# R Y T E C

Fast-Seal<sup>®</sup>

# Owner's Manual



P.O. Box 403, One Cedar Parkway, Jackson, WI 53037 Phone: 262-677-9046 Fax: 262-677-2058 Rytec Website: <u>www.rytecdoors.com</u> Rytec On-line store: <u>www.rytecparts.com</u> Rytec E-mail: <u>helpdesk@rytecdoors.com</u> Parts E-mail: <u>Parts@rytecdoors.com</u> [Revision: October 22nd, 2014, R0215002, @Rytec Corporation 2005

# FAST SEAL MODELS (FS1000 & FS1500) 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 **One (1) Year** from the date of shipment of the Product from the Seller's plant ("Shipment").
- Electrical components for a period of One (1) Year from Shipment.
- Standard door panels, including FS1000 Standard 2-ply Rilon, for Three (3) Years from Shipment.
- Standard door panels, including FS1500 Standard 3-ply Rilon, for Five (5) Years from Shipment.
- Optional door panels, including Optional Screen, for a period of One (1) Year from shipment.
- Coil Cords, Vinyl Loop Seal, Vision Windows, Wireless Mobile Unit Batteries, Velcro<sup>™</sup> 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 ARIS-ING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES OF LAW, WITH RESPECT TO THE PRODUCTS SOLD OR SER-VICES RENDERED BY THE SELLER, OR ANY UNDERTAKINGS, ACTS, OR OMISSIONS RELATING THERETO.

**LIMITATION OF LIABILITY**. IN NO EVENT WILL SELLER BE RESPONSIBLE FOR, OR LIABLE TO ANY-ONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL DAM-AGES, EVEN IF SELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Such excluded damages include, but are not limited to, personal injury, damage to property, loss of goodwill, loss of profits, loss of use, cost of cover with any substitute product, interruption of business, or other similar indirect financial loss.

**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.

© Rytec Corporation 12.12.2012

# TABLE OF CONTENTS

INTRODUCTION1
DOOR SERIAL NUMBER(S)1
HOW TO USE MANUAL1
GENERAL ARRANGEMENT OF DOOR COMPONENTS2
OPERATION
CONTROL PANEL
PHOTO EYES2
BOTTOM BAR ASSEMBLY3
Breakaway Capability3
Resetting Bottom Bar Assembly3
Reversing Edge5
POWER DRIVE SYSTEM5
COUNTERBALANCE SYSTEM6
PLANNED MAINTENANCE
RECOMMENDED SCHEDULE6
DAILY INSPECTION7
Damage Inspection7
Door Operation8
Reversing Edge Switch Test8
Photo Eye Test8
QUARTERLY INSPECTION8
Mounting Hardware8
FABRIC DRUM8
HEAD ASSEMBLY9
SIDE COLUMN9
BOTTOM BAR9
Fabric Panel Inspection9

Weather Seal Inspection and Replacement1	0
HEAD ASSEMBLY1	0
SIDE COLUMNS	10
Door Open and Close Limit Position Inspection	0
CLOSE LIMIT POSITION	10
OPEN LIMIT POSITION1	0
Drive Chain Inspection1	1
Bottom Bar Assembly Inspection1	1
Ajar/Kill Switch Inspection	11
Breakaway Assembly and End Bracket Inspection	12
Counterweight Inspection	13
Door Tension Inspection	14
Windbar Inspection	15
STRAPPED WINDBAR (IF INSTALLED)	15
STRAPLESS WINDBAR (IF INSTALLED)	16
Control Panel and Activator Inspection	16
Electrical Connection Inspection	16
Lubrication	16
Wall Anchor Inspection	18
Safety Decal Inspection	.18
ADJUSTMENTS	18
PHOTO EYE ADJUSTMENT	18
Testing Photo Eyes	19
Troubleshooting	19
BOTTOM BAR ASSEMBLY ADJUSTMENT	20
Spring Plunger Adjustment	20
Pneumatic Reversing Edge Switch Adjustment	20
REVERSING EDGE SWITCH AIR BLEED CHECK	20
REVERSING EDGE SWITCH SENSITIVITY ADJUSTMENT	21

Kill Switch Troubleshooting	21
MOTOR BRAKE ADJUSTMENT	21
DRIVE CHAIN ADJUSTMENT	22
COUNTERWEIGHT STRAP ADJUSTMENT	23
TENSION STRAP ADJUSTMENT	24
STRAPPED WINDBAR ADJUSTMENT (OPTIONAL)	26
REPLACEMENT PROCEDURES	27
WINDBAR STRAP REPLACEMENT	27
SPRING STRAP REPLACEMENT	29
TENSION STRAP REPLACEMENT	30
COUNTERWEIGHT STRAP REPLACEMENT	31
PARTS LIST	33
PARTS ORDERING INFORMATION	33
How to Order Parts	33
DOOR SERIAL NUMBER(S)	33
Substitute Parts	33
Return of Parts	33
END BRACKET ASSEMBLIES	34 - 36
BOTTOM BAR ASSEMBLIES	37 – 41
Air Switch, Battery, Mobile Unit	38
L – Block Assemblies	40 -41
COUNTERWEIGHT ASSEMBLIES	42
SIDE COLUMNS	43 – 49
H – Bracket Assemblies 14" Side Column	45
Straps - Counterweight, Tension, Spring	46
Pathwatch LED	48
Brake Release Parts	49
HEAD ASSEMBLY	50 – 58
Sprockets	51

Wireless Encoder & Antenna	53
Spools – Counterweight, Tension	54 - 55
17" SIDE COLUMN PARTS	59 – 60
H- Bracket Assemblies 17" Side Column	59
Spring Strap	60
STRAPLESS WINDBARS	61 - 63
STRAPPED WINDBARS	64 - 66

# INTRODUCTION

The information contained in this manual will allow you to operate and maintain your Rytec Fast-Seal<sup>®</sup> 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 UNDER-STAND 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 at the inside the left side column (approximately eye level), on the drive motor, and on the inside of the System 4 control panel. (See Figure 1.)

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

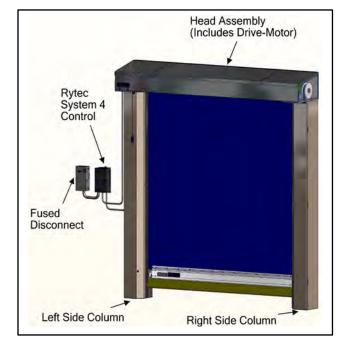


Figure 1

# HOW TO USE MANUAL

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

# **WARNING**

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.

# **OPERATION—GENERAL ARRANGEMENT OF DOOR COMPONENTS**

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.)

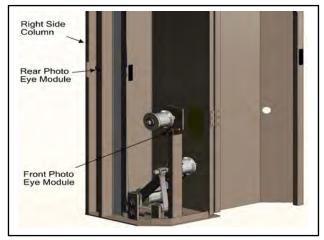


Figure 3

# **BOTTOM BAR ASSEMBLY**

The bottom bar assembly provides two functions: breakaway 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.)

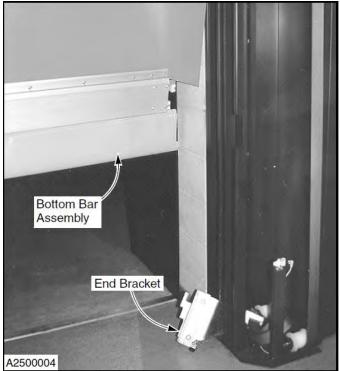


Figure 4

#### **Resetting Bottom Bar Assembly**



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

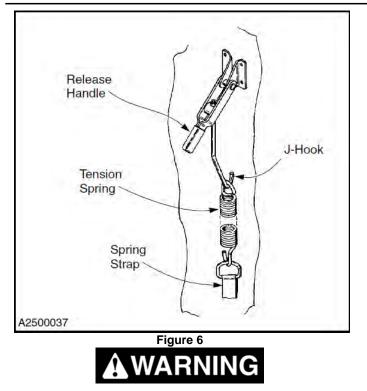
- 1. Turn off the power to the door.
- 2. Open the side column cover.
- 3. Slide the door panel fabric back between the seals in the side column. (See Figure 5.)



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.)

# **OPERATION—BOTTOM BAR ASSEMBLY**



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.)

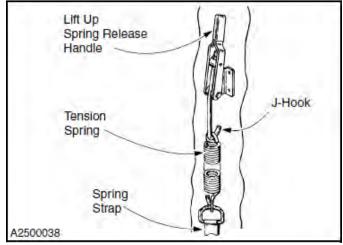


Figure 8

# **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.)

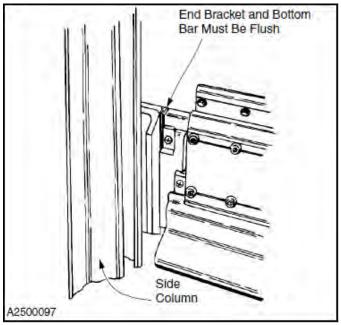


Figure 9

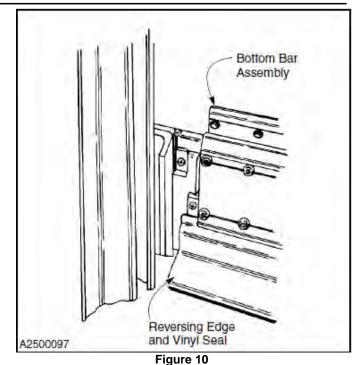
- 10. Close and fasten the side column cover.
- 11. Restore electrical power and push and Hold the RESET to clear the DOOR AJAR error.
- NOTE: Anytime the bottom bar breaks away from either end bracket, a kill switch is activated. After the end brackets are reattached, the control panel must be reset 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.



# 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.)

# PLANNED MAINTENANCE—COUNTERBALANCE SYSTEM

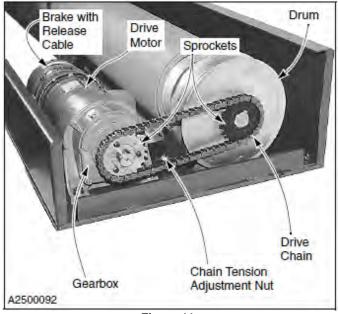


Figure 11

#### **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.)

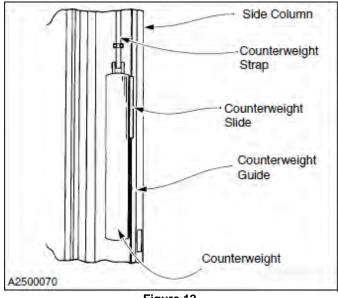


Figure 12

# PLANNED MAINTENANCE

#### **RECOMMENDED SCHEDULE**

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

Table 1

	Daily	Quarterly
Damage Inspection		
Door Operation	1	· · · · · · · · · · · · · · · · · · ·
Reversing Edge Switch Test	· · · · ·	1
Photo Eye Test		1
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		1
Lubrication		
Wall Anchor Inspection		
Safety Decal 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.)

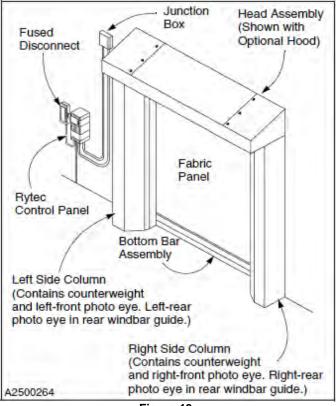


Figure 13

*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.

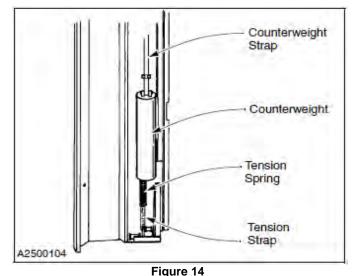
**Door Panel Seals:** Inspect door panel seals between windbar guides for holes, tears, and worn areas.

*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.)



**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.)

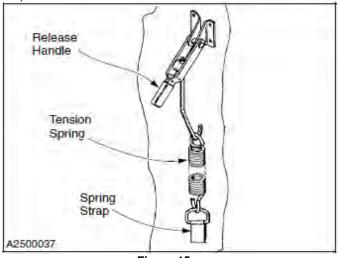


Figure 15

#### **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.
- 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.

 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.

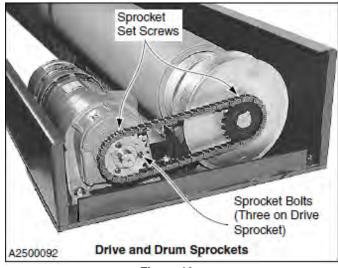


Figure 16

#### HEAD ASSEMBLY

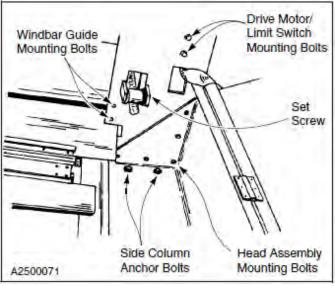


Figure 17

SIDE COLUMN

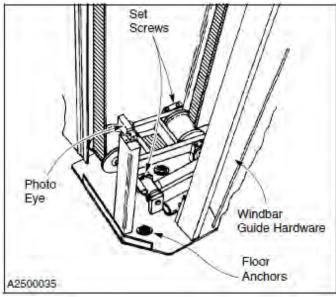


Figure 18

#### BOTTOM BAR

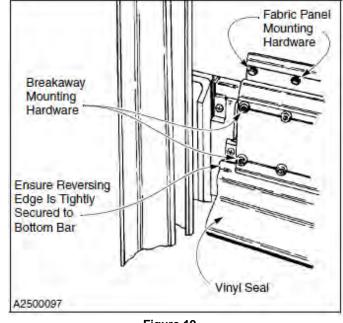


Figure 19

3. Turn on the power to the door.

#### **Fabric Panel Inspection**

1. Turn off the power to the door.



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.



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 <sup>1</sup> <sup>2</sup> to 1 in. from the bottom of the side column. (See Figure 21.)

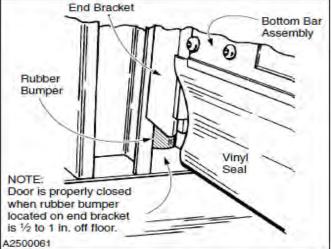


Figure 21

#### **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.



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  $^{1\!/}{}_{4}$  in. at the center of the chain.

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

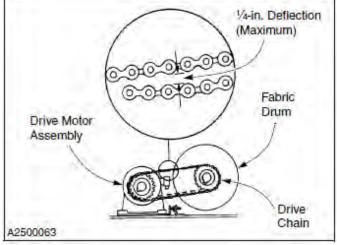


Figure 23

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.



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.)

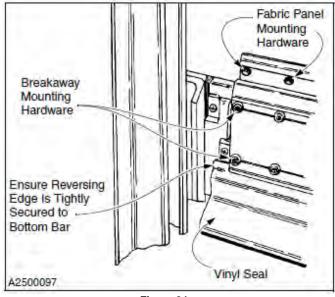


Figure 24

- 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.



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

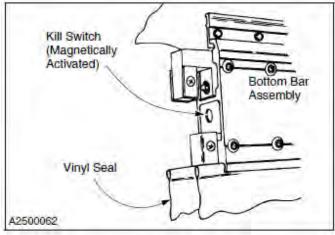
- 1. Position the door panel so that the bottom bar assembly is at a comfortable working height.
- 2. Push on one end of the bottom bar assembly to disconnect it from the end bracket. It should not be possible to operate the door through the control panel.

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<sup>®1</sup> 495, or an equivalent adhesive to secure them in place. (See Figure 25.)

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





# 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.)

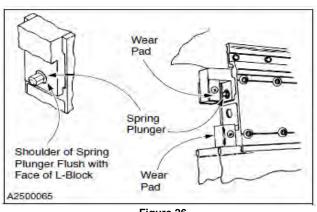


Figure 26

 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.)

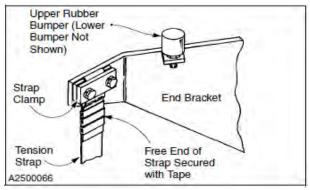


Figure 27

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

<sup>1.</sup> 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.)

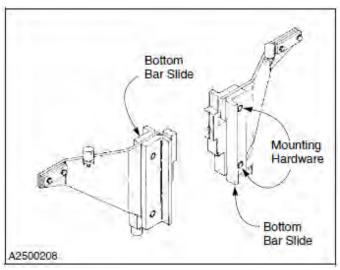


Figure 28

- 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.



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

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

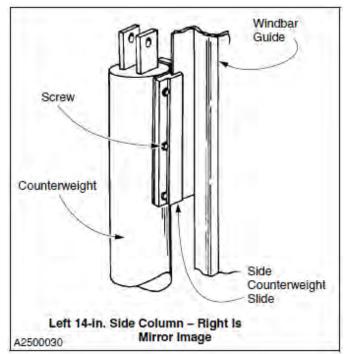


Figure 29

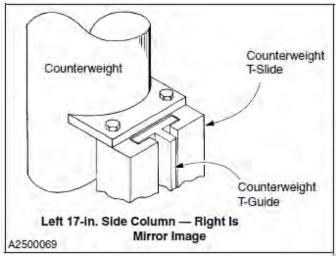


Figure 30

 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.)

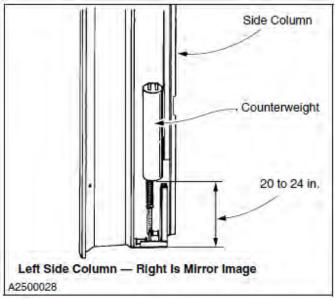


Figure 31

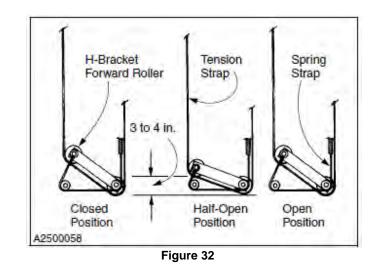
- If a strap has stretched to the point where the counterweight is not in the position as shown in Figure 31, reposition the counterweight by adjusting the strap. (See "COUNTERWEIGHT STRAP ADJUST-MENT" on page 23.)
- Inspect each counterweight strap for wear and tear. Make sure the straps track smoothly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

#### **Door Tension Inspection**



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.
- 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.)



 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 ADJUST-MENT" 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.

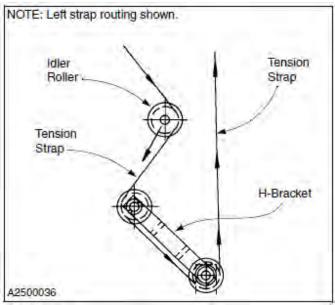


Figure 33

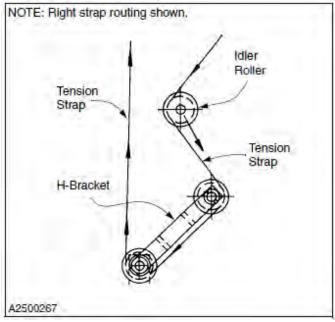


Figure 34

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

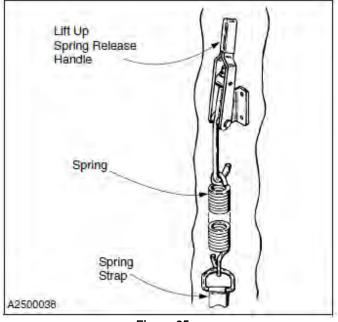


Figure 35

#### 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.)
- 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.

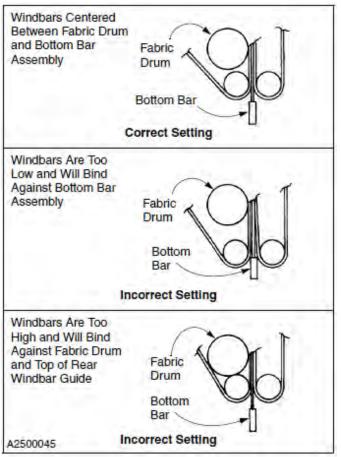


Figure 36

- 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.



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

- 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.



- 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

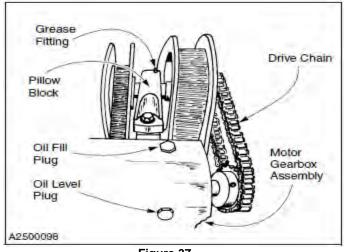
1. Turn off the power to the door.



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





- 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°F. (See Figure 37.)
- 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 goodquality grade of heavy lubricating oil. (See Figure 38.)

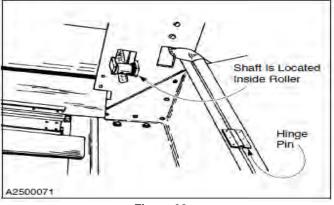
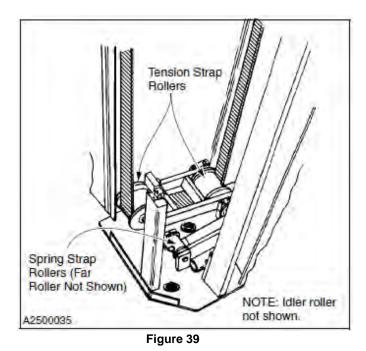


Figure 38

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.)



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.)

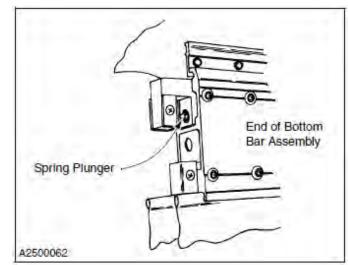


Figure 40

8. Turn on the power to the door.

#### Wall Anchor Inspection

1. Turn off the power to the door.



- 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 <sup>1</sup>/<sub>4</sub>-inch window to see the green or yellow LED light.



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

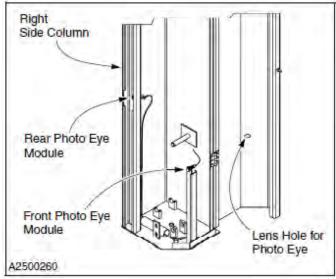
If any of the lights are not lit, check to make sure that power is turned on and that all wiring has continuity and is installed and connected correctly. If the green light is on but the yellow light is off, check the alignment of the transmitter and receiver modules and clean each eye using window cleaner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

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



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.)





- 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.

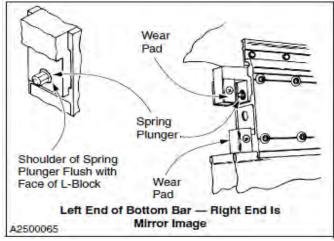


Figure 45

- 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 <sup>5</sup>/<sub>16</sub>-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

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.)

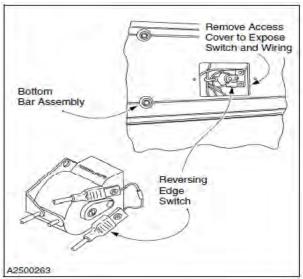


Figure 46

- 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.)

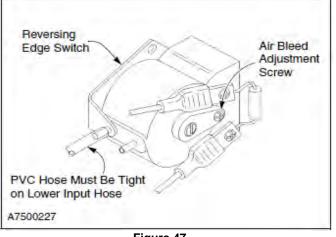


Figure 47

# REVERSING EDGE SWITCH SENSITIVITY ADJUSTMENT

- 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.)

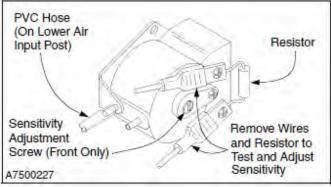


Figure 48

- 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.

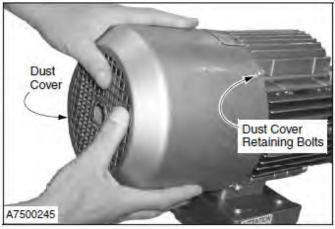


Figure 49

3. Remove sealing band. (See Figure 50.)

# ADJUSTMENTS—DRIVE CHAIN ADJUSTMENT

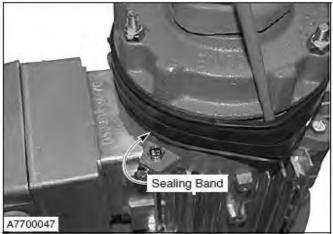


Figure 50

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



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

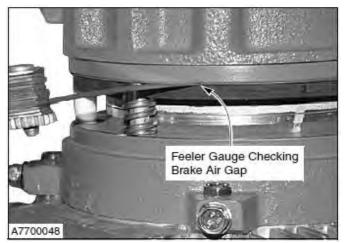


Figure 52

- 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.



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.)

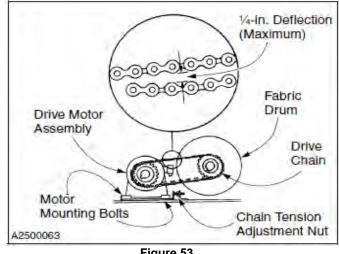


Figure 53

- 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



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

- 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.

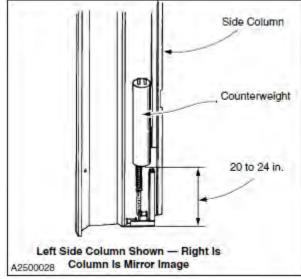


Figure 54

- 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)

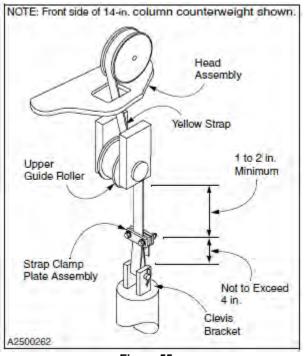


Figure 55

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.)

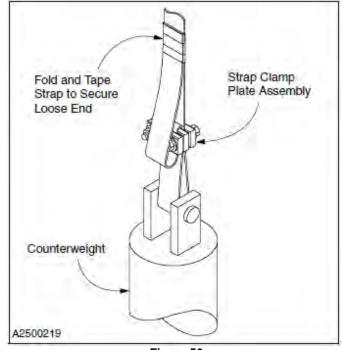


Figure 56

- 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.



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.



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

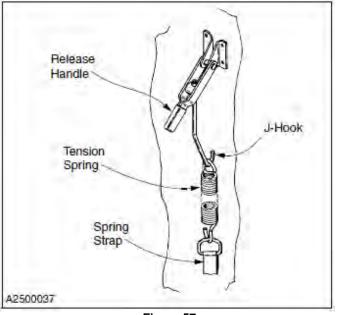


Figure 57

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

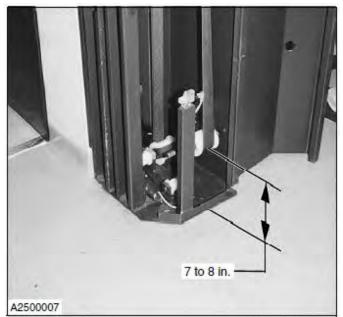
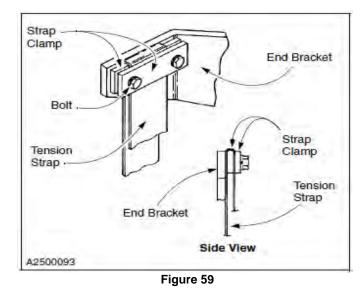


Figure 58

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



- 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.)

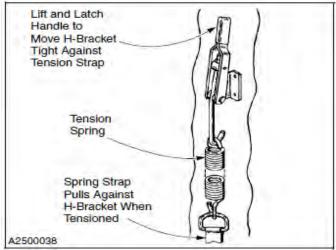


Figure 60

- 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 <u>have dropped below the 7 to 8 in. described in step</u> 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.

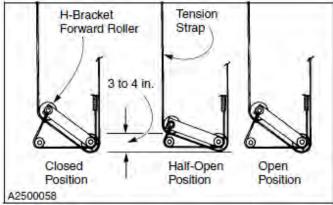


Figure 61

15. Turn off the power to the door.



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.

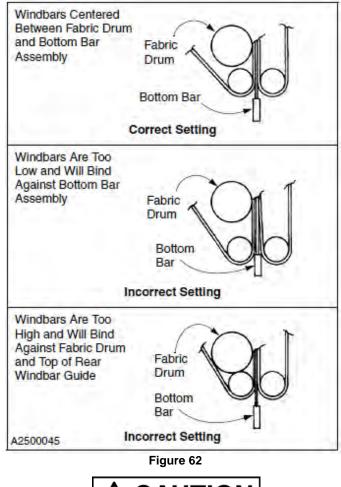
### STRAPPED WINDBAR ADJUSTMENT (OPTIONAL SYSTEM)

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



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.



**A**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**

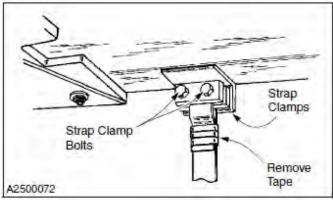
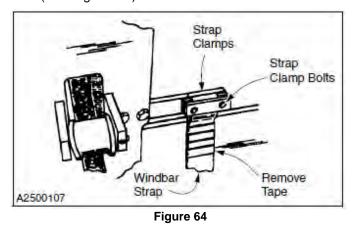


Figure 63

 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.)



6. Turn on the power to the door.

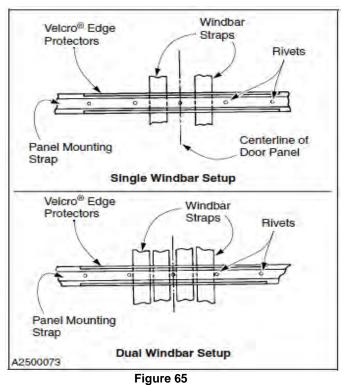
# **REPLACEMENT PROCEDURES**

#### WINDBAR STRAP REPLACEMENT

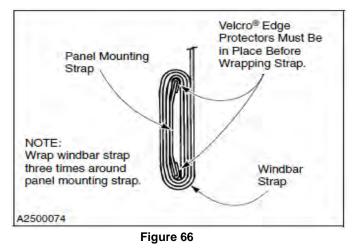
- 1. Move the door to the fully closed position. The panel mounting strap should be visible along the front of the fabric drum.
- 2. Turn off the power to the door.



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)



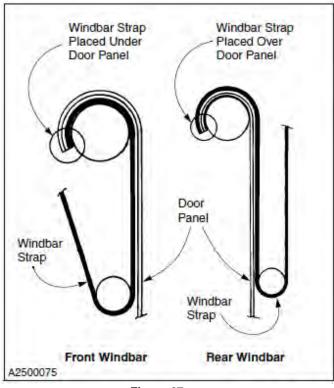
 Remove the old strap. Then install the new strap by first wrapping it around the panel mounting strap three times, as shown in Figure 66. Make sure the Velcro<sup>®1</sup> edge protectors are in place. (See Figure 66.



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

# **REPLACEMENT PROCEDURES—WINDBAR STRAP REPLACEMENT**

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

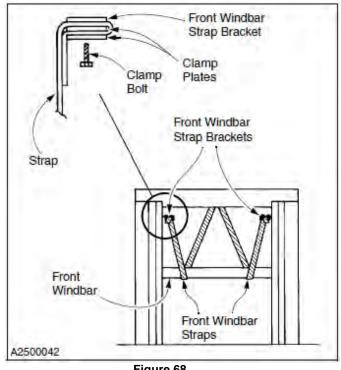
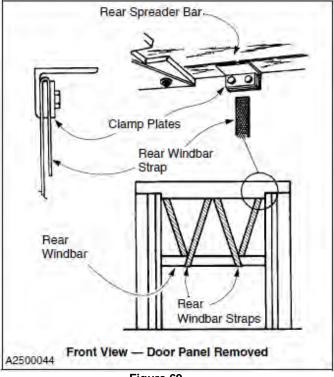


Figure 68



#### 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.

- 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.

# **A**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.

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.)

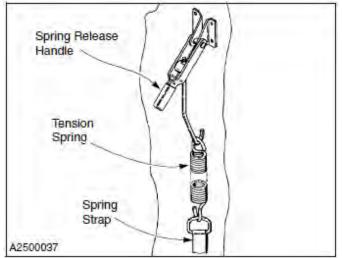


Figure 70

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)

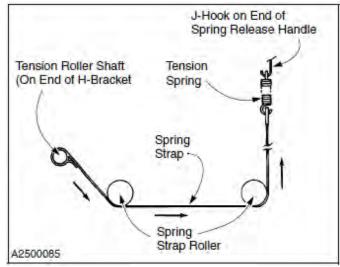


Figure 71

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)

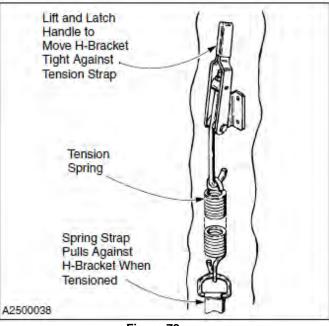


Figure 72

7. Turn on the power to the door.

### **TENSION STRAP REPLACEMENT**

- 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. 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.)

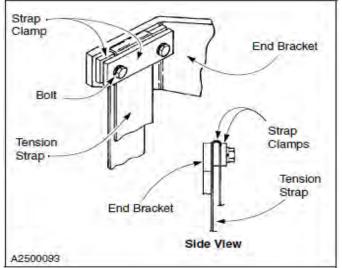


Figure 73

- 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.



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.

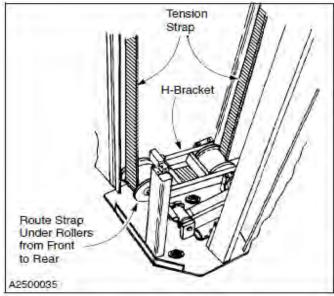


Figure 74

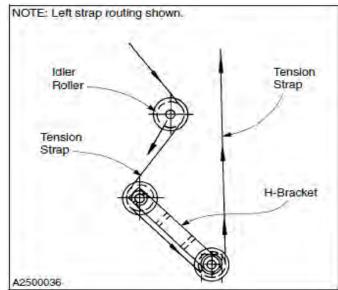


Figure 75

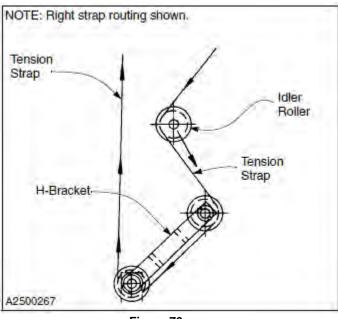


Figure 76

- 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.

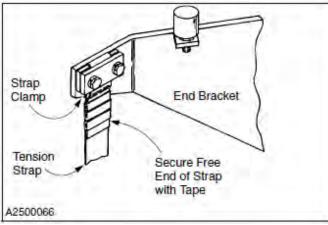


Figure 77

10. Turn on the power to the door.

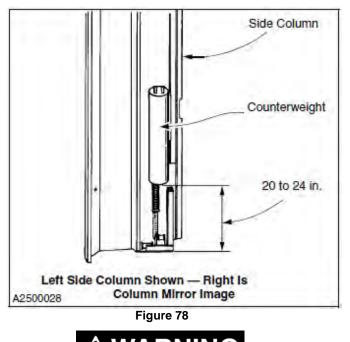
# COUNTERWEIGHT STRAP REPLACEMENT

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

# **A**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.



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.

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

### **REPLACEMENT PROCEDURES—COUNTERWEIGHT STRAP REPLACEMENT**

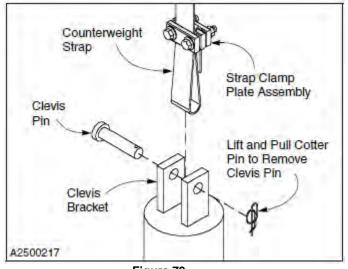


Figure 79

- 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.



When installing a new counterweight strap, the strap must be installed with two initial wraps around the spool. Addition- ally, 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.

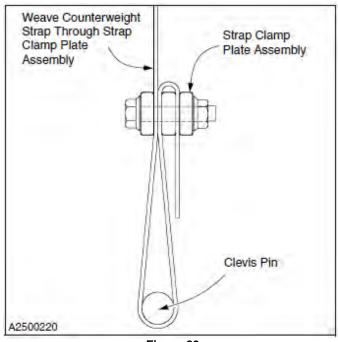


Figure 80

- 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.)

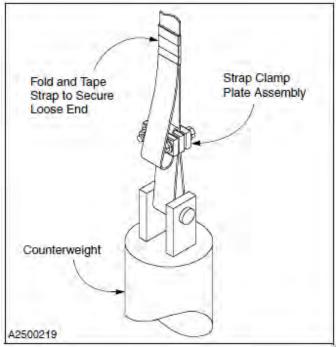


Figure 81

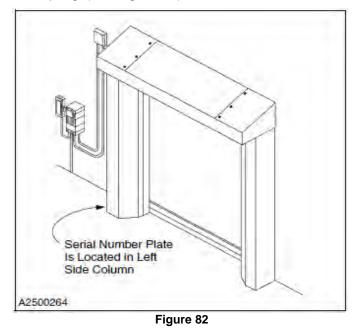
12. Turn on the power to the door.

# 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.
- 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 <u>WWW.Rytecparts.com</u> 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.
- To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number plate is located inside the left-hand side column, just above the tension spring. (See Figure 82.)



### DOOR SERIAL NUMBER(S)

Your *DOOR SERIAL NUMBER* information can be found in three universal locations. These are at the inside of either side column (approximately eye level), on the drive motor, and inside the System 4 control panel. (See Figure 82.)

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

#### **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.

# RYTEC TECHNICAL KNOWLEDGE CENTER

At <u>WWW.Rytecdoors.com</u> under the "Customer Support" tab a link to the Rytec Technical Knowledge Center can be found. 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 on on-line webstore for purchasing Rytec replacement parts

Access to the Rytec webstore is by invitation only. Invitations are processed through the following email 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.

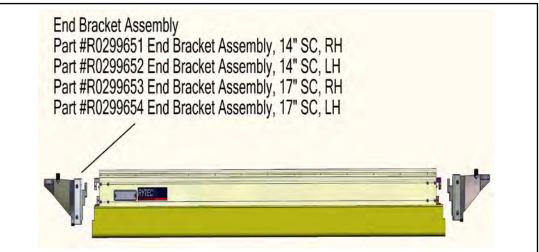
Instructions on how to return items:

- 1. Visit return center within your account to create a return merchandise authorization.
- 2. Print the returns slip and the shipping label.
- 3. Include the returns slip inside the box and affix the shipping label to the box.
- 4. Ship package.

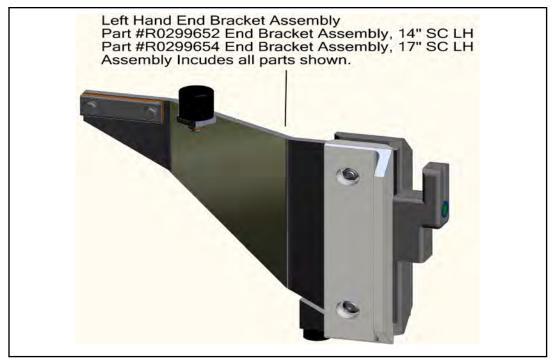
Prices subject to change.

# PARTS LIST—END BRACKET ASSEMBLIES

### END BRACKET ASSEMBLIES



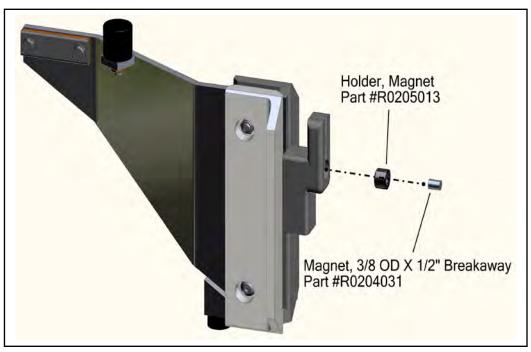
#### END BRACKETS



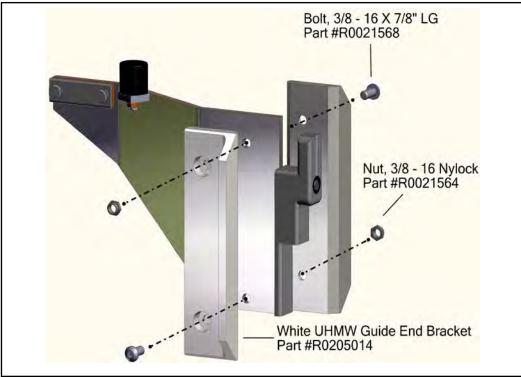
LEFT HAND END BRACKET ASSEMBLY

# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### END BRACKET ASSEMBLIES



MAGNET & HOLDER

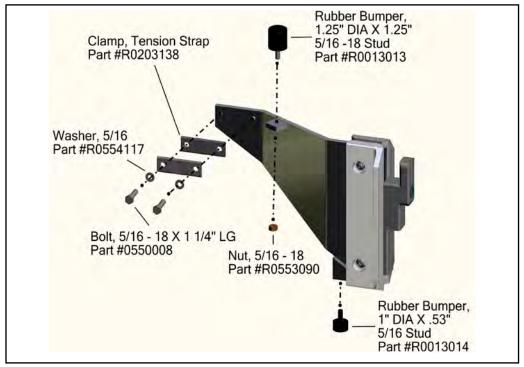


END BRACKET HARDWARE & SLIDES

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

### PARTS LIST—END BRACKET ASSEMBLIES

#### END BRACKET ASSEMBLIES

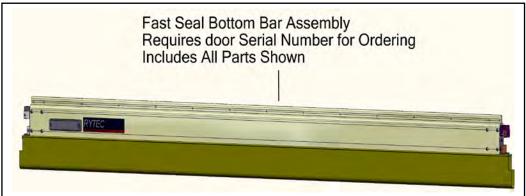


**TENSION STRAP CLAMPS & RUBBER BUMPERS** 

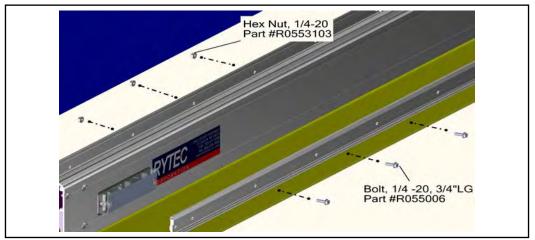


RIGHT HAND END BRACKET ASSEMBLY

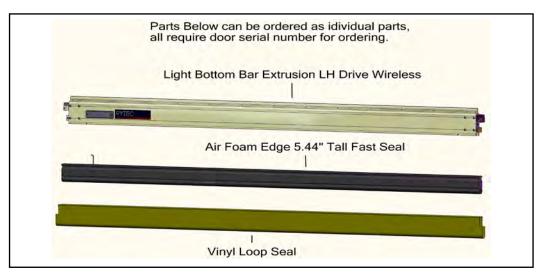
### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER



FAST SEAL BOTTOM BAR ASSEMBLY

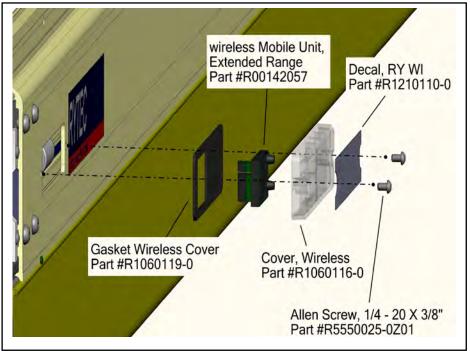


BOLTS TO ATTACH BOTTOM BAR TO PANEL

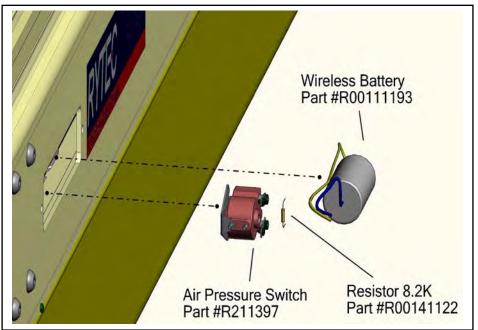




# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

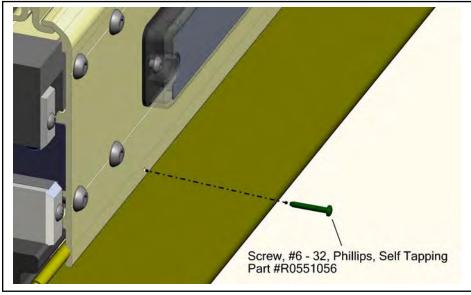


WIRELESS MOBILE UNIT EXTENDED RANGE & HARDWARE

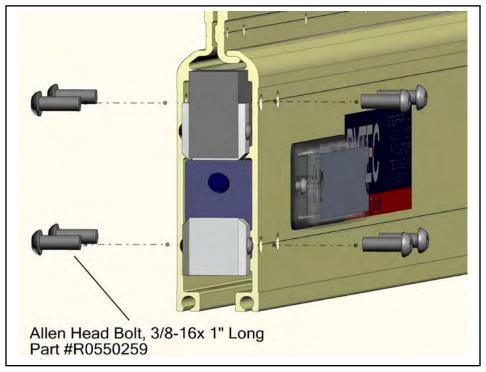


**AIR SWITCH, BATTERY & RESISTOR** 

# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER



LOOP SEAL HOLDING SCREW

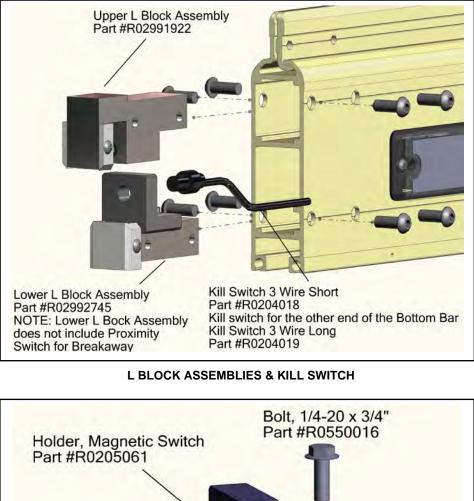


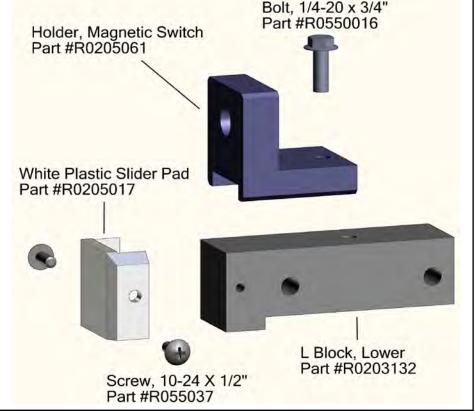
L BLOCK BOLTS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

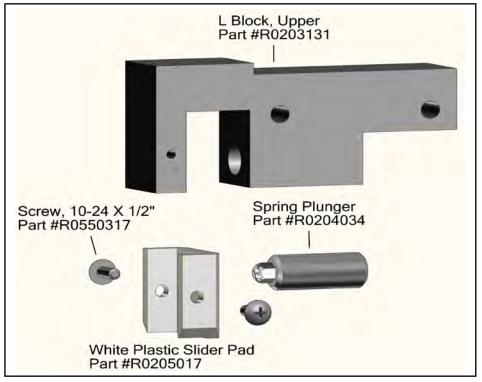
### PARTS LIST—BOTTOM BAR ASSEMBLIES

#### BOTTOM BAR ASSEMBLIES

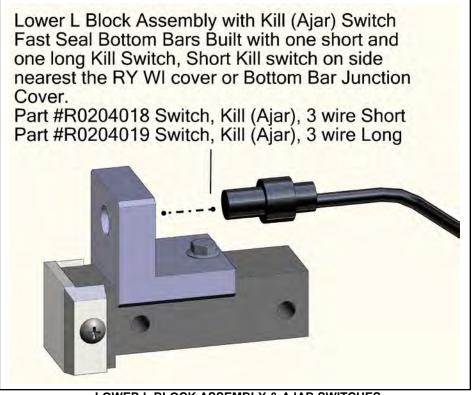




LOWER L BLOCK PARTS

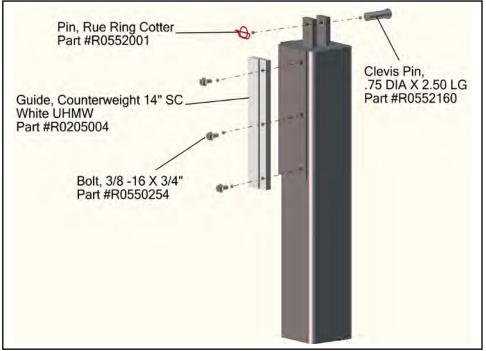


UPPER L BLOCK PARTS

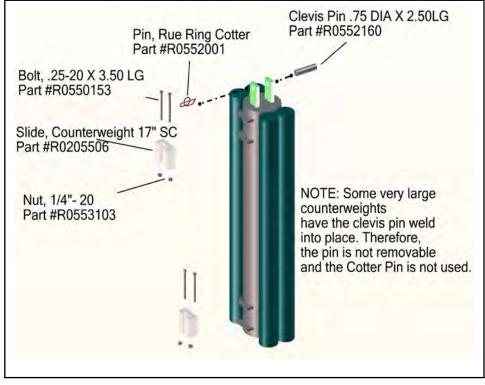


LOWER L BLOCK ASSEMBLY & AJAR SWITCHES

#### **COUNTERWEIGHT ASSEMBLIES**

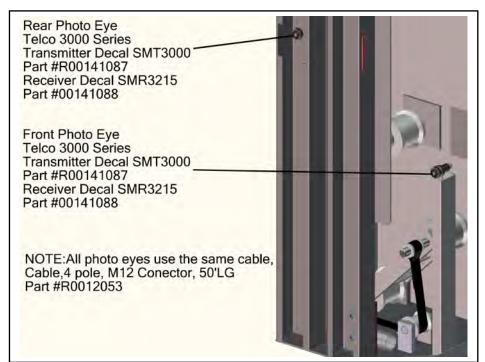


14" SIDE COLUMN COUNTERWEIGHT PARTS

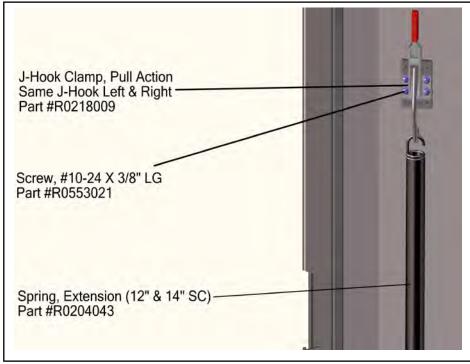


**17" SIDE COLUMN COUNTERWEIGHT PARTS** 

#### SIDE COLUMNS



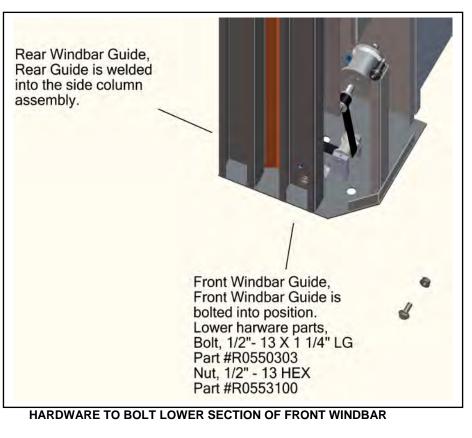
TELCO 3000 SERIES PHOTO EYES

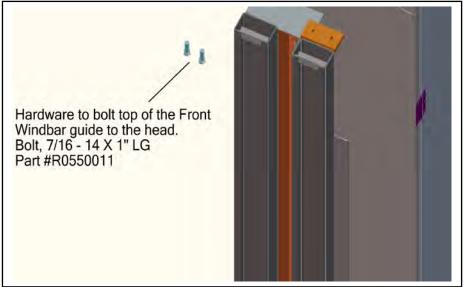


J HOOK, SPRING & HARDWARE

### PARTS LIST—SIDE COLUMNS

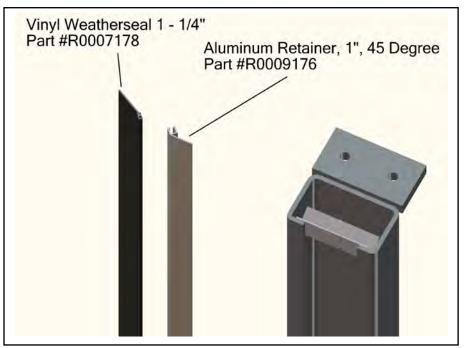
#### SIDE COLUMNS



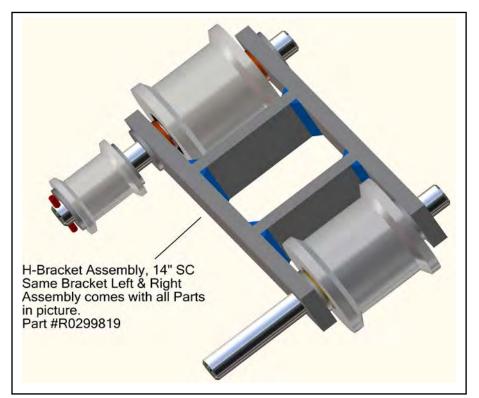


HARDWARE TO BOLT TOP OF FRONT WINDBAR GUIDE TO HEAD





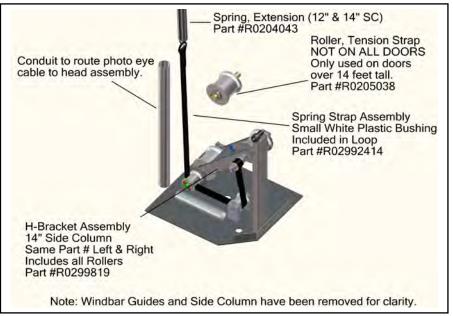
SIDE COLUMN WEATHERSEAL & TRACK



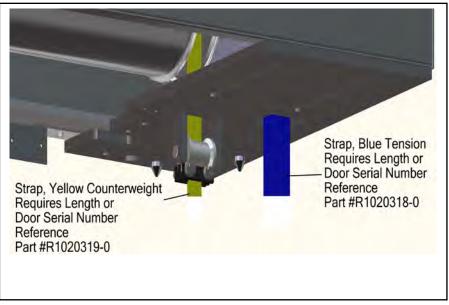
H BRACKET ASSEMBLY

### PARTS LIST—SIDE COLUMNS

#### SIDE COLUMNS



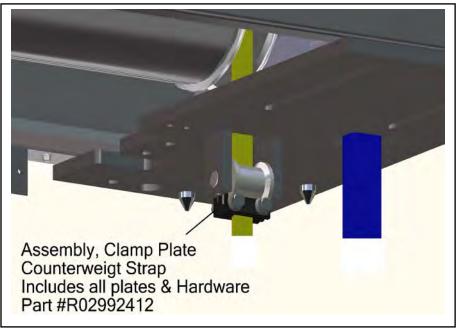
**SPRING STRAP & H BRACKET PARTS** 



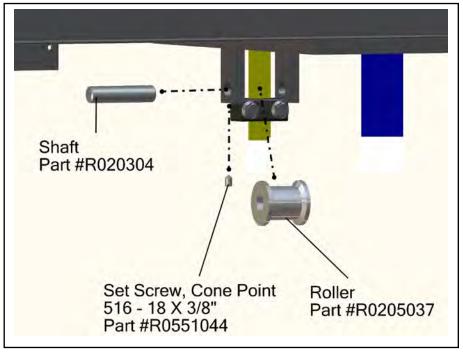
COUNTERWEIGHT & TENSION STRAPS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### SIDE COLUMN



**CLAMPING PLATES** 

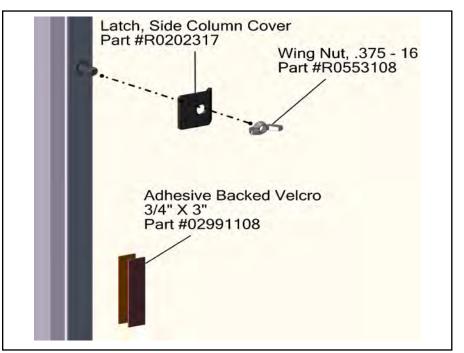


COUNTERWEIGHT ROLLER & HARDWARE

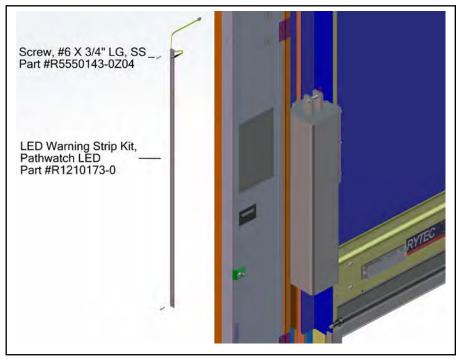
# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

### PARTS LIST—SIDE COLUMNS

#### SIDE COLUMN



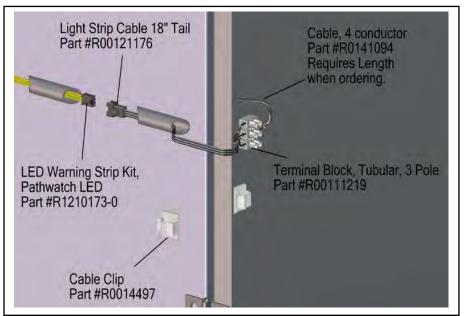
LATCH, WING NUT & VELCRO FOR SIDE COLUMNS



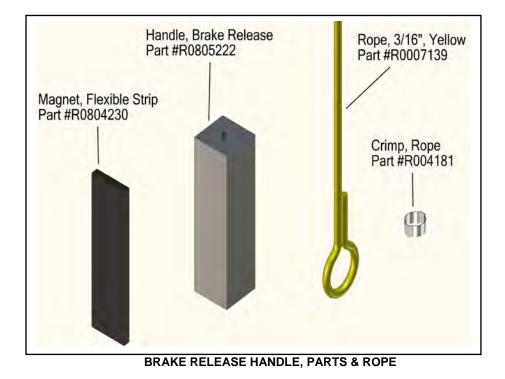
#### PATHWATCH LED WARNING STRIP

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### SIDE COLUMNS

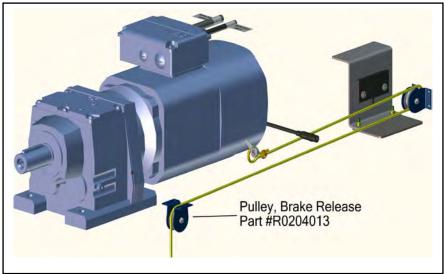


PATHWATCH CABLE, TERMINAL BLOCK & CABLE CLIPS

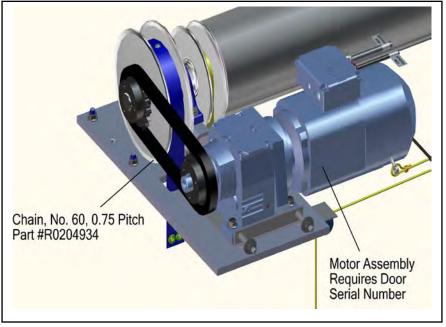


### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### HEAD ASSEMBLY



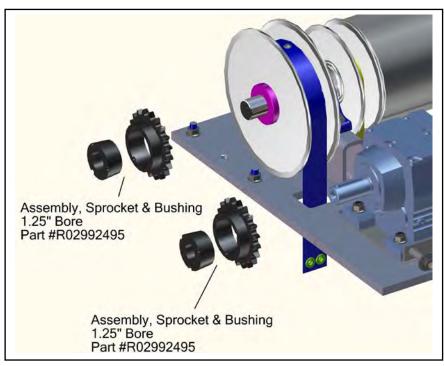
BRAKE RELEASE PULLEY



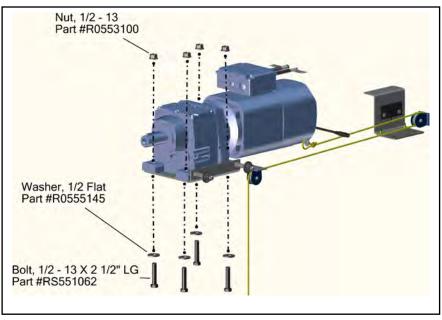
MOTOR ASSEMBLY & DRIVE CHAIN

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### HEAD ASSEMBLY



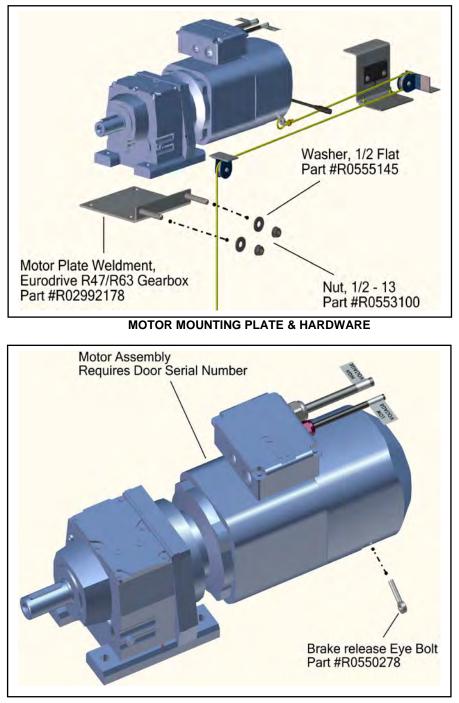
**MOTOR & DRIVE SPROCKET** 



#### MOTOR HARDWARE

## ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

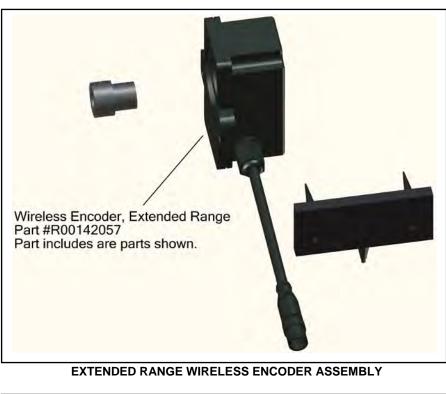
#### HEAD ASSEMBLY

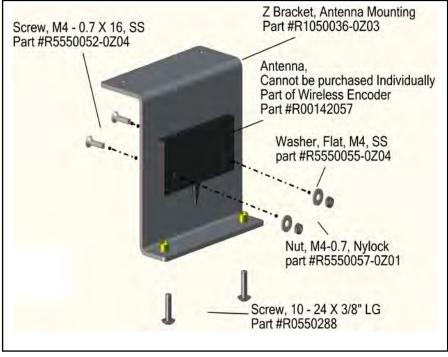


MOTOR ASSEMBLY, BRAKE RELEASE EYE BOLT

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### HEAD ASSEMBLY

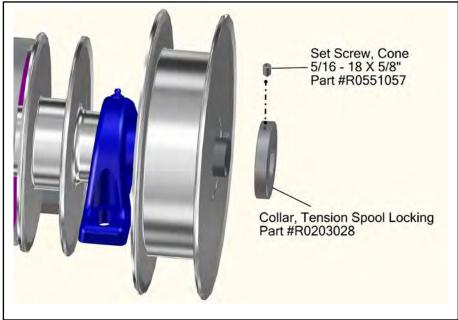




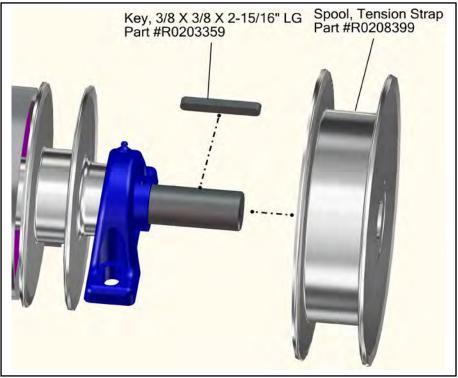
ANTENNA Z BRACKET & HARDWARE

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

### HEAD ASSEMBLY

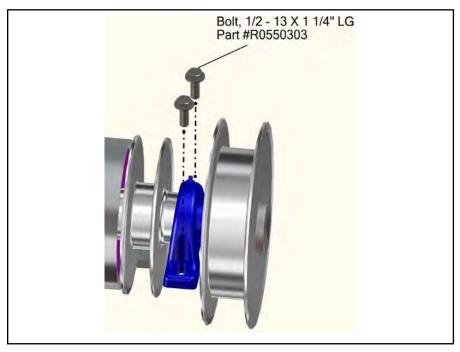


LOCKING COLLAR

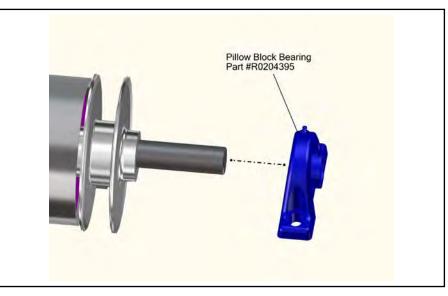


**TENSION SPOOL & KEY** 

#### HEAD ASSEMBLY



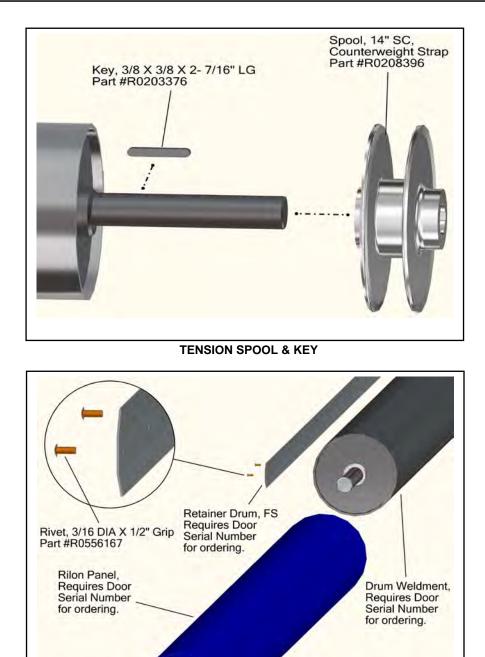
#### **BEARING HARDWARE**



#### PILLOW BLOCK BEARING

# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

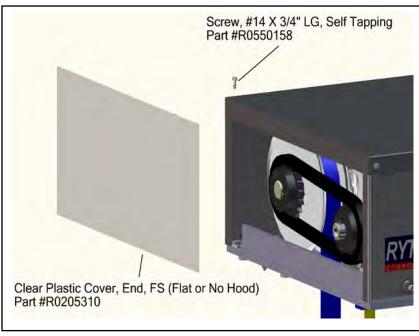
#### HEAD ASSEMBLY



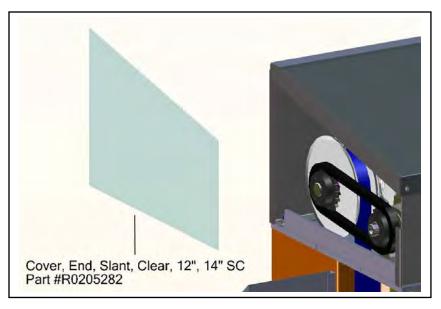
PANEL RIVETS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### HEAD ASSEMBLY



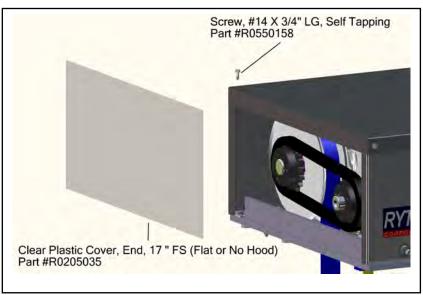
END COVER FLAT OR NO HOOD 14" SIDE COLUMN



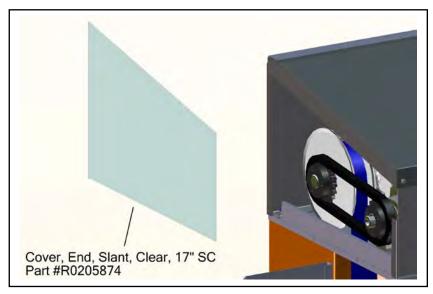
END COVER SLANT HOOD 12" OR 14" SIDE COLUMN

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### HEAD ASSEMBLY



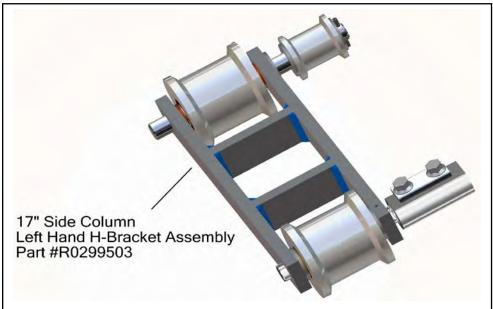
END COVER FLAT OR NO HOOD 17" SIDE COLUMN



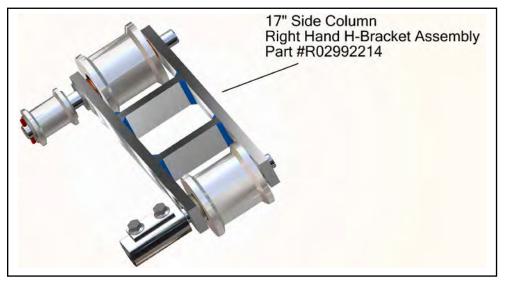
END COVER SLANT HOOD 17" SIDE COLUMN

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

**17" SIDE COLUMN PARTS** 



17" SIDE COLUMN H-BRACKET ASSEMBLY – LEFT HAND

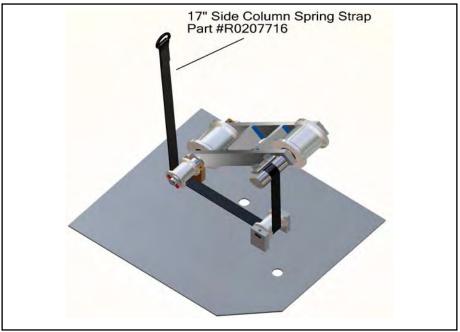


17" SIDE COLUMN H-BRACKET ASSEMBLY – RIGHT HAND

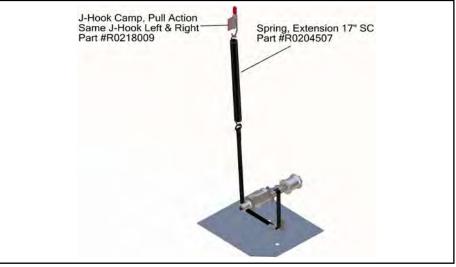
**ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER** Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

# PARTS LIST-17" SIDE COLUMN PARTS

#### **17" SIDE COLUMN PARTS**



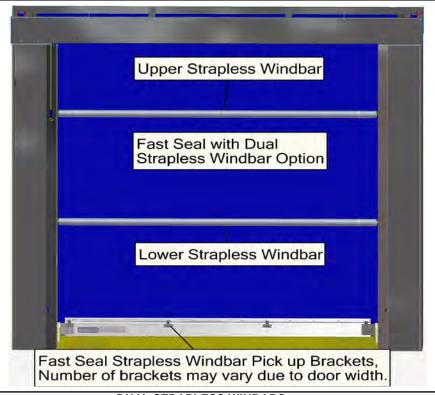
#### **17" SIDE COLUMN SPRING STRAP**



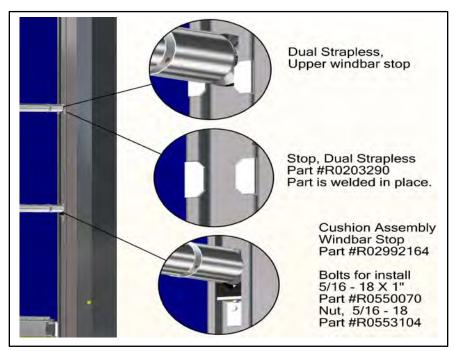
17" SPRING & J-HOOK

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### WINDBARS



**DUAL STRAPLESS WINBARS** 



DUAL STRAPLESS WINDBAR STOPS

#### WINDBARS



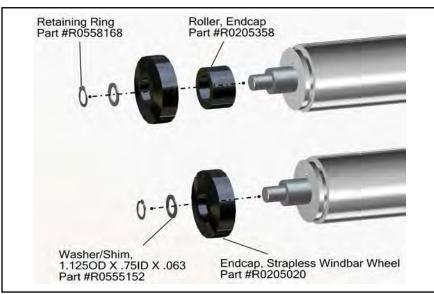
STRAPLESS WINBAR PICK UP BRACKETS



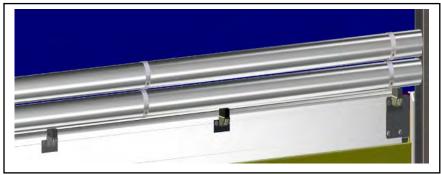
STRAPLESS WINBARS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### WINDBARS



STARPLESS WINBAR END CAP ROLLERS

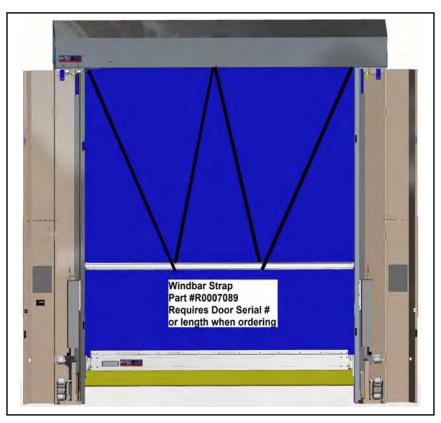


DUAL STRAPLESS WINBARS

# ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

### PARTS LIST— STRAPPED WINDBARS

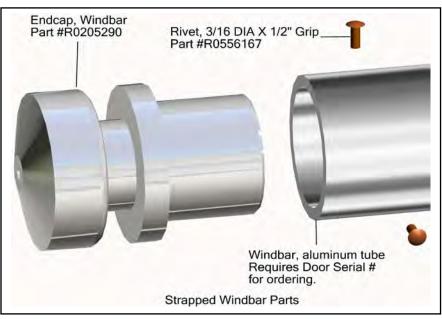
### STRAPPED WINDBAR



WINDBAR STRAP

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

#### STRAPPED WINDBARS



STRAPPED WINDBAR END CAP

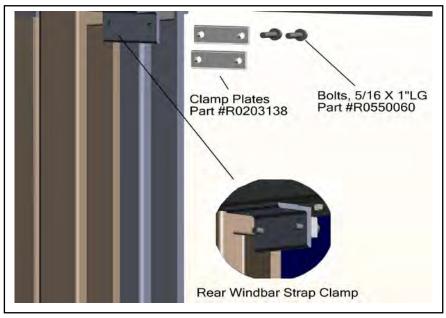


FRONT WINDBAR STRAP CLAMPS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

# PARTS LIST— STRAPPED WINDBARS

#### STRAPPED WINDBARS



REAR WINDBAR STRAP CLAMPS

### ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

# 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. Works with mobile unit, part #R00142057. R00142057 Mobile Unit, Extended Range Wireless, look at wireless encoder for 250K Bit on Decal of encoder. Works with Encoder part #R00142058. R00141057 Encoder, Wireless 36" Antenna, Standard Range, NO 250K Bit on decal. Works with mobile unit part #R00141058. R00141058 Mobile Unit, Standard Range Wireless, label on wireless encoder will NOT have 250K bit on decal. Works with wireless encoder part #R00141057. Mobile units not interchangeable, standard not compatible with extended range ( & vice versa), both wireless encoder and mobile unit will need to be replaced to update to extended 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<sup>™</sup> LED Warning Strip R00141122 Resistor 8.2K R1060061-0Z01 Standard Metal Bottom Bar Cover Non RY WI R0099008 Rilon 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