADJUSTMENT (OPTIONAL SYSTEM)

1. Raise the door to the full-open position.
2. Turn off the power to the door.

⚠ WARNING

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

3. The windbar(s) should be in the position shown in Figure 62.

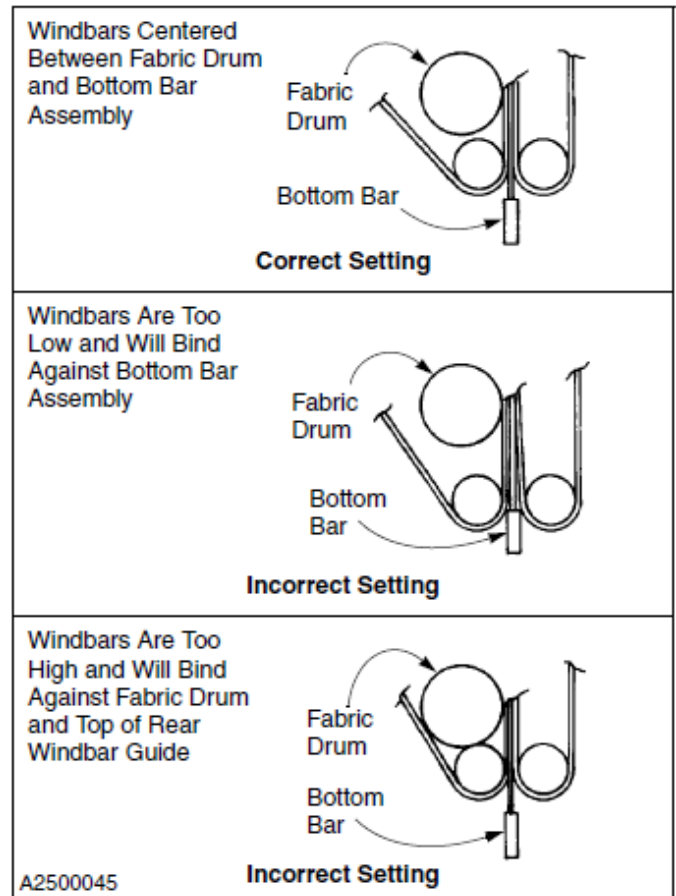


Figure 62

⚠ CAUTION

Keep tension on the windbar straps when adjusting. The windbar is free to fall when not retained by the clamp plates.

4. To adjust the rear windbar, loosen the rear strap clamp bolts and move the windbar up and down, as required, by moving the strap up or down through the clamps. Retighten the strap clamp bolts when the windbar is in the correct position. (See Figure 63)

REPLACEMENT PROCEDURES—WINDBAR STRAP REPLACEMENT

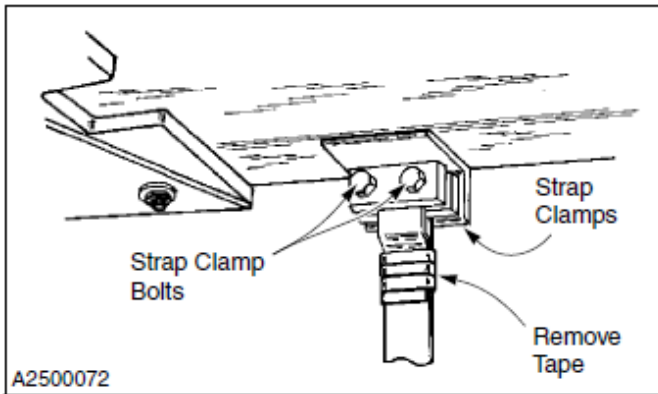


Figure 63

5. To adjust the front windbar, loosen the front strap clamp bolts and move the windbar up and down, as required, by moving the strap up or down through the clamps. Retighten the strap clamp bolts when the windbar is in the correct position. (See Figure 64)

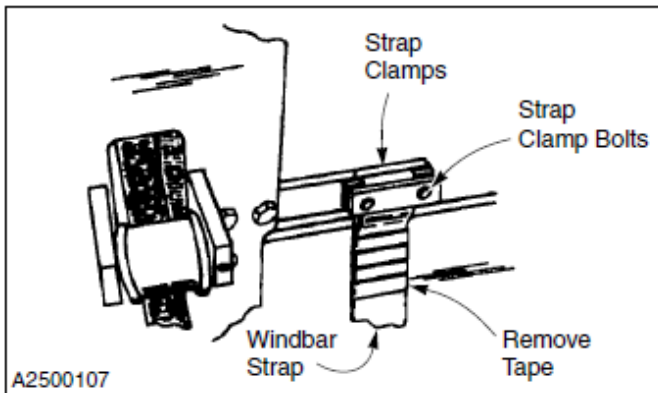


Figure 64

6. Turn on the power to the door.

REPLACEMENT PROCEDURES

WINDBAR STRAP REPLACEMENT

1. Move the door to the fully closed position. The panel mounting strap should be visible along the front of the fabric drum.
2. Turn off the power to the door.



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

3. Remove the rivets securing the panel mounting strap to the fabric drum — only remove the rivets from within the area of the mounting strap that is directly over, and adjacent to, the windbar straps. (See Figure 65)

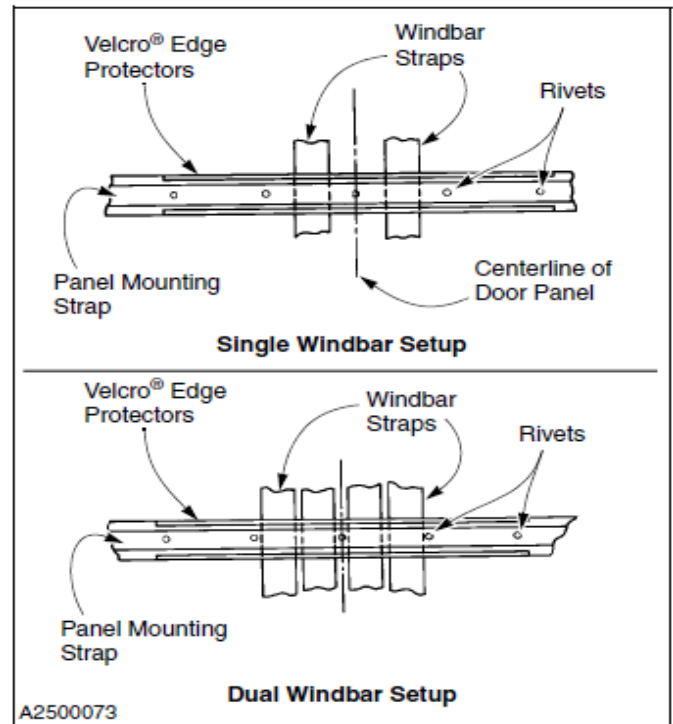


Figure 65

4. Remove the old strap. Then install the new strap by first wrapping it around the panel mounting strap three times, as shown in Figure 66. Make sure the Velcro® edge protectors are in place. (See Figure 66)

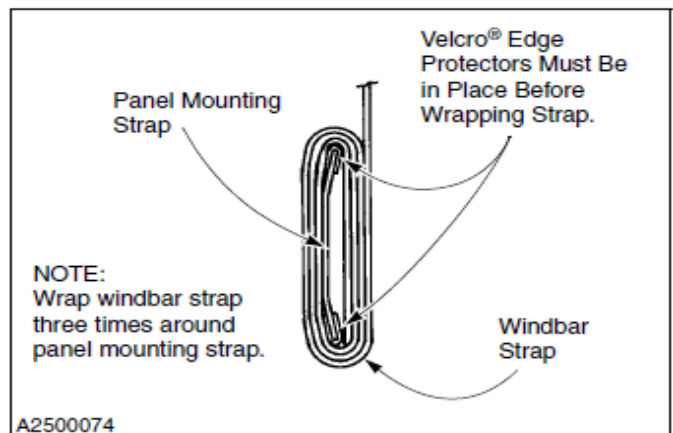


Figure 66

1. Velcro® is a registered trademark of Velcro Industries B.V.

5. Route the windbar strap for a front and rear windbar as shown in Figure 67.

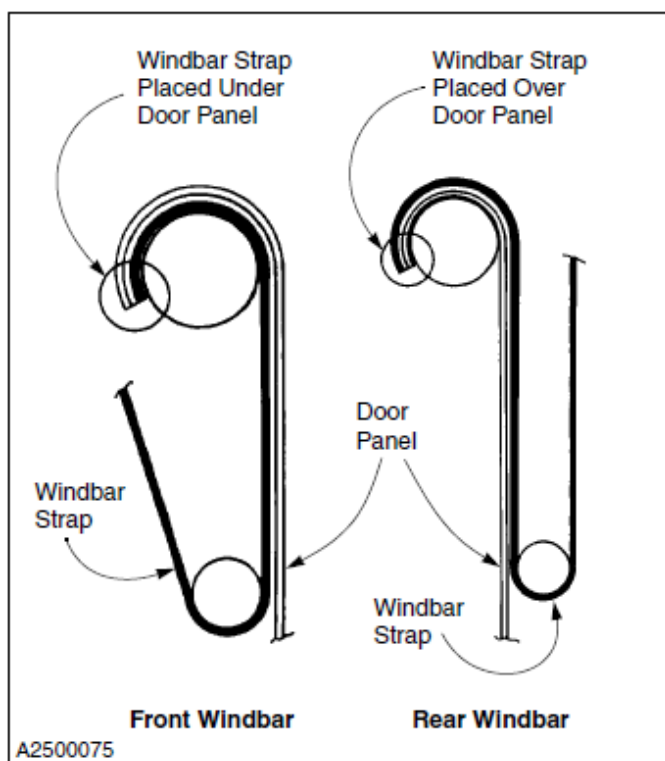


Figure 67

6. To secure the windbar straps to the fabric drum, replace the rivets that were removed from the panel mounting strap.
 7. **Front Windbar:** Route the straps under the front windbar and up through the clamp plates of the front windbar strap bracket. (See Figure 68)
- Rear Windbar:** Route the straps under the rear windbar and up through the rear clamp plates located on the underside of the rear spreader bar. (See Figure 69)

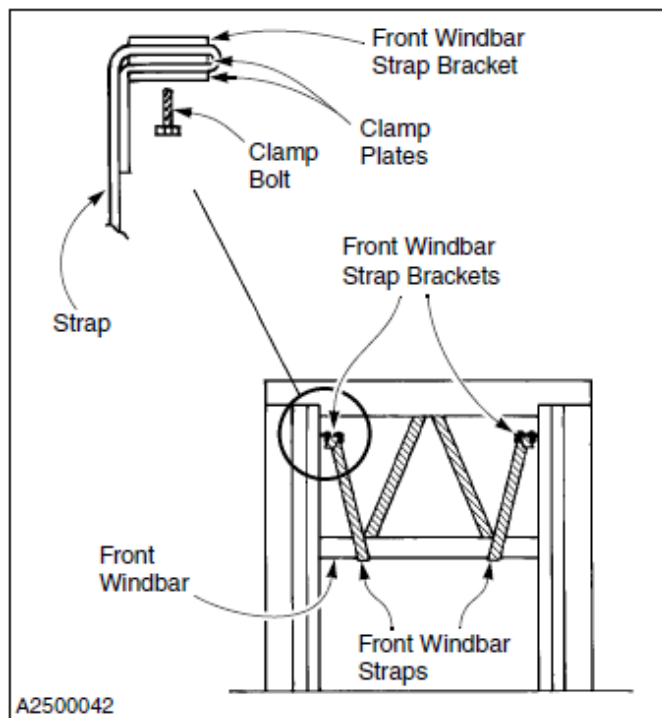


Figure 68

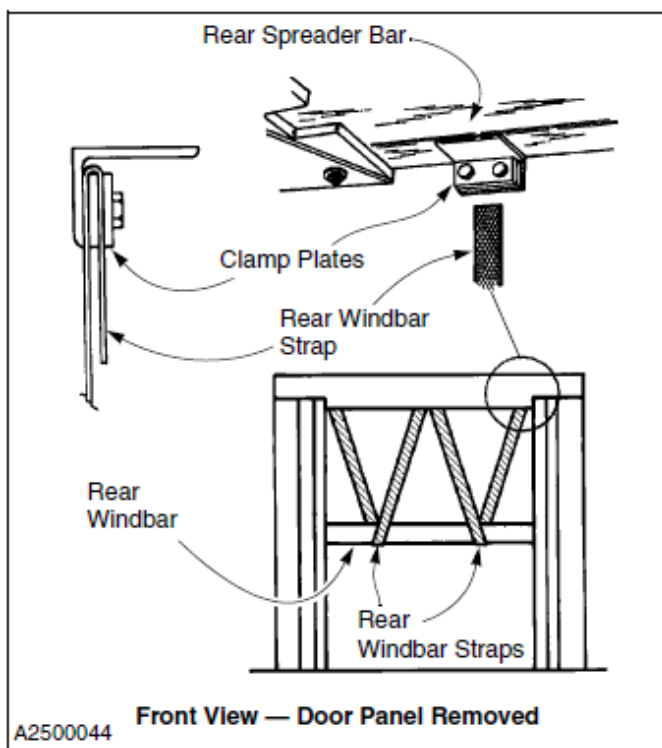


Figure 69

8. Adjust the windbar. (See "STRAPPED WINDBAR ADJUSTMENT (OPTIONAL SYSTEM)" on page 26) Once the windbar is correctly positioned, tighten the clamp plates to secure the straps.

REPLACEMENT PROCEDURES—SPRING STRAP REPLACEMENT

9. Once all strapped windbars are correctly adjusted, trim off any excess strap to within 6 in. of the strap clamp.
10. Tape the loose end of each strap to the main length of strap.
11. Turn on the power to the door.

SPRING STRAP REPLACEMENT

1. Move the door to the half-open position.
2. Turn off the power to the door.



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



When the spring tension assembly is stretched tight, it could rapidly move downward when released. When releasing the handle, make sure to keep your hands and fingers out from under the handle to prevent them from getting pinched.

3. Carefully release the tension spring by pulling down on the spring release handle. If the end bracket is in front of the spring tension assembly, release the brake and raise or lower the door as required. (See Figure 70)

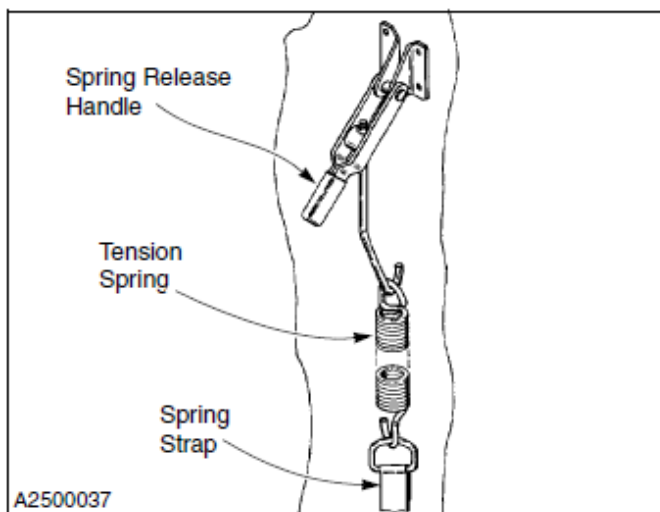


Figure 70

4. Remove the existing spring strap by unhooking one end from the spring release handle. Then release the other end from the tension roller shaft. (See Figure 71)

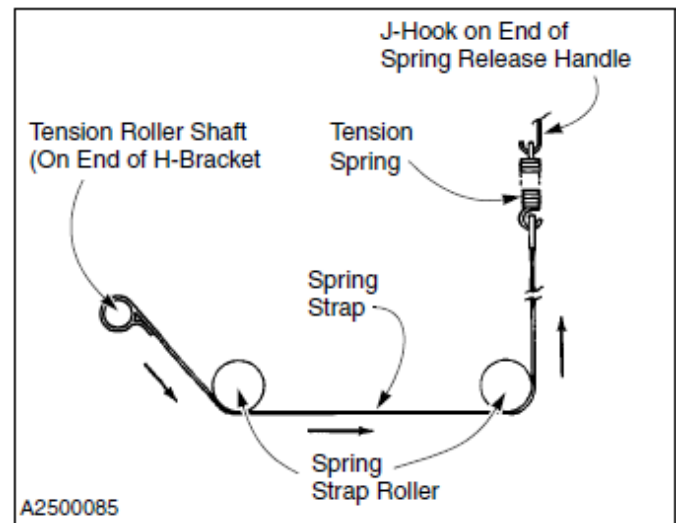


Figure 71

5. Install the new spring strap in the reverse order the old strap was removed. Route the strap in the direction as shown in Figure 71.
6. Tighten the tension strap by placing the spring release handle in the latched position. Tension is locked in place when the handle is all the way back and latched. (See Figure 72)

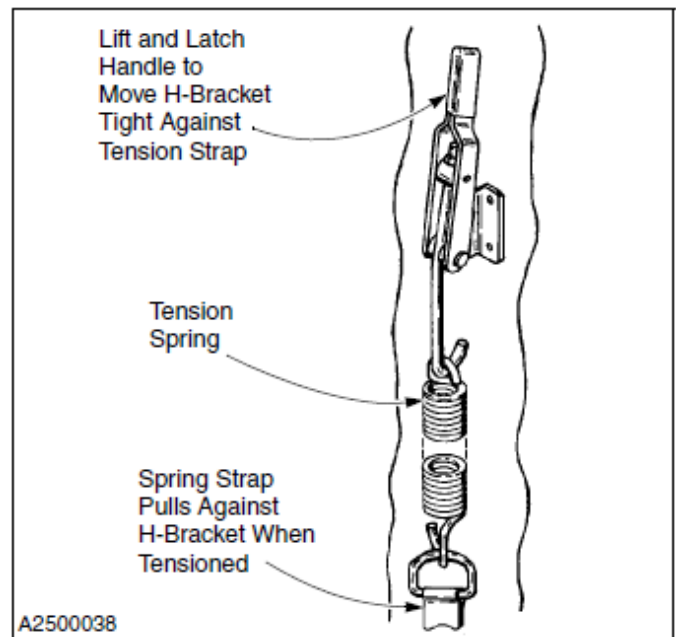


Figure 72

7. Turn on the power to the door.

REPLACEMENT PROCEDURES—TENSION STRAP REPLACEMENT

TENSION STRAP REPLACEMENT

1. Move the door to the full-open position.
2. Turn off the power to the door.

⚠ WARNING

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

3. Loosen the two bolts to release the blue tension strap from the strap clamp. The clamp is at the end of the end bracket. (See Figure 73)

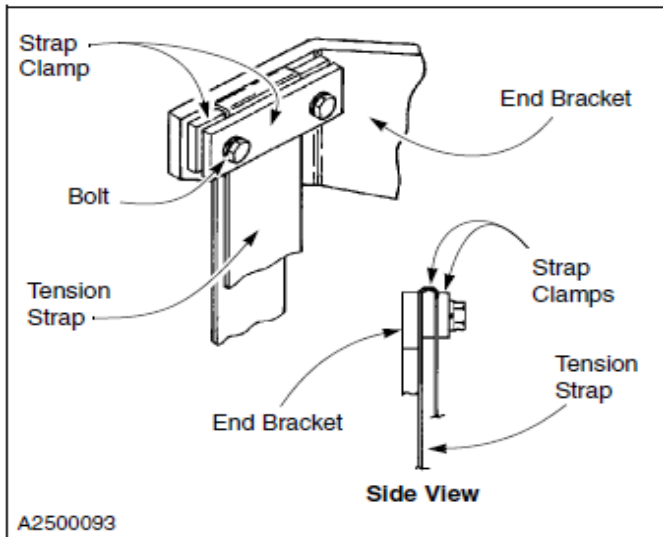


Figure 73

4. Disconnect the tension strap from the tension spool. The tension spool is located on the end of the fabric drum located in the head assembly. Retain all hardware.
5. Attach the new tension strap to the tension spool in the same manner in which the old strap was attached to the spool. Use the saved hardware.

⚠ CAUTION

When installing a new tension strap, refer to Table 2 to determine the initial number of times the strap must be wrapped around the spool. Additionally, it is important to wrap the strap around the spool with the door panel in the full-open position. Also, it is critical to wrap the new strap around the spool so that it hangs off the front of the spool.

Table 2

Door Model	Door Height	Initial Wraps Around Spool
FS-1000/1500	Less than 14 ft.	4
FS-1000/1500	14 ft. to 22 ft.	6
FS-1000/1500	22 ft. and Taller	8
Special		Consult Factory

6. Route the tension strap as shown in Figure 74. If the door is equipped with an idler roller, route the strap around the idler as shown in Figure 75 and Figure 82.

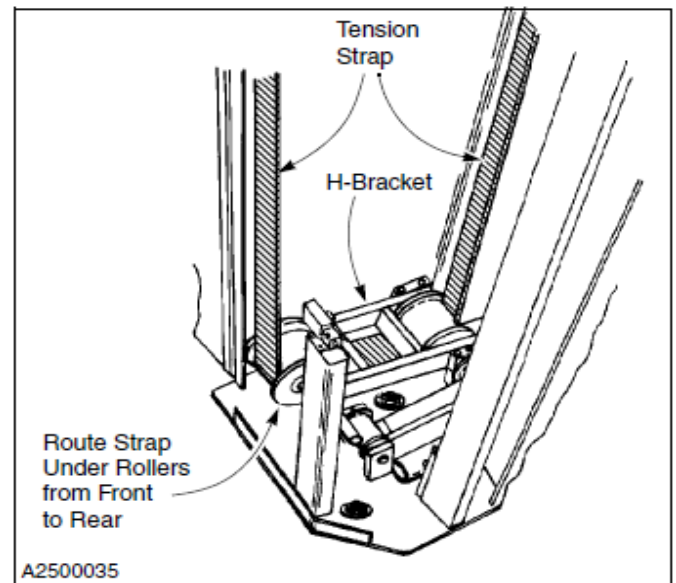


Figure 74

NOTE: Left strap routing shown.

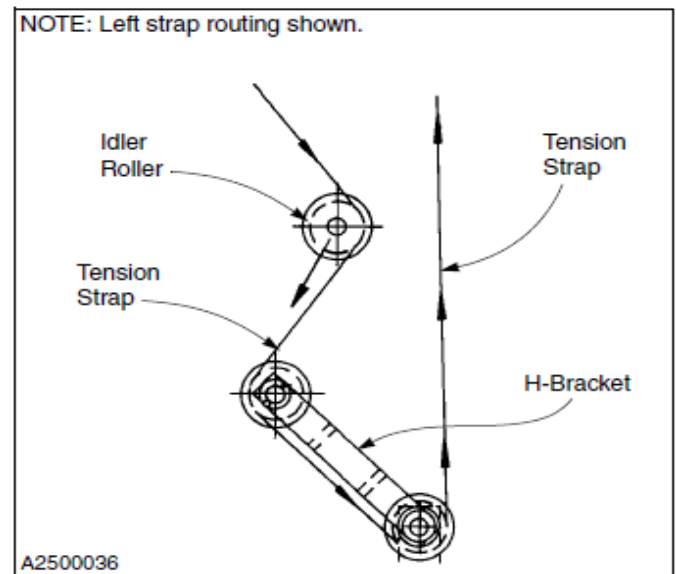


Figure 75

REPLACEMENT PROCEDURES—COUNTERWEIGHT STRAP REPLACEMENT

NOTE: Right strap routing shown.

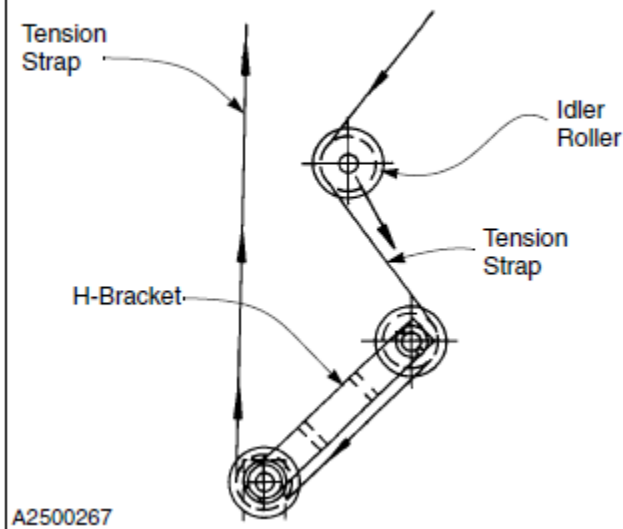


Figure 76

7. Attach the strap to the end bracket. (See Figure 77)
8. Adjust the tension straps. (See "TENSION STRAP ADJUSTMENT" on page 24.)
9. After adjusting the tension strap, trim off the excess strap to within 6 in. of the clamp. Tape the free end of the strap to the main length of strap.

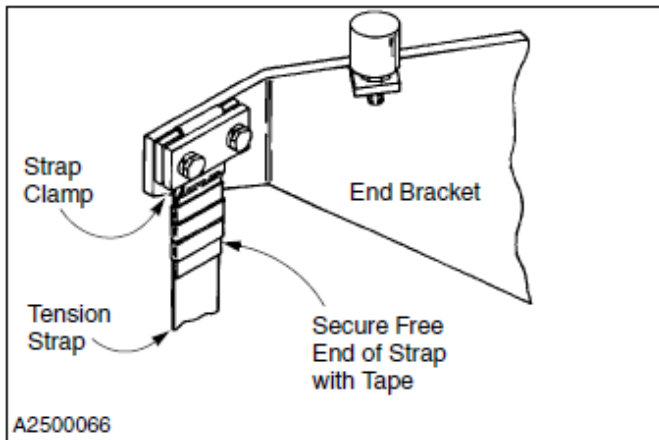


Figure 77

10. Turn on the power to the door.

COUNTERWEIGHT STRAP REPLACEMENT

1. Move the door to the full-open position.
2. Turn off the power to the door.

! WARNING

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

3. Make sure the motor brake release lever is in the locked position (brake release cable is slack).
4. Place a wood block under the counterweight to support it at the height shown in Figure 78.

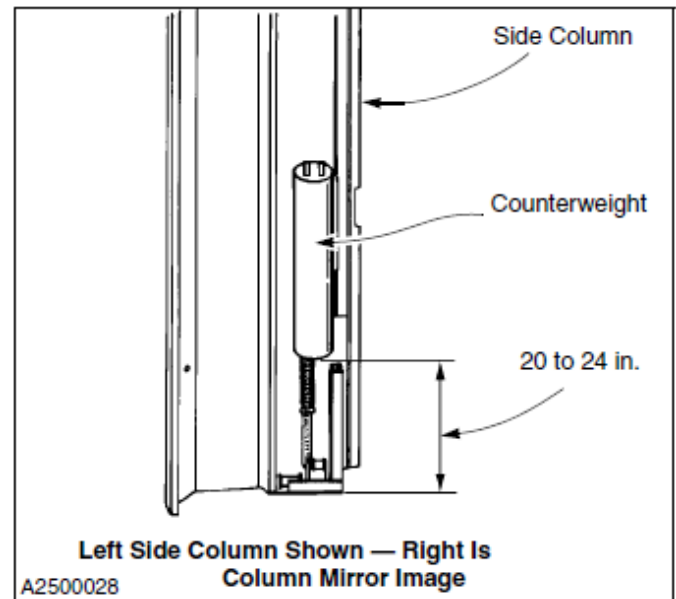


Figure 78

! WARNING

Securely support the counterweight when making any adjustments. A counterweight can weigh 100 pounds or more. If not handled properly, a counterweight can damage the door and cause personal injury.

Make sure the counterweights do not make contact with the photo eyes — damage can result.

5. Release the yellow counterweight strap from the counterweight by removing the clevis pin. (See Figure 79)

REPLACEMENT PROCEDURES—COUNTERWEIGHT STRAP REPLACEMENT

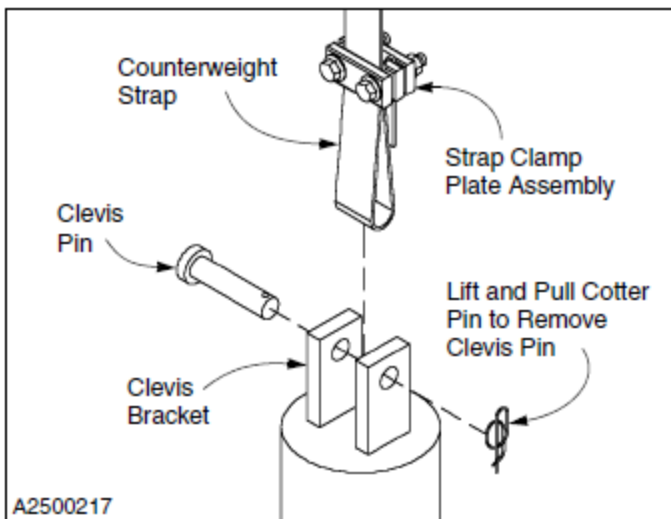


Figure 79

6. Disconnect the counterweight strap from the counterweight spool located on the end of the drum in the head assembly. (The counterweight spool is the smaller of the two spools.) Retain all hardware.
7. Attach the new counterweight strap to the counterweight spool in the same manner that the old strap was attached to the spool. Use the saved hardware.

CAUTION

When installing a new counterweight strap, the strap must be installed with two initial wraps around the spool. Additionally, it is important to wrap the strap around the spool with the door panel in the full-open position. And it is critical to wrap the new strap around the spool so that it hangs off the front of the spool.

8. Remove the strap clamp plate assembly from the old strap. Then weave the free end of the new strap through the plate assembly as shown in Figure 80.
9. Once the strap clamp plate assembly is in place, connect the counterweight strap to the counterweight. Make sure the cotter pin is correctly and securely installed in the clevis pin.

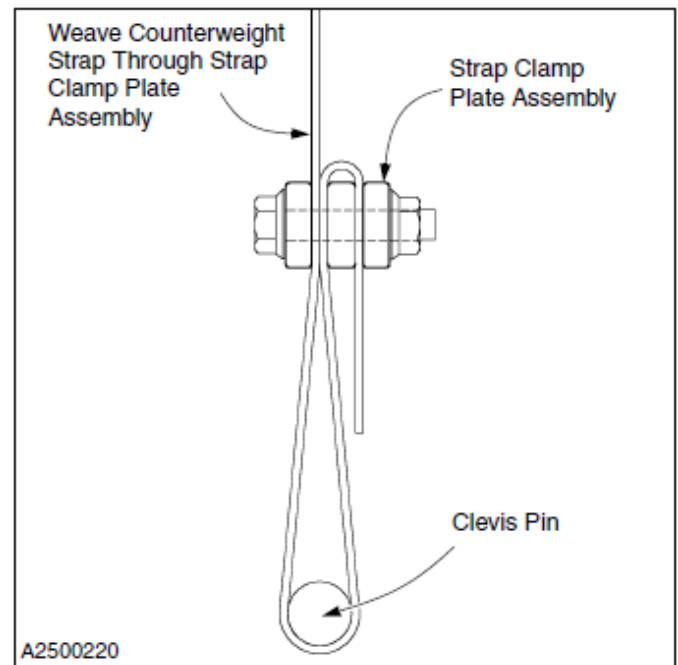


Figure 80

10. Adjust the counterweight strap and then tighten the strap clamp plate assembly to secure the strap. (See "COUNTERWEIGHT STRAP ADJUSTMENT" on page 23.)
11. After all adjustments are complete, trim off any excess strap to within 6 in. of the strap clamp plate assembly. Then fold and tape the loose end of the strap to the main length of strap. (See Figure 81)

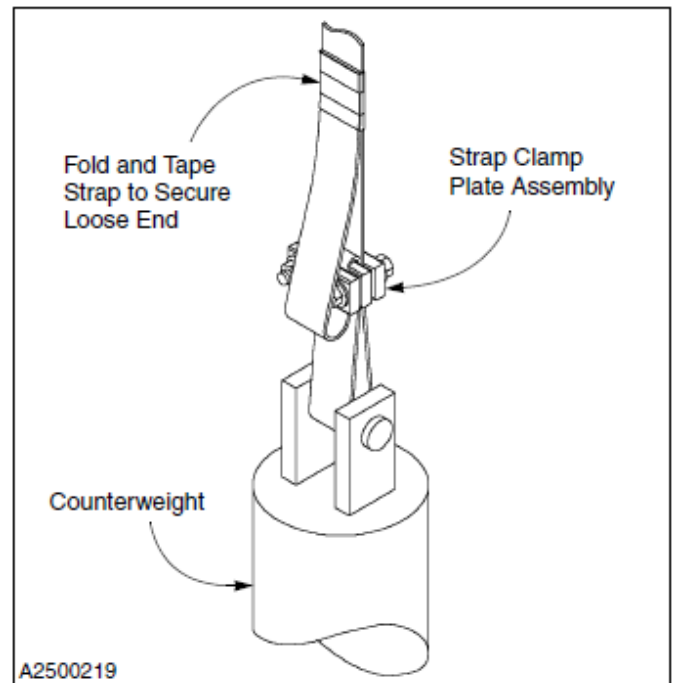


Figure 81

12. Turn on the power to the door.

REPLACEMENT PROCEDURES – RYLON DOOR PANEL REPLACEMENT

RYLON DOOR PANEL REPLACEMENT

To replace the rylon door panel the drum assembly must be rotated beyond the closed position. This will expose the panel retention strap used to attach the panel to the drum. A number of methods can be used to perform the process. The following steps will cover one of those methods. If you are unfamiliar with the Ryttec Fast Seal door or the controls to operate the door contact Ryttec Technical Support at 800-628-1909 to determine the best method for replacement.

NOTE: Replacing the door panel requires experience with Ryttec Fast Seal doors and their controllers. The greater the experience the easier it will be to replace the door panel. The electrical control experience can be utilized to make the replacement process much less difficult.

1. Operate the door to the full closed position.

NOTE: Check the counterweight height when the door is in the closed position. To jog the door beyond the closed position requires that the counterweights have an additional 12 inches of travel. If additional travel is not possible the counterweights will need to be adjusted or perhaps removed.

2. System 3 or 4 place controller into “EMERGENCY JOG” mode. Parameter P:980 set to 3.



All safety devices and limit switches are ignored in the “EMERGENCY JOG” mode.

3. Continue closing door utilizing the “EMERGENCY JOG” mode until the retention strap is exposed at the 12 O’clock position. (Facing the ceiling)
4. Lock out and tag out the electrical supply.
5. Remove the rivets from the retention strap. The rivets will need to be drilled out or ground off.
6. Lift the replacement panel into position and rivet the new panel to the drum. Make sure the panel is attached square to the drum.
7. Unroll the new panel to the ground.
8. Remove the bottom bar from the old panel.

NOTE: The bottom bar can be removed first if the door is small. Reversing edge and door ajar errors will be present on the control however, with the door in “EMERGENCY JOG” mode the door will override these errors and remain in the jog mode. The bottom bar provides counterweight for the door and assists the motor to close the door with the bottom bar removed the door may struggle to close.

9. Discard the old panel.
10. Center the bottom bar on the new panel and re-attach.
11. Re-apply power to the control.
12. Place the System 3 or 4 controller into “EMERGENCY JOG” mode.
13. Slowly jog the door to the open position.
14. Operate the door in the “EMERGENCY JOG” position 3-4 times to work the replacement panel onto the drum. Check panel travel while operating, to ensure the panel is traveling square.
15. When you have determined that the panel is running correctly, place the door into the RUN or operational mode and run the door at full speed 10-15 times and check operation.

PARTS LIST

PARTS ORDERING INFORMATION

How to Order Parts

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.
2. To place an order, contact your local Rytec representative or the Rytec Technical Support Department at 800-628-1909 or 262-677-2058 (fax). Rytec Corporation also has an on-line store at WWW.Rytecparts.com access to this on-line store requires an invitation from Rytec. The on-line store is open 24/7, 365 days. Some items are available to ship next day. Not all Rytec parts are carried in the on-line store.
3. To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number can be located by referring to the "DOOR SERIAL NUMBER(S)" Section on Page 1 for locations. (See Figure 82.)

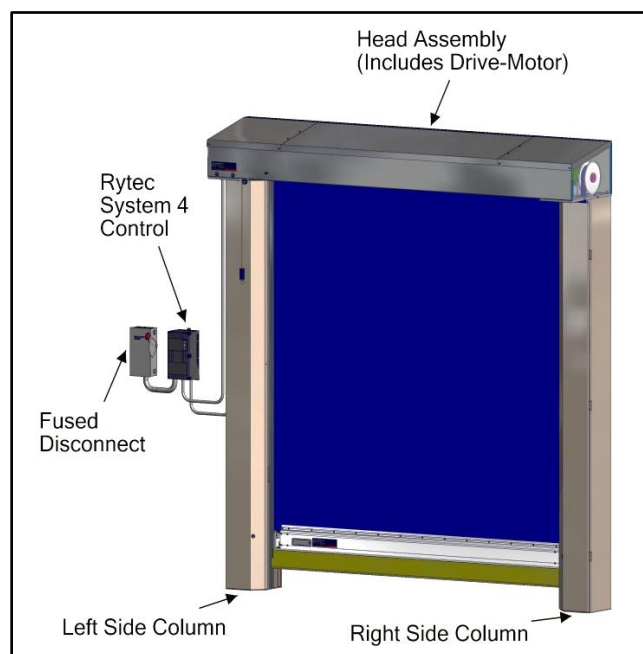


Figure 82

Substitute Parts

Due to special engineering and product enhancement, the actual parts used on your door may be different from those shown in this manual.

Also, if a part has been improved in design and bears a revised part number, the improved part will be substituted for the part ordered.

Return of Parts

Rytec will not accept the return of any parts unless they are accompanied by a Return Merchandise Authorization (RMA) and an incident number.

Before returning any parts, you must first contact the Rytec Technical Support Department to obtain authorization and an RMA number.

IMPORTANT: *Obtain an incident number from the Rytec Technical Support Technician.*

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

RYTEC TECHNICAL KNOWLEDGE CENTER

RYTEC TECHNICAL KNOWLEDGE CENTER

At WWW.Rytecdoors.com under the "Contact Us" pull down tab, a link to the Rytec Technical Knowledge Center can be found by selecting the "Customer Support" option. You will be directed to the Customer Support webpage. Within the "Technical Documents and Manuals" section you will find the link "Rytec Technical Knowledge Center". This knowledge center contains on-line manuals, service bulletins, and video presentations of various Rytec models and repair information.

RYTEC ON-LINE WEBSTORE

Rytec Corporation in partnership with Amazon have developed an on-line webstore for purchasing Rytec replacement parts.

Access to the Rytec webstore is by invitation only. Invitations are processed through the following e-mail address, webstore@Rytecdoors.com. Please include name and contact information (account holder). All inquiries will be reviewed however, Rytec maintains the authority to grant or deny access to the webstore at all times. The Rytec webstore is open 24/7/365. Parts available on-line require a credit card for purchase. Items in stock routinely ship the same day. The account is strictly for the account holder. All ship to, bill to and ordering information is the responsibility of the account holder. Currently, over one hundred Rytec parts are available at the on-line store. Shipping rates for the products on line are the lowest rates available.

RETURNS POLICY FOR ON-LINE WEBSTORE

Customer may return new, unopened items with 30 days of delivery for a full refund.

Items should be returned in their original packaging. The buyer will need to pay for the return shipments; return shipping costs will be refunded if the return is a result of merchant or Amazon error.

All refunds go to the original purchaser. A full refund will be due provided the return is received within the return window.

Replacements and exchanges are not supported; customers can return their original order for a refund and create a new order for the replacement.

Items classified as hazardous are not returnable. Please contact merchant for issues concerning these items.

WEBSTORE ITEM RETURN INSTRUCTIONS:

Visit return center within your account to create a return merchandise authorization.

1. Print the returns slip and the shipping label.
2. Include the returns slip inside the box and affix the shipping label to the box.
3. Ship package.

Prices are subject to change.

END BRACKET ASSEMBLIES

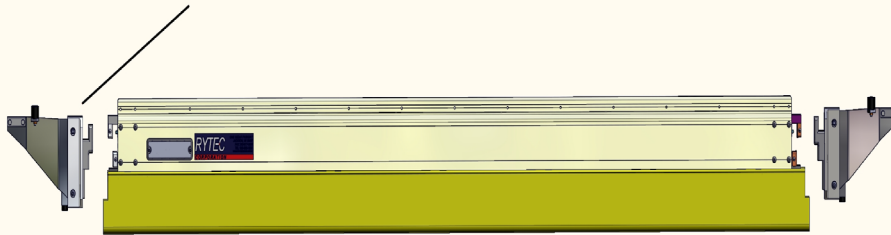
End Bracket Assembly

Part #R0299651 End Bracket Assembly, 14" SC, RH

Part #R0299652 End Bracket Assembly, 14" SC, LH

Part #R0299653 End Bracket Assembly, 17" SC, RH

Part #R0299654 End Bracket Assembly, 17" SC, LH



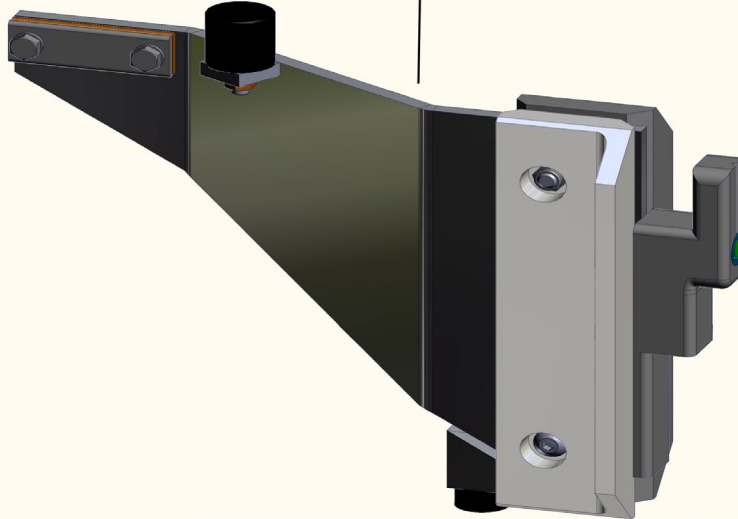
END BRACKETS

Left Hand End Bracket Assembly

Part #R0299652 End Bracket Assembly, 14" SC LH

Part #R0299654 End Bracket Assembly, 17" SC LH

Assembly Includes all parts shown.



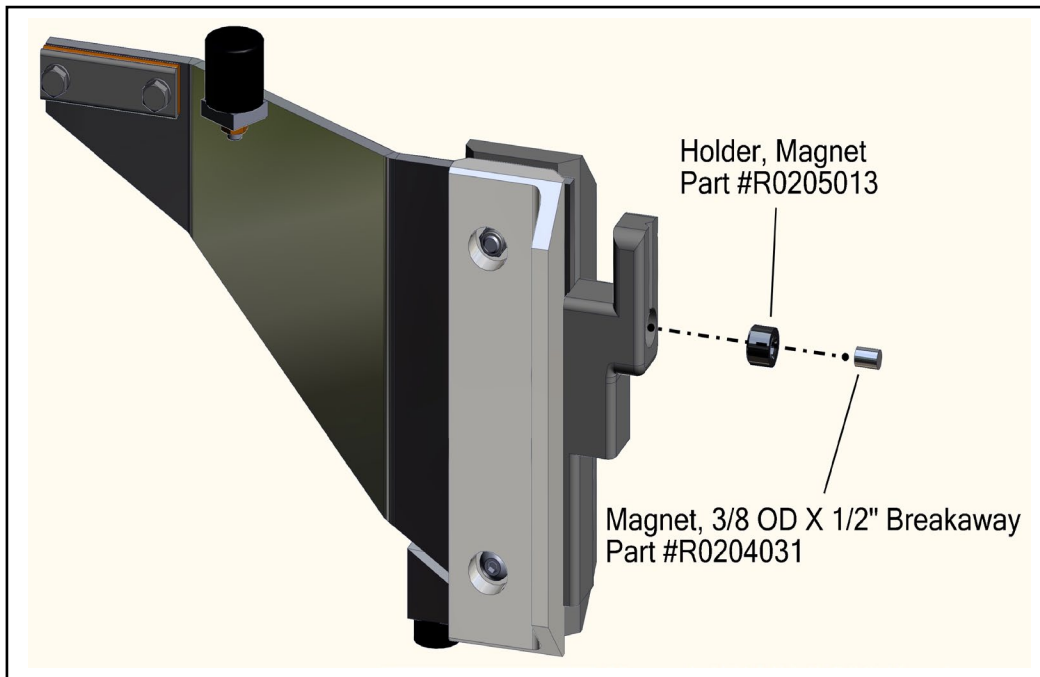
LEFT HAND END BRACKET ASSEMBLY

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

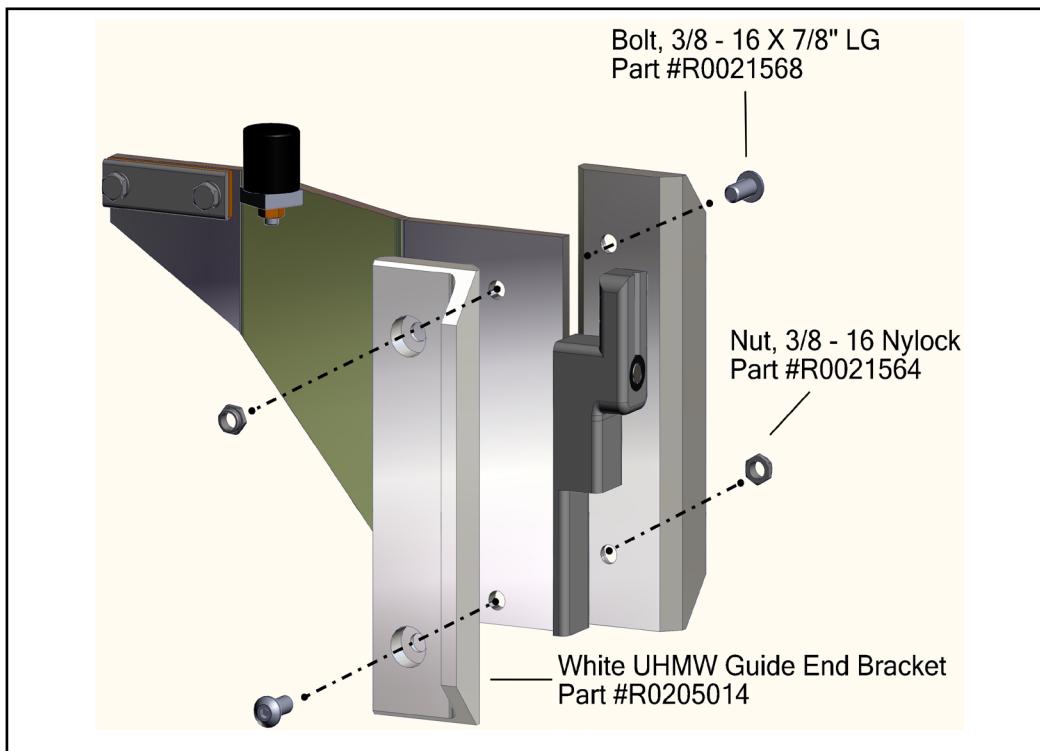
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—END BRACKET ASSEMBLIES

END BRACKET ASSEMBLIES



MAGNET & HOLDER

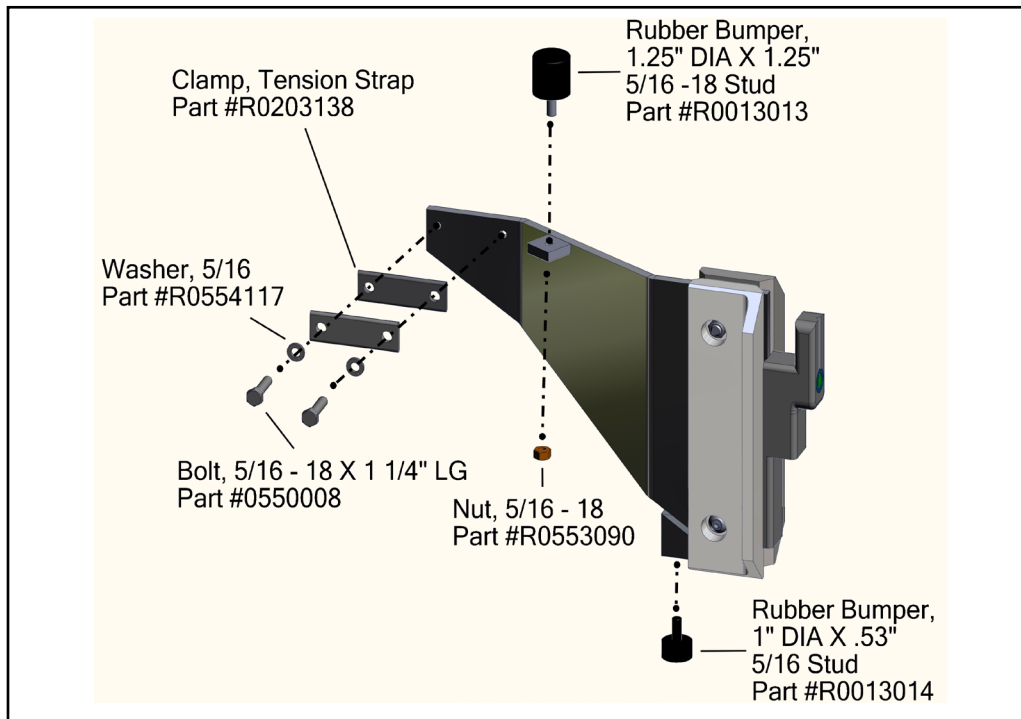


END BRACKET HARDWARE & SLIDES

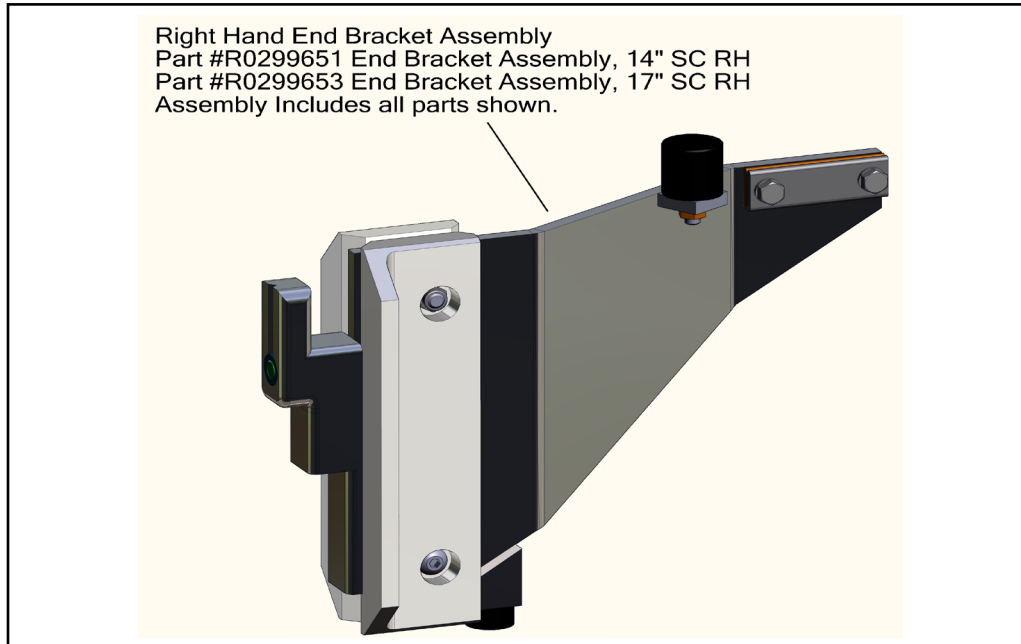
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

END BRACKET ASSEMBLIES



TENSION STRAP CLAMPS & RUBBER BUMPERS



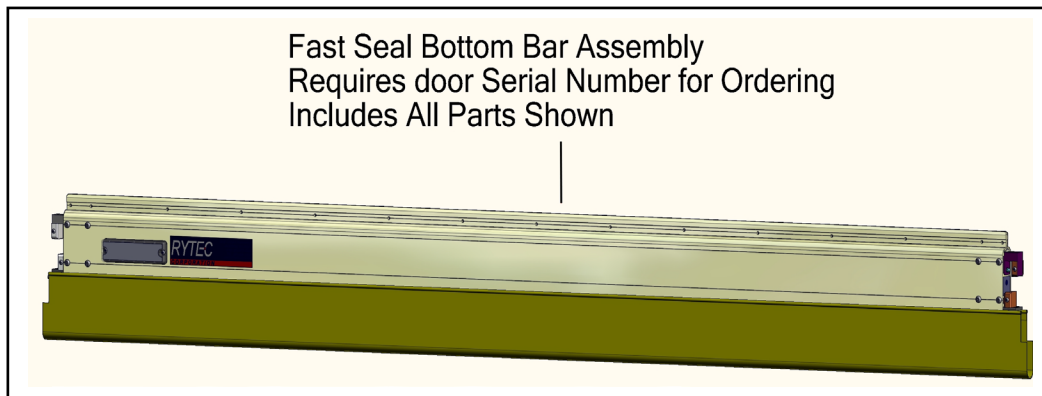
RIGHT HAND END BRACKET ASSEMBLY

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

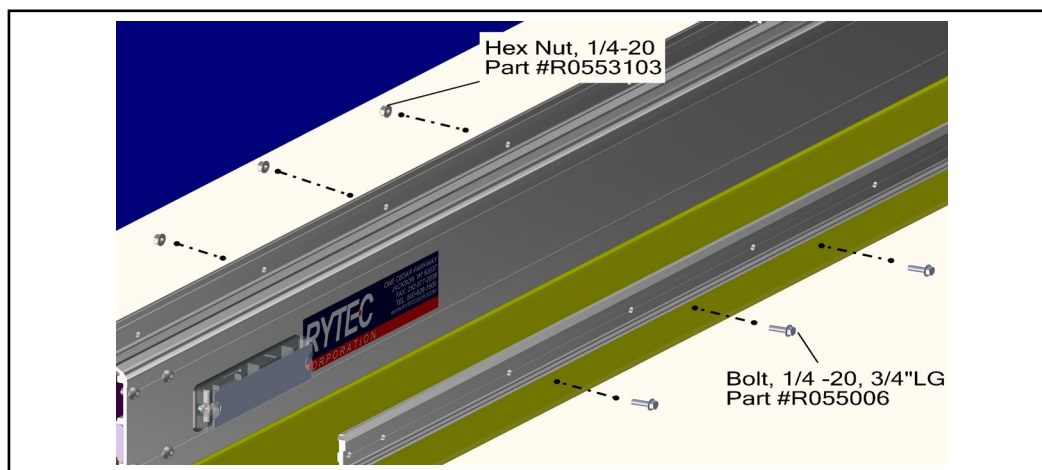
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—BOTTOM BAR ASSEMBLIES

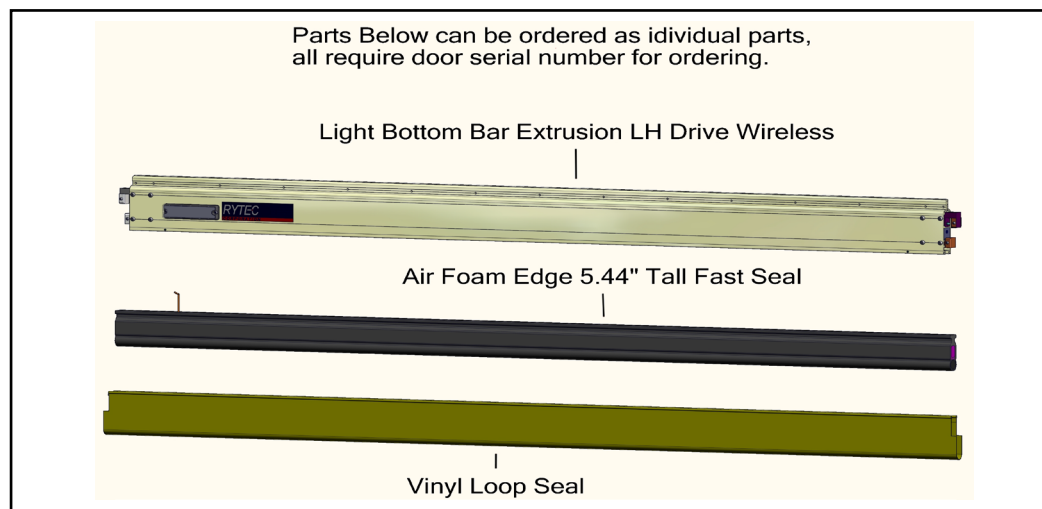
BOTTOM BAR ASSEMBLIES



FAST SEAL BOTTOM BAR ASSEMBLY



BOLTS TO ATTACH BOTTOM BAR TO PANEL

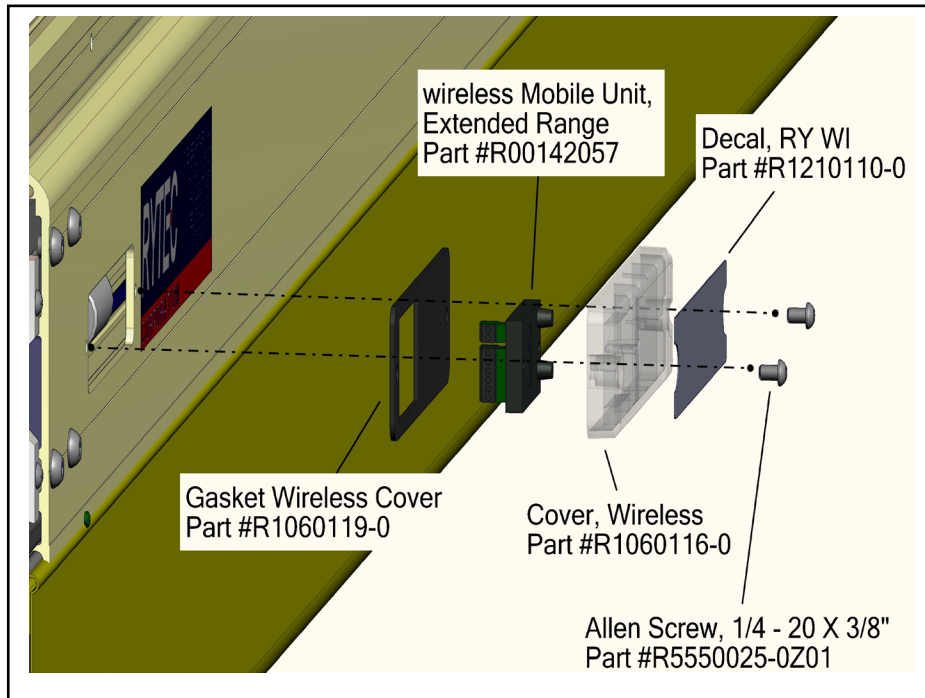


BOTTOM BAR, FOAM REVERSING EDGE & LOOP SEAL

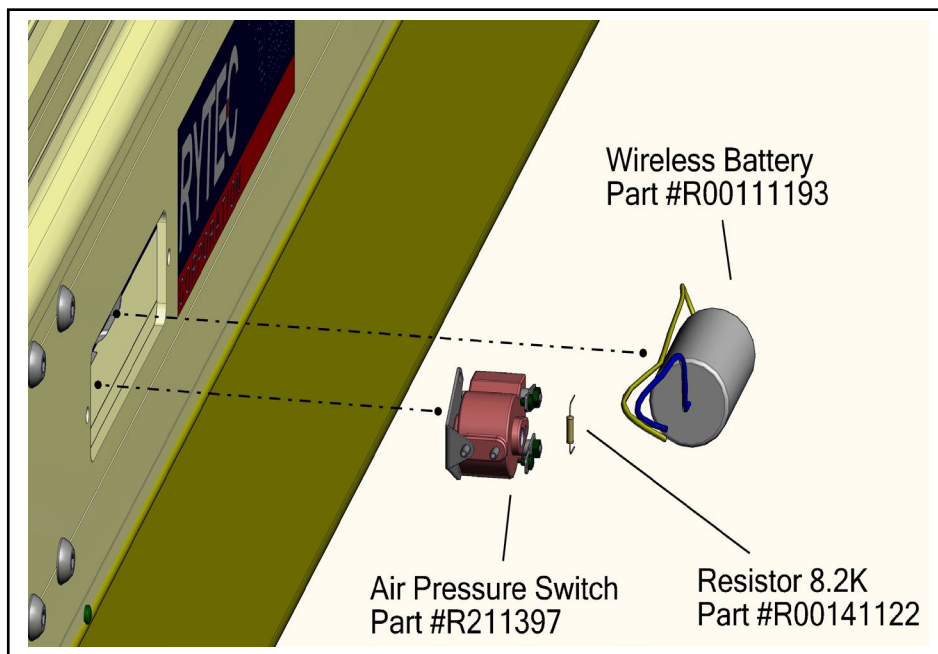
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

BOTTOM BAR ASSEMBLIES



WIRELESS MOBILE UNIT EXTENDED RANGE & HARDWARE



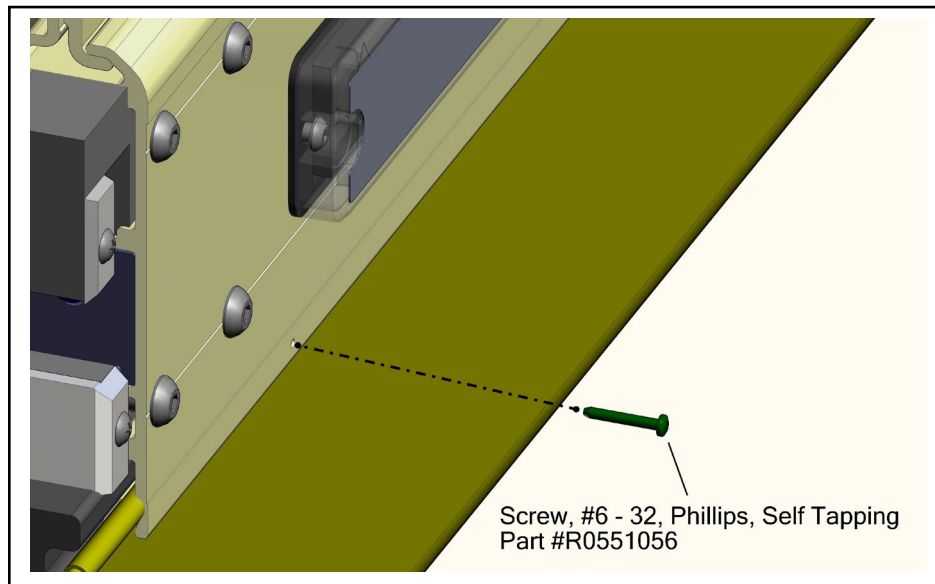
AIR SWITCH, BATTERY & RESISTOR

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

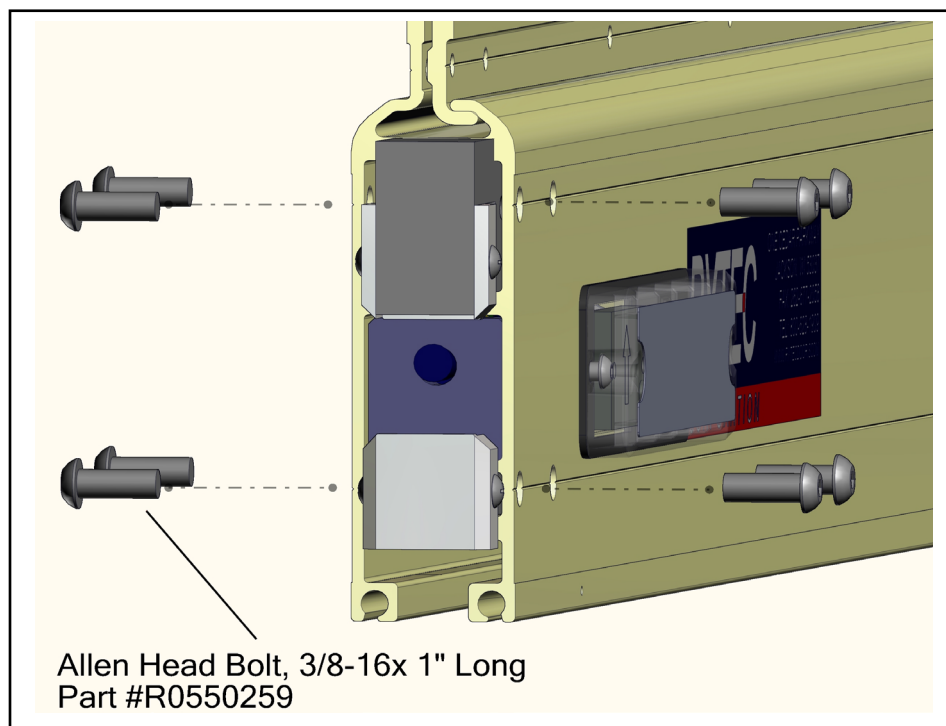
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—BOTTOM BAR ASSEMBLIES

BOTTOM BAR ASSEMBLIES



LOOP SEAL HOLDING SCREW

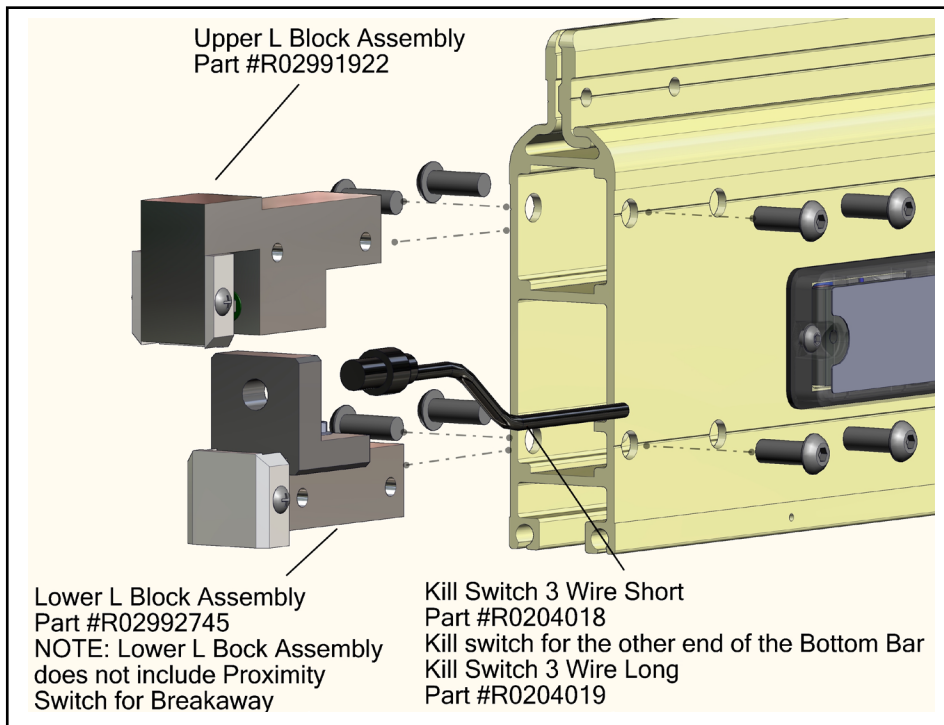


L BLOCK BOLTS

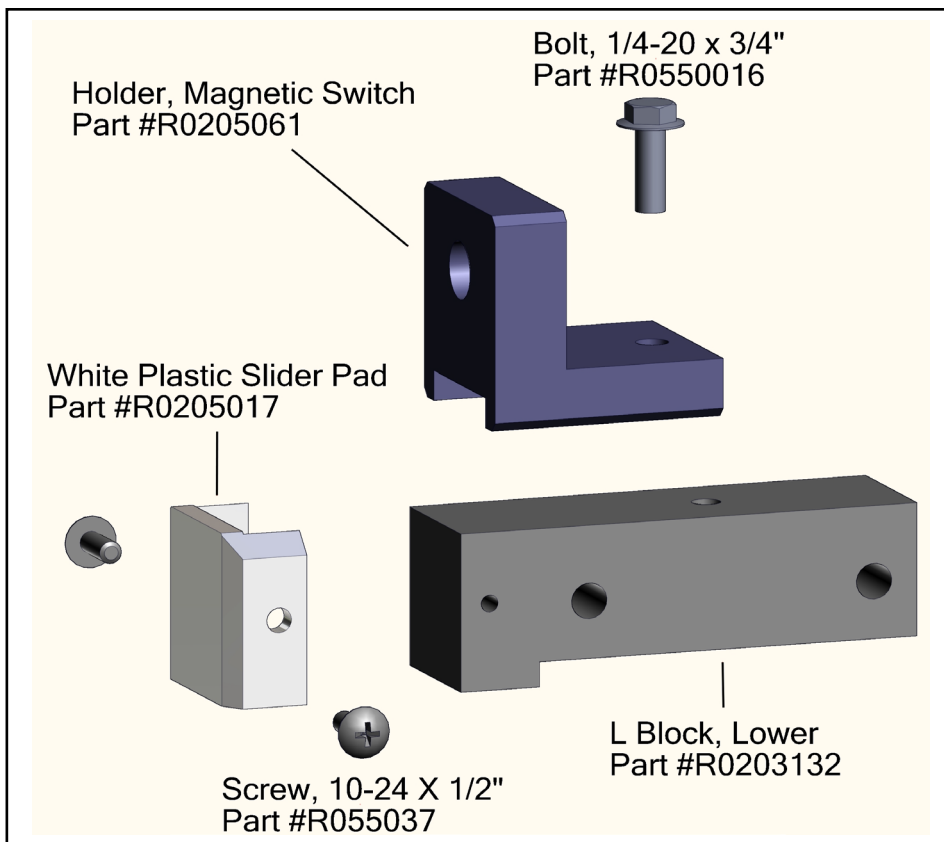
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

BOTTOM BAR ASSEMBLIES



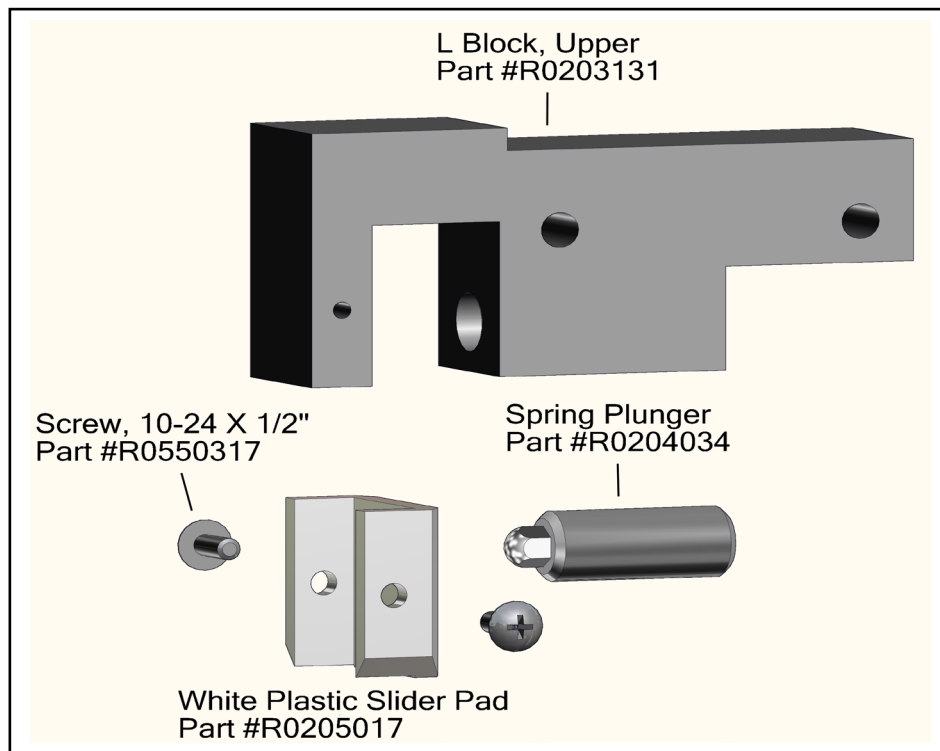
L BLOCK ASSEMBLIES & KILL SWITCH



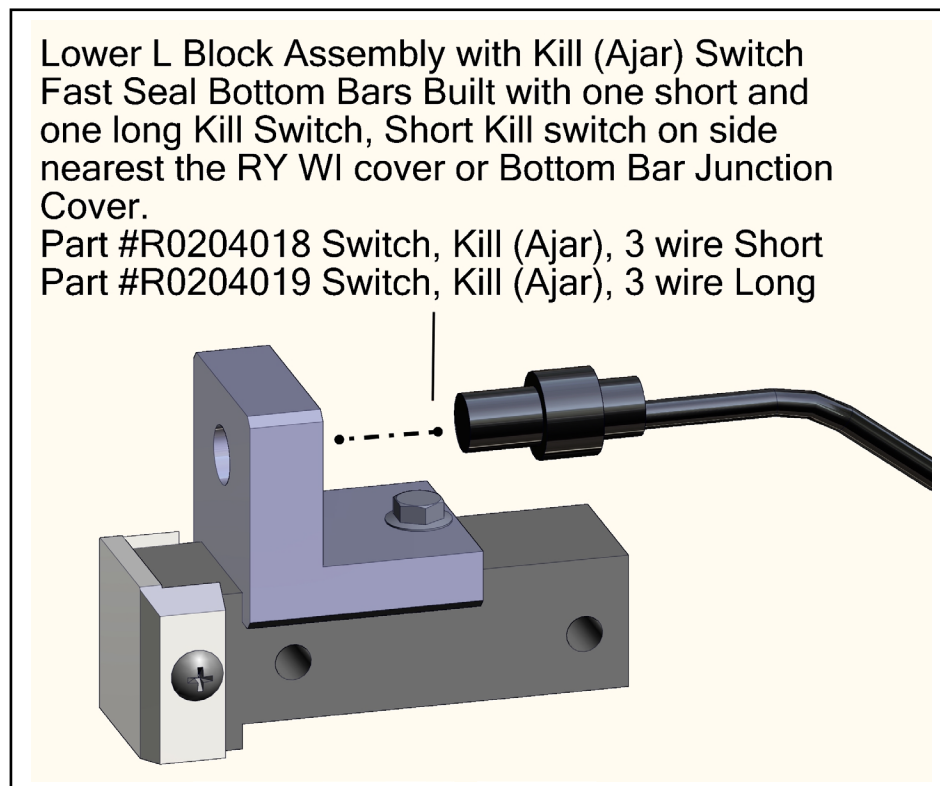
LOWER L BLOCK PARTS

PARTS LIST—BOTTOM BAR ASSEMBLIES

BOTTOM BAR ASSEMBLIES

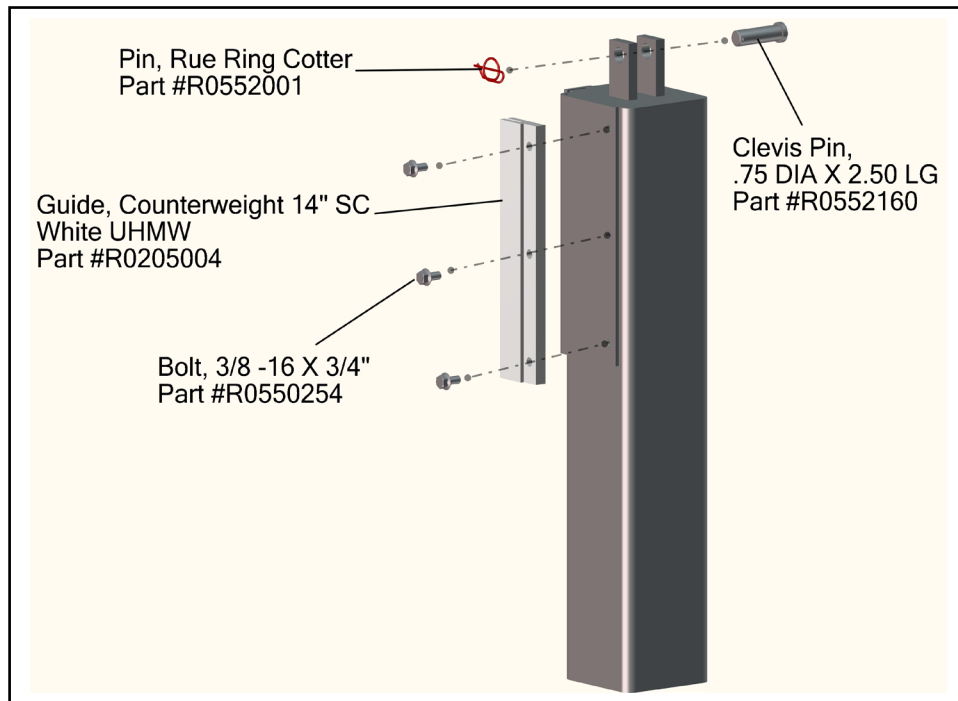


UPPER L BLOCK PARTS

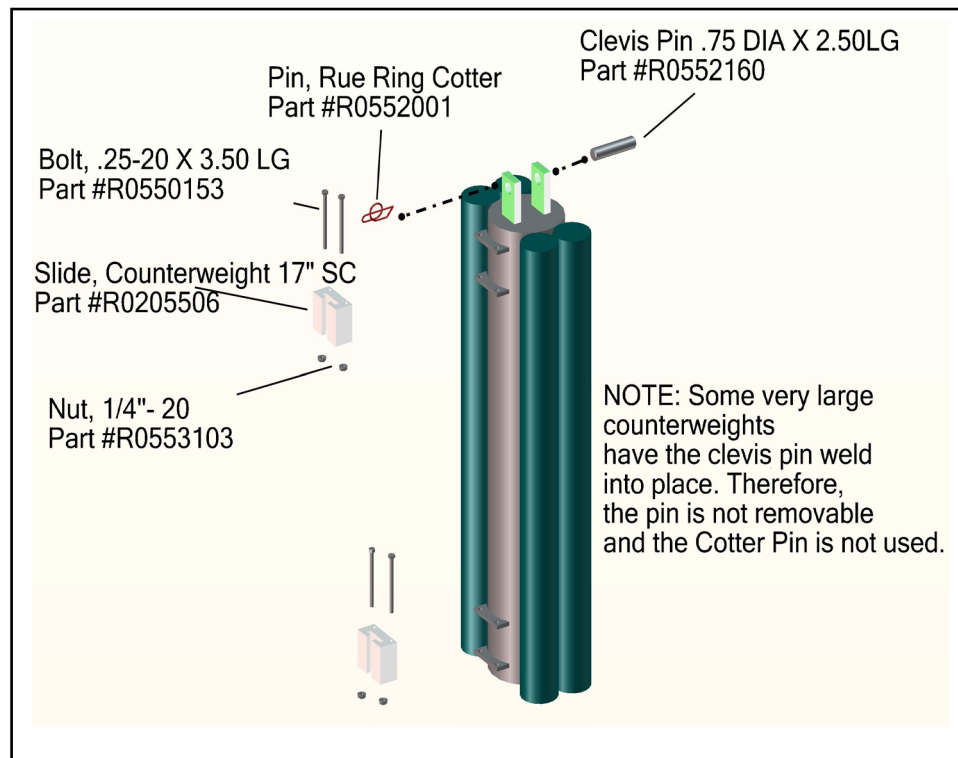


LOWER L BLOCK ASSEMBLY & AJAR SWITCHES

COUNTERWEIGHT ASSEMBLIES



14" SIDE COLUMN COUNTERWEIGHT PARTS



17" SIDE COLUMN COUNTERWEIGHT PARTS

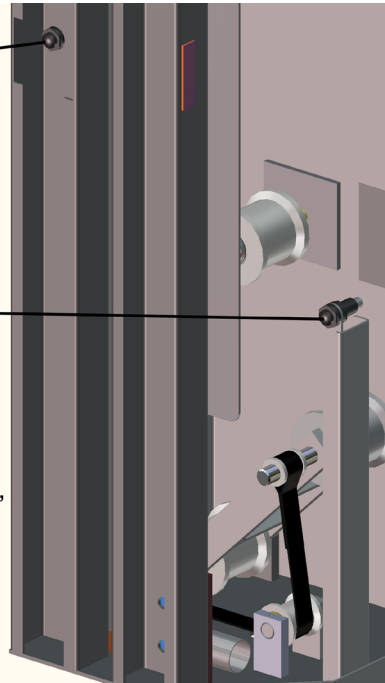
PARTS LIST—SIDE COLUMNS

SIDE COLUMNS

Rear Photo Eye
Telco 3000 Series
Transmitter Decal SMT3000
Part #R00141087
Receiver Decal SMR3215
Part #00141088

Front Photo Eye
Telco 3000 Series
Transmitter Decal SMT3000
Part #R00141087
Receiver Decal SMR3215
Part #00141088

NOTE: All photo eyes use the same cable,
Cable, 4 pole, M12 Conector, 50' LG
Part #R0012053

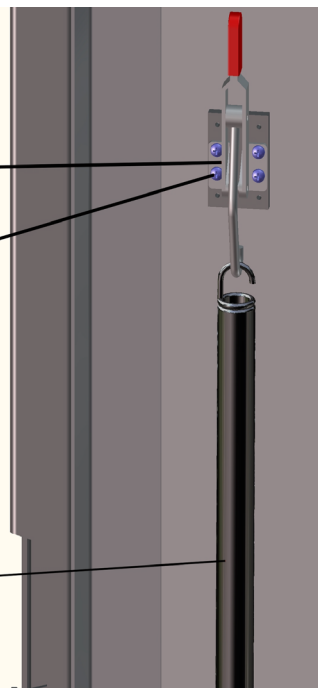


TELCO 3000 SERIES PHOTO EYES

J-Hook Clamp, Pull Action
Same J-Hook Left & Right
Part #R0218009

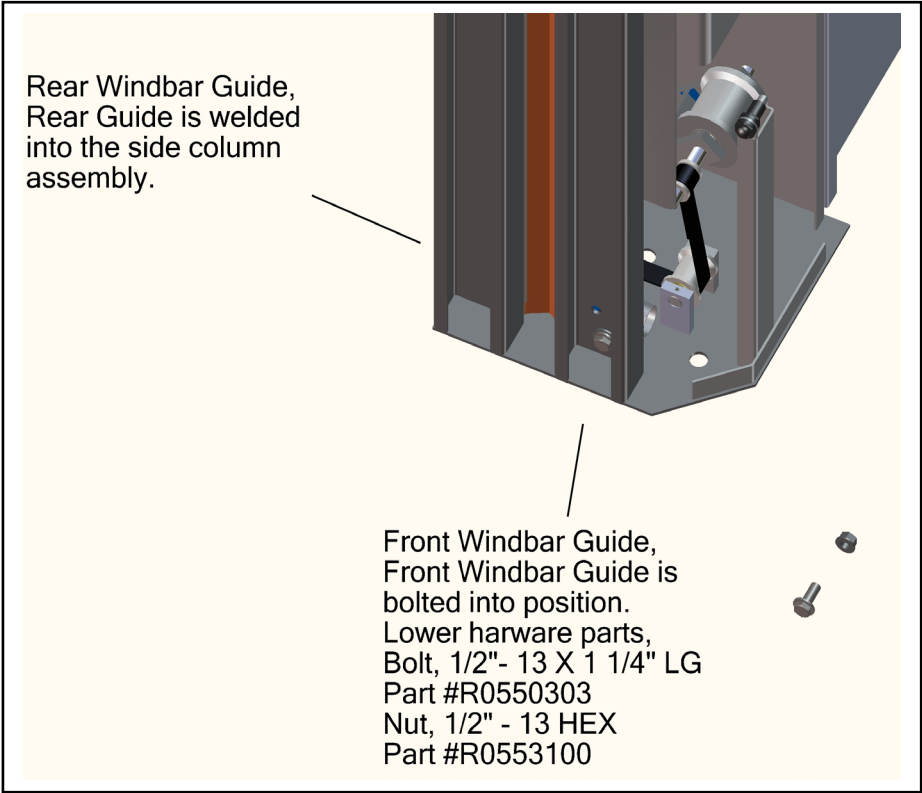
Screw, #10-24 X 3/8" LG
Part #R0553021

Spring, Extension (12" & 14" SC)
Part #R0204043

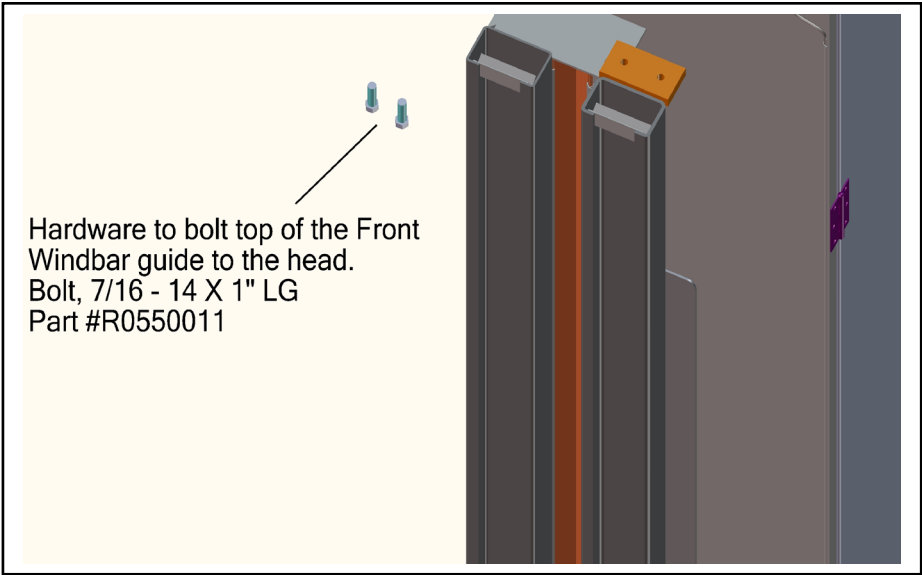


J HOOK, SPRING & HARDWARE

SIDE COLUMNS



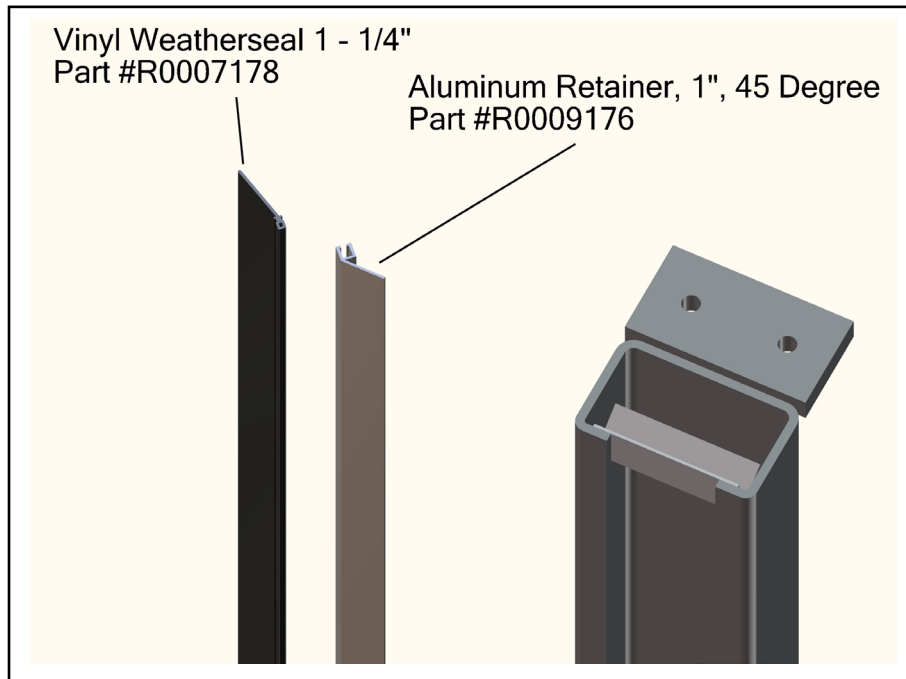
HARDWARE TO BOLT LOWER SECTION OF FRONT WINDBAR



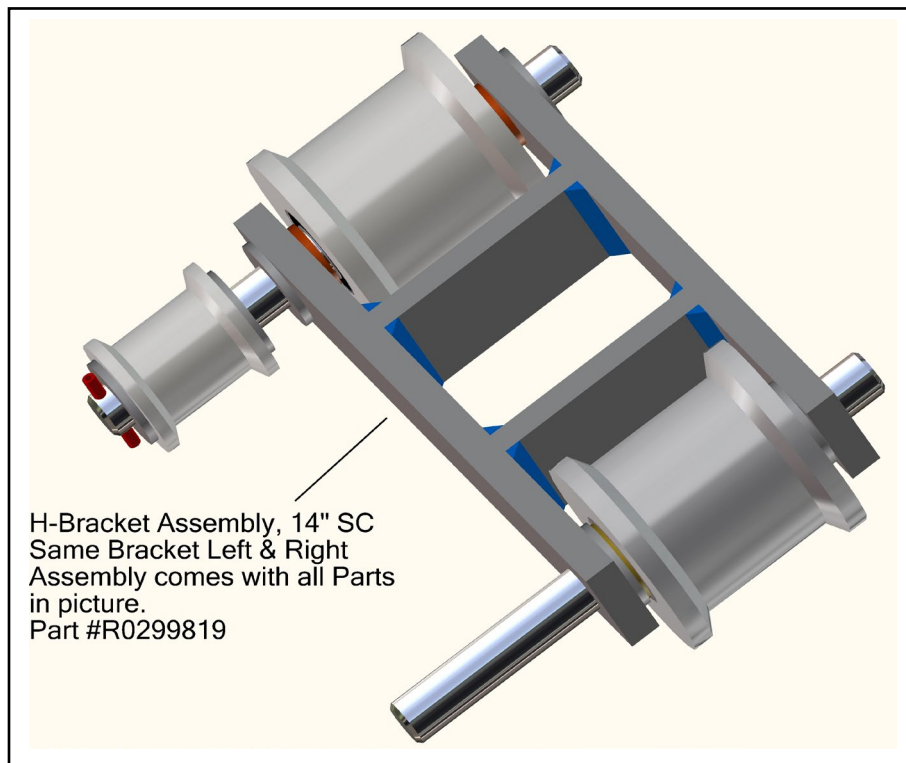
HARDWARE TO BOLT TOP OF FRONT WINDBAR GUIDE TO HEAD

PARTS LIST—SIDE COLUMNS

SIDE COLUMN

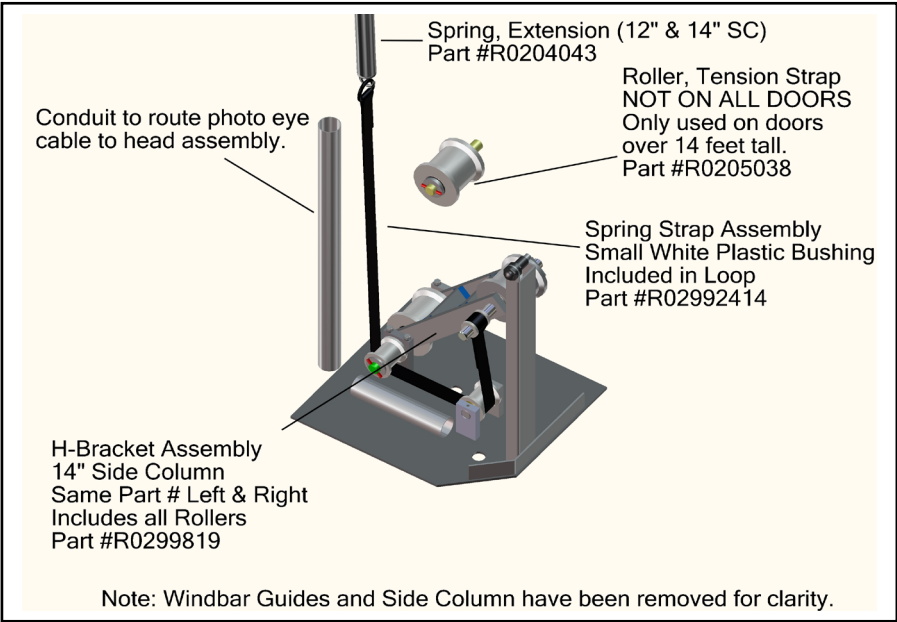


SIDE COLUMN WEATHERSEAL & TRACK

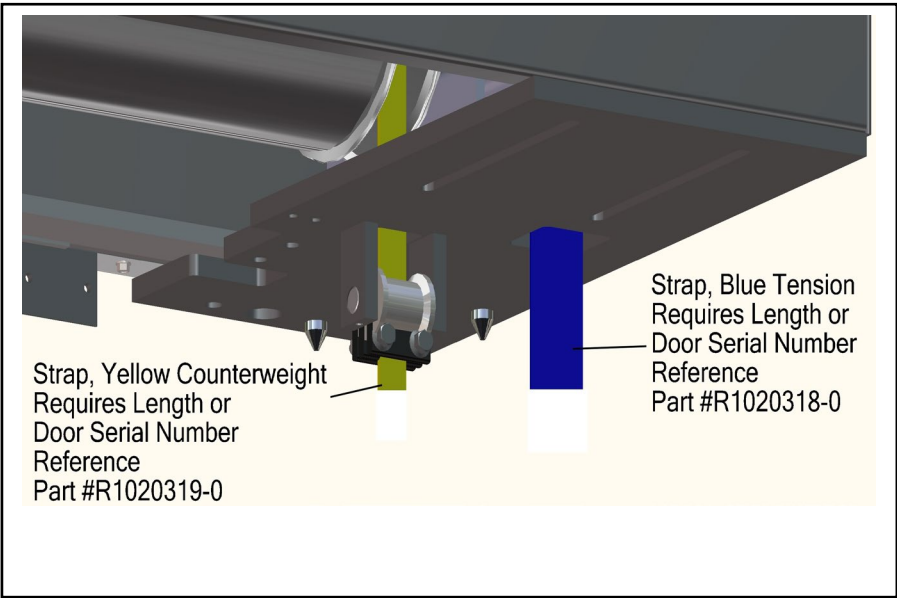


H BRACKET ASSEMBLY

SIDE COLUMNS



SPRING STRAP & H BRACKET PARTS



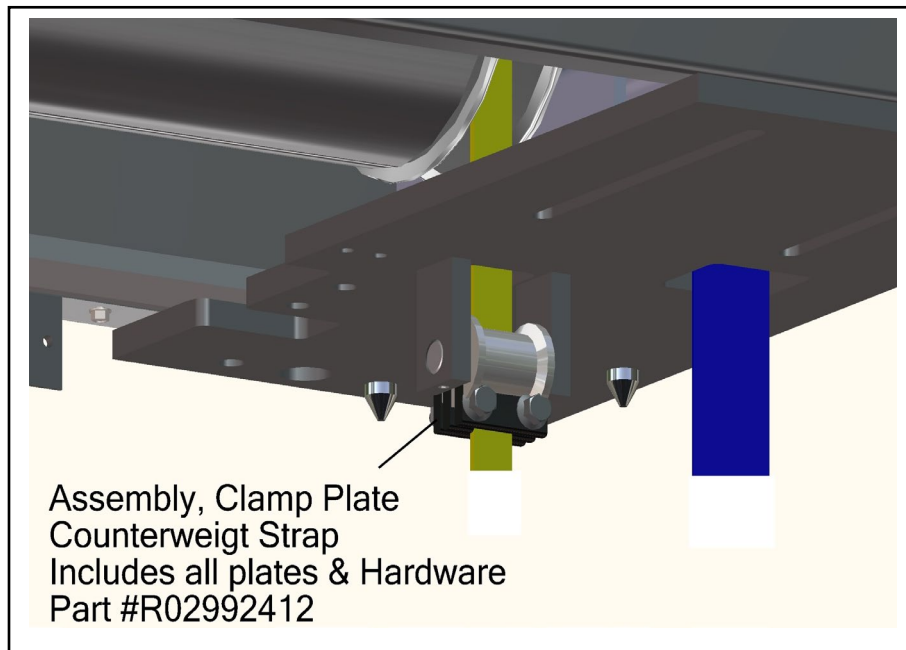
COUNTERWEIGHT & TENSION STRAPS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

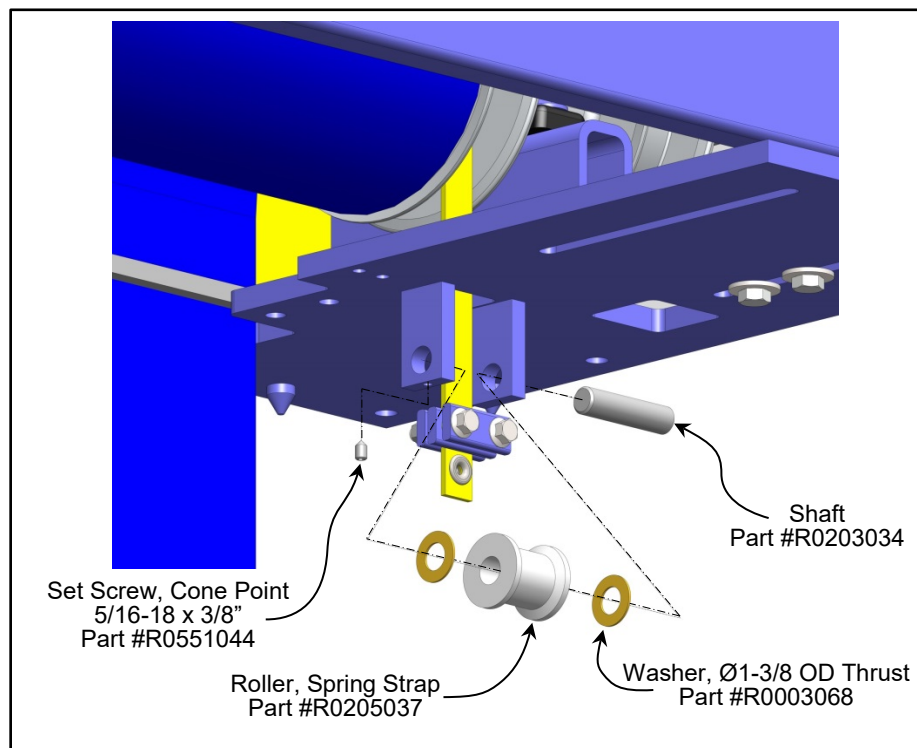
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—SIDE COLUMNS

SIDE COLUMN



CLAMPING PLATES



COUNTERWEIGHT ROLLER & HARDWARE

A/R = as required

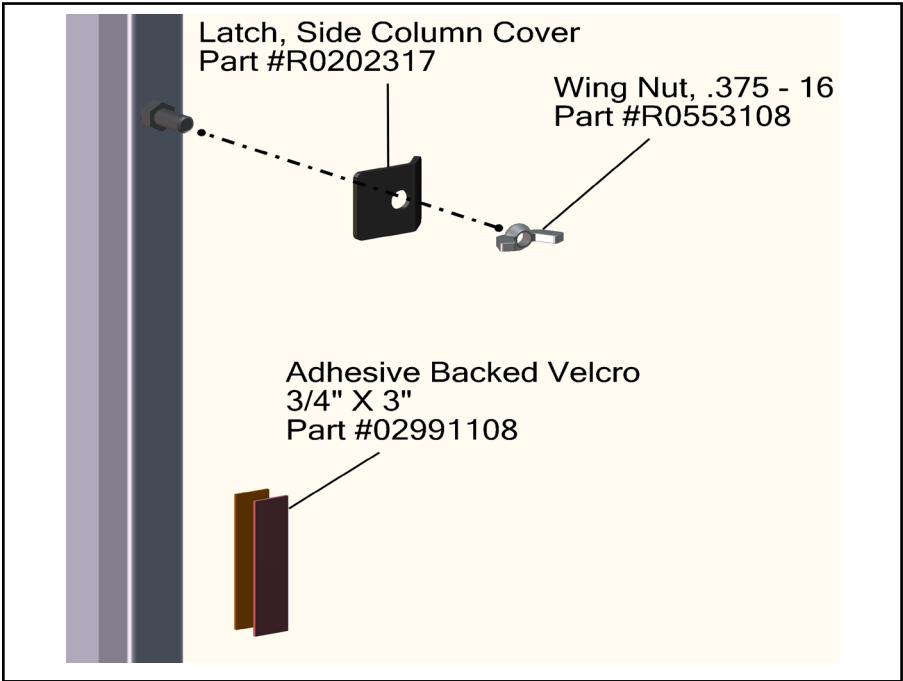
N/A = not applicable to this assembly

*Items are produced based on manufactured height and width of door.

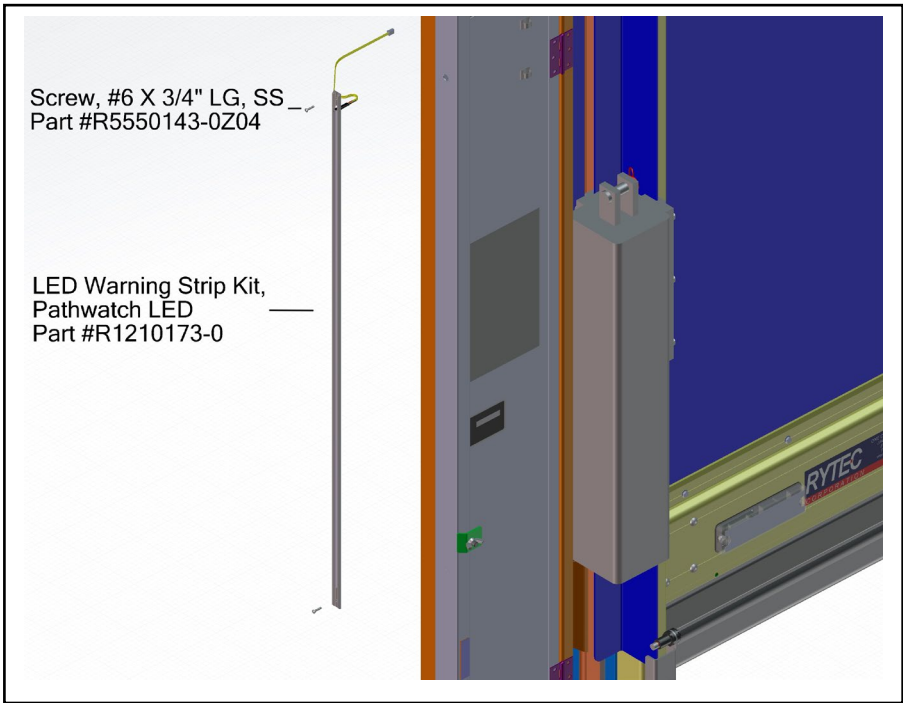
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

SIDE COLUMN



LATCH, WING NUT & VELCRO FOR SIDE COLUMNS



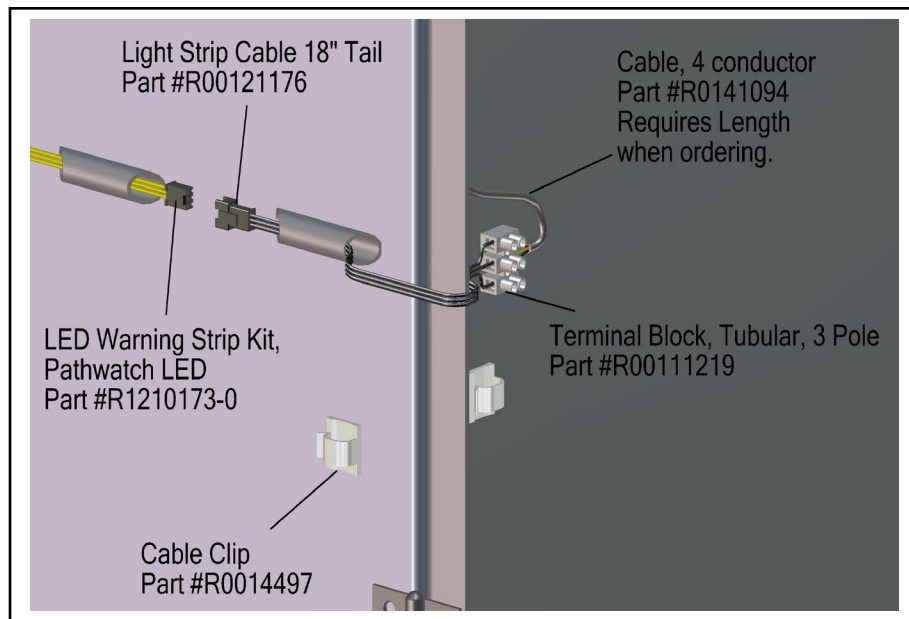
PATHWATCH LED WARNING STRIP

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

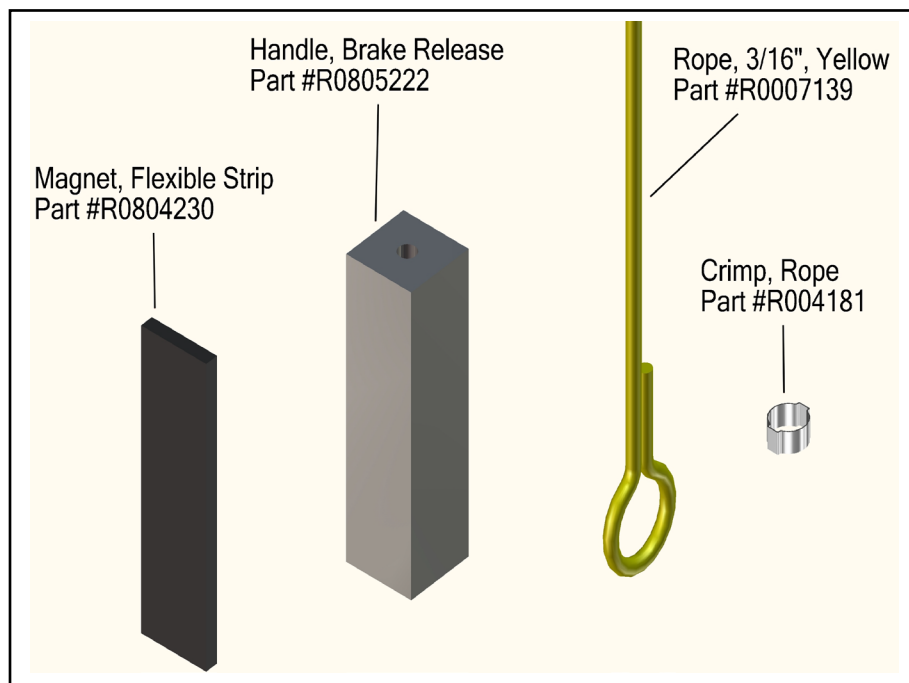
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—SIDE COLUMNS

SIDE COLUMNS



PATHWATCH CABLE, TERMINAL BLOCK & CABLE CLIPS

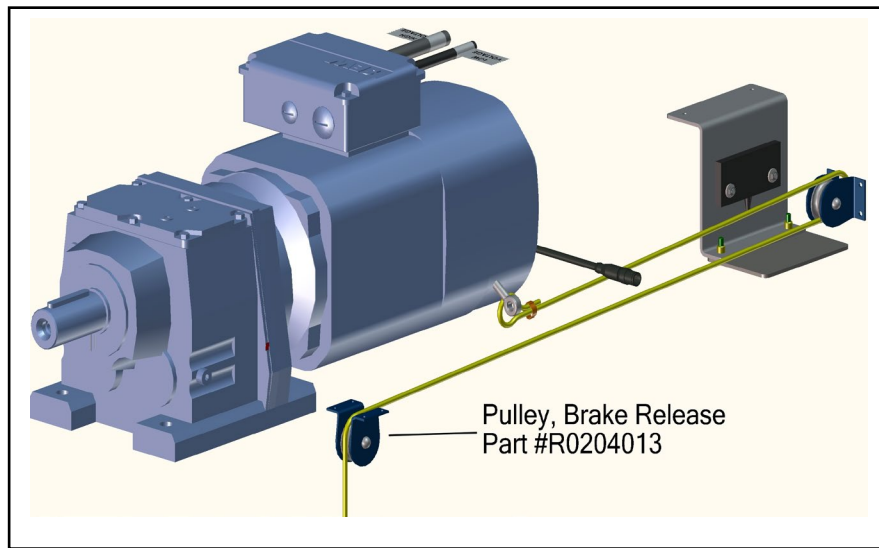


BRAKE RELEASE HANDLE, PARTS & ROPE

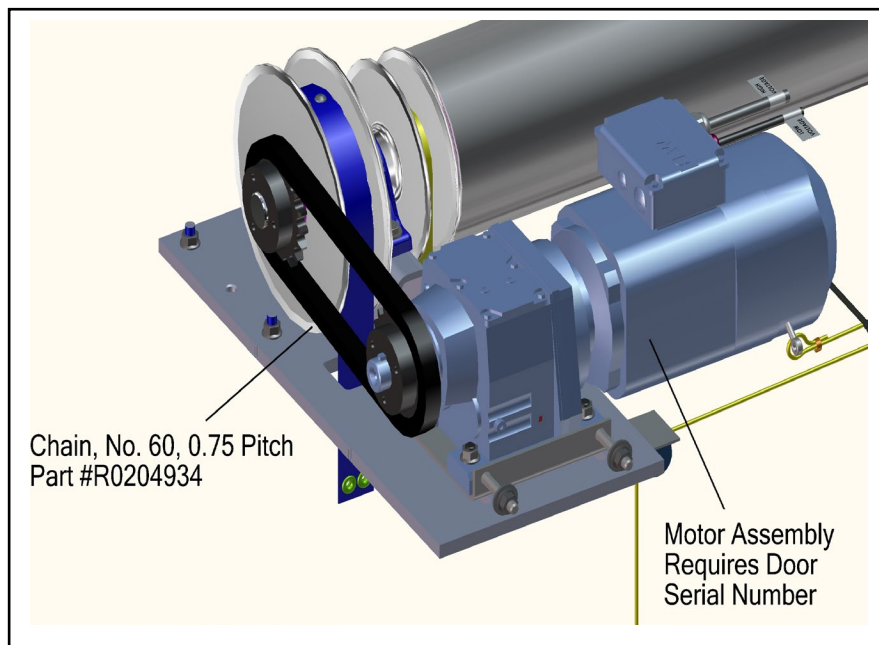
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

HEAD ASSEMBLY



BRAKE RELEASE PULLEY



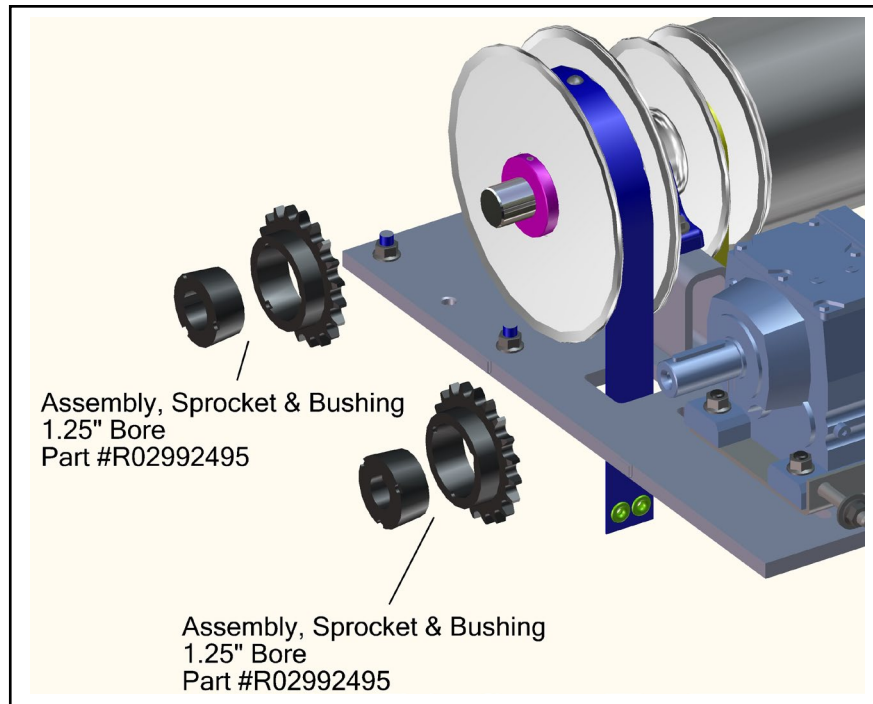
MOTOR ASSEMBLY & DRIVE CHAIN

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

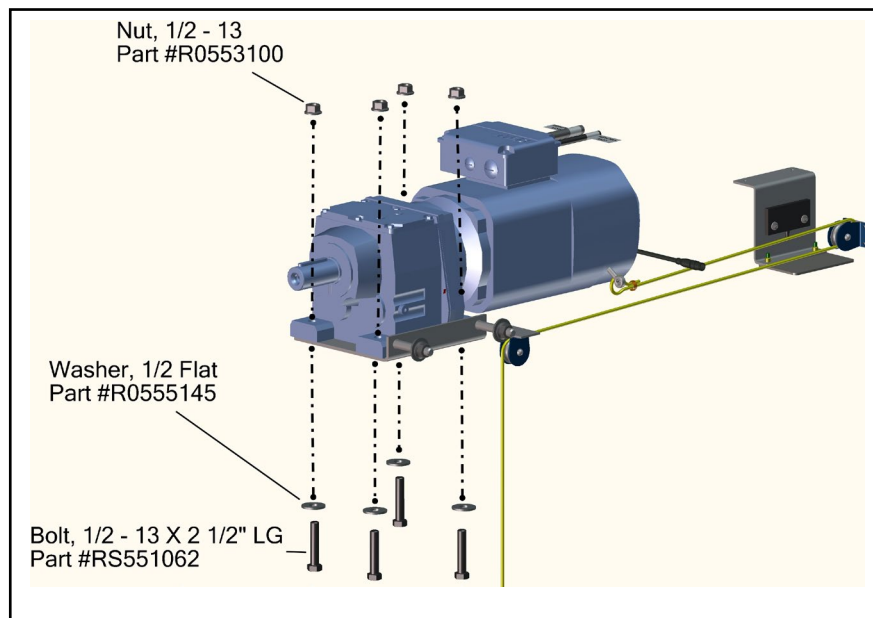
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—HEAD ASSEMBLY

HEAD ASSEMBLY



MOTOR & DRIVE SPROCKET

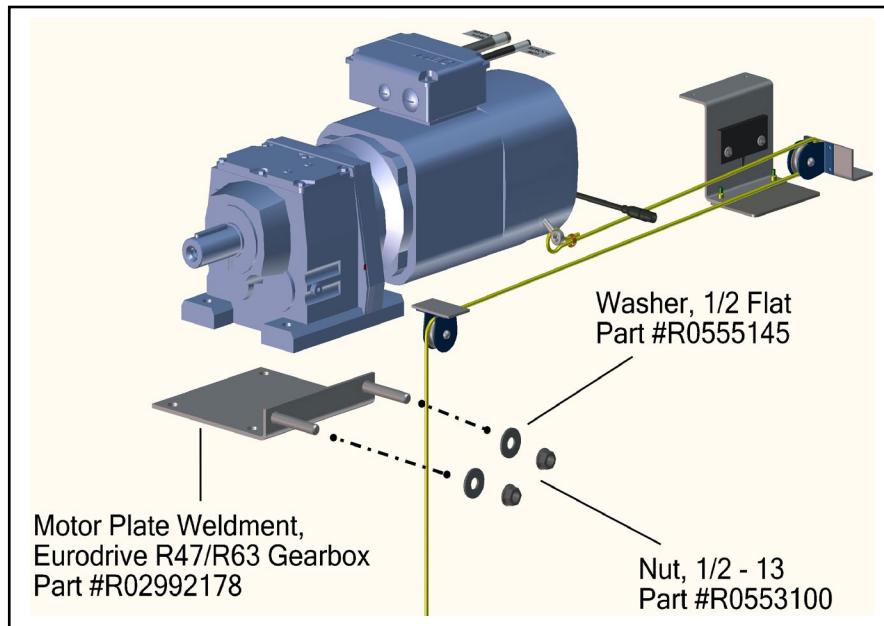


MOTOR HARDWARE

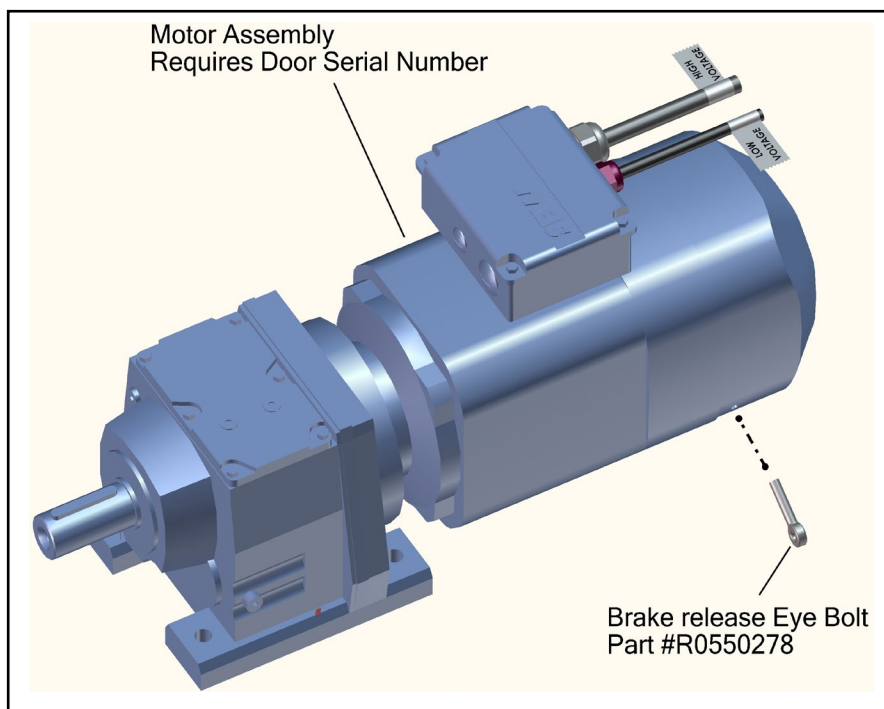
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

HEAD ASSEMBLY



MOTOR MOUNTING PLATE & HARDWARE



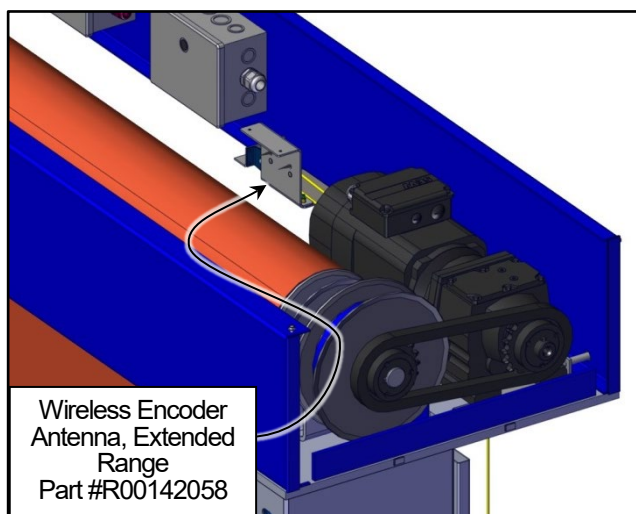
MOTOR ASSEMBLY, BRAKE RELEASE EYE BOLT

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

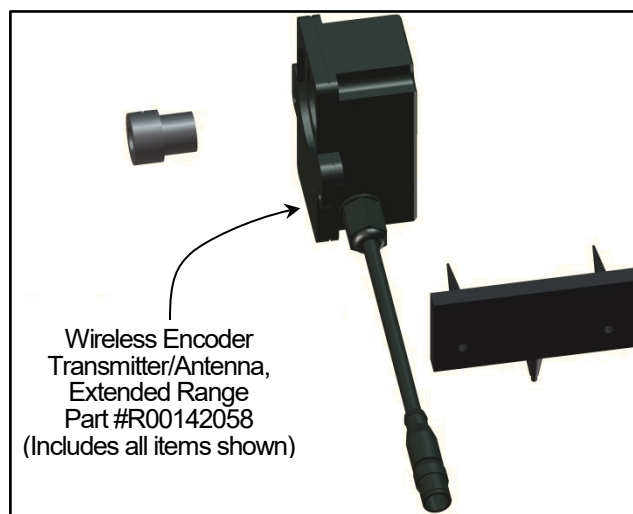
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—HEAD ASSEMBLY

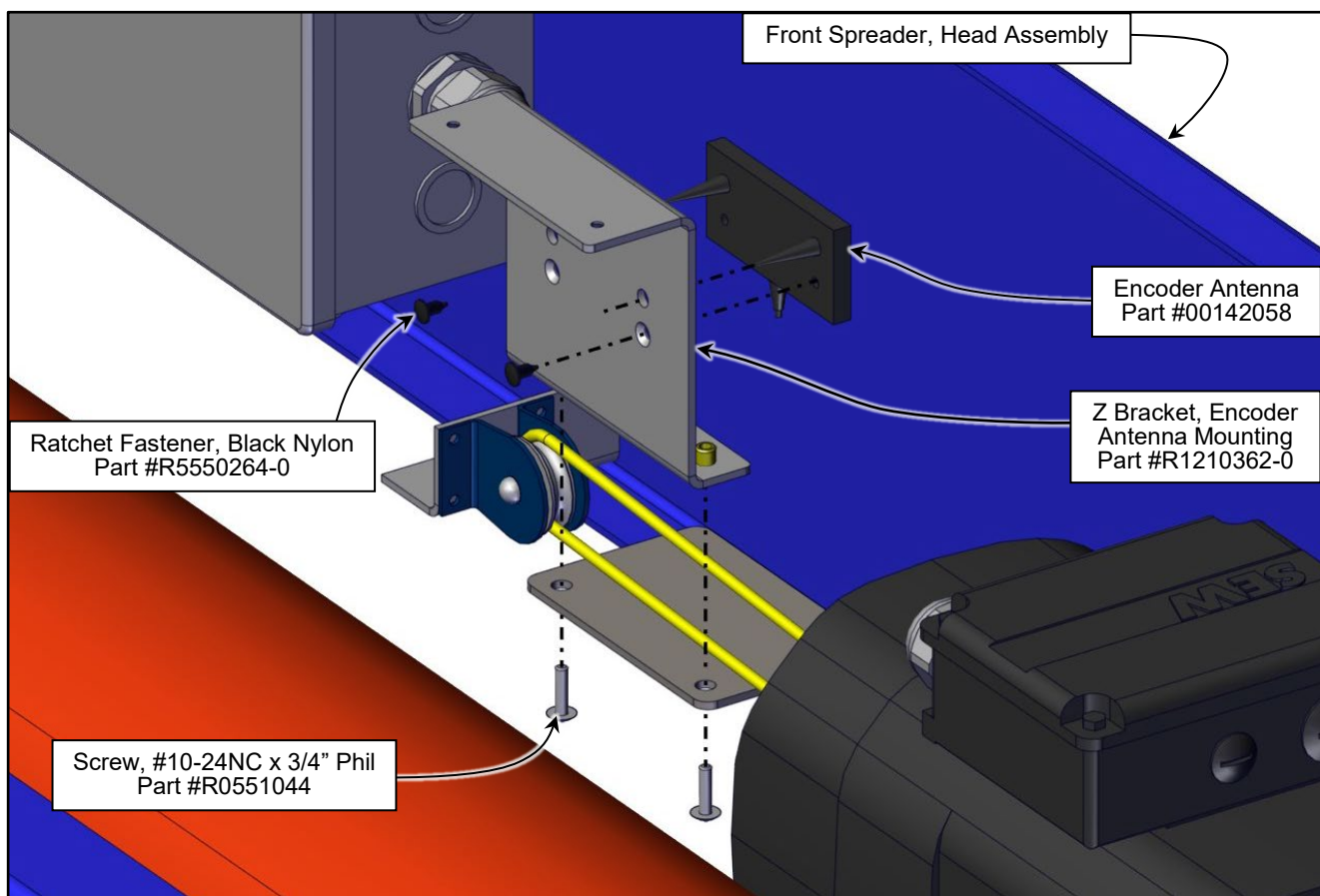
HEAD ASSEMBLY



WIRELESS ENCODER ASSEMBLY LOCATION



EXTENDED RANGE WIRELESS ENCODER ASSEMBLY



ANTENNA, Z BRACKET, & MOUNTING HARDWARE

A/R = as required

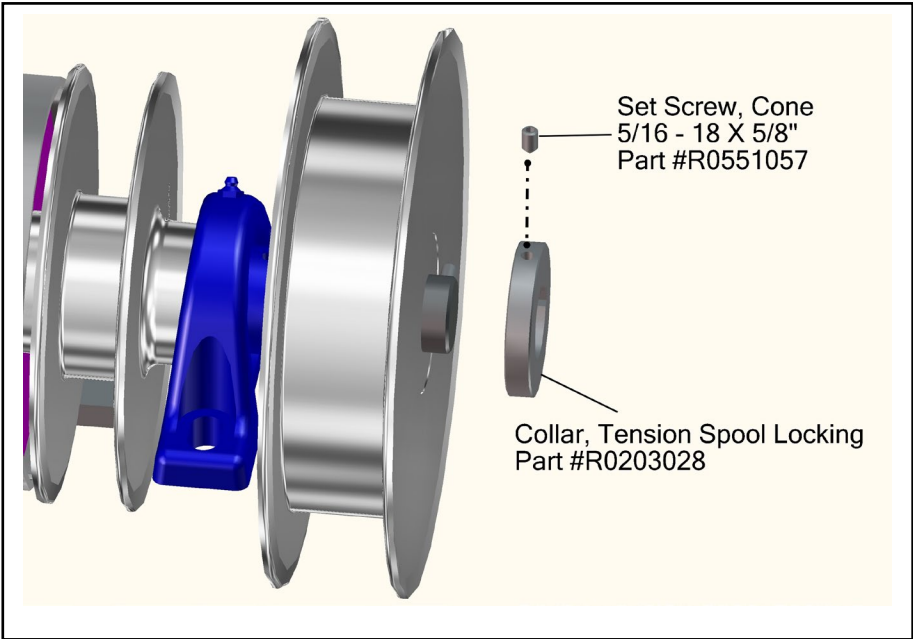
N/A = not applicable to this assembly

**Items are produced based on manufactured height and width of door.*

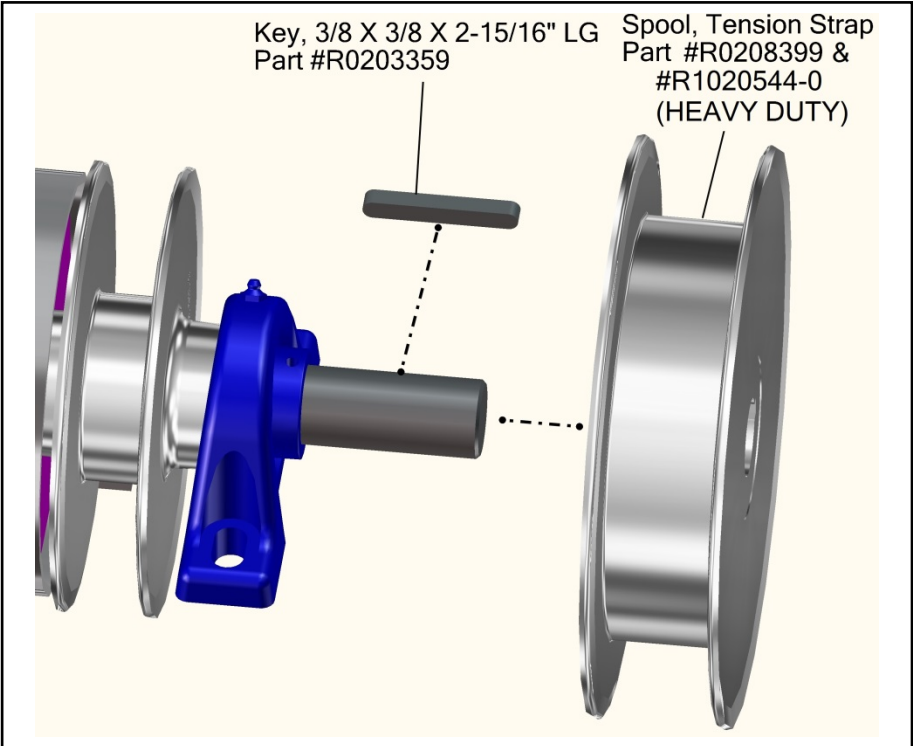
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

HEAD ASSEMBLY



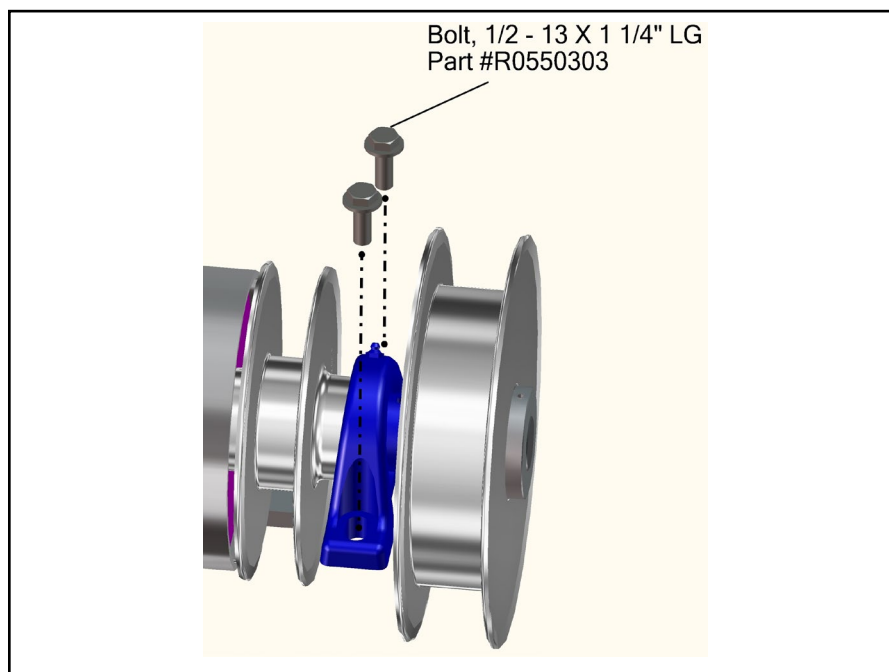
LOCKING COLLAR



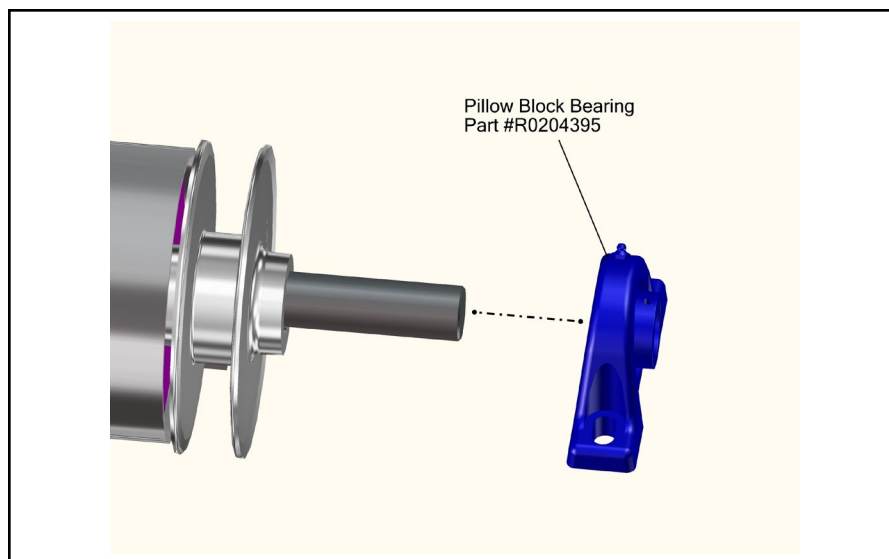
TENSION SPOOL & KEY

PARTS LIST—HEAD ASSEMBLY

HEAD ASSEMBLY



BEARING HARDWARE

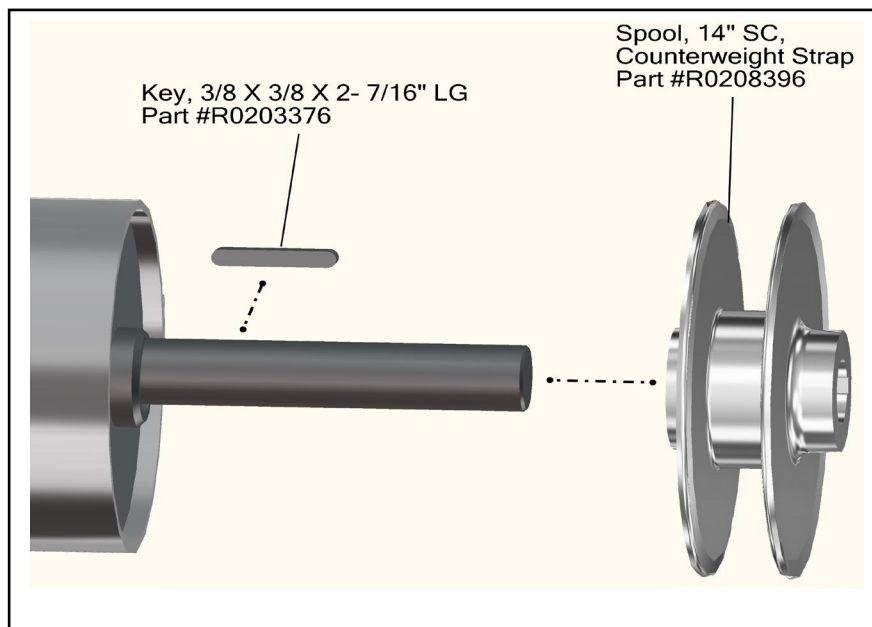


PILLOW BLOCK BEARING

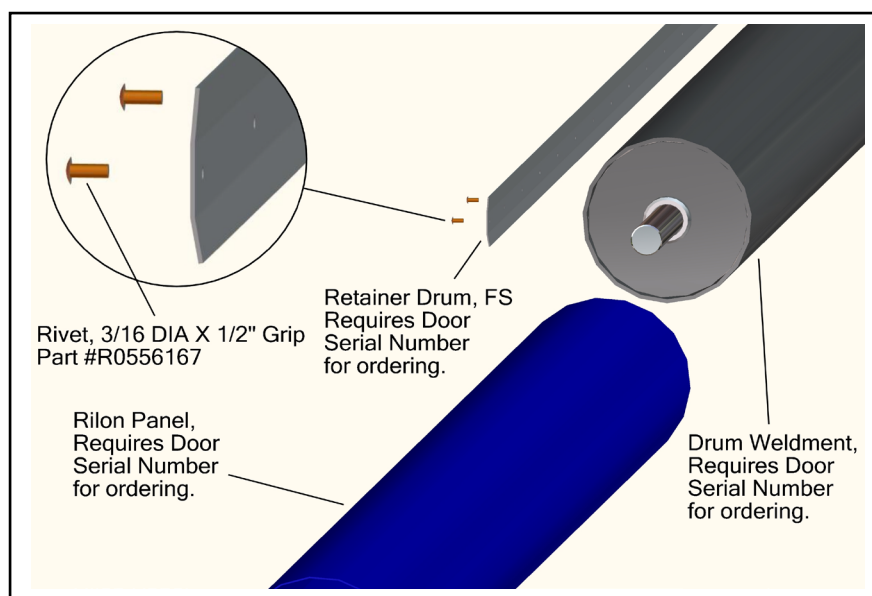
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

HEAD ASSEMBLY



TENSION SPOOL & KEY



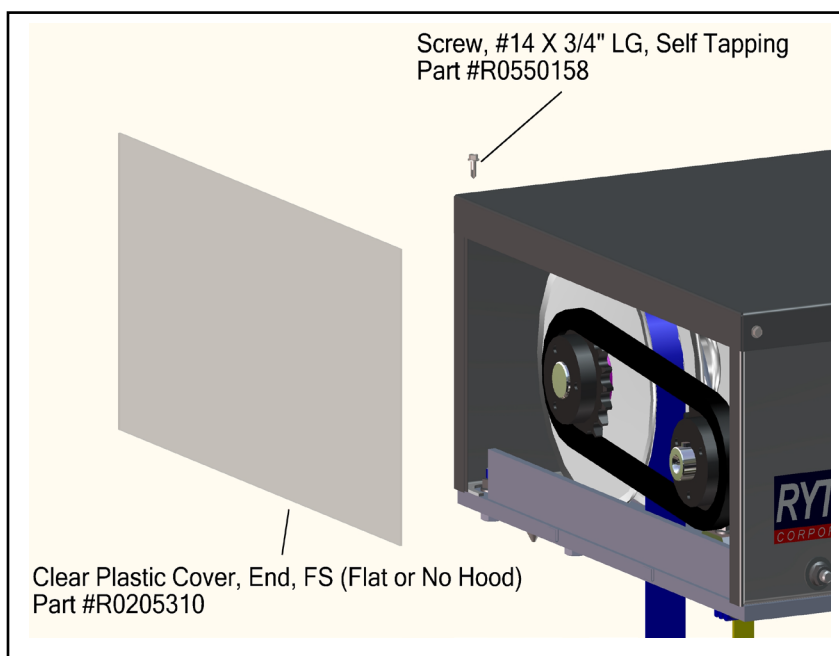
PANEL RIVETS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

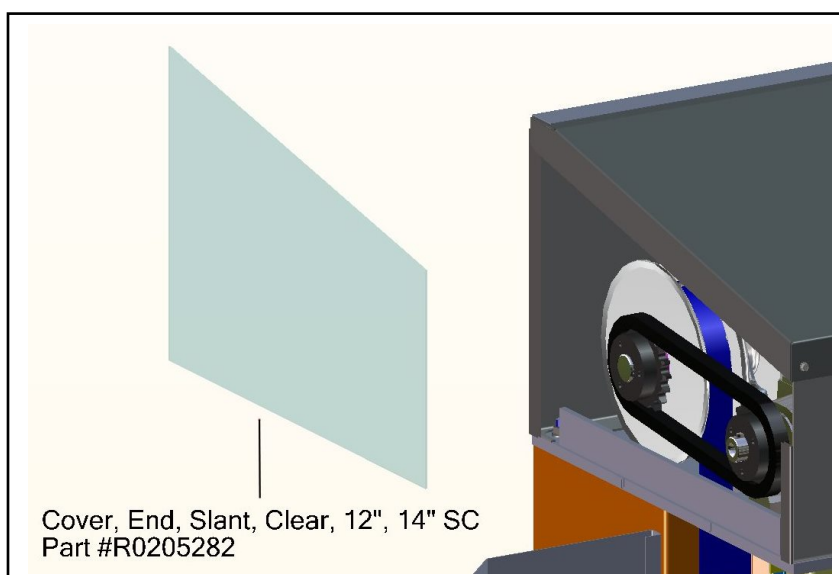
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—HEAD ASSEMBLY

HEAD ASSEMBLY



END COVER FLAT OR NO HOOD 14" SIDE COLUMN

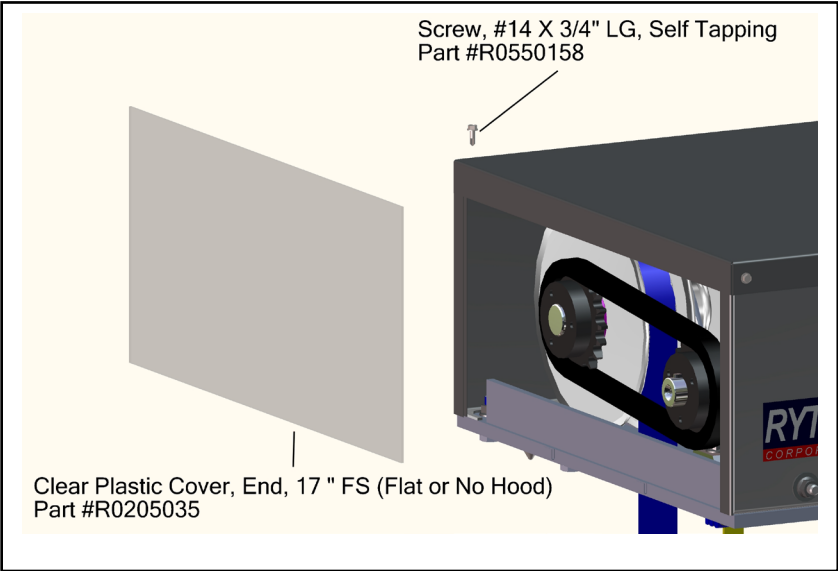


END COVER SLANT HOOD 12" OR 14" SIDE COLUMN

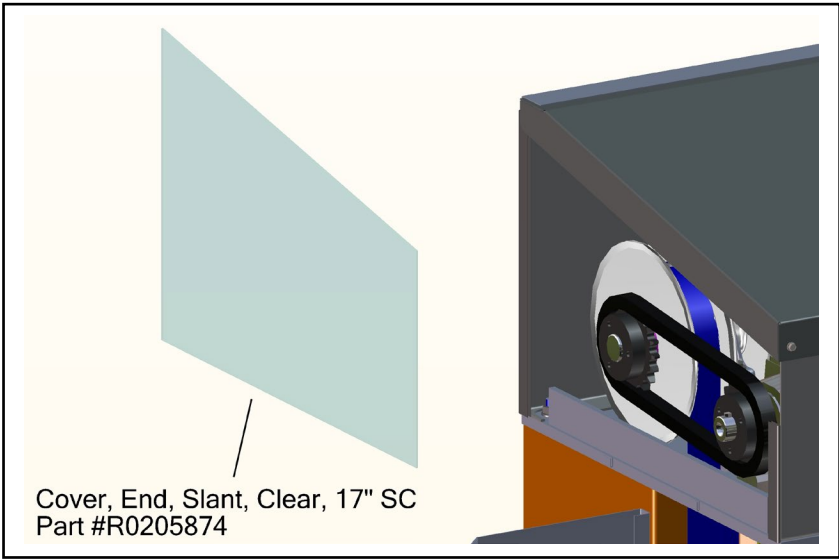
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

HEAD ASSEMBLY



END COVER FLAT OR NO HOOD 17" SIDE COLUMN



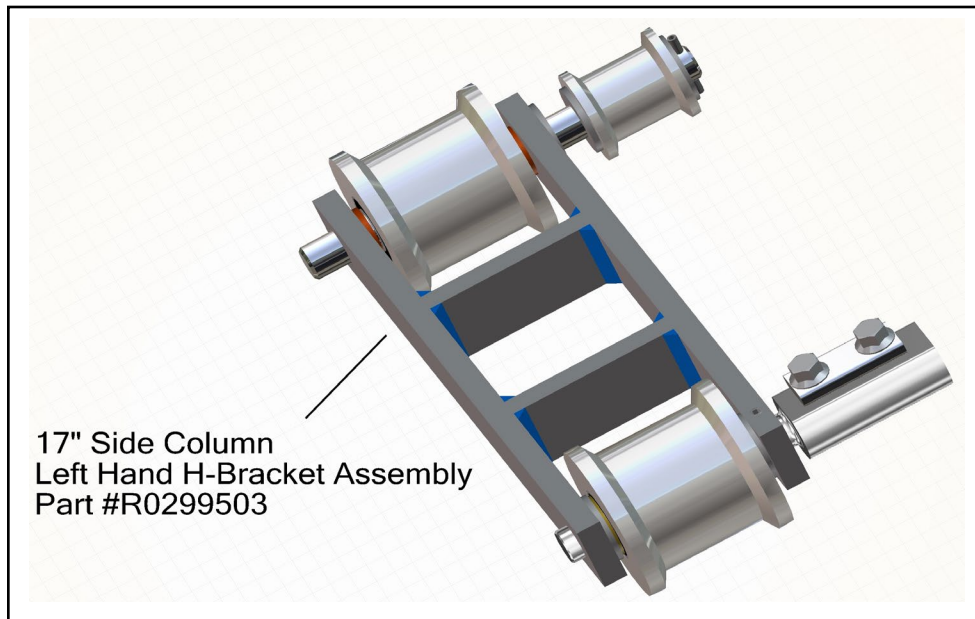
END COVER SLANT HOOD 17" SIDE COLUMN

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

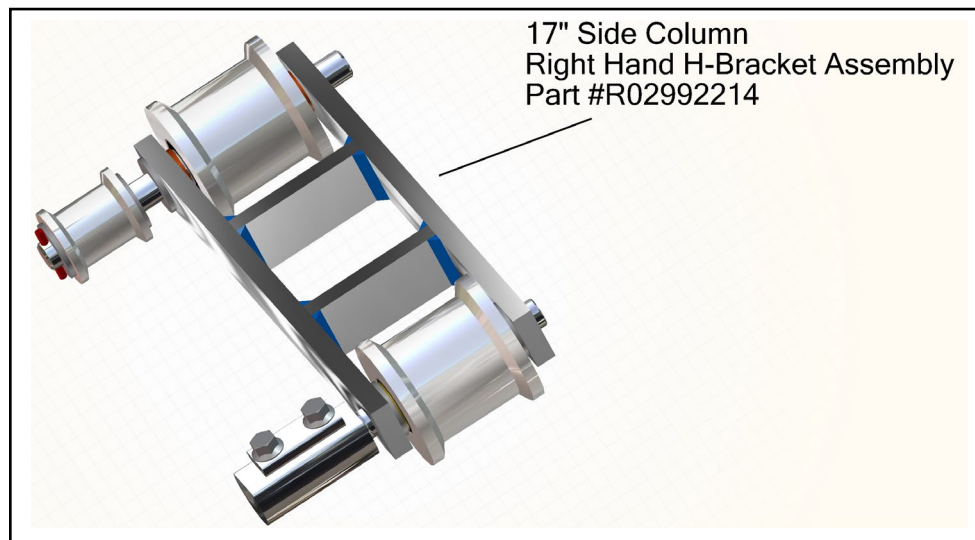
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—17" SIDE COLUMN PARTS

17" SIDE COLUMN PARTS



17" SIDE COLUMN H-BRACKET ASSEMBLY – LEFT HAND



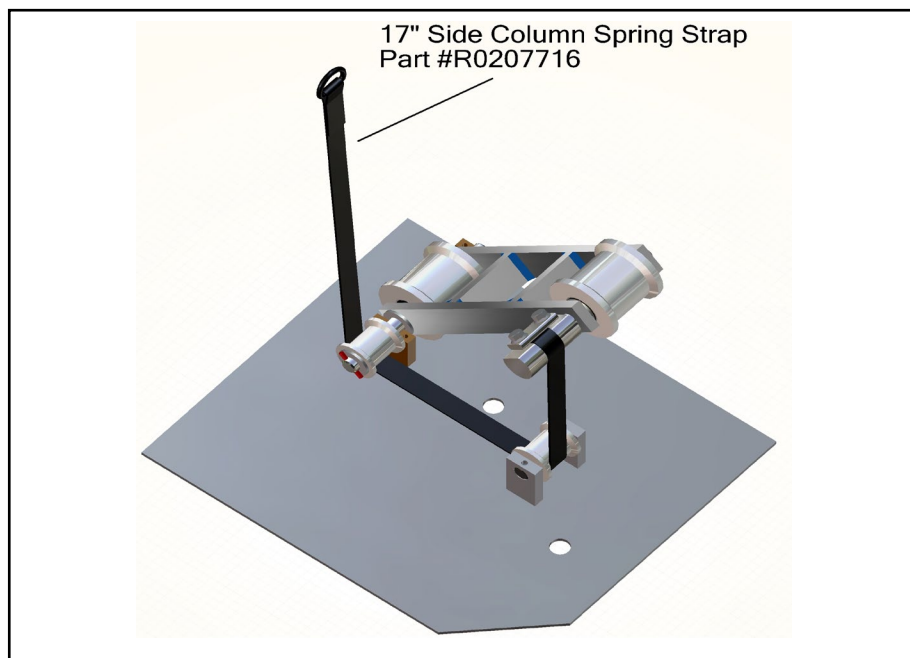
17" SIDE COLUMN H-BRACKET ASSEMBLY – RIGHT HAND

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

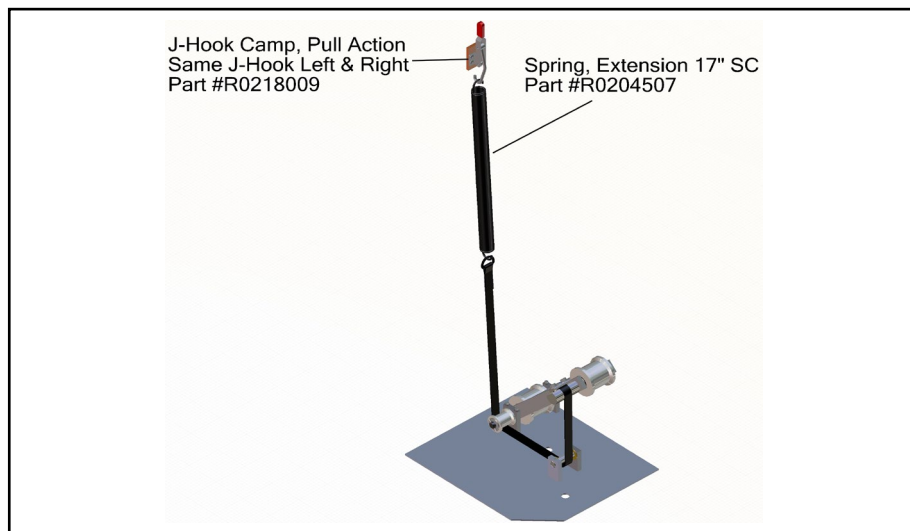
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST—17" SIDE COLUMN PARTS

17" SIDE COLUMN PARTS



17" SIDE COLUMN SPRING STRAP



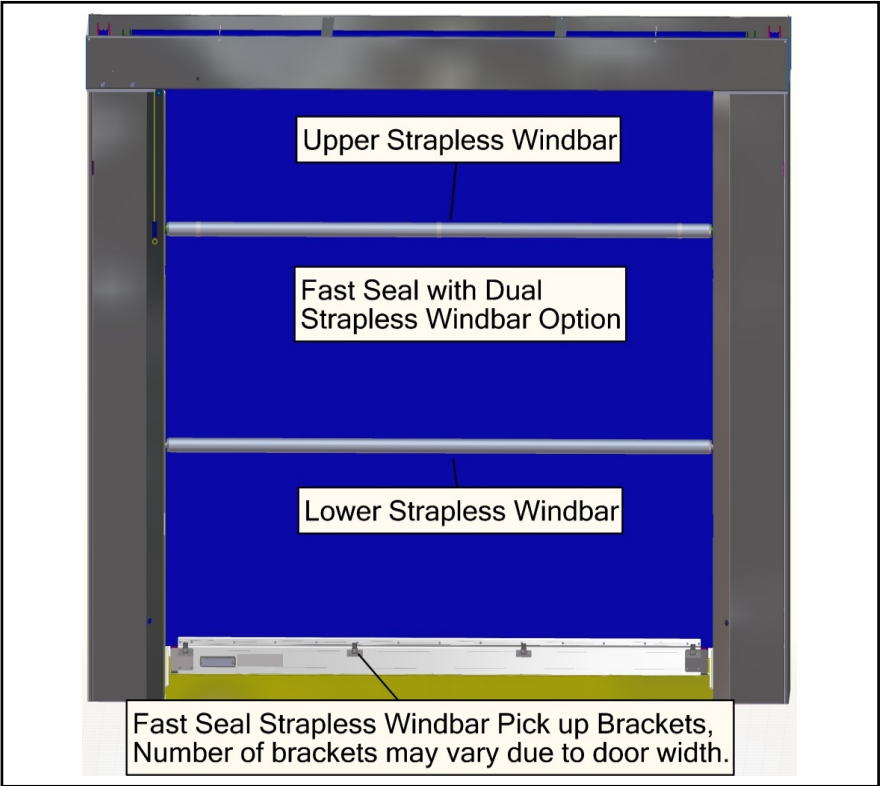
17" SPRING & J-HOOK

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

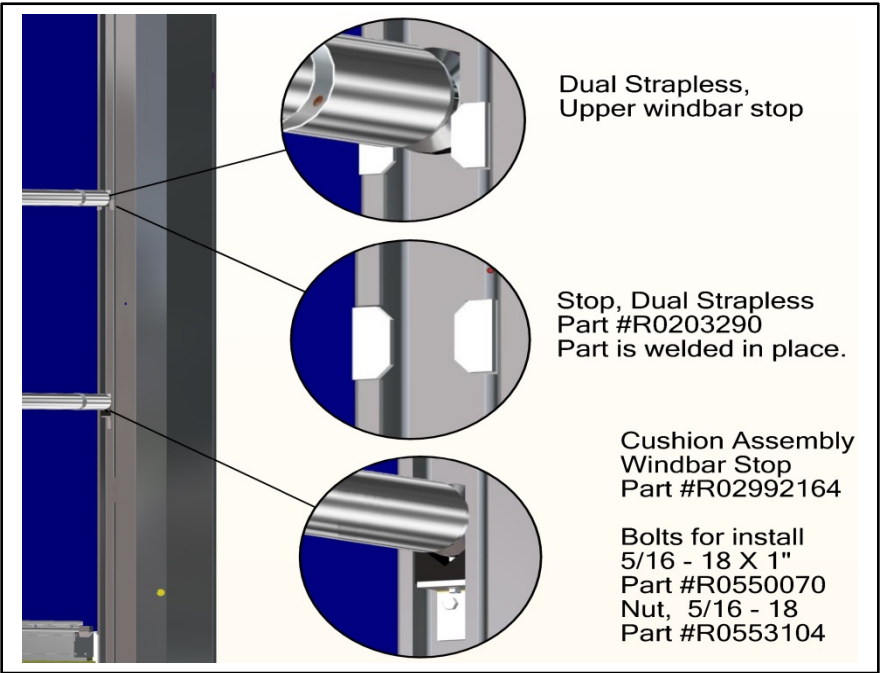
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST— STRAPLESS WINDBARS

STRAPLESS WINDBARS

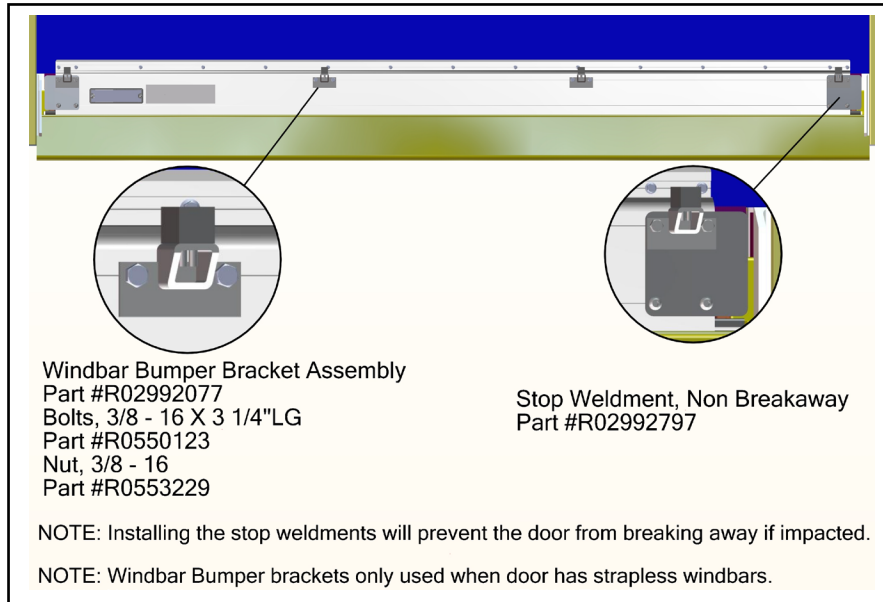


DUAL STRAPLESS WINBARS

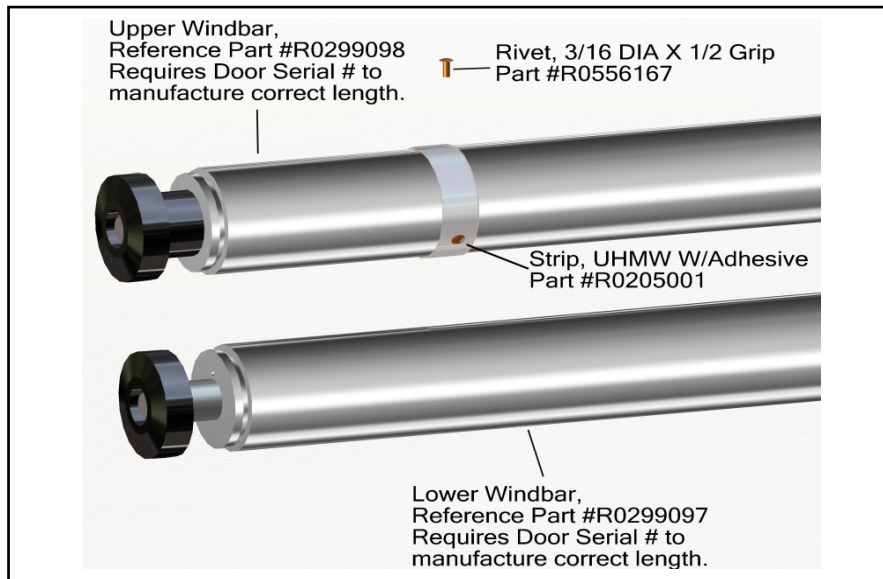


DUAL STRAPLESS WINDBAR STOPS

STRAPLESS WINDBARS



STRAPLESS WINBAR PICK UP BRACKETS



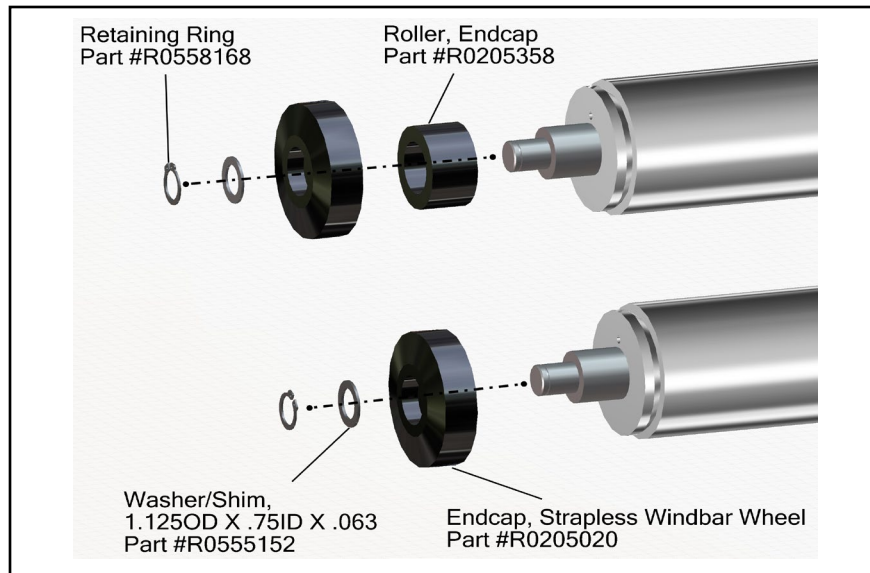
STRAPLESS WINBARS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

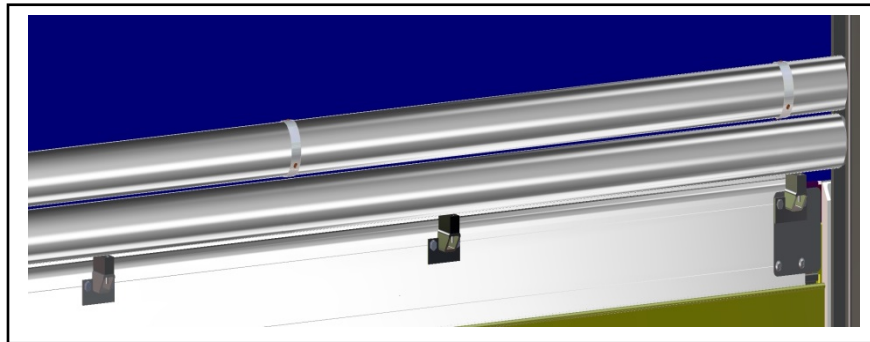
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST — STRAPLESS WINDBARS

STRAPLESS WINDBARS



STARPLESS WINBAR END CAP ROLLERS

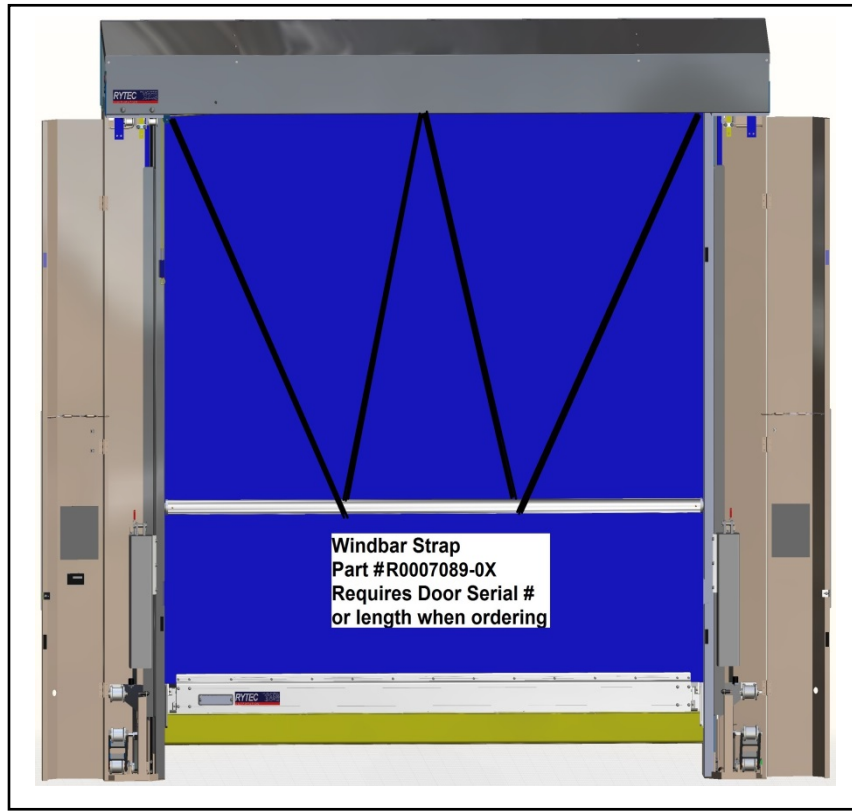


DUAL STRAPLESS WINBARS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

STRAPPED WINDBAR



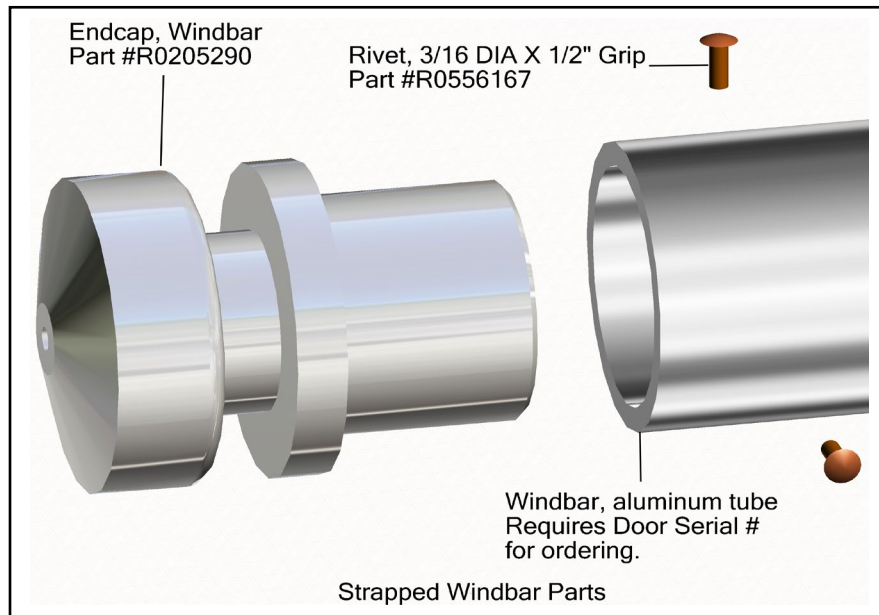
WINDBAR STRAP

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

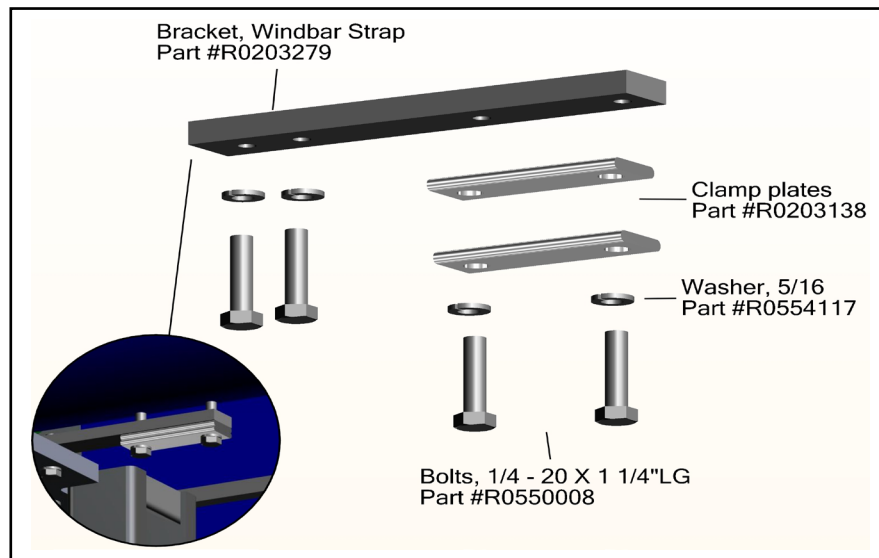
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST— STRAPPED WINDBARS

STRAPPED WINDBARS



STRAPPED WINDBAR END CAP

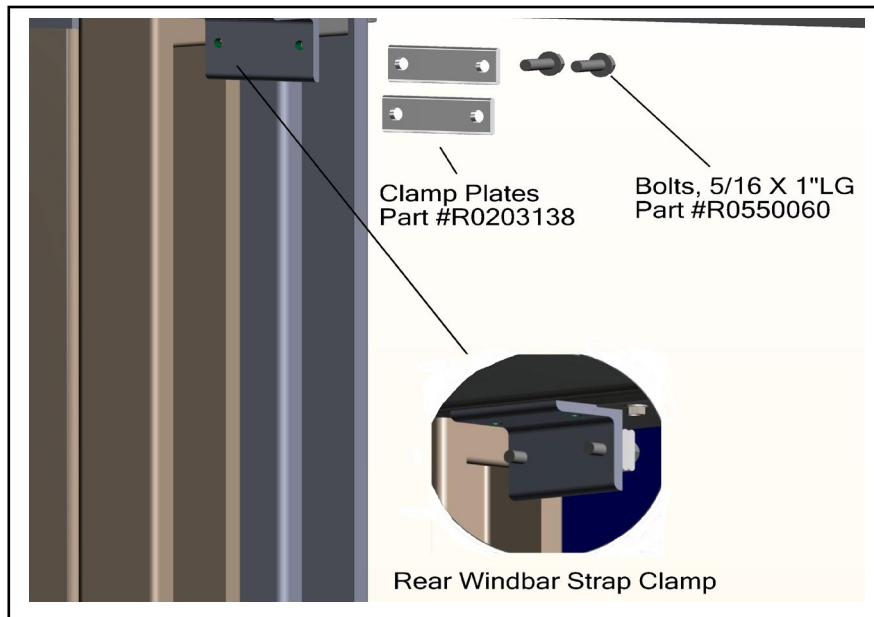


FRONT WINDBAR STRAP CLAMPS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

STRAPPED WINDBARS



REAR WINDBAR STRAP CLAMPS

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST— Common Spare Parts & Older Model Fast Seal Door Parts

Common Misc Parts

R0211397 Air Pressure Switch

R00111193 Battery Wireless

R0012242 Falcon Motion Detector

R0012867 IS40 Motion/Presence Detector

R0012145 BEA Universal Remote

R0012210 Pull Cord/Wall Switch

R00121002 Pushbutton, Black Mushroom

R00141087 Photo Eye, Telco3000, Transmitter

R00141088 Photo Eye, Telco 3215, Receiver

R0012053 Photo Eye Cable 50 Feet Long

***R00142058** Encoder, Wireless 36" Antenna, Extended Range, has 250K Bit on Decal of encoder. This unit works with mobile unit part #R00142057.

***R00142057** Mobile Unit, Extended Range Wireless, look at wireless encoder for 250K Bit on Decal of encoder. This unit works with Encoder part #R00142058.

***R00141057** Encoder, Wireless 36" Antenna, Standard Range, NO 250K Bit on decal. This unit works with mobile unit part #R00141058.

***R00141058** Mobile Unit, Standard Range Wireless, label on wireless encoder will NOT have 250K bit on decal. This unit works with wireless encoder part #R00141057.

***Mobile and Encoder units are not interchangeable. They must both be either standard or extended range units. If changing the units between the Standard Range and Extended Range, both the wireless encoder and mobile unit will need to be replaced to update the wireless system.**

R0205017 White Slider Pad

R0204018 Kill Switch/Ajar – Short Cable

R0204019 Kill Switch/Ajar – Long Cable

R1060119-0 Gasket, Wireless Cover

R1060116-0 Wireless Cover, Doesn't Include Mobile Unit

R00142058 Encoder Wireless Extended Range 36" Antenna Includes Antenna, Antenna Not Sold Separately.

R1210173-0 Pathwatch™ LED Warning Strip

R00141122 Resistor 8.2K

R1060061-0Z01 Standard Metal Bottom Bar Cover Non RY WI

R0099008 Rylon Repair Kit, Please Specify Color When Ordering

Older Model Fast Seal Door parts:

R0704075 Coil Cord, 4 Wire, 24" Long, Black

R0704035 Coil Cord, 4 Wire, 36" Long, Black

R0204893 Coil Cord, 4 Wire, 48" Long, Black

R0204022 Coil Cord, 4 Wire, 60" Long, Black

R0014824 Cord Grip ½" NPT 90 Degree Black

R0211397 Air Pressure Switch

R00141005 Resistor 1.2K Ohm

R0204103 Limit Switch Assembly, 2 Contact Rotary

R0204563 Rotary Limit Switch Chain, Chain, #25, 88 Pitches, 22.0"

R0204566 Master Link, #25 Chain

R0012086 Digital Gateway 1200 – No Longer Available

R0012088 Digital Gateway 1215 – No Longer Available

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

