R Y T E C

Spiral®
HZ®

Owner's Manual

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Spiral® Door Series 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 **Spiral® Door Series** ("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 **Five (5) Years** from the date of shipment of the Product from the Seller's plant ("Shipment").

Electrical components for a period of **Two (2) Years** from Shipment.

Standard door panels, including **Panel-standard solid, Panel-FV vision, Panel-insulated, Panel-ventilated slats** for a period of **Two (2) Years** from Shipment.

Drive Pulleys, Side column brush/vinyl seals, spring straps, lower tooth pulley assembly, Drive & Timing belts, Hinge Rollers, Energy Chain and Cable, Wireless mobile unit battery, are considered wear items and are not covered under this Limited Warranty.

Aftermarket parts, accessories and assemblies for a period of ninety (90) days from the date of Shipment.

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

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

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

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

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

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

LIMITATION OF LIABILITY. IN NO EVENT WILL SELLER BE RESPONSIBLE FOR, OR LIABLE TO ANYONE FOR, SPECIAL, INDIRECT, COLLATERAL, PUNITIVE, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, 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.

MIAMI-DADE COUNTY
DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Rytec Corporation
One Cedar Parkway
Jackson, WI 53037

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).
This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.
This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Model Spiral HZ Aluminum Roll-up Door up to 16'-0" Wide

APPROVAL DOCUMENT: Drawing No. **9B963-R5**, titled "Spiral Rollup Door, Model Spiral HZ", Sheets 1 through 4 of 4, dated 10/02/2006, with revision dated 07/27/2012, prepared by HR Engineering, Inc, signed and sealed by Allen N. Reeves, P.E., bearing the Miami-Dade County Product Control renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: A permanent label with the manufacturer's name or logo, city, state, model/series number, the positive and negative design pressure rating, indicate impact rated if applicable, installation instruction drawing reference number, approval number (NOA), the applicable test standards, and the statement reading 'Miami-Dade County Product Control Approved' is to be located on the door's side track, bottom angle, or inner surface of a panel.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.
This NOA **renews NOA # 10-0913.03** and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.
The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**

MIAMI-DADE COUNTY APPROVED

11/27/2012

NOA No. 12-0917.05
Expiration Date: November 8, 2017
Approval Date: December 6, 2012

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INTRODUCTION

The information contained in this manual will allow you to operate and maintain your Rytec® Spiral HZ (Hurricane Zone) 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 HAVE READ AND UNDERSTOOD 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. The serial number plate is located on the left side column, at approximately eye level.

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

DOOR SERIAL NUMBER(S)

To obtain your **DOOR SERIAL NUMBER**, there are three universal locations where this information can be found. These are the left side column (approximately eye level), near the drive motor, and inside 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 on the left side column.

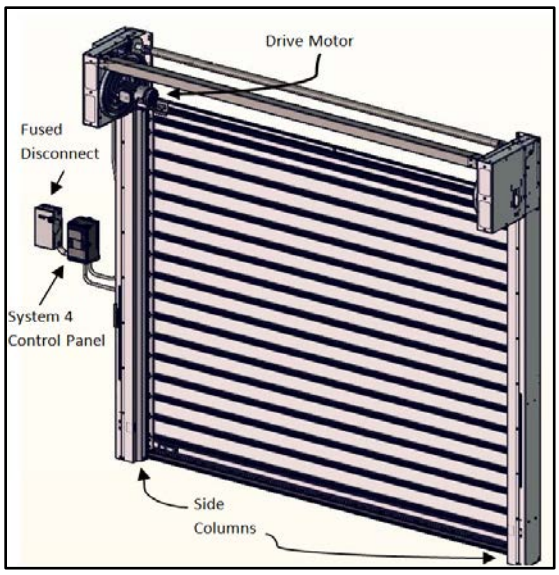


Figure 1

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

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 that is CRITICAL to the successful completion of the procedure.

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

GENERAL ARRANGEMENT OF DOOR COMPONENTS

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

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

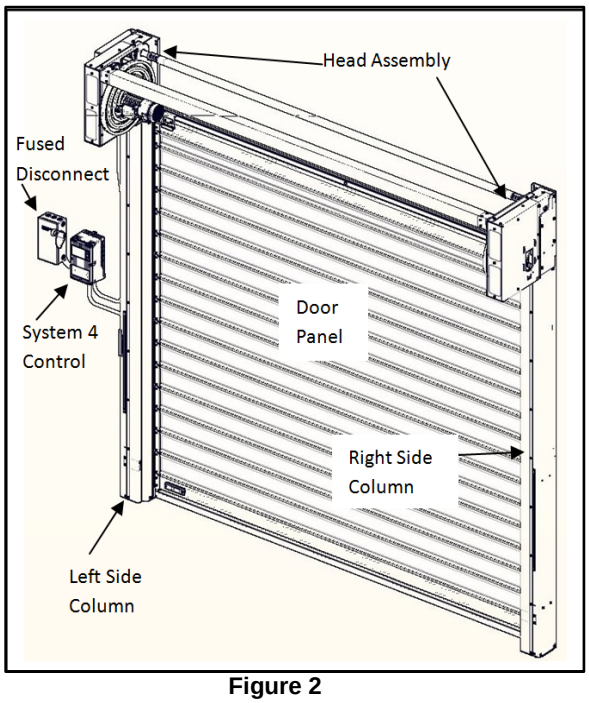


Figure 2

NOTE: The above illustration shows the front side of the door. Left and right are determined when viewing the front side of the door.

OPERATION

CONTROL PANEL

The Spiral HZ Door offers high-speed operation with the advantage of providing a secure barrier. All operator inputs and control functions are carried out by the “System 4” drive and control system. (See Figure 3.)

Figure 3

Modes of Operation

AUTOMATIC MODE

If a *momentary* contact activator such as a push-button, pull cord, radio control, etc., is used to activate the door:

- The door will open when the device is activated.
- A timer, internal to the control system, will start up once the door is at the full open position.
- When the internal timer clocks out, the door will automatically begin to close.

If a *maintained* contact activator device such as a floor loop, motion detector, etc., is used to activate the door:

- The door will open and remain open for as long as the device is active.
- Once the device becomes inactive, the internal timer will start up.
- When the internal timer clocks out, the door will automatically begin to close.

In the automatic mode, while the timer is running, at any time the activator device or another activator in the system is enabled, the timer will reset and the door will not be allowed to close. It is only when the timer clocks out that the door will begin to close. (To change the timer setting, see “System 4 Drive & Control” manual.) In summary, in the automatic mode, an externally installed activator device is used to open the door and an internal timer is used to close the door.

NON-AUTOMATIC MODE
If a momentary contact activator such as a push-button, pull cord, or radio control is used to operate the door:

•The door will open when the device is activated.

• After passing through the door, a similar type of device must be used to close the door.

In summary, in the non-automatic mode, a manually operated activator is used to open and close the door.

NOTE: When the door is configured to operate in the non-automatic mode, the internal timer must be off (zero). (See "System 4 Drive & Control" manual.)

OPEN AND CLOSE DOOR LIMIT POSITIONS

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

Close Limit Position

The "close" limit position should be adjusted so that the door travel allows the rubber reversing edge, which is located at the bottom edge, to gently seal against the floor. (See Figure 4.)

⚠ CAUTION

Premature wear or damage to the reversing edge or other bottom bar parts can occur if the door seal is allowed to seal too tightly against the floor.

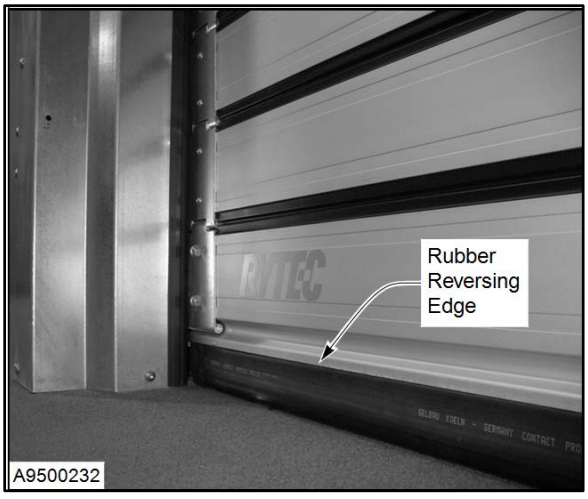


Figure 4

Open Limit Position

The "open" limit position should be adjusted so that the door travel allows the bottom bar assembly to stop at the position as shown in Figure 5.

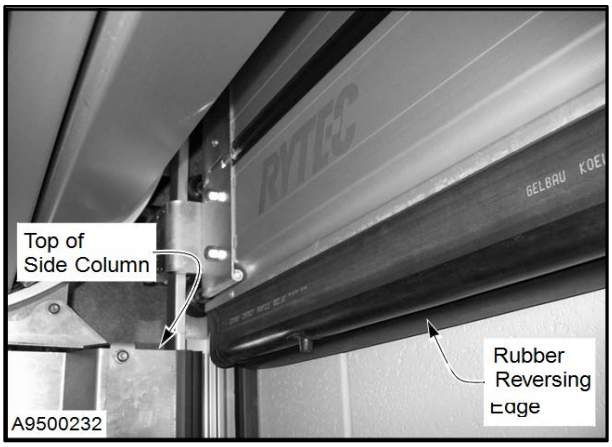


Figure 5

General

For more operating instructions, including Control Panel System Inputs, Modes of Operation, Accessing Parameters and Miscellaneous Inputs, see the "System 4 Drive & Control" manual.

PHOTO EYES

Your Rytec Spiral 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: Two sets of photo eyes are included with the Spiral Door. These photo eyes are used as a safety device. They prevent the door from closing if an object is in the path of either photo eye light beam. The photo eyes are not meant to be used as activators to open or close the door.

Each set of photo eyes consists of an emitter module and a receiver module. The set of factory-installed eyes is mounted in the side columns. The set of customer-installed eyes is mounted on the back side of the door. (See Figure 6.)

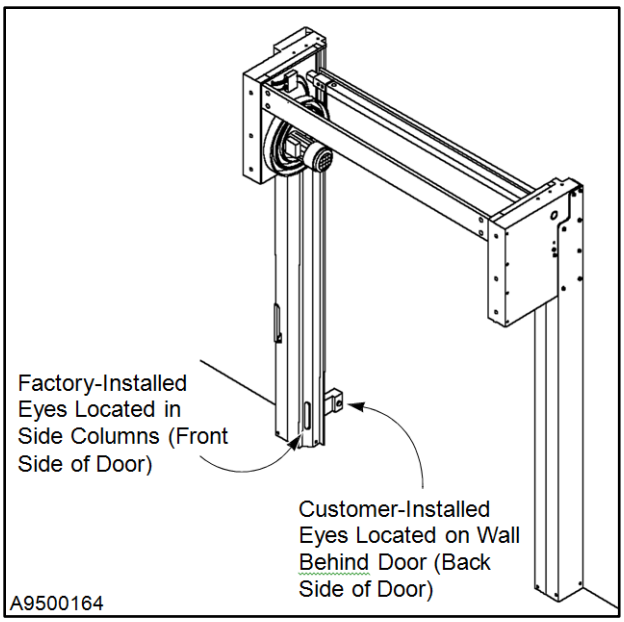


Figure 6

System Reset — Photo Eyes

If either set of photo eyes detects that an object has entered the door opening while the door is closing, the door will immediately reverse direction and move to the fully open position. The door will remain parked in this position until the object has been removed from within the opening. If the front set of photo eyes detects the interruption, the display will read "**Photoeye - Fr**". If the rear set of eyes detects the interruption, the display will read "**Photoeye -Rr**".

The door will remain parked in the fully open position for as long as the object is in the path of the door opening. If the timer is set, the door will close when the timer clocks out. If the timer is off, the door close (▼) button must be pressed.

After the door is closed, the display will read "**Spiral Door**" and the control system will wait for operator input.

REVERSING EDGE

An electrically operated reversing edge is mounted along the bottom edge of the door. If this pressure-sensitive edge comes in contact with an object as the door is closing, the control system will reverse the door and move it to the fully open position, if the door was opened using a timer input the door will begin counting that timer. When the door reaches 0 the door will again begin to close. If the reversing edge is activated 3 consecutive times the door will open and remain open displaying **F:361** "**Edge Tripped**". (See Figure 7.)

NOTE: Anytime the reversing edge is activated, the "System 4" Control Panel will read "F.361" (Edge Trip). After the object in the door opening is removed, the control panel will require a manual reset before the door will operate again. To reset the control system, press and hold the RESET (●) button for approximately three seconds.

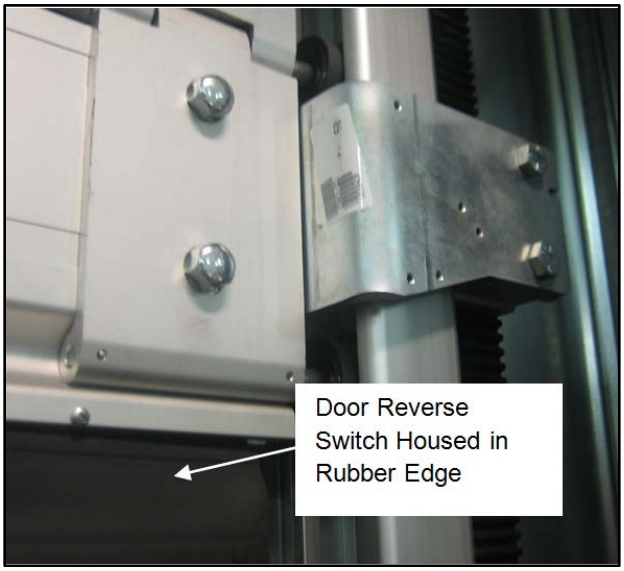


Figure 7

System Reset — Door Reversing Edge

Anytime the door is closing and the reversing edge along the bottom bar makes contact with an object, the display will read "**F.361**" (**Edge Trip**) and the door will move to the fully open position. If the reversing edge is activated 3 consecutive times the door will open and remain open displaying **F:361** "**Edge tripped**".

1. To reset the control system with "**F.361**" displayed, first make sure the area directly below the path of the door is clear of all objects and personnel.

2. Then press and hold the RESET (●) button on the control panel to reset the control system. (See Figure 3.)

POWER DRIVE SYSTEM

The Spiral Door power drive system consists of an electric motor/brake system, an encoder, and a gearbox. This drive system is mounted in the center of the door Spiral, at the left end of the head assembly. (See Figure 8.)

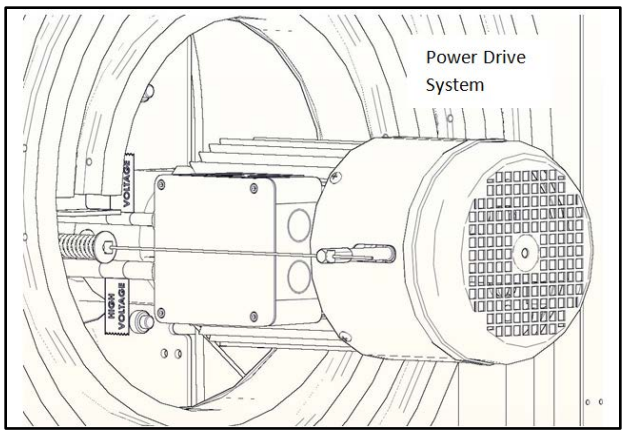


Figure 8

The power drive system incorporates an electric brake used to stop the door travel when electrical power to the door is shut off. A manual brake release is provided to manually open or close the door if there is a power failure, or when routine maintenance requires power to be disconnected.

The encoder generates electrical signals and magnetic pulses that are used by the electronic control system to track the position of the door. Once the door and control system are synchronized, they will remain synchronized.

The drive motor is connected to the drive shaft pulley by way of the primary drive belt. Tension on the drive belt is adjusted by repositioning the drive motor on its mounting bracket. (See Figure 9.)

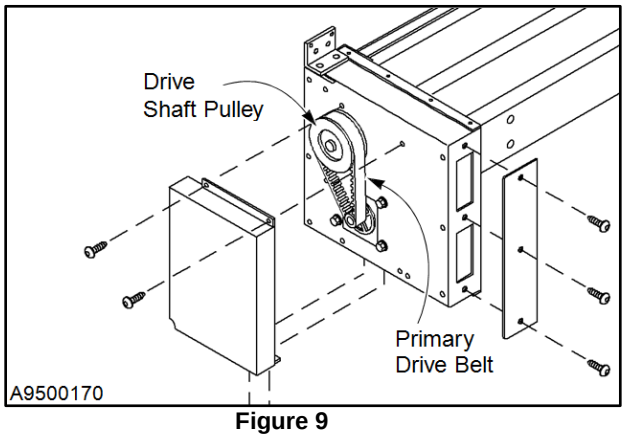


Figure 9

LIFT SYSTEM

Secondary Drive Belts

Near each end of the drive shaft is a secondary drive pulley. Installed on each pulley is a secondary drive belt. Each drive belt runs down through its adjoining side column, to a small guide pulley mounted in the base of each column. (See Figure 10.)

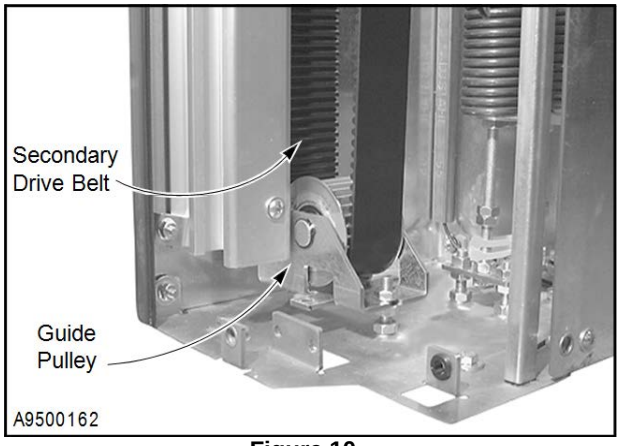


Figure 10

End brackets in the bottom corners of the door connect the door to the secondary drive belts. A clamp on the end of each bracket locks the belt to the door. Depending on the direction the drive system turns the drive shaft, the secondary drive belts will rotate up or down to lift or lower the door. (See Figure 11.)

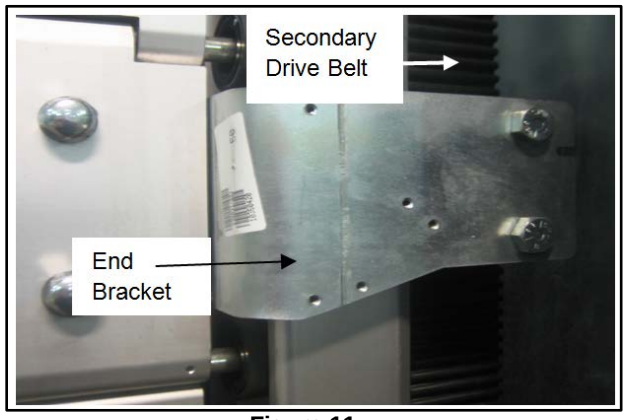


Figure 11

Springs

The springs assist the power drive system with lifting the door. Depending on the size of your door, up to 12 springs can be used.

Springs are arranged in spring pack assemblies con-sisting of one, two, or three springs. Spring packs are evenly distributed between the right and left side columns. When an odd number of spring packs are used the largest spring pack installed will be installed in the left side column. For example, if eleven springs are being used, then the left column will get six and the right will get the remaining five. A maximum of six springs can be installed in each side column. (See Figure 12.)

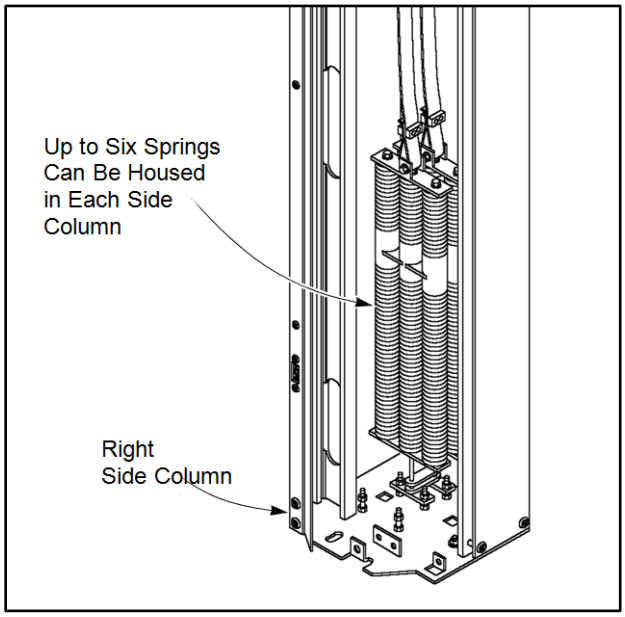


Figure 12

When the door is closed, the spring strap connected to the end of each spring pack is wound tightly around the drive shaft, which in turn stretches the spring pack. When the door is opened, the stored tension in each spring is released. The retracting springs pull on the spring straps to assist the drive motor with turning the drive shaft.

PLANNED MAINTENANCE

RECOMMENDED INSPECTION SCHEDULE

Action Items	Daily	Quarterly
Visual Damage Inspection		
Door Operation Inspection		
Reversing Edge Inspection		
Photo Eye Inspection		
Electrical Inspection		
Head Assembly Inspection		
Spreader Bar Inspection		
Weather Seal Inspection		
Side Column Inspection		
Door Panel Inspection		
Drive Belt Inspection		

IMPORTANT: The design of this door is such that it does not require any lubrication.

DO NOT lubricate any parts, components, or assemblies of this door. This includes the door panel rollers, guides, and track. Lubricants will attract dust and dirt, which can cause the door panel to bind.

Also, the gearbox used with this Spiral Door is a sealed unit — it does not require any lubrication.

DAILY INSPECTION

Visual Damage Inspection

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

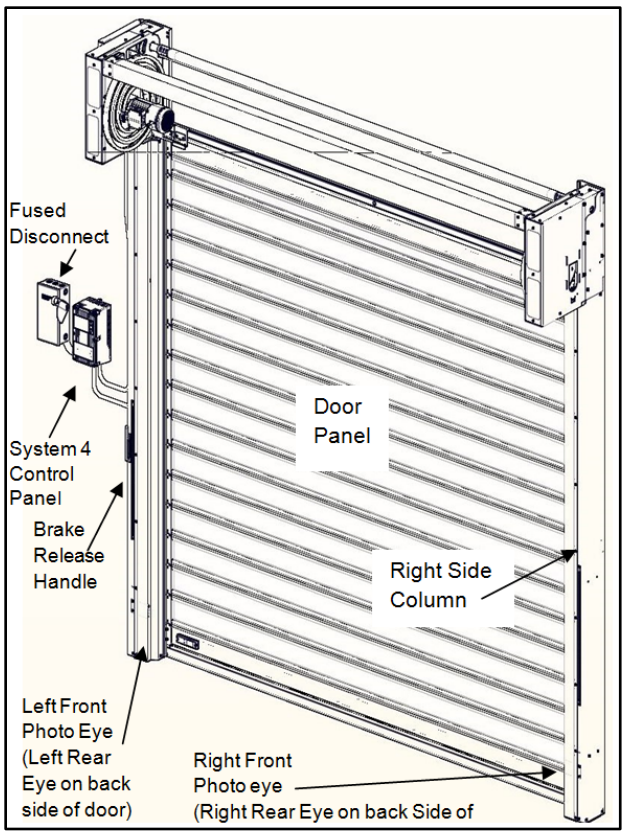


Figure 13

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

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

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

Springs, Straps, and Drive Belts: Inspect for damage and wear 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.

Reversing Edge: Inspect the entire length of the reversing edge for damage such as tears and holes, and for missing or loose hardware. Inspect the edge itself.

Door Operation Inspection

Run the door through four or five complete cycles to make sure it is operating smoothly and efficiently. Also make sure there is no binding or unusual noises.

DO NOT continue to operate the door if it is not working properly as this could further complicate the problem.

Reversing Edge Inspection

⚠ WARNING

DO NOT stand under the door when performing the following test. If the reversing edge sensor is not working properly, the door could strike the person performing the procedure. DO NOT use the door if the sensor is not working properly.

1. Move the door to the open position by pressing the door open (▲) button located on the control panel.
2. Press the door close (▼) button.
3. When the door is a few feet from the fully closed position, hit the rubber reversing edge that runs along the bottom edge of the door. Stand outside the photo eyes to avoid activating the photo eye circuit. (See Figure 14.)

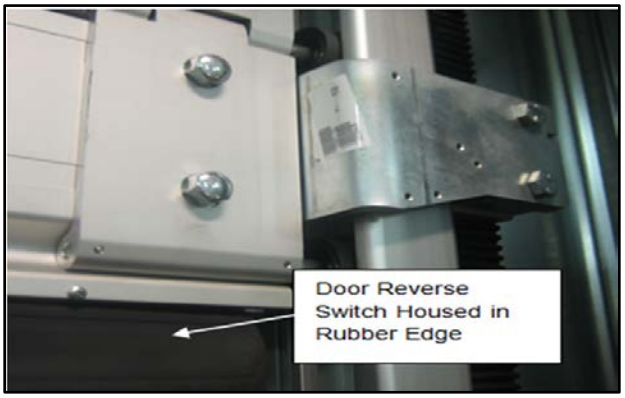


Figure 14

If the reversing edge sensor is working correctly, the door will reverse direction and move to the fully open position, if the door was opened using a timer input the door will begin counting that timer. When the door timer reaches 0 the door will again begin to close. If the reversing edge is activated 3 consecutive times the door will open and remain open displaying **F:361** "**Edge Tripped**"
To reset the control system, see "System Reset — Door Reversing Edge" on page 4.

If the reversing edge sensor is not working properly, the control system will only allow the door to open and the control panel will display the associated error code.

NOTE: A normal resistance measurement across the reversing edge sensor will read approximately 8.2 k-ohms. With the rubber edge compressed, the resistance will drop to about zero ohms.

4. Check the wires from the reversing edge cable that go to the terminal block of the mobile unit. Make sure that they are tightly secure. Inspect terminal block for damage and replace any missing or damaged hardware.(See Figure 15.)

Figure 15

5. Inspect the rubber reversing edge. It should be in good condition with no visible holes, cracks, or tears. Replace the rubber reversing edge if necessary.

   To replace the reversing edge, see “REVERSING EDGE REPLACEMENT” on page 29.

Photo Eye Inspection

To prevent the front and rear sets of eyes from interfering with each other, the emitter and receiver modules of each set are mounted diagonally across from each other. The emitters are mounted in the right-front and left-rear corners of the door. The receiver modules are located in the left-front and right-rear corners.

When the door is open and an object breaks either beam of light, the door will remain open until the beam is restored (object removed). If the door is closing at the time either beam is broken, the door will immediately reverse direction and move back to the fully open position, where it will remain parked until the beam of light is restored (object removed).

It is important to note that the two sets of photo eyes are not interchangeable. Each set performs the same function, but operates with a different set of indicator lights.

FRONT SET OF EYES

The photo eyes that make up the front set of eyes each have one indicator light. The eyes are receiving power and are aligned when the indicator on the emitter module (right-front eye) is green and the indicator on the receiver module (left-front eye) is red. If both indicators are green, the eyes are not aligned. (See Figure 16.)

When the eyes are aligned and the beam of light between them is interrupted, the receiver module indicator will switch from red to green. Restoring the beam of light will cause the indicator to switch back to red.

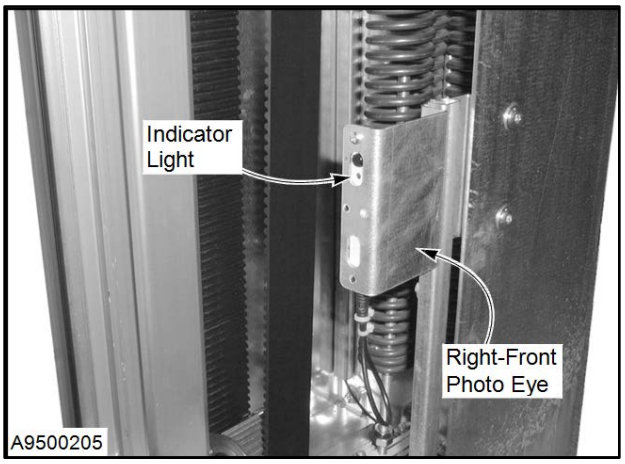


Figure 16

REAR SET OF EYES

The rear set of eyes is receiving power when the power indicator on each eye is green. The eyes are aligned when the alignment indicator on the receiver module is yellow. When the beam of light is interrupted, the alignment indicator will go out. Restoring the beam relights the indicator. (See Figure 17.)

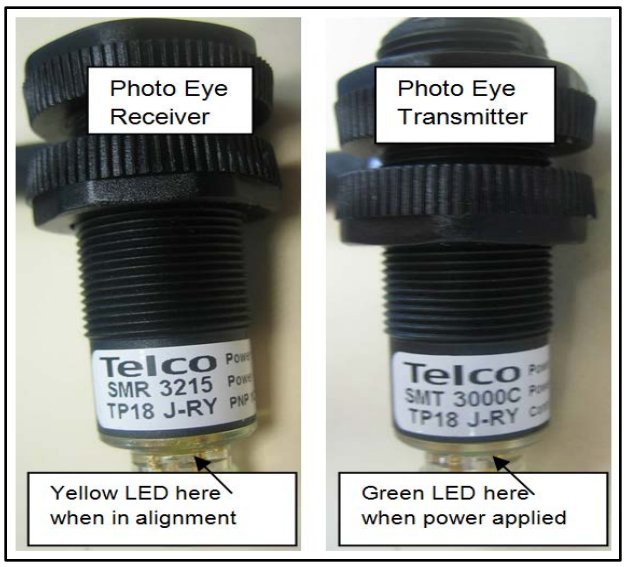


Figure 17

NOTE: Avoid interrupting both beams of light when testing one, or the other, set of photo eyes. Interrupt only one beam of light at a time.

⚠WARNING

Personnel and objects should not be in the path of the door when the following inspection is performed. If the photo eyes are not working properly, the door could strike the personnel or object in its path.

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.

2. Place an object between the front set of photo eyes to interrupt the beam of light between the eyes.

3. Press the door close (▼) button on the control panel. The door should not operate.

4. If the photo eyes do not operate properly, the lens may be dirty. Clean as required using window cleaner and a clean, soft cloth. Then retest the front set of eyes. If cleaning does not resolve the problem, align or replace the photo eyes as required.

   To align the photo eyes, see “PHOTO EYE ALIGNMENT” on page 19. To replace the eyes, see “PHOTO EYE REPLACEMENT” on page 29.

5. Repeat the above procedure on the rear set of photo eyes only after verifying that the front set of eyes is working properly.

QUARTERLY INSPECTION

Electrical Inspection

CONTROL PANEL

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠WARNING

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

2. Open the door to the control panel. (See Figure 18.)

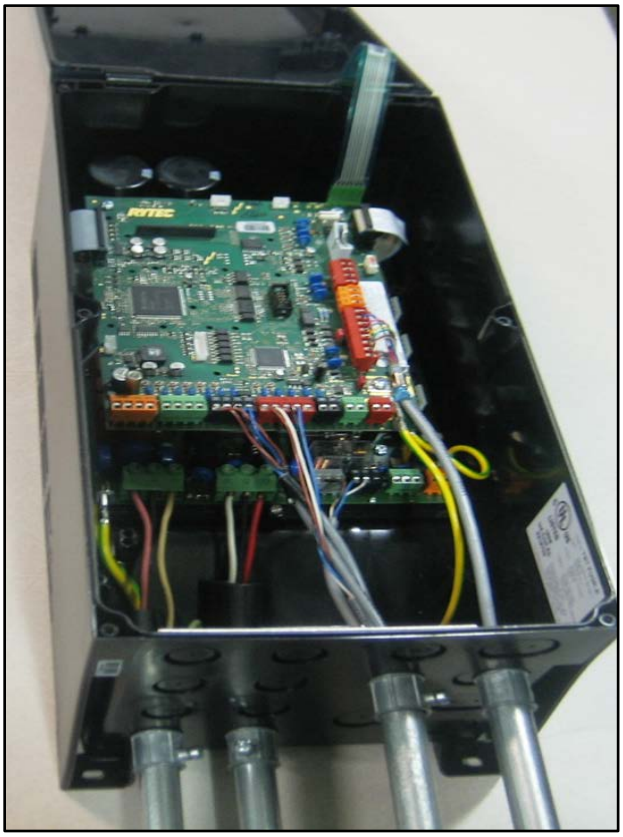


Figure 18

3. Inspect all electrical lines leading to the control panel. Check all electrical connections inside the control panel. All connections must be tightly secured.

4. Check for pinched, cracked, or damaged wires and insulation. Repair or replace wires as needed.

5. Inspect the serial number decal for legibility and adhesion. (See Figure 19.)

Figure 19

DOOR HEAD JUNCTION BOX

1. Move the door to the closed position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the cover from the door head junction box located above the drive motor assembly. (See Figure 20.)

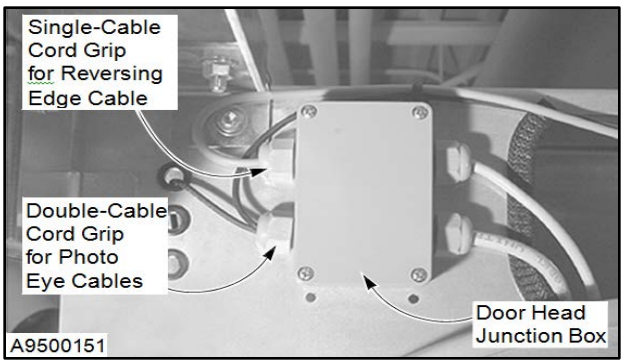


Figure 20

4. Inspect all electrical connections in the door head junction box. All connections must be tightly secured.

5.Check for pinched, cracked, or damaged wires and insulation. Repair or replace wires as needed.

6.Replace the cover.

Head Assembly Inspection

1. Move the door to the closed position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the end caps from the left and right drive assemblies. Each end cap is held in place by three, 20-mm-long, Torx head screws. (See Figure 21.)

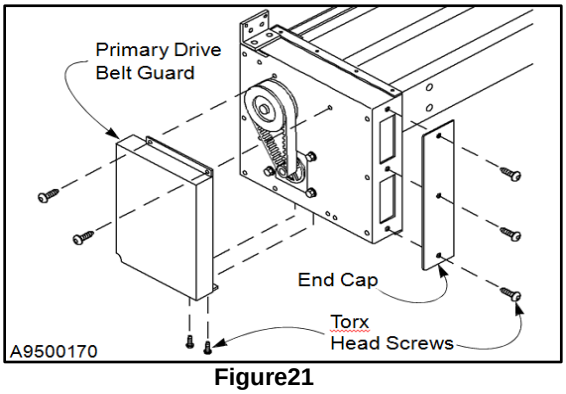


Figure21

4. Remove the primary drive belt guard from the left drive assembly. The guard is held in place with four,20-mm-long, TORX® head screws. (See Figure 21.)

5. Inspect the hex head screws used to secure the head assembly to the side columns. Replace any missing or damaged hardware. (See Figure 22.)

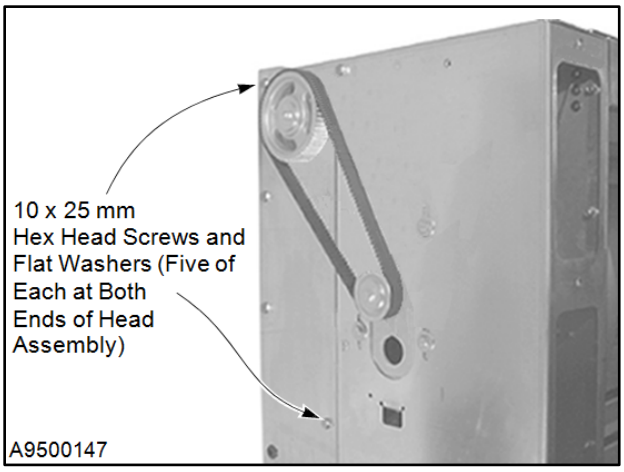


Figure 22

6. Inspect the hardware used to attach the spiral track sections to the left and right drive assemblies. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 23.)

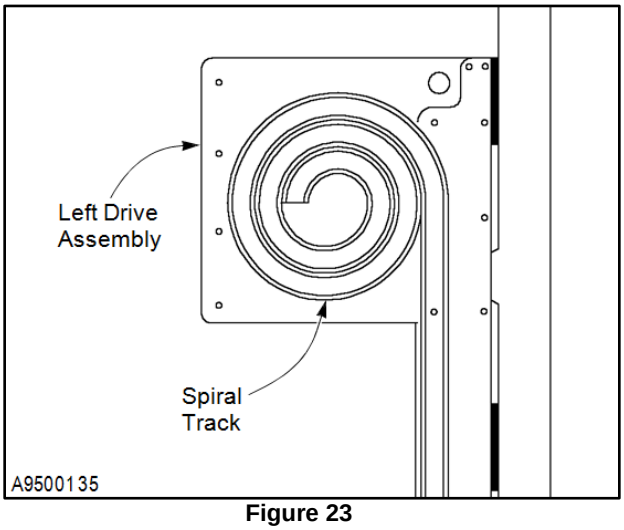


Figure 23

7.Inspect the hardware used to clamp the line shaft to the left and right drive shafts. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 24.)

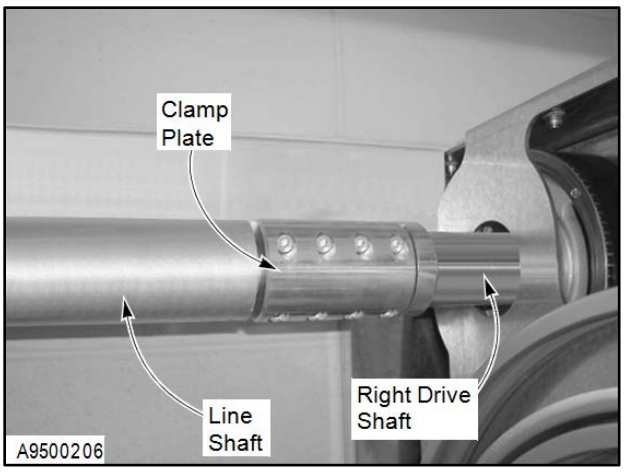


Figure 24

8. Release the electric brake mechanism by pulling the brake release lever. Then manually move the door to the fully open position.

9.Inspect the hardware used to attach the secondary drive pulleys to the left and right drive shafts. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 25.)

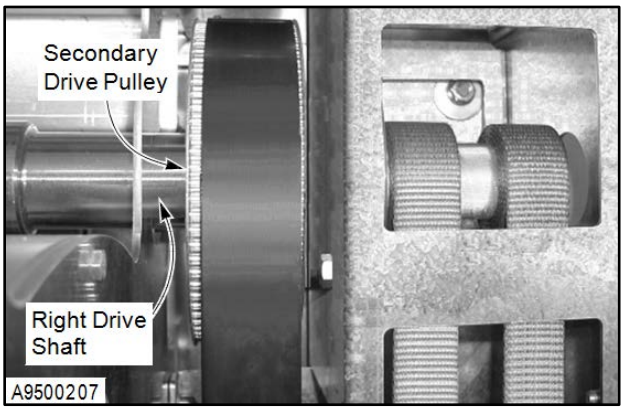


Figure 25

10. Inspect the clamp plate securing the upper end of each spring strap to its respective drive shaft. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 26.)

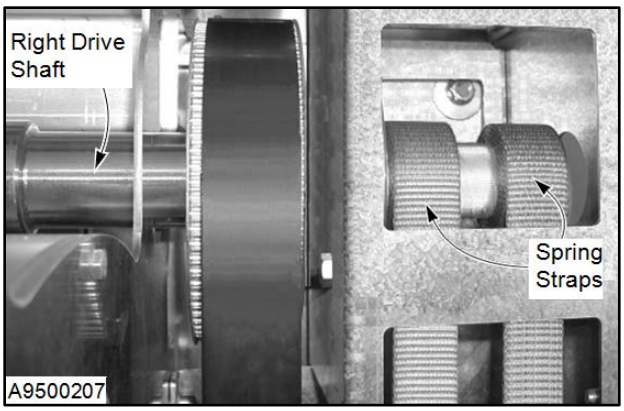


Figure 26

PRIMARY DRIVE BELT INSPECTION

1. Inspect the primary drive belt. The belt should not be frayed, cracked, worn, or damaged. Also check for any damaged or missing teeth. Replace the drive belt if necessary. (See Figure 27.)

To replace the belt, see “PRIMARY DRIVE BELT REPLACEMENT” on page 20.

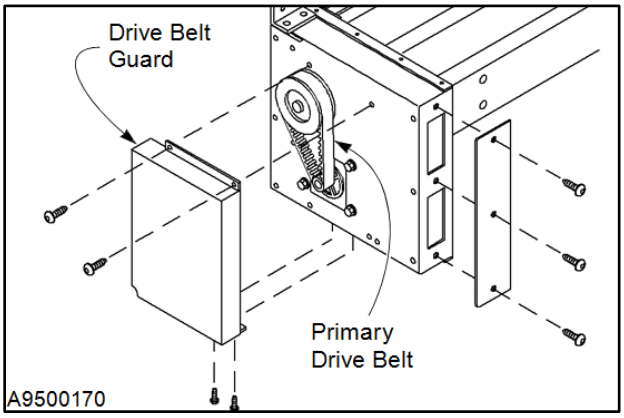


Figure 27

2. Check the tension setting of the primary drive belt by placing moderate pressure against the mid-point of the belt. A properly tensioned belt should deflect approximately $^{1}/_{8}$ in. (See Figure 28.)

To adjust the belt tension, see “PRIMARY DRIVE BELT ADJUSTMENT” on page 16.

IMPORTANT: Excessive belt tension can result in accelerated belt wear. Inadequate belt tension can cause the belt to jump a cog on the gearbox pulley.

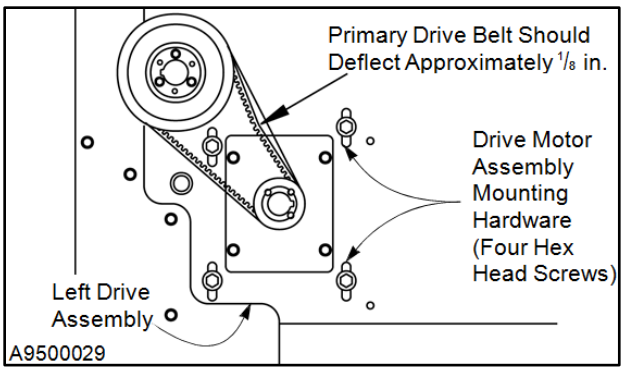


Figure 28

3. Inspect the hardware securing the drive motor assembly to the left drive assembly. Tighten any loose hardware. Replace any missing or damaged hardware as required. (See Figure 28.)

4. Replace the belt guard and both end caps.

Spreader Bar Inspection

1. Move the door to the open position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Inspect the hardware used to attach the spreader bar to the side columns. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 29.)

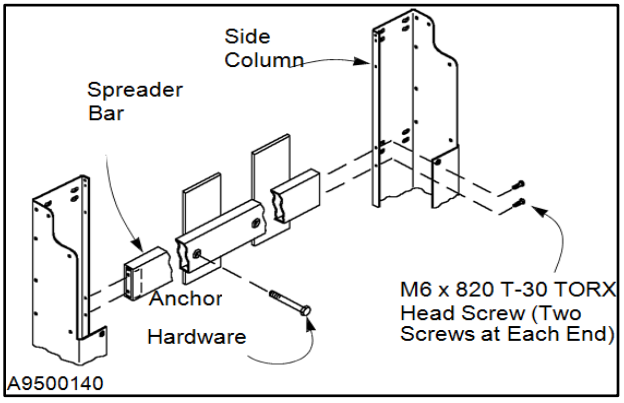


Figure29

Weather Seal Inspection

1. Move the door to the closed position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Inspect the weather seals on both side columns. Check for wear and tear, and check for a good, tight fit between the door panel and the seal. Replace if necessary.

   To replace the weather seal, see “WEATHER SEAL REPLACEMENT” on page 24.

Side Column Inspection

SIDE COLUMN HARDWARE INSPECTION

1. Move the door to the open position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm long, TORX® head screws.

4. Inspect all nuts, through bolts, threaded rods, and anchors used to secure the side columns to the wall and floor. Tighten any loose hardware. Replace any missing or damaged hardware as required.

5. Inspect the hardware used to attach the vertical track sections to the left and right side columns. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 30.)

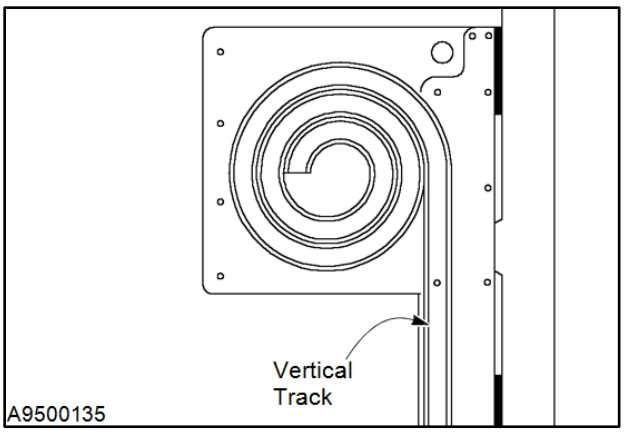


Figure 30

BRAKE RELEASE INSPECTION

1.Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. Remove the side cover from the left side column. It is held in place with nine, 20-mm-long, TORX head screws.

3. Make sure the brake release handle is in good working order and securely fastened to the left side column. Replace any missing or damaged hard-ware as required. (See Figure 31.)

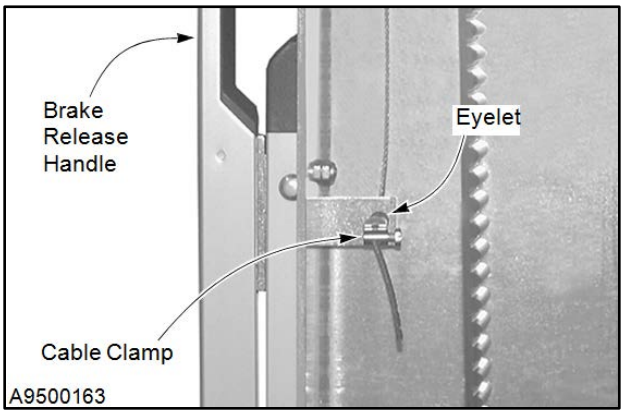


Figure 31

4. Inspect the entire length of the brake release cable running from the brake release handle to the elec-tric brake mechanism located on the drive motor assembly. The cable should not be frayed, worn, or damaged. Replace if necessary. (See Figure 32.)

To replace the brake cable, see “BRAKE RELEASE CABLE REPLACEMENT” on page 22.

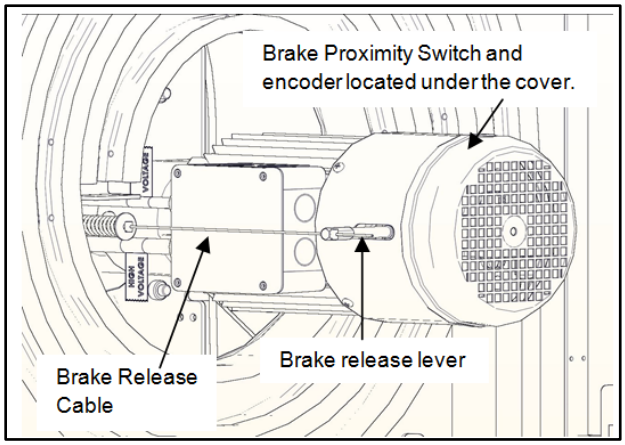


Figure 32

5. Make sure the upper end of the cable is securely fastened to the electric brake mechanism.

6. Inspect the cable clamp on the lower end of the cable to ensure it is securely fastened to the brake release handle. (See Figure 32.)

7. Test the cable by pulling on the brake release handle. Verify the electric brake mechanism is disengaged by repositioning the door.

The tension on the cable should be tight enough to disengage the brake when the handle is pulled, but not so tight that the brake mechanism will not re-engage once the handle is placed back against the side column. Adjust the cable as required.

To adjust the brake release cable, see “BRAKE RELEASE CABLE ADJUSTMENT” on page 18.

SPRING STRAP INSPECTION

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm-long, TORX® head screws.

3. Inspect the hardware securing each spring strap to the drive shaft (be sure to check both the left and right drive shafts). Tighten the hardware as required. Replace any missing or damaged hardware.

4. Inspect the entire length of each spring strap. The straps should not be frayed, worn, or damaged. Replace if necessary.

   To replace a spring strap, see “SPRING STRAP REPLACEMENT” on page 24.

5. Inspect the hardware securing each spring strap to its spring pack. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 34.)

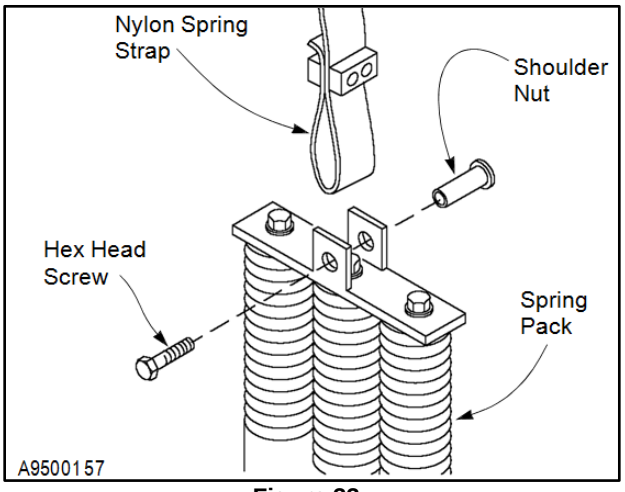


Figure 33

WIRELESS ANTENNA BRACKET

Located at the top of the left or right side column you'll find the Spiral door wireless antenna reversing edge bracket. Check that all mounting hardware is secure. Inspect the antenna and cable for damage. (See Figure 34.)

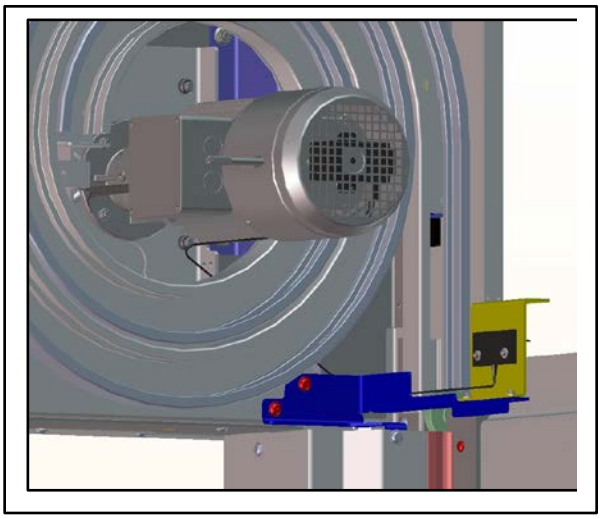


Figure 34

SPRING PACK INSPECTION

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

2. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm-long, TORX® head screws.

3. Inspect each spring pack assembly. Springs should not be stretched, worn, or damaged. Replace if necessary. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 35.)

   To replace a spring pack, see “SPRING PACK REPLACEMENT” on page 27.

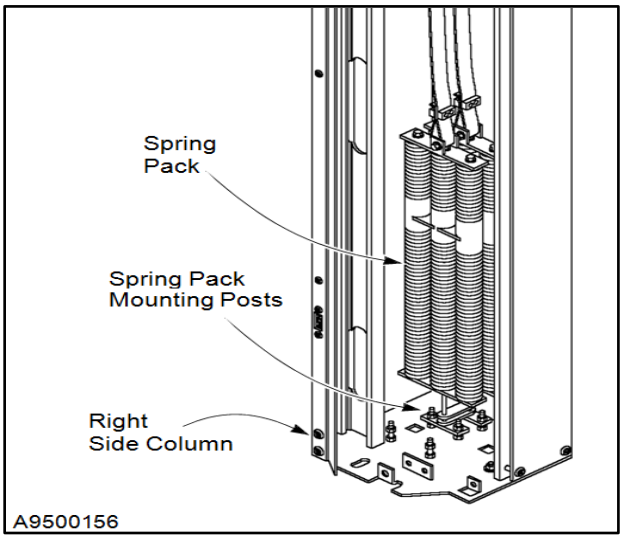


Figure 35

4. Inspect the hex nuts securing each spring pack to the mounting posts. Tighten the nuts as required. Replace any missing or damaged hardware.

5. Inspect the TORX head screws securing the inside spring pack to the side column. Tighten the screws as required. Replace any missing or damaged hard-ware.

SECONDARY DRIVE BELT INSPECTION

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

2. Inspect the entire length of both secondary drive belts. The belts should not be frayed, cracked, worn, or damaged. Also check for any damaged or missing teeth. Replace secondary drive belts if necessary. (See Figure 36.)

   To replace a drive belt, see “SECONDARY DRIVE BELT REPLACEMENT” on page 20.

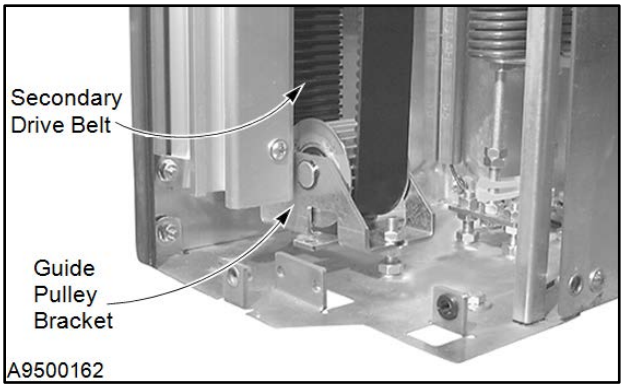


Figure 36

3. Make sure the tension on both secondary drive belts is snug. Adjust the belt tension if necessary.

   To adjust belt tension, see “SECONDARY DRIVE BELT ADJUSTMENT” on page 17.

IMPORTANT: Excessive belt tension can result in accelerated belt wear. Inadequate tension can cause the belt to jump a cog on the drive pulley.

Door Panel Inspection

1. Move the door to the closed position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

3. Remove the side covers from the side columns. Each cover is held in place with nine, 20-mm-long, TORX® head screws.

4. Inspect the entire door panel assembly. Check for damaged or missing hardware. Replace as needed. Also check for loose hardware. Tighten as required.

5. Check for any damaged door panels. Replace as necessary.

   To replace a door panel, see “DOOR PANEL REPLACEMENT” on page 23.

6. Inspect for damaged or worn rollers and guides. Replace as needed. (See Figure 37.)

   To replace a roller, see “DOOR ROLLER REPLACEMENT” on page 27.

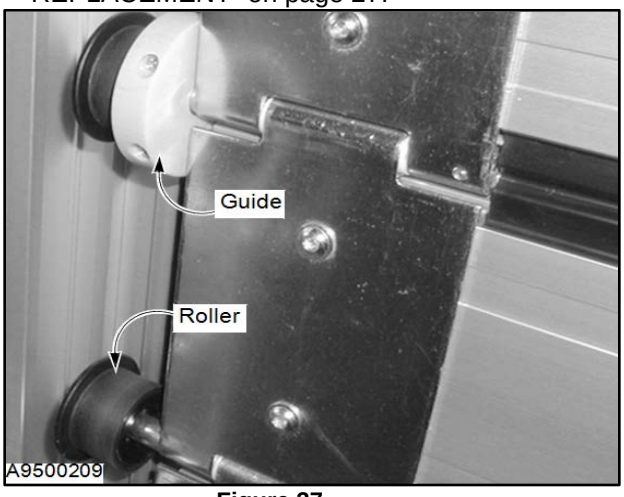


Figure 37

7. Check that the door panel is level along the bottom edge of the panel.

IMPORTANT: DO NOT check the door for level by how it rests on the floor. With the side columns plumb, square, and level, the door will be level when the bottom edge of the panel is perpendicular to the side columns.

A door panel up to 16 feet in width is considered level when the ends of the bottom edge are within $^{1}/_{4}$ in. of each other. A door panel 16 to 28 feet in width is considered level when the ends are within $^{3}/_{8}$ in. of each other.
To level the door panel, see “DOOR PANEL ADJUSTMENT” on page 19.

8. After all inspections are complete, reattach all panels and covers.

ADJUSTMENTS

PRIMARY DRIVE BELT ADJUSTMENT

The primary drive belt that runs from the gearbox pulley to the primary drive shaft pulley is behind the drive belt guard located on the left end of the head assembly. (See Figure 38.)

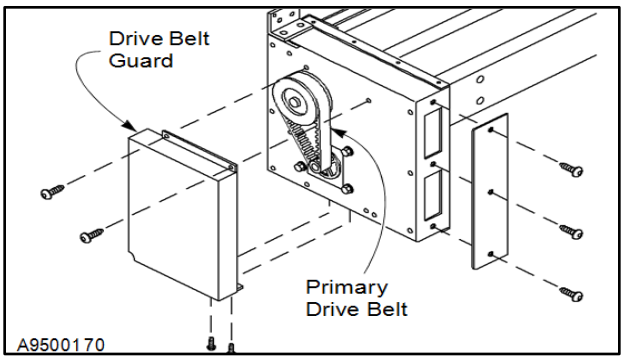


Figure 38

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

2. Remove the belt guard from the head assembly. The belt guard is held in place with four, 20-mm-long, TORX® head screws.

3. Loosen the four hex head screws securing the drive motor assembly to the left drive console. (See Figure 39.)

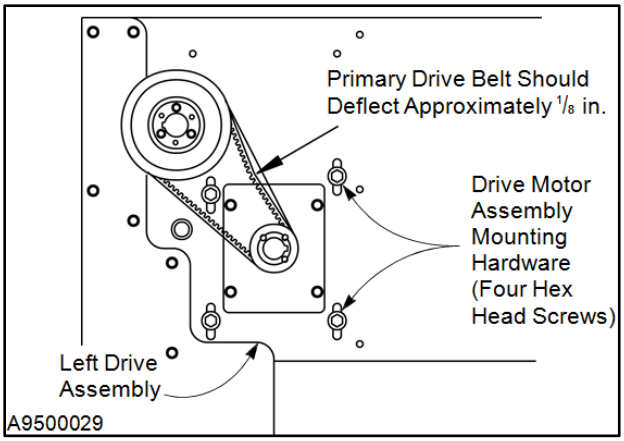


Figure 39

4. Adjust the primary drive belt tension by sliding the drive motor assembly up or down to decrease or increase the belt tension. (See Figure 38.)

IMPORTANT: Excessive belt tension can result in accelerated belt wear. Inadequate belt tension can cause the belt to jump a cog on the gearbox pulley.

5. Measure the deflection in the belt to verify that the belt tension is properly set.

6. Tighten all four hex-head screws to lock in the adjustment.

WARNING

Take precautions to prevent someone else from operating the door as you perform the following procedure. Also, be cautious around the moving parts exposed in the head assembly.

7. Restore power to the control panel.

8. Cycle the door several times to work the drive belt.

9. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

10. Measure the deflection in the drive belt to make sure it is properly tensioned. Readjust the tension as necessary.

11. After all adjustments are complete, reattach the belt guard.

12. Restore power to the control panel.

SECONDARY DRIVE BELT ADJUSTMENT

There are two secondary drive belts. Each runs from the drive shaft assembly down through its respective side column. Belt tension is set by a guide pulley located in the bottom of the side column.

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. Remove the side cover from both side columns. Each cover is held in place with nine, 20-mm long, TORX® head screws.

3. Belt tension should just be snug. It is adjusted by repositioning the guide pulley bracket on the front mounting post. Moving the pulley closer to the base plate will increase belt tension. Moving the pulley away from the base plate will decrease belt tension. (See Figure 40.)

IMPORTANT: Excessive belt tension can result in accelerated belt wear. Inadequate tension can cause the belt to jump a cog on the drive pulley.

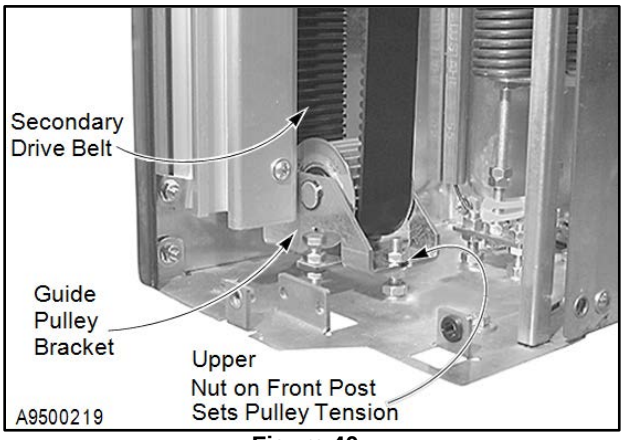


Figure 40

4. Lock in belt tension by tightening the lower nut against the bottom of the pulley bracket.

5. Belt should be centered on the guide pulley. To adjust the belt to the right or left, use the bolt and nuts located on the tabs. To move the belt to the right, adjust the left tab down, and to move the belt to the left, adjust the right tab down. Recheck belt tension when finished.

WARNING

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

6. Restore power to the control panel.

7. Cycle the door several times to work each drive belt.

8. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

9. Measure the deflection in each drive belt to make sure they are both properly tensioned. Readjust the belt tension as necessary.

10. Check the door panel for level and adjust the panel if necessary. (See “DOOR PANEL ADJUSTMENT” on page 19.)

NOTE: Because the door is connected directly to the secondary drive belts, it is important to check the door for level after adjusting either drive belt.

11. After all adjustments are complete, reattach the side column covers.

12. Restore power to the control panel.

BRAKE RELEASE CABLE ADJUSTMENT

The cable that connects the brake mechanism to the brake release handle is located in the left side column.

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. Remove the cover from the left side column.

3. Locate the end of the cable passing through the brake release handle. (See Figure 41.)

4. With the brake handle fully extended, or at 90 degrees, loosen the cable clamp and pull on the free end of the cable to remove any slack. Then slide the cable clamp against the eyelet and tighten the clamp.

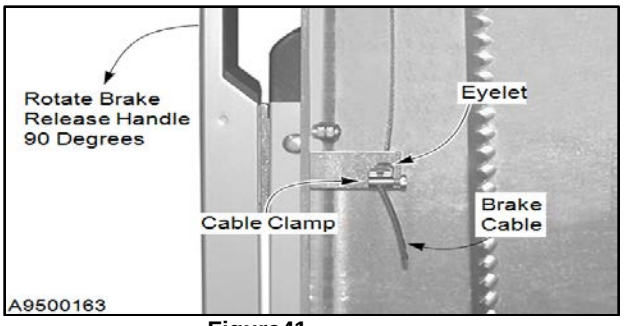


Figure41

5. Check the tension of the cable by pulling on the brake release handle.
6. Manually position the door panel to verify that the electric brake disengages when the handle is pulled. (The door should slide freely and smoothly.)
7. Return the handle to the side column to re-engage the brake and lock door.
8. Attempt to manually move the door to verify that the brake mechanism is set and working properly. (The door should remain locked in place.)
9. After all adjustments are complete, reattach the side column cover.
10. Restore power to the control panel.

DOOR PANEL ADJUSTMENT

To ensure the door operates smoothly and efficiently, the door panel must be level between the side columns.

1. Move the door to the fully closed position.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the cover from the side column adjacent to the corner of the door to be lowered. The cover is held in place with nine, 20-mm-long, TORX® head screws.

NOTE: Always lower the high side (corner) of the door panel. Never raise the panel.

4. Place a level on the first slat or count the number of teeth on the belt to the top of the pulley. If the panel needs leveling the panel must be adjusted from the high side.

5. On the side that is high begin by pushing on the smooth side of the toothed belt (side facing out). Begin working towards the top of the side column. While performing this process a wave will begin to form near the top of the belt. When the wave reaches the top the belt will skip a notch (tooth). An audible snap and tensioning of the belt will occur, this is normal. **DO NOT** place your hand between the belt and the pulley at the top.

6. Adjust the tension of the belt at the bottom of the side column to prevent recurrence.

7. Restore power to the control panel.
8. Cycle the door several times.
9. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

10. Check the door panel for level. Repeat the procedure, as required, until the panel is level.
11. After all adjustments are complete, reattach the side column cover.
12. Restore power to the control panel.

PHOTO EYE ALIGNMENT

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. If aligning the front set of photo eyes, remove the side column covers. Each cover is held in place with nine, 20-mm-long, TORX® head screws.

3. To align a photo eye, reposition the bracket the photo eye is mounted on, as required.

   To determine when the photo eyes are properly aligned, see “Photo Eye Inspection” on page 8. If photo eye replacement is necessary, see “PHOTO EYE REPLACEMENT” on page 29.

4. After all adjustments are complete, reattach the side column covers.

5. Restore power to the control panel and reset open and close door limits.

REPLACEMENT PROCEDURES

PRIMARY DRIVE BELT REPLACEMENT

The primary drive belt that runs from the gearbox pulley to the primary drive shaft pulley is located behind the belt guard, on the left end of the head assembly. (See Figure 42.)

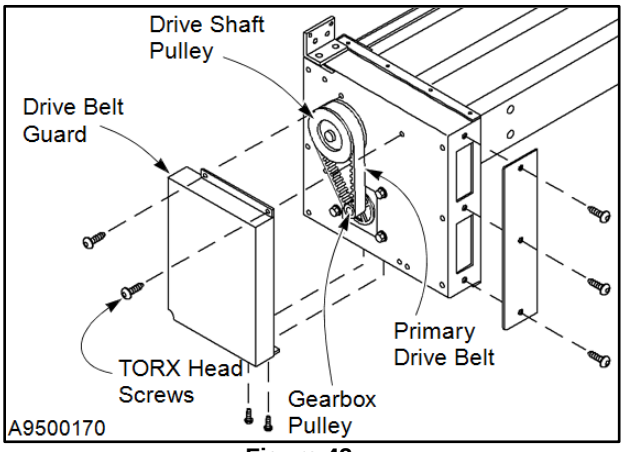


Figure 42

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

2. Remove the belt guard from the head assembly. The belt guard is held in place with four, 20-mm-long, TORX head screws.

3. Loosen the four hex head screws securing the drive motor assembly to the left drive console. (See Figure 43.)

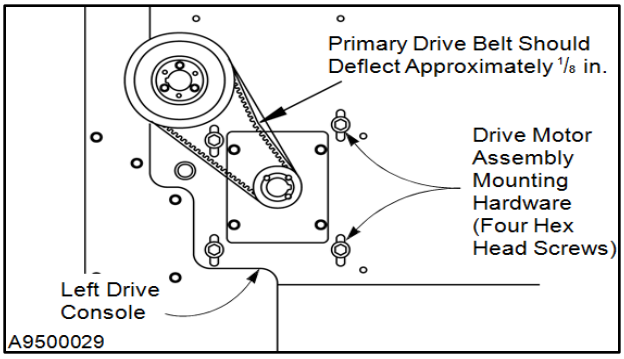


Figure 43

4. Slide the drive motor assembly up toward the top of the head assembly to release the tension in the drive belt. Tighten one hex nut to temporarily lock the drive motor assembly in place.

5. Remove and replace the drive belt.

6. Loosen the hex nut to lower the drive motor and apply tension against the new drive belt.

7. To adjust belt tension, see “PRIMARY DRIVE BELT ADJUSTMENT” on page 16.

WARNING

Take precautions to prevent someone else from operating the door as you perform the following procedure. Also, be cautious around the moving parts exposed in the head assembly.

8. Restore power to the control panel.

9. Cycle the door several times to work the new drive belt.

10. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

11. Re-inspect the drive belt to make sure it is properly tensioned. (See Figure 43.)

12. After all adjustments are complete, attach the belt guard.

13. Restore power to the control panel.

SECONDARY DRIVE BELT REPLACEMENT

1. Position the door panel so that the bottom edge of the door is approximately five feet off the floor.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the cover from the side column containing the belt to be replaced. The side cover is held in place with nine, 20-mm-long, TORX® head screws.

4. Place clamps across the exposed door track to secure the door and prevent it from accidentally falling once belt tension is released. (See Figure 44.)

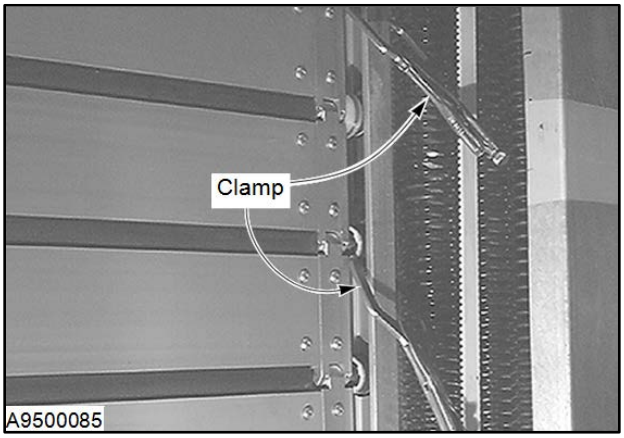


Figure 44

5. Release the tension from the secondary drive belt by removing the guide pulley bracket from the mounting posts. The pulley bracket is held in place by a pair of nuts threaded onto the mounting posts. (See Figure 45.)

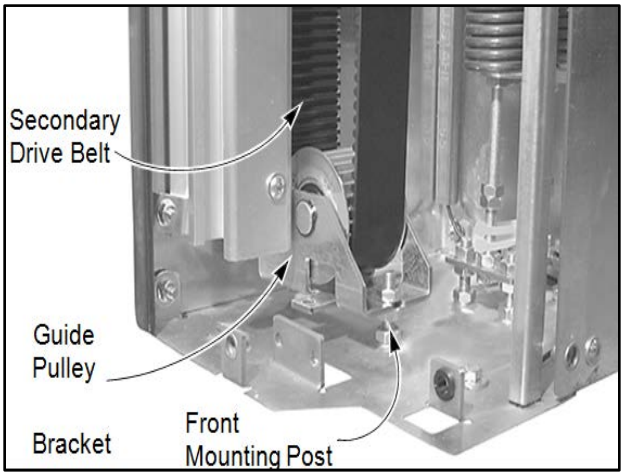


Figure 45

6. Loosen the hex head bolts on the end bracket to release the drive belt from the splice block. (See Figure 46.)

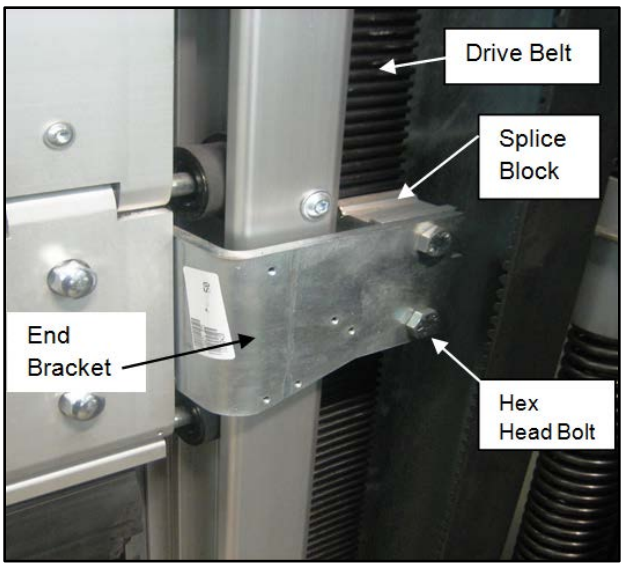


Figure 46

7. Remove the old drive belt from around the upper drive pulley and the guide pulley. Discard the old belt.

8. Install the new secondary drive belt in the same manner as the old belt.

9. Place the ends of the new drive belt between the splice block and splice clamp. Then tighten the hex bolts to clamp the belt to the end bracket.

10. Connect the guide pulley bracket to the mounting posts. Adjust the belt tension. (See “SECONDARY DRIVE BELT ADJUSTMENT” on page 17.)

11. Remove all clamps securing the door panel.

12. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to rotate the drive belt.

13. Inspect the belt for normal action as the door travels up and down. Check the tension of the belt. Readjust if necessary.

⚠ WARNING

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

14. Restore power to the control panel.

15. Cycle the door several times to work the drive belt.
16. Verify the new drive belt is working correctly.
17. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

18. Check the tension of the drive belt and readjust if necessary.
19. Check that the door is level and adjust as needed. (See "DOOR PANEL ADJUSTMENT" on page 19.)
20. After all adjustments are complete, reattach the side column cover.
21. Restore power to the control panel.

BRAKE RELEASE CABLE REPLACEMENT

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

2. Remove the side cover from the left side column.
3. Disconnect the old brake release cable from the electric brake mechanism by removing the cable clamps, washers, and spring. Save all hardware. (See Figure 47 and Figure 48.)

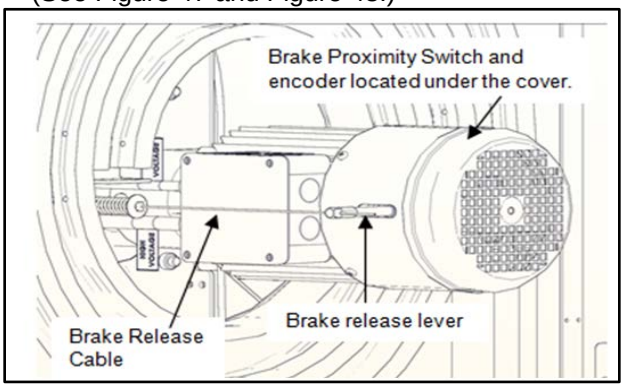


Figure 47

4. Remove and save the cable clamp at the handle end of the cable. Pull the old cable out of the head assembly and side column. Then discard the old cable. (See Figure 49.)

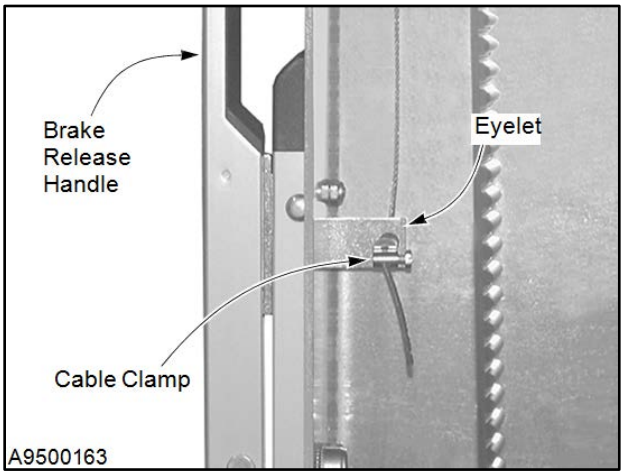


Figure 48

5. Install the new brake release cable, taking the same path as the old cable. Be sure to feed the cable through the cable jacket that runs between the side column and the motor gearbox. (See Figure 49.)

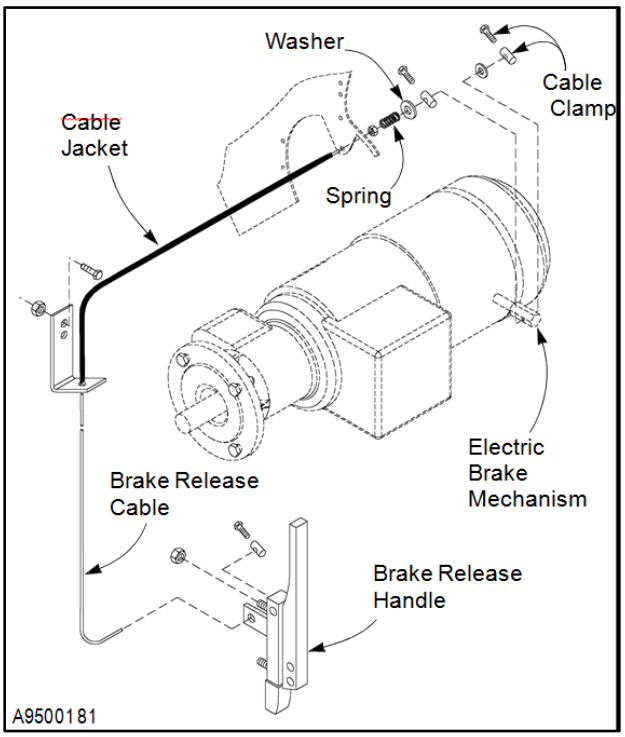


Figure 49

6. Using the saved hardware, connect the upper end of the cable to the electric brake mechanism in the reverse order the old cable was removed.

7. With the brake release handle fully extended out or at 90 degrees, feed the cable through the eyelet in the bottom of the handle. Slide a crimp nut over the end of the cable with the nut tight against eyelet. Then tighten down the setscrew with the majority of slack removed from the cable. (See Figure 50.)

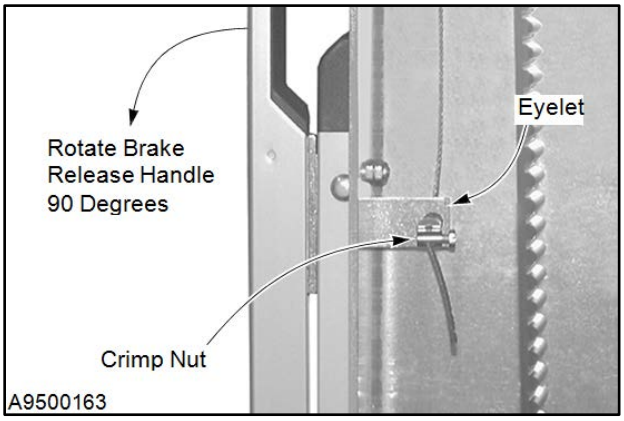


Figure 50

8. Pull the handle several times to work the new cable. Check the action of the electric brake mechanism for proper travel. Verify that the door can be repositioned when the brake release handle is pulled. Reposition the cable clamp if necessary.

9. After all adjustments are complete, cut the cable to final length, an inch or two past the cable clamp.

10. Install the side column cover.

11. Restore power to the control panel.

DOOR PANEL REPLACEMENT

1. Move the door panel to the fully open position by pressing the door open (▲) button located on the control panel.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

3. Remove the cover from each side column.

⚠ CAUTION

Use two clamps on each end to prevent upward or downward movement. Serious injury may result from improper procedure.

4. Once the door is positioned, set the brake and clamp both sides of the door to the vertical track. Position clamps along both edges of the door above and below the panel to be removed to prevent the remaining panels from moving. (See Figure 51.)

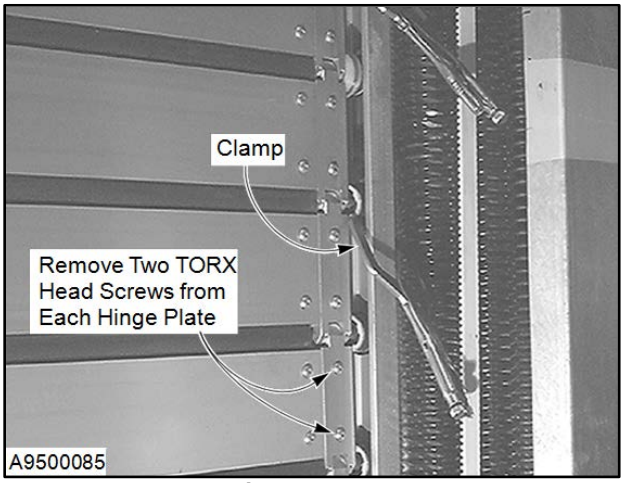


Figure 51

5. At the ends of the door panel to be replaced, remove the two TORX® head screws securing each hinge plate to the panel. (See Figure 52.)

6. Carefully break free the rubber seal from between the adjoining panels.

7. Slip the panel to be removed out through the back side of the door opening. (Sliding the panel to the left or right will allow the panel to clear the track.)

8. Install the new door panel in the reverse order the old panel was removed.

9. After screwing the hinge plates to the new panel, reattach the rubber seals.

10. Remove clamps.

11. Release the brake by pulling the brake release lever. Manually move the door up and down several times. Verify that the door panel and spring packs function normally.
Make any necessary adjustment.

⚠WARNING

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

12. Restore power to the control panel.
13. Operate the door several times to verify that the door panel and spring packs function normally.

WEATHER SEAL REPLACEMENT

1. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠WARNING

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

2. Remove the side cover from the side column. The cover is held in place with nine, 20-mm-long, TORX® head screws.
3. There is a length of weather seal on both the side column cover and the side column. Each weather seal can be removed by pulling on either end of the seal, while working toward the opposite end.
4. Attach the new weather seal in the same manner the old seal was attached. Make sure the seal is firmly seated along the edge.
5. Attach the side cover to the side column.
6. Restore power to the control panel.

SPRING STRAP REPLACEMENT

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠WARNING

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

3. Remove the cover from the side column. The cover is held in place with nine, 20-mm-long, TORX head screws.
4. Remove the associated end cap from the head assembly to expose the upper end of the spring strap. Each end cap is held in place with three, 20-mm-long, TORX head screws. (See Figure 52.)

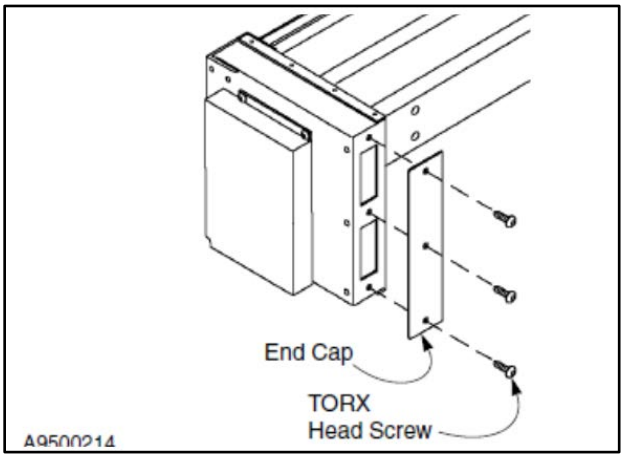


Figure 52

5. Disconnect the associated spring pack assembly from the base plate. To retain the preload setting of the spring pack, loosen only the lower hex nut on each mounting post. (See Figure 53.)

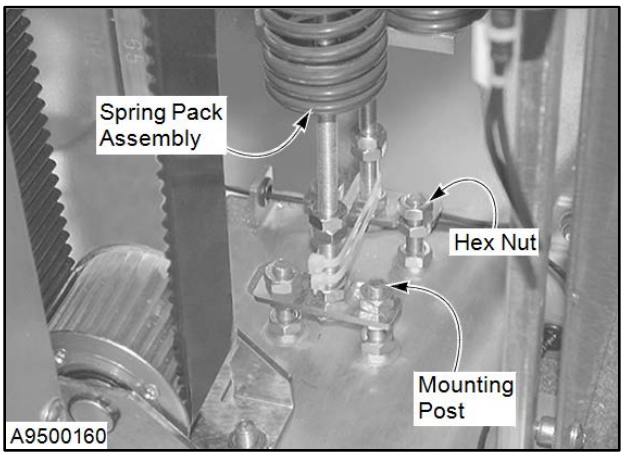


Figure 53

6. To release the strap from the spring pack, remove the hex head screw and the shoulder nut passing through the clevis bracket at the top of the spring pack. Save all hardware. (See Figure 54.)

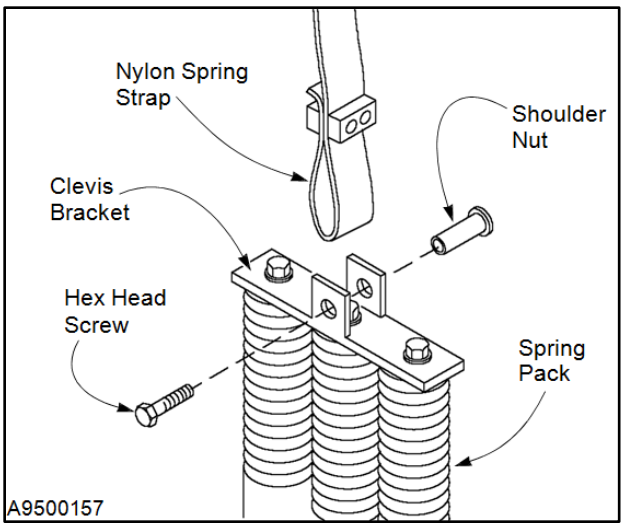


Figure 54

CAUTION

It is critical for you to remember the exact number of times the old spring strap is "dead wrapped" around the drive shaft. Otherwise, if the new strap is not dead wrapped exactly as the old strap, severe damage can result to the drive system.

7. To release the spring strap from the drive shaft, first unwind the strap from around the drive shaft.

8. Then remove the steel plate and all associated hardware used to clamp the strap to the shaft. Save all hardware. (See Figure 55.)

NOTE: Depending on the rotated position of the drive shaft, you might not have direct access to the hardware securing the spring strap to the drive shaft. To expose the mounting hardware, first release the electric brake mechanism and then manually reposition the door until the drive shaft rotates the mounting hardware toward the opening you are working through. Reset the brake once the mounting hardware is rotated toward the opening.

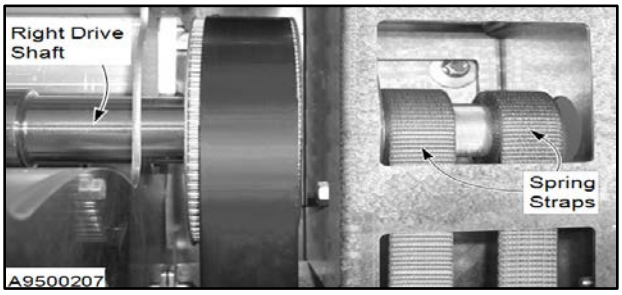


Figure 55

9. Attach the new strap to the drive shaft using the saved hardware. The hardware must be securely fastened to ensure that the spring strap does not disconnect from the drive shaft.

10. "Dead wrap" the new strap around the drive shaft. Make sure the strap comes off the front of the shaft. Wrap the new strap around the drive shaft the same number of times the old strap was dead wrapped around the shaft. (If the door was moved to rotate the clamp plates, move the door back to its original position to ensure the belt is wrapped correctly.)

CAUTION

It is critical that the new spring strap be "dead wrapped" around the drive shaft the correct number of times. It is equally important that the strap be wrapped so that it comes off the front of the drive shaft. Otherwise, the door will not open or close properly, and damage to the drive system could result.

11. Attach the loop end of the new spring strap to the spring pack using the saved hardware. Make sure the strap is hanging straight and not twisted. (See Figure 56.)

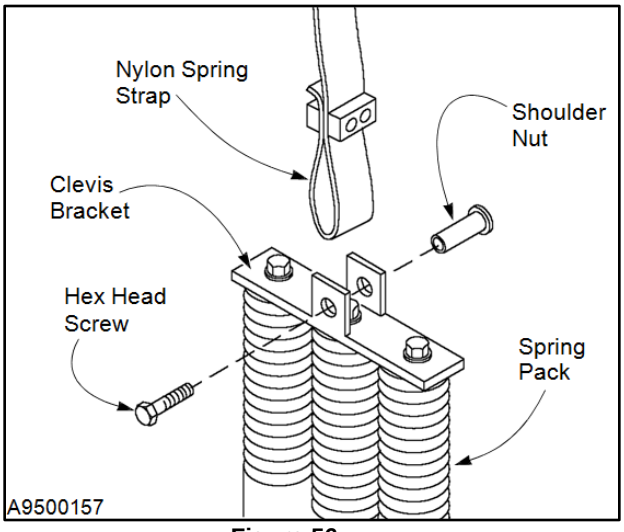


Figure 56

12. Attach the spring pack to the mounting posts on the base plate. Tighten the lower nuts against the bottom of the mounting plate to retain the preload setting of the spring pack. (See Figure 57.)

NOTE: If more than one spring pack is used, face the forked mounting plates toward each other and use plastic cable ties to help pull the mounting plates tight against the posts.

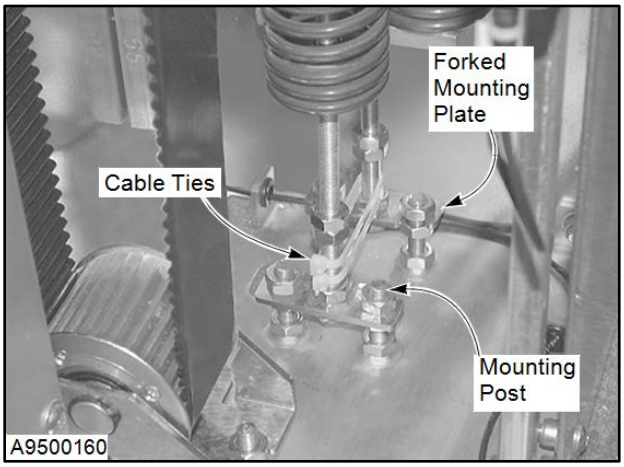


Figure 57

13. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to work the new strap.
14. Inspect the spring strap for normal action as the door travels up and down.

WARNING

Take precautions to prevent someone else from operating the door as you perform the following procedure. Also, be cautious around the moving parts exposed in the head assembly.

15. Restore power to the control panel.
16. Cycle the door several times. Verify that the new spring strap is working correctly.
17. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

18. After all adjustments are complete, attach the end cap and the side column cover.
19. Restore power to the control panel.

SPRING PACK REPLACEMENT

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the side cover from the side column. The side cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Disconnect the old spring pack assembly from the base plate. The spring pack is held in place by two hex nuts threaded onto a pair of mounting posts. (See Figure 58.)

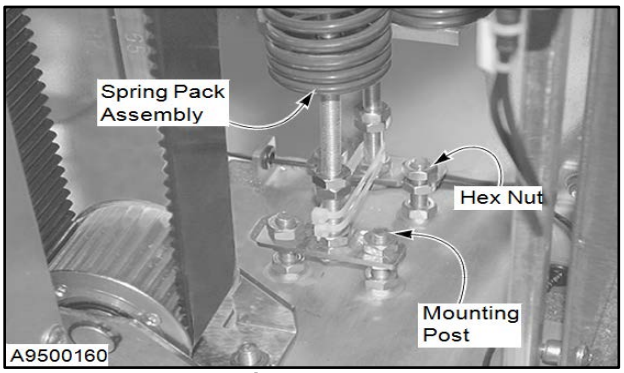


Figure 58

5. To release the spring pack from the strap, remove the hex screw and the shoulder nut passing through the clevis bracket located at the top of the spring pack. (See Figure 59.)

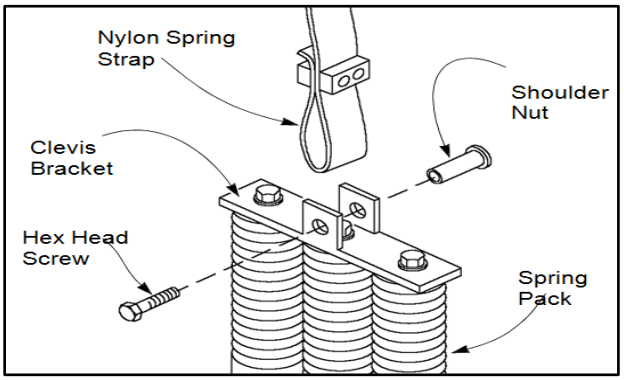


Figure 59

6. To install a new spring pack, first attach it to the loop end of the spring strap using the existing hardware. Make sure the strap is not twisted.
7. Before a spring pack can be attached to the base plate, it must first be preloaded (sized) for your particular door. The information you will need for this procedure is provided on the Preload Information Sheet that was shipped with the new spring pack.

   Preload is the measured distance from the base plate to the forked plate of the spring pack. To pre-load a spring pack, spin the adjustment rod until the rod assembly is the correct length. (See Figure 60.)

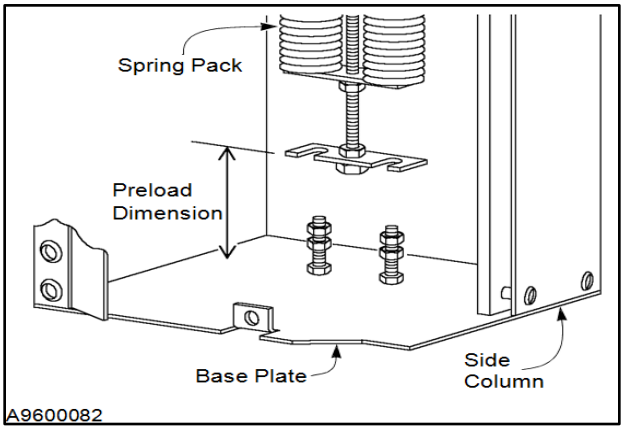


Figure 60

8. Attach the spring pack to the mounting posts on the base plate. To retain the preload setting, tighten only the lower nuts against the bottom of the mounting plate — do not adjust the upper pair of nuts. (See Figure 61.)

NOTE: Make sure the spring strap is hanging straight and not twisted. Also, if more than one spring pack is used in the side column, face the forked mounting plates toward each other and use plastic cable ties to hold the mounting plates tight against the posts.

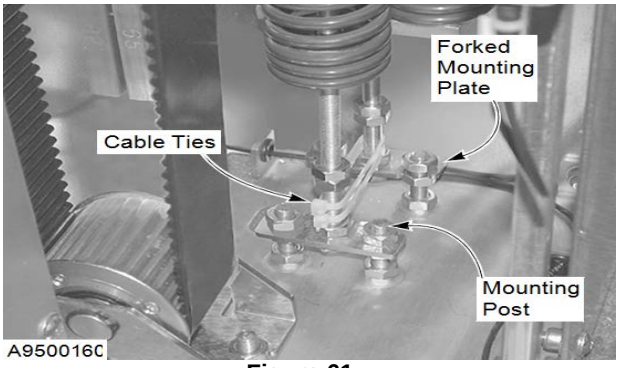


Figure 61

9. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to stretch and work the new spring pack.
10. Inspect the spring pack for normal action as the door travels up and down. Make any necessary adjustments.

WARNING

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

11. Restore power to the control panel.
12. Cycle the door several times. Verify that the new spring pack is working correctly.
13. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

14. After all adjustments are complete, attach the cover to the side column.
15. Restore power to the control panel.

DOOR ROLLER REPLACEMENT

1. Move the door to the fully open position by pressing the door open (▲) button on the control panel.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

3. Remove the cover from each side column.
4. Once the door is positioned, clamp both sides of the door to the vertical track. Position clamps along both edges of the door. (See Figure 62.)

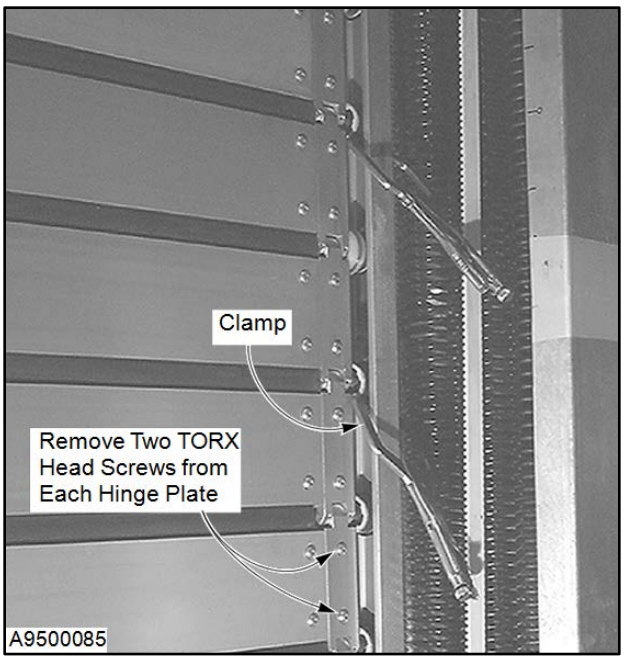


Figure 62

5. Remove the vertical door track that is covering the roller to be removed. The cap is held in place with TORX® head screws. (See Figure 63.)

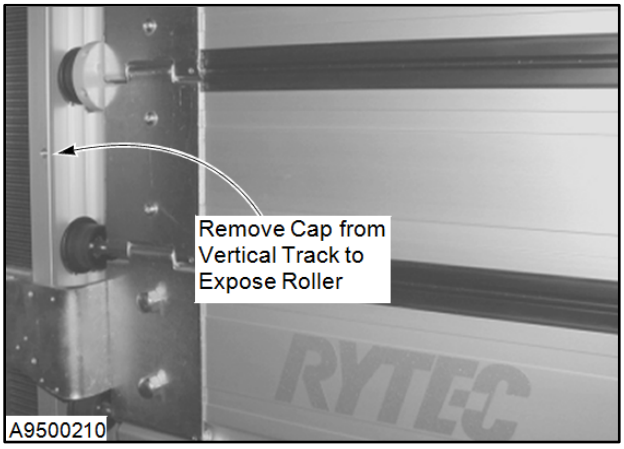


Figure 63

6. Remove the TORX head screws from the hinge plates along both sides of the roller to be removed. (See Figure 64.)

7. To remove the roller, loosen and remove the nut on the end of the roller. Then slide the roller off the end of the axle. (See Figure 64.)

NOTE: If the axle is bent or damaged, remove it, by punching out the small spring pin that locks the axle in the hinge.

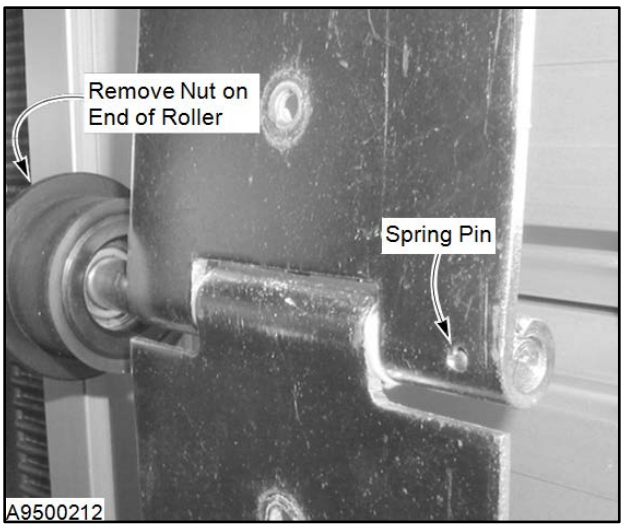


Figure 64

8. Install the new roller, and reassemble the door and the track in the reverse order of disassembly.

⚠ CAUTION

Use two clamps on each end to prevent upward or downward movement. Serious injury may result from improper procedure.

9. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to work the new roller.

⚠ WARNING

Take precautions to prevent someone else from operating the door as you perform the following procedure. Also, be cautious around the moving parts exposed in the head assembly.

10. Restore power to the control panel.

11. Cycle the door several times. Verify that the new roller is working correctly.

12. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

13. After all adjustments are complete, attach both side column covers.

14. Restore power to the control panel.

PHOTO EYE REPLACEMENT

When replacing the photo eyes, note that the emitter modules are located in the right-front and left-rear corners of the door, and the receiver modules are located in the left-front and right-rear corners of the door.

The eyes must be installed with the emitter modules and receiver modules mounted diagonally across from each other to avoid one set of eyes from interfering with the other set of eyes.

Also, the front and rear sets of photo eyes and their associated wire cables are not interchangeable — each set of eyes is of a different style and manufacturer.

⚠ WARNING

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

Cleaning Photo Eyes

A dirty photo eye lens can cause a photo eye module to fail or operate intermittently. After any work is performed on either set of photo eyes, it is recommended that the lens on each photo eye be cleaned using a clean, soft cloth and household window cleaner.

REVERSING EDGE REPLACEMENT

1. Move the door to a comfortable working position. By jogging or releasing the brake to position the door.

2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

3. Remove the cover from each side column.

⚠ CAUTION

An appropriate number of clamps must be placed across both door tracks to prevent the door panel from moving while performing the following procedure.

4. Clamp both sides of the door to the uppermost sections of track. (See Figure 65.)

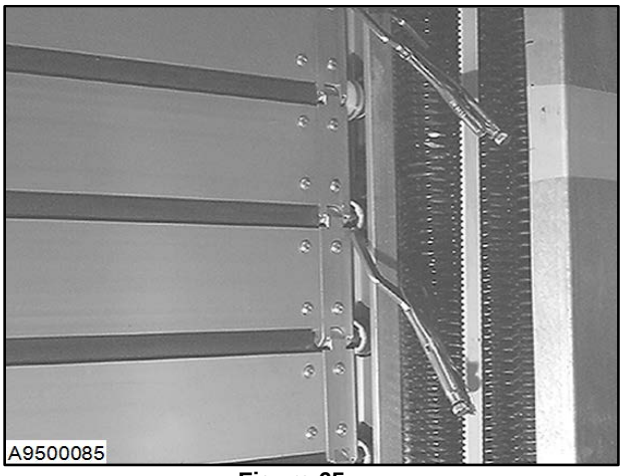


Figure 65

5. Disconnect the reversing edge control wires from the mobile unit terminal block. (See Figure 66.)

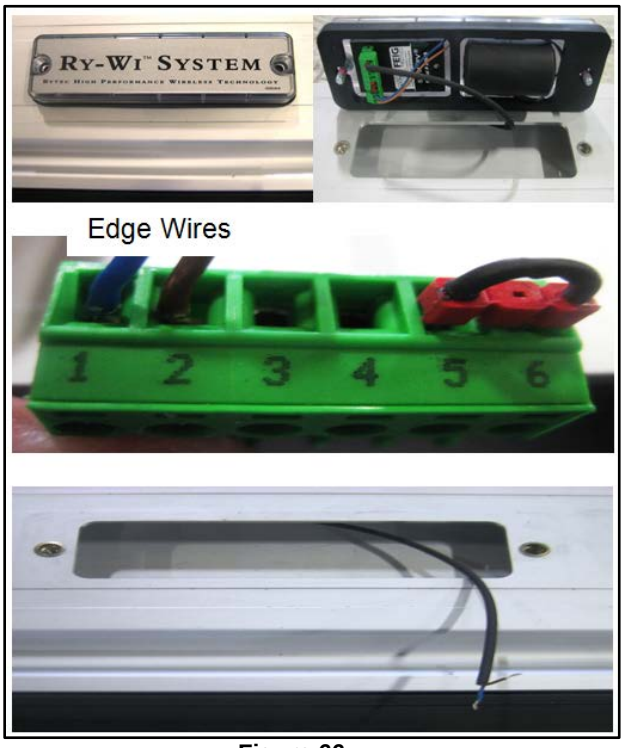


Figure 66

6. Remove and save the two small Phillips head screws used to secure the rubber reversing edge to the bottom door panel. Each screw is located about 4 in. from the ends of the panel, just above the rubber reversing edge. (See Figure 67.)

Figure 67

7. Release the tension from each secondary drive belt by removing the guide bracket from its front and rear mounting posts. The pulley bracket is held in place by a nut threaded onto each post. (See Figure 68.)

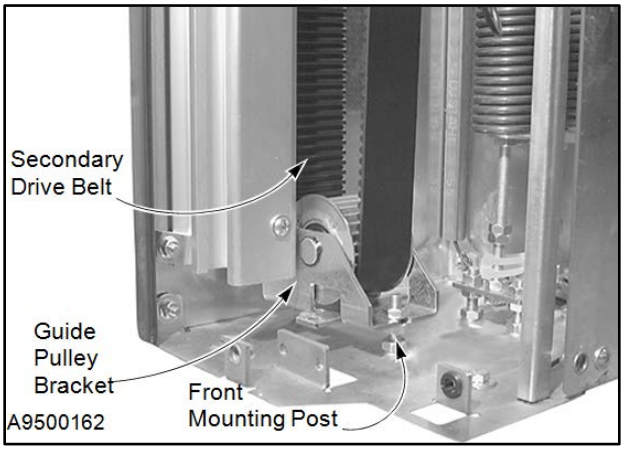


Figure 68

8. Remove the track cap from the lower section of door track along both sides of the door panel. Save all hardware. (See Figure 69.)

Figure 69

9. Lift the lower door panel away from the door opening until the reversing edge just clears the front of each side column.

10. Slide the reversing edge out of the T-channel it hangs from along the bottom edge of the door.

11. Install the new reversing edge in the reverse order the old edge was removed using all saved hardware. Make sure to center the reversing edge on the door panel before reinstalling the small Phillips head screws.

12. Connect both drive belt pulley brackets to the mounting posts in the bottom of the side columns.

13. Inspect the tension on each secondary drive belt. If adjustment is necessary, see “SECONDARY DRIVE BELT ADJUSTMENT” on page 17.

14. Reattach the spring packs to the mounting posts. Make sure the strap that each spring pack hangs from is not twisted.

15. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to ensure the panel rolls smoothly.

⚠ WARNING

Take precautions to prevent someone else from operating the door as you perform the following procedure. Also, be cautious around the moving parts exposed in the head assembly.

16. Restore power to the control panel.

17. Cycle the door several times. Verify that the door panel rolls smoothly and is working correctly.

18. Test the new reversing edge to make sure that it is operating properly.
(See “Reversing Edge Inspection” on page 7.)

19. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠WARNING

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

20. After all adjustments are complete, attach the side column covers.

21. Restore power to the control panel**.**

WIRELESS ANTENNA BRACKET/WIRELESS ENCODER REPLACEMENT

Located at the top of the left or right side column is the Spiral door wireless antenna bracket assembly. (See figure 70.)

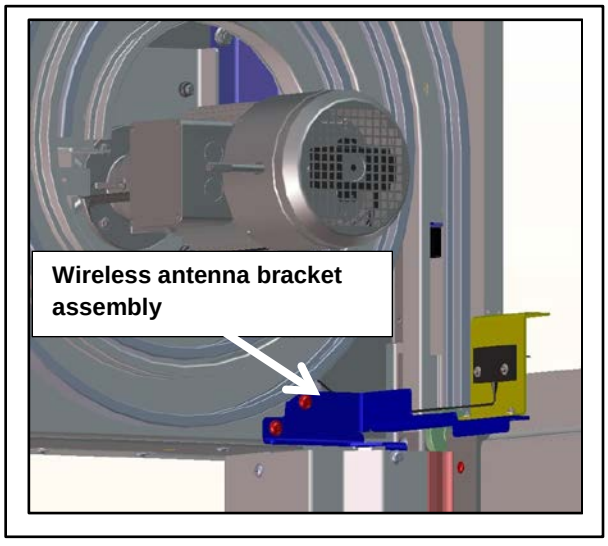


Figure 70

If the wireless bracket is damaged remove the portion of the bracket that is damaged and replace.

If the wireless antenna is damaged the wireless encoder assembly will need to be replaced. Part #00141120

To replace the wireless encoder, the brake cover will need to be removed, to access the wireless encoder. (See Figure 71.)

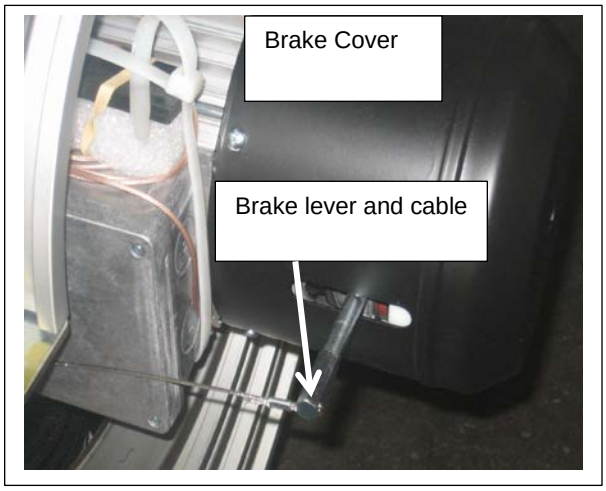


Figure 71

1. Remove the brake release cable from the brake lever. (See Figure 72.)

Figure 72

2. Unscrew the brake lever from the motor. (See Figure 73.)

Figure 73

3. Remove the screws holding the brake cover on the motor and remove the brake cover. (See Figure 74 & 75.)

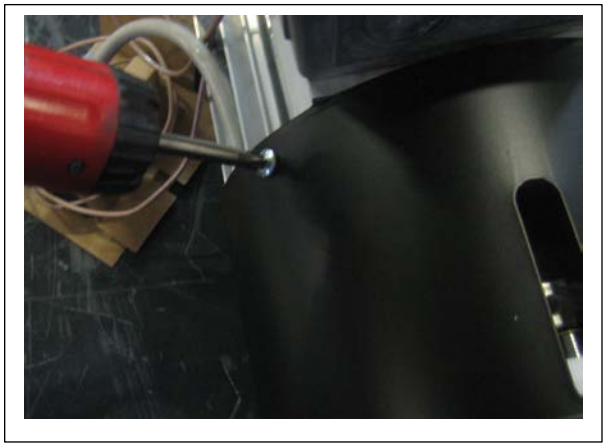


Figure 74

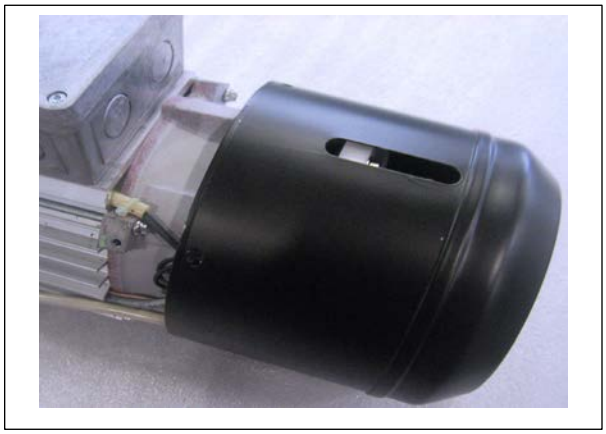


Figure 75

4. Remove the two large phillips head screws that hold the encoder to the white plate.(See Figure 76.)

Figure 76

5. Check the 2 set screws (1.5mm) on the hub to make sure the encoder hub is tight to the motor shaft. (See Figure 77.)

Figure 77

6. Replace with the new wireless encoder.

7. Route the cables through the notch in the white plastic plate and re-install the brake cover. (See Figure 78.)

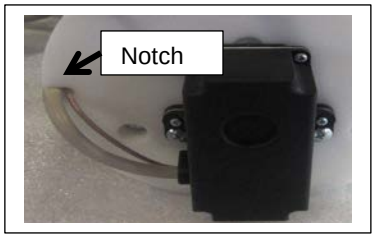


Figure 78

8. Route the antenna and cable through the head assembly and exit near the old antenna cable. (See Figure 79.)

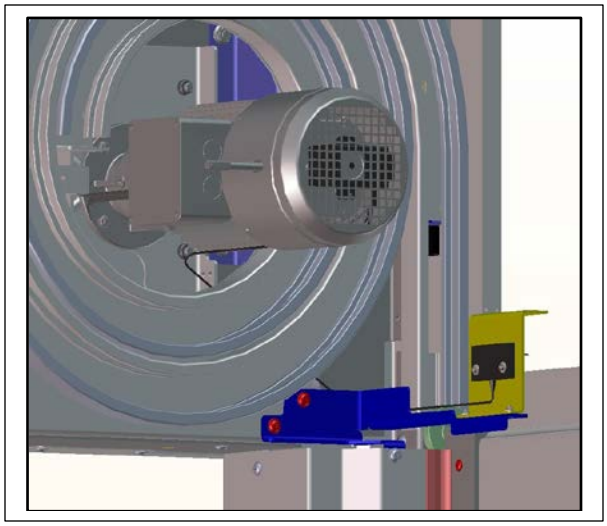


Figure 79

9. Remove the old antenna

10. Mount the new antenna to the bracket, the tan cable MUST exit towards the floor from the antenna (as shown in figure 79).

11. Installing a new encoder will require you to reset the limits using parameter P:210. See the System 4 owner's manual for setting limits and navigating parameters.

CLEANING OF VISION PANELS

Routine Cleaning

1. Rinse with flowing water.
2. Clean with warm water and small amount of mild non-abrasive soap (dish soap).
3. Lightly rinse vision panels using a water spray.
4. Remove excess water using a clean and dry microfiber of lint free cloth.
5. Use a small squeegee to completely dry all panels.
6. Wipe any additional moisture with dry microfiber or lint free cloth.

Occasional Heavy Cleaning and Fine Scratch Removal

1. Remove all surface dirt and dust with warm water spray.
2. Mix a mild non-abrasive soap (dish soap) into a bucket of warm water.
3. Gently wash using a microfiber or lint free cloth keeping the cloth sudsy at all times.
4. Lightly rinse vision panels using a water spray.
5. Remove excess water using a clean and dry microfiber or lint free cloth.
6. Use a small squeegee to completely dry all vision panels.
7. Wipe any additional moisture with a dry microfiber or lint free cloth.
8. Over the counter products can be used to polish the vision panels. Products such as (Novus Polish #2 – www.novuspolish.com) is designed specifically for polycarbonate windows and will help maintain clarity and shine of the vision panels. Follow the instructions on the product for the proper application.

NOTE: Please be sure the product is non-abrasive and designed specifically for polycarbonate windows.

PARTS LIST

ORDERING INFORMATION

IMPORTANT: To ensure you order and receive the right parts for your door, determine the model (series) designation of your door by measuring the width of either side column. A spiral L-series side column is 9$^1/_2$ in. (240 mm) wide; a spiral S-series side column is 14 in. (350 mm) wide.

How to Order Parts

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.

2. To place an order, contact your local Rytec representative or the Rytec Technical Support Department at 800-628-1909 or 262-677-2058 (fax).

3. To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number can be found inside either side column (approximately eye level), on the drive motor, and on the inside door of the System 4 control panel.

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.

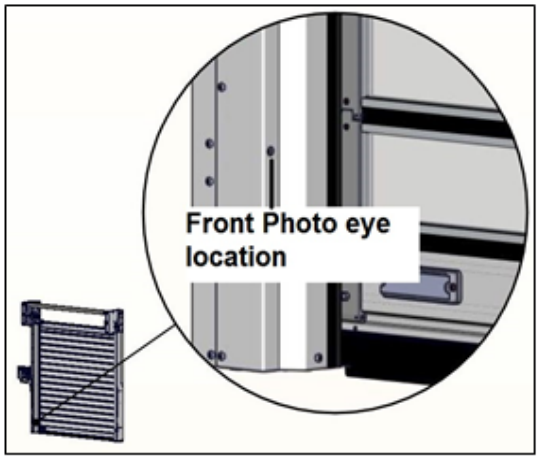
Also, if a part has been improved in design and bears a revised part number, the improved part will be substituted for the part ordered.

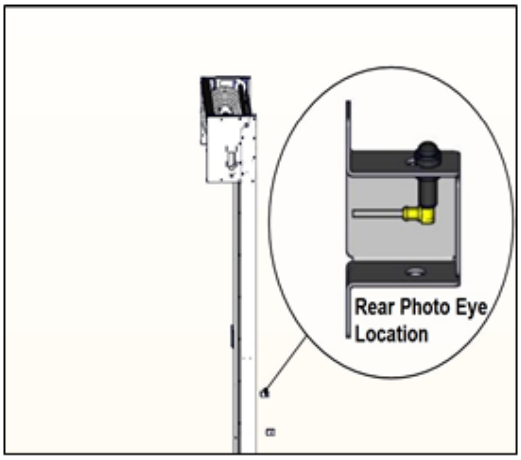
Return of Parts

Rytec will not accept the return of any parts unless they are accompanied by an Incident or RMA number.

Before returning any parts, you must first contact the Rytec Technical Support Department 1-800-628-1909 and provide the door serial number to obtain an Incident or RMA number.

PHOTO EYES AND PHOTO EYE CABLES





Front photo eye cables:

Cable 4 pin, PE 8 Meters, part #02222784, drive side

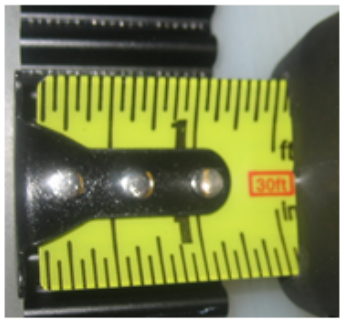
Cable 4 pin, PE 15 Meters, Part #02222786, non-drive side

Rear photo eyes, cables and brackets. All three pieces ordered as assembly. Transmitter assembly part #07991572. Receiver assembly part #07991572. Assembly includes photo eye, cable & bracket.

Figure 80

STRAPS & BELTS (SST-L & L/R, S & S/R)

SECONDARY DRIVE BELT (Black poly belt located in side column, 2 sizes, please provide door serial number to determine length when ordering.)



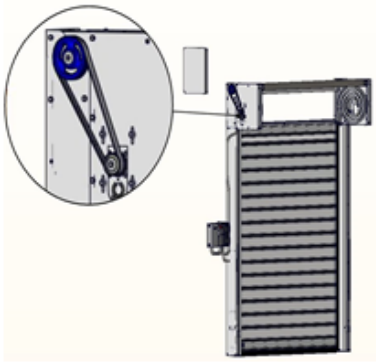
Part #08310450 tooth belt L/R
Approx. 1 ¼" wide, L Model

Part #08310435 tooth belt S/R
Approx. 2" wide, S Model

SPRING BELTS (SST-L & L/R, S & S/R) (Blue belt in side columns, all Spiral model doors use same blue spring belt, please provide door serial number to determine length when ordering.)

Part #SD.SPRING
Approx. 1 ½" wide

PRIMARY DRIVE BELT (SST-L & L/R, S & S/R), Belt from motor to drive shaft, 2 sizes.



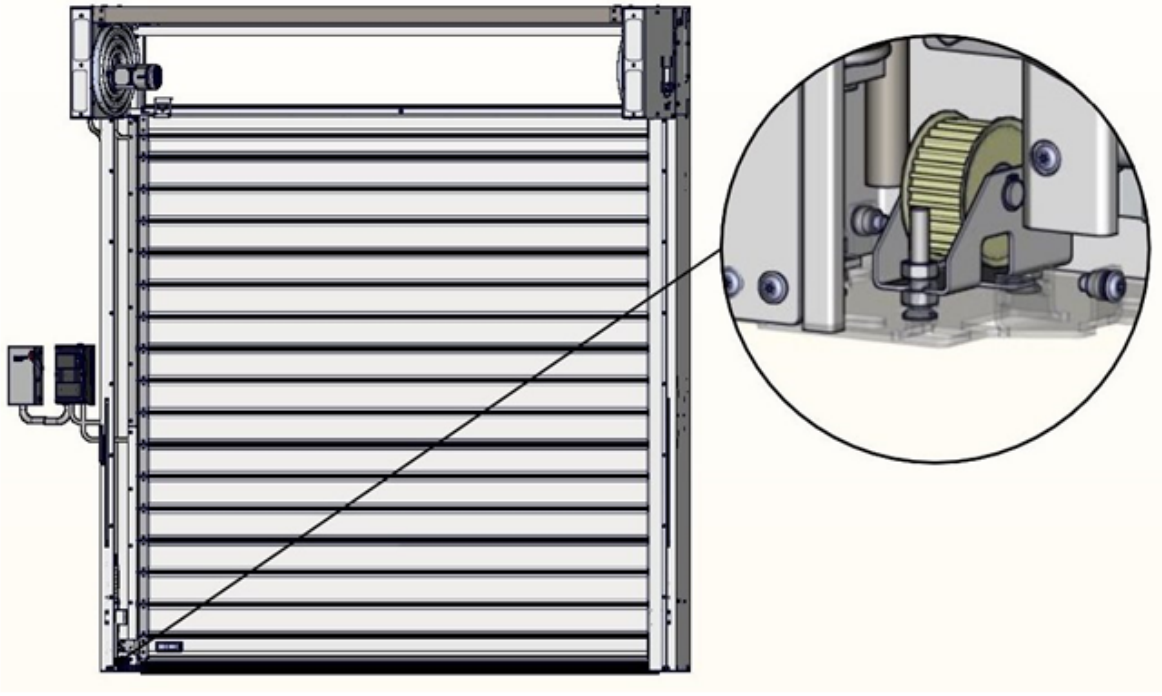
Part #08310434
Approx. 1 ¼"wide
L Model Size

Part #083104317
Approx. 2" wide
S Model size

Figure 81

LOWER PULLEY – SST-L & L/R, S & S/R

LOWER PULLEY – SST-L & L/R, S & S/R (Lower pulley's have 2 sizes depending on door model, please provide door serial number when ordering.)

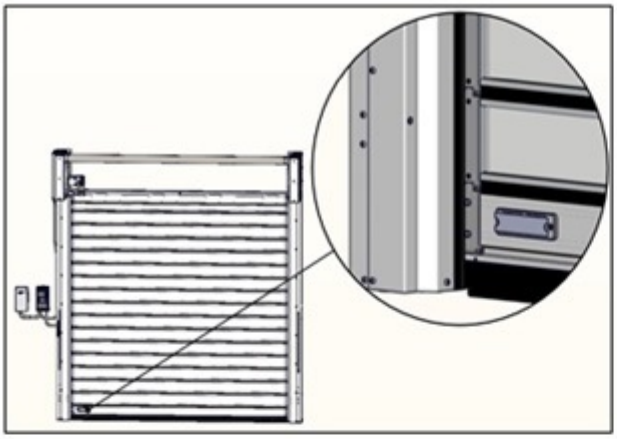


Part #237804 Lower Pulley small
Approx. 1 ½" wide, L Model

Part #238803 Lower Pulley Large
Approx. 2 3/8" wide, S Model

Figure 82

REVERSING EDGE – WIRELESS



Part #SD.EDGE
Requires door serial Number

Cover Assembly, Wireless

Parts 1-3
1 - Decal - Part #1210110-0
2 - Cover - Part #1060116-0
3 - Mobile unit - Part #00142057 Mobile unit wireless, Extended Range, XR

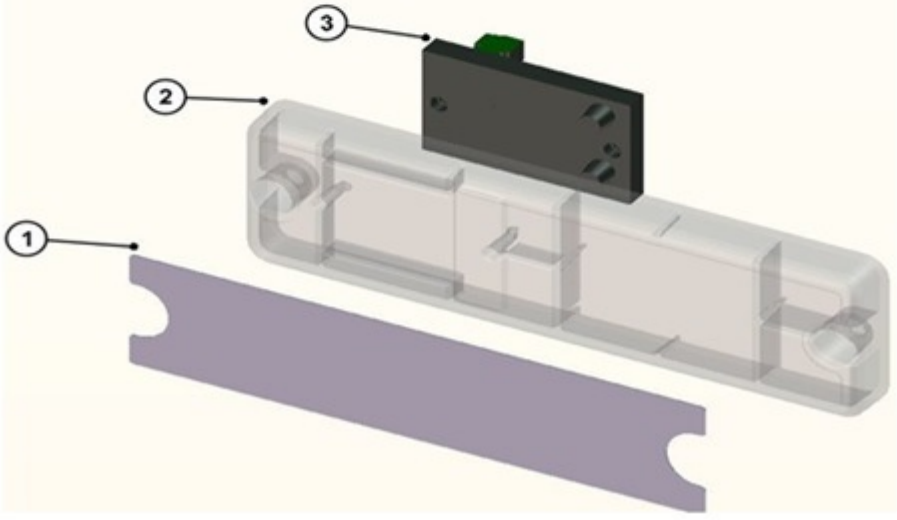


Figure 83

MOBILE UNIT – ADDRESS

REMINDER: When Replacing Part #00142057 Mobile Unit Wireless, Extended Range, XR

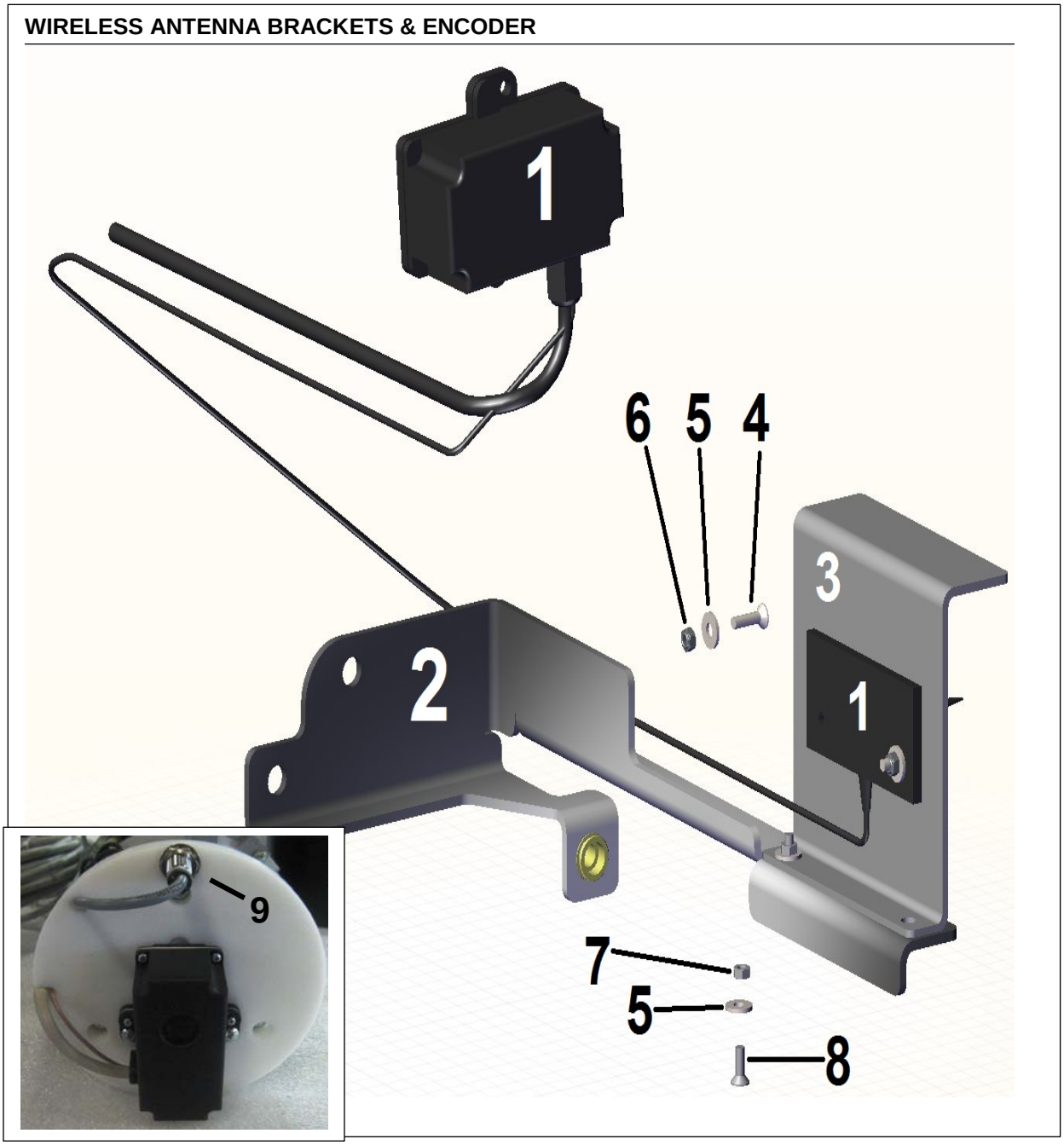
The new mobile unit address number MUST be entered into parameter P:F07 for the wireless reversing edge to operate. In the example above P:F07 must be set to **B359**. NOTE: Mobile unit address is in hexadecimal numbers and therefore, could contain letters in the mobile unit address.

Part #1070625-0
Gasket Wireless

Part #00111193
Battery wireless

Figure 8

WIRELESS ANTENNA BRACKETS & ENCODER



ITEM	QTY	PART#	DESCRIPTION
1	1	00141120	Wireless encoder XR 60” Spiral
2	1	1070699-1Z01	Upper corner bracket LH wireless L & L/S size
-	1	1070699-2Z01	Upper corner bracket RH wireless L& L/S size
-	1	1070702-1Z01	Upper corner bracket LH wireless S & S/R size
-	1	1070702-2Z01	Upper corner bracket RH wireless S & S/R size
3	1	1070678-0Z01	Bracket, antenna wireless Spiral
4	2	5550052-0Z04	Screw, PFMA, M4-0. 7X16, 90Deg, SS
5	4	5550055-0Z04	Washer Flat M4, SS
6	2	5550057-0Z04	Nut, M4-0. 7, Hex Head Locking, SS
7	2	5550053-0Z04	Nut, M4-0. 7, Hex, SS
8	2	5550054-0Z04	Screw, PFMS, M4-0. 7X12, 90Deg, SS
9	1	00111188	Inductive sensor, M12, brake prox. sensor

BRAKE RELEASE ASSEMBLY (SST-L & L/R, SST-S & S/R)

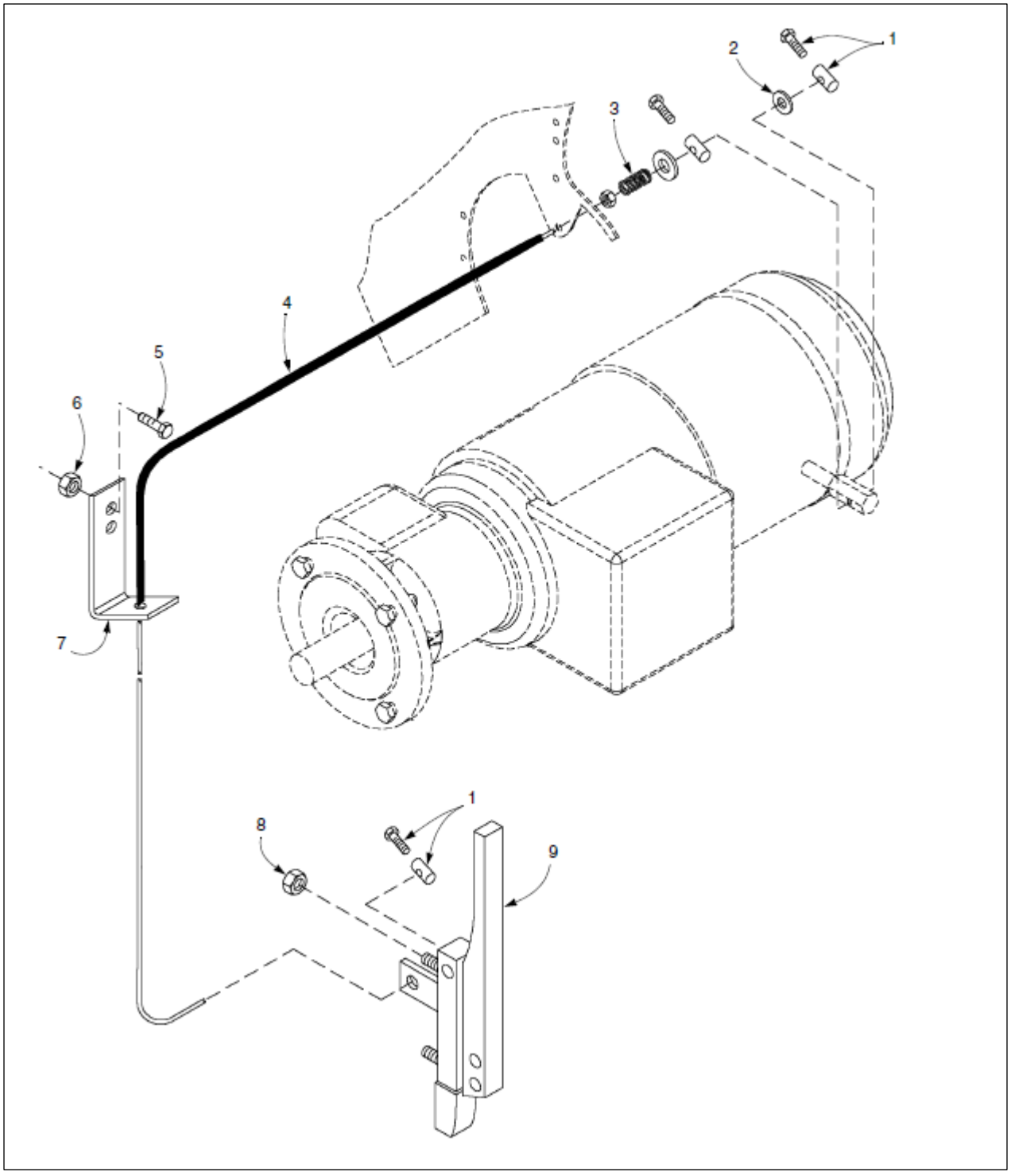


Figure 86

ITEM	QTY.	PART #	DESCRIPTION
1	2	08151080	Clamp, Cable Stop
2	2	01900050	Washer, Flat, H1231 6.4 x 25 x 1.25 Thick
3	1	080701071	Spring
4	1	08210610	2 mm Steel Cable 6 x 7
5	2	01900712	Screw, M6 x 20 T30, Dome Washer Head
6	2	01901506	Nut, M6, Flanged Hex, Zinc
7	1	217361Z1	Bracket, Motor Brake Cable
8	1	01335005	Nut, Lock, DIN 985-8 M5 Nylon Insert
9	1	WN524/C01	Handle, Brake Release

LEFT DRIVE ASSEMBLY (SST-L & L/R)

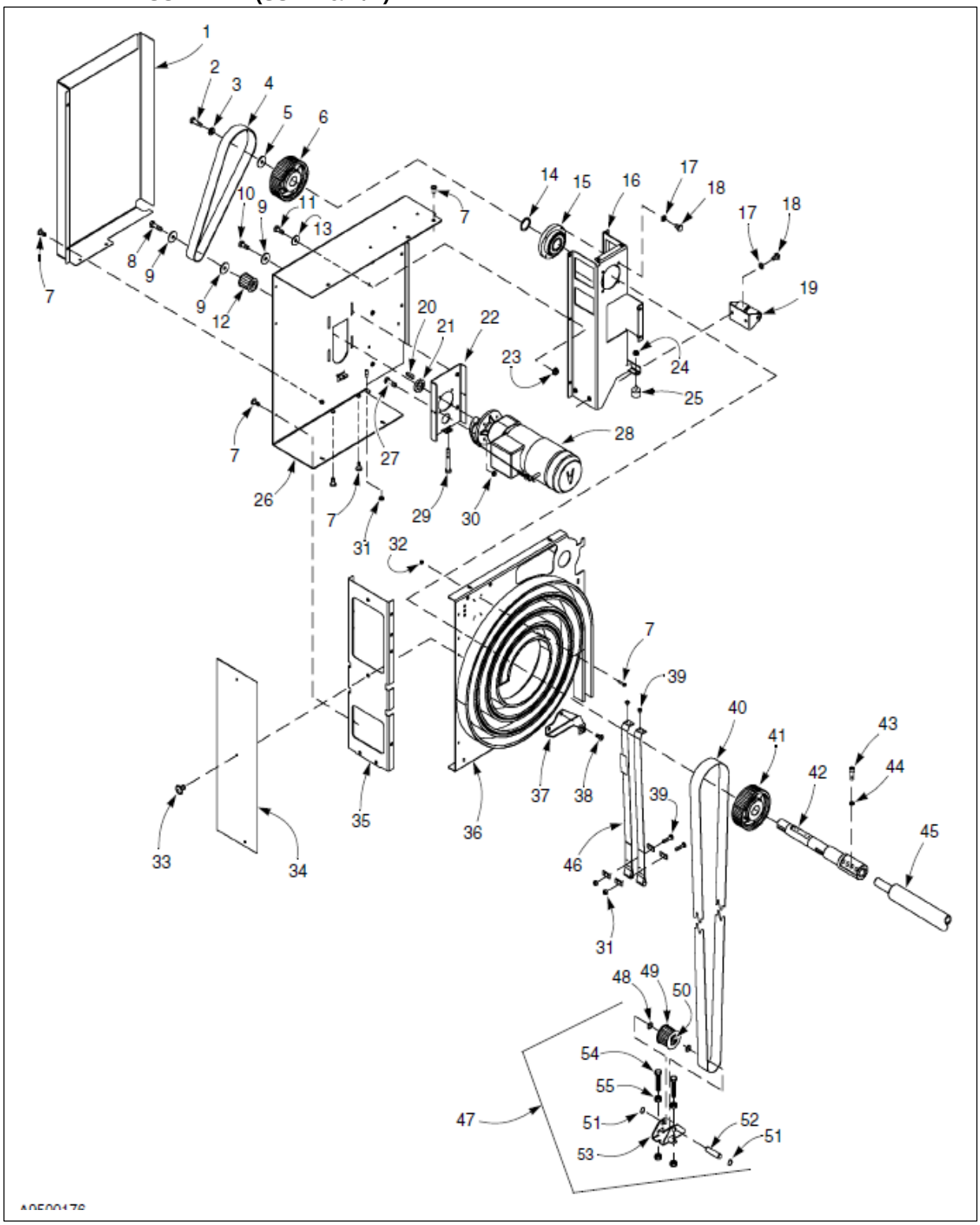


Figure 87

ITEM	QTY.	PART #	DESCRIPTION
1	1	231336BZ1	Belt Guard, LH Motor, L/R 3000<H<=4000
2	1	01260310	Screw, DIN 933-8.8 M8 x16 Hex Head
3	1	01060043	Washer, Flat 0.5 mm
4	1	08310434	Drive Belt, HTD 1280-8M-30, L/R
5	1	WN018/A	Spacer, Thrust 50 lg. x 5 mm
6	1	205532	Drive Pulley, L/R
7	28	01900820	Screw, M8 x 20 T40, Dome Washer Head
8	1	01260320	Screw, DIN 933-8.8 M10 x 25 Zinc
9	1	WN018/A	Spacer, Thrust 50 lg. x 5 mm
10	6	01260320	Screw, M10 x 25, Hex Head
11	3	01260310	Screw, M10 x 20, Hex Head
12	1	205534B	Motor Pulley, L/R
13	3	01060043	Washer, Flat, DIN 125 A10.5
14	1	01340150	Spacer, DIN 988 HP 35 x 45 x 2 mm
15	1	237859Z1	Housing, Bearing L/R
16	1	231811/1BZ1	Support Housing, LH L/R
17	6	01080030	Lock Washer, DIN 127 A8
18	6	01260272	Screw, DIN 933-8.8 M8 x 16 Hex Head
19	1	210865Z1	Guide Pulley Assembly, Single Roller, L/R
	1	238863Z1	Guide Pulley Assembly, Double Roller, L/R
20	1	01531036	Key, DIN 6885 10 x 8 x 36
21	1	WN250/DZ1	Spacer, Motor Shaft
22	1	237865Z1	Mounting Plate, Motor
23	3	01901510	Nut, M10 Flange Hex
24	1	01901508	Nut, M8 Flange Hex
25	1	04100145	Bumper, Upper Travel
26	1	23181/1BZ1	Console Assembly, LH Drive
27	4	01260280	Screw, DIN 933-8.8 M8 x 25 Zinc
28	1	02241793	Motor/Gearbox Assembly, 0.75 kW, 430 rpm***
	1	02241744	Motor/Gearbox Assembly, 1.50 kW, 410 rpm***
	1	02241783	Motor/Gearbox Assembly, 0.75 kW, 275 rpm***
	1	02241695	Motor/Gearbox Assembly, 0.37 kW, 85 rpm***

A/R = As required.

N/A = Not applicable to this assembly.

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

ITEM	QTY.	PART #	DESCRIPTION
29	1	01260365	Screw, DIN 933-8.8 M10 x 75 Hex Head
30	4	01335008	Nut, Lock, DIN 985-8 M8 Nylon Insert Hex
31	2	01270040	Nut, DIN 934-8 M6 Hex
32	2	01335004	Nut, Lock, DIN 985-8 M4 Nylon Insert
33	3	01900820	Screw, M8 x 20 T40 TORX® Drive Dome Washer Head
34	1	231340BZ1	Front Cover, Head Side, L/R
35	N/A		
36	1	231810/1BZ1	Console Inside w/Spiral Links, LH, 3000<H<=4000
37	1	237869/1Z1	Upper Corner Bracket, LH Cover, L/R
38	2	01900812	Screw, M8 x 12 T30 Cover, L/R, Dome Washer Head
39	8	01900708	Screw, M6 x 8 T30 Dome Washer Head
40	1	08310450*	Tooth Belt, LL-8M-30
41	1	205533	Pulley, Tooth, L/R
42	1	237503/101Z1	Drive Shaft, Motor Side, L/R
43	16	01180525	Screw, DIN 912-12.9 M8 x 25 Hex Socket
44	16	01690080	Lock Washer, DIN 7980 M8
45	1	217706Z1*	Line Shaft Weldment, L/R
46	A/R	217872*	Spring Belt Assembly, 40 mm
47	1	238803Z1	Pulley Assembly, Tooth Belt, L/R (Consists of items 48 thru 55)
48	2	01104015	Washer, Flat, DIN 433 M15, Zinc
49	1	205535	Pulley, Tooth, D83, HDT P30-8M-30
50	2	05020006	Bearing, Ball 6002 ZZ
51	2	01130015	Retaining Ring, External, DIN 471 A15
52	1	237505Z1	Pin, Bottom Pulley, L/R
53	1	237316Z1	Clevis, Bracket, Bottom Pulley, L/R
54	2	01260286	M8 x 40 Bolt
55	4	01270050	M8 Nut

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

RIGHT DRIVE ASSEMBLY (SST-L & L/R)

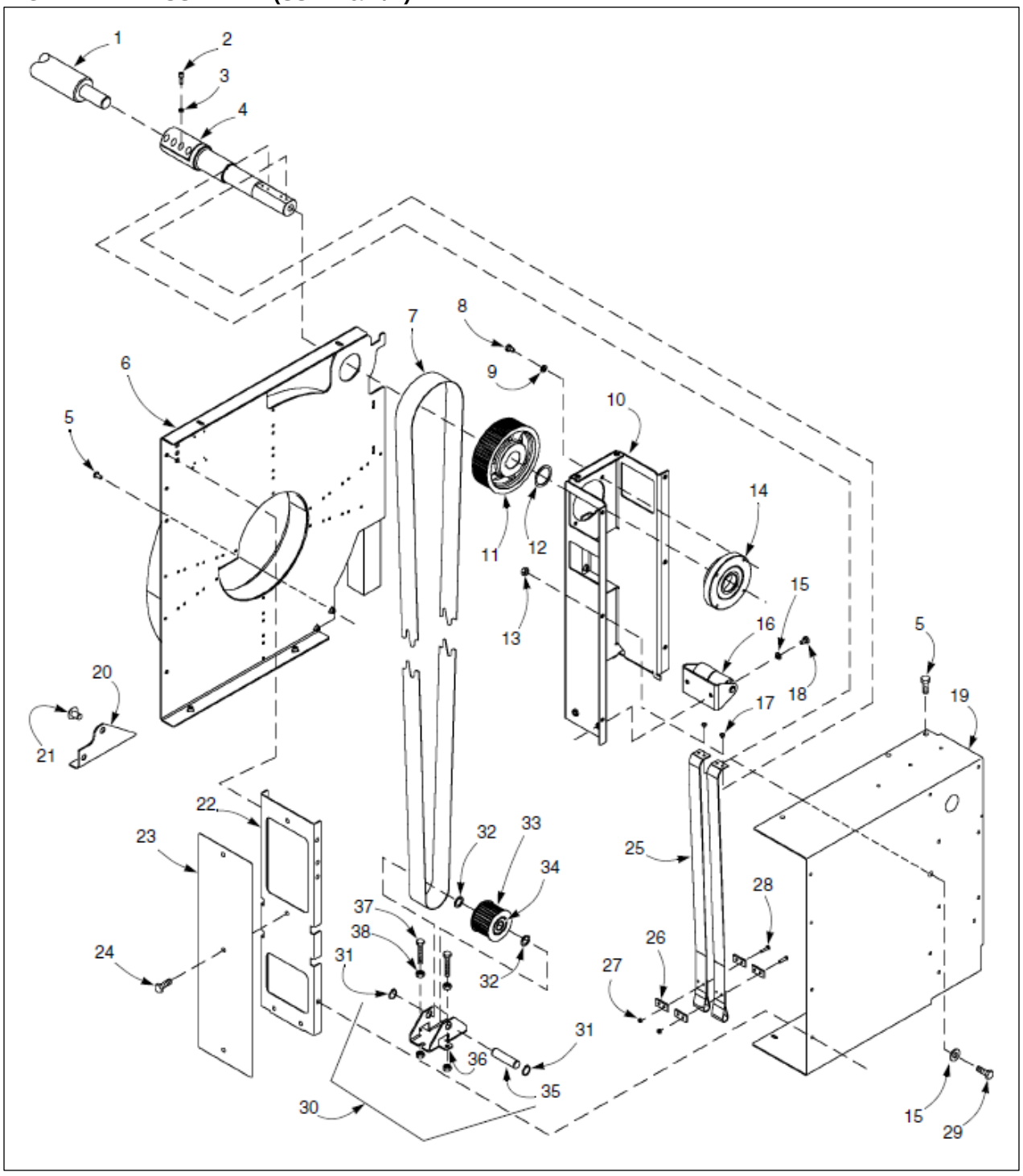


Figure 88

ITEM	QTY.	PART #	DESCRIPTION
1	1	217706Z1*	Line Shaft Weldment, L/R
2	16	01180525	Screw, DIN 912-12.9 M8 x 25 Hex Socket
3	16	01690080	Lock Washer, DIN 7980 M8
4	1	237503/201Z1	Drive Shaft, Non-Drive Side, L/R
5	18	01900820	Screw, M8 x 20 T40 Dome Washer Head
6	1	231210/2BZ1	Console Inside w/Spiral Links, RH 3000<H<=4000
7	1	08310450*	Tooth Belt, LL-8M-30
8	6	01260272	Screw, DIN 933-8.8 M8 x 16 Hex Head
9	6	01080030	Lock Washer, DIN 127 A8
10	1	231811/2BZ1	Support Housing, RH L/R
11	1	205533	Pulley, Tooth, L/R
12	1	01340150	Spacer, DIN 988 HP 35 x 45 x 2mm
13	3	01901510	Nut, M10 Flange Hex
14	1	237859Z1	Housing, Bearing w/ Housing, L/R
15	2	01060043	Washer, Flat, DIN 125 A10.5
16	1	210865Z1	Assembly, Guide Pulley, L/R
17	8	01900708	Screw, M6 x 8 T30, Drive Dome Washer Head
18	2	01260272	Screw, DIN 933-8.8 M8 x 16 Hex Head
19	1	231813/2BZ1	Console Assembly RH, Drive
20	1	237869/2Z1	Upper Corner Bracket, RH Cover, L/R
21	2	01900812	Screw, M8 x 12 T30, Dome Washer Head
22	N/A		
23	1	231340BZ1	Front Cover, Head Side, L/R
24	3	01900820	Screw, M8 x 20 T40 Dome Washer Head
25	2	217872*	Spring Belt Assembly, 40 mm
26	4	205082Z1	Clamp Plate
27	4	01270040	Nut, DIN 934-8 M6 Hex
28	4	01260160	Screw, DIN 933-8.8 M6 x 25 Hex Head, Zinc
29	3	01260310	Screw, M10 x 20 Hex Hea
30	1	238803Z1	Pulley Assembly, Tooth Bolt, L/R (Consists of items 31 thru 38)
31	2	01130015	Retaining Ring, External, DIN 471, A15
32	2	01104015	Washer, Flat, DIN 433 M15, Zinc
33	1	205535	Pulley, Bottom
34	2	05020006	Bearing, Ball 6002 ZZ
35	1	237505Z1	Pin, Bottom Pulley, L/R
36	1	237316Z1	Clevis, Bottom Pulley, L/R
37	2	01260286	M8 x 40 Bolt
38	4	01270050	M8 Nut

SPREADER BARS (SST-L & L/R)

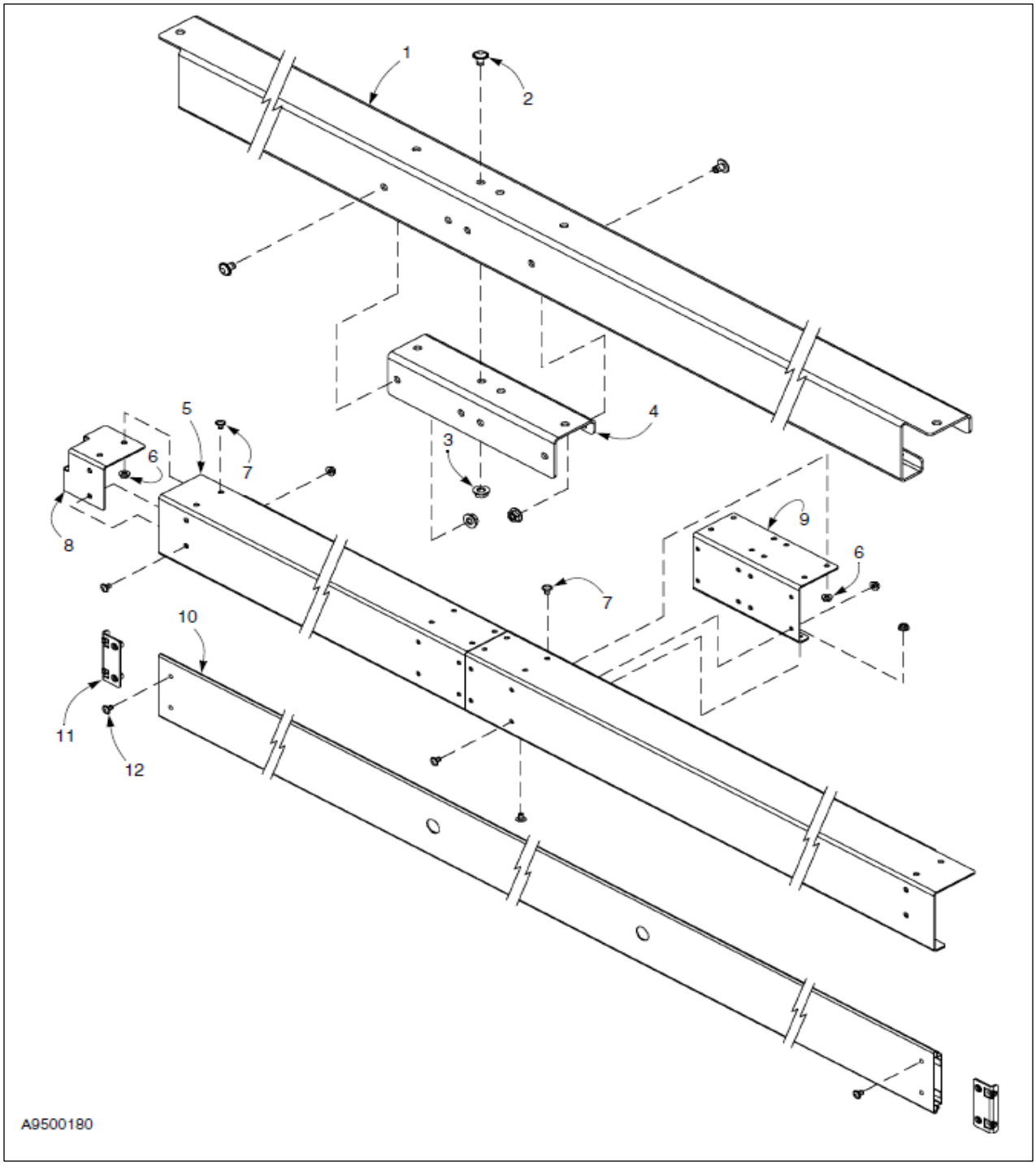


Figure 89

ITEM	QTY.	PART #	DESCRIPTION
-	1	237867*	Horizontal Sealing Section Assembly
1	A/R	231321Z1*	Rear Spreader, L/R
2	N/A		
3	N/A		
4	N/A		
5	1	231318Z1*	Front Spreader, L/R
6	N/A		
7	N/A		
8	2	231320Z1	Corner Bracket, Front Spreader
9	N/A		
10	1	237313*	Horizontal Sealing Section
11	2	237868Z1	End Bracket Assembly, Horizontal Seal
12	4	01900812	Screw, M8 x 12 T30 TORX® Drive Dome Washer Head

SIDE COLUMNS (SST-L & L/R)

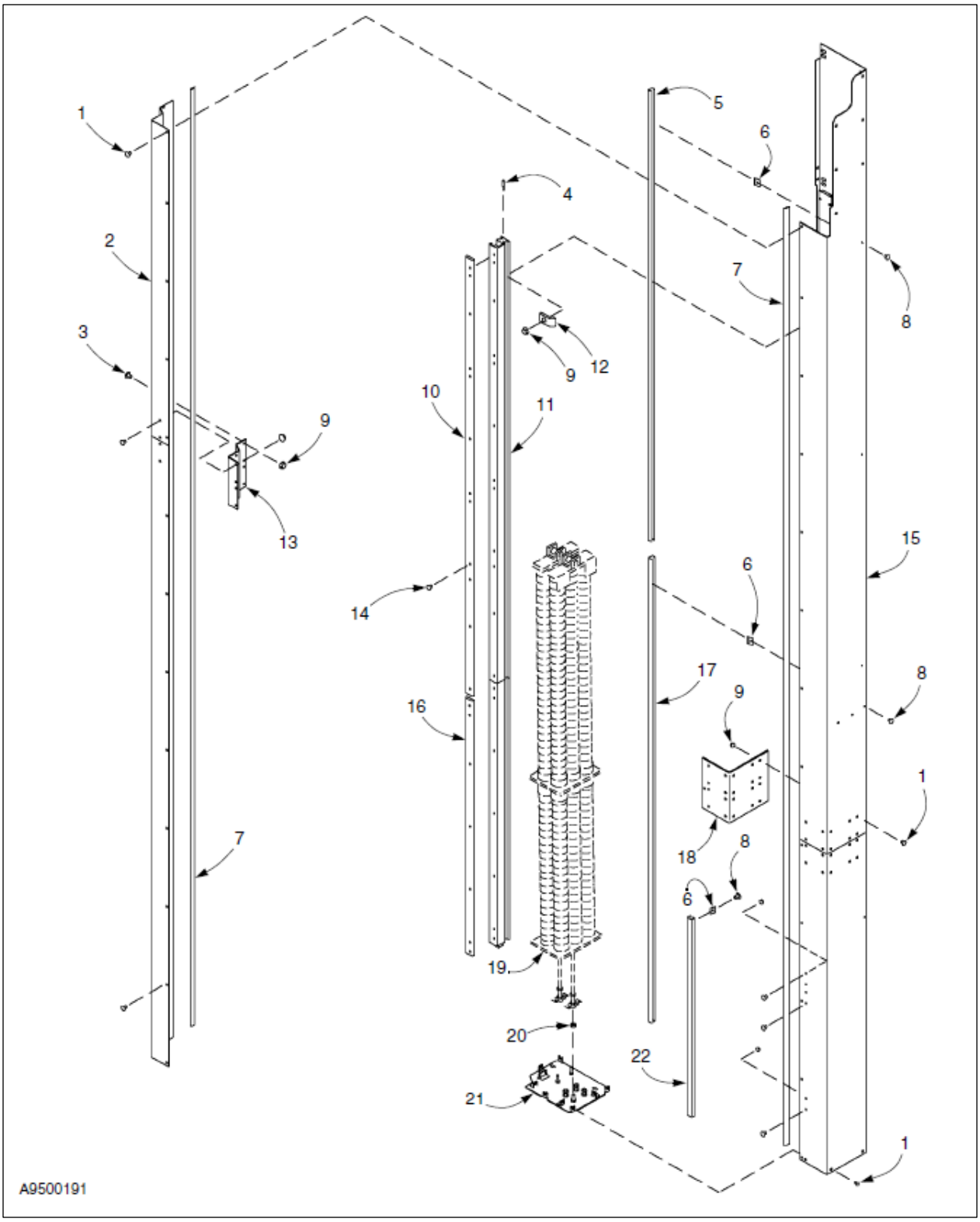


Figure 90

ITEM	QTY.	PART #	DESCRIPTION
-	1	237800/2	Assembly, Right Side Column, L/R
-	1	237800/1	Assembly, Left Side Column, L/R (Not Shown)
1	A/R	01900812	Screw, M8 x 12 T30 Torx Drive Dome Washer Head
2	1	237331/2Z1*	Front Cover, Right Side Column, RH L/R
	1	237331/1Z1*	Front Cover, Side Column, LH, L/R (Not Shown)
3	A/R	01900816	Screw, M8 x 16 T40 Torx Drive Dome Washer Head
4	4	217507	Track Pins
5	1	08041001C*	Wire Raceway, Reversing Edge Cable
6	5	01901010	Nut, Lock, M6 Hex
7	2	040103376*	Weather Seal, Side Column
8	5	01900708	Screw, M6 x 8 T30 Torx Drive Dome Washer Head
9	A/R	01901508	Nut, M8 Flange Hex
-	1	237803/2L/R	Vertical Track Assembly, RH, L/R
-	1	237803/1L/R	Vertical Track Assembly, LH, L/R
10	1	2373032*	Vertical Track Cap, Upper, Right
	1	2373031*	Vertical Track Cap, Upper, Left (Not Shown)
11	1	2373022*	Vertical Track, Upper Right
	1	2373021*	Vertical Track, Upper Left (Not Shown)
12	A/R	217102Z1	Rail Clip
13	N/A		

ITEM	QTY.	PART #	DESCRIPTION
14	A/R	01900820	Screw, M8 x 20 T40, Dome Washer Head
15	1	237801/2Z1*	Sub-Assembly, Side Column, Right, L/R
	1	237801/1Z1	Sub-Assembly, Side Column, Left, L/R (Not Shown)
16	1	237304*	Vertical Track Cap, Lower x 1680 Long
17	1	08041001B*	Wire Raceway, Lower Rear Right Side Column
18	N/A		
19	A/R	*	Spring Pack (Refer to pages 56 thru 61)
20	12	01270060	Nut, DIN 934-8 M10 Hex
21	1	237839/2Z1	Base Plate Assembly, RH L/R
	1	237839/1Z1	Base Plate Assembly, LH, L/R (Not Shown)
22	1	08041001D	Wire Raceway, Left Side Column, Photo Eye Bracket x 43 cm Long (Not Shown)
23	1	WN524/C01	Handle, Brake Release (Left Side Column Only, Not Shown – Refer to page 48)
24	1	08120607	Energy Chain (Right Side Column Only, Not Shown – Refer to page 54)

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

FACTORY-INSTALLED PHOTO EYES IN SIDE COLUMN (SST-L & L/R, SST-S & S/R)

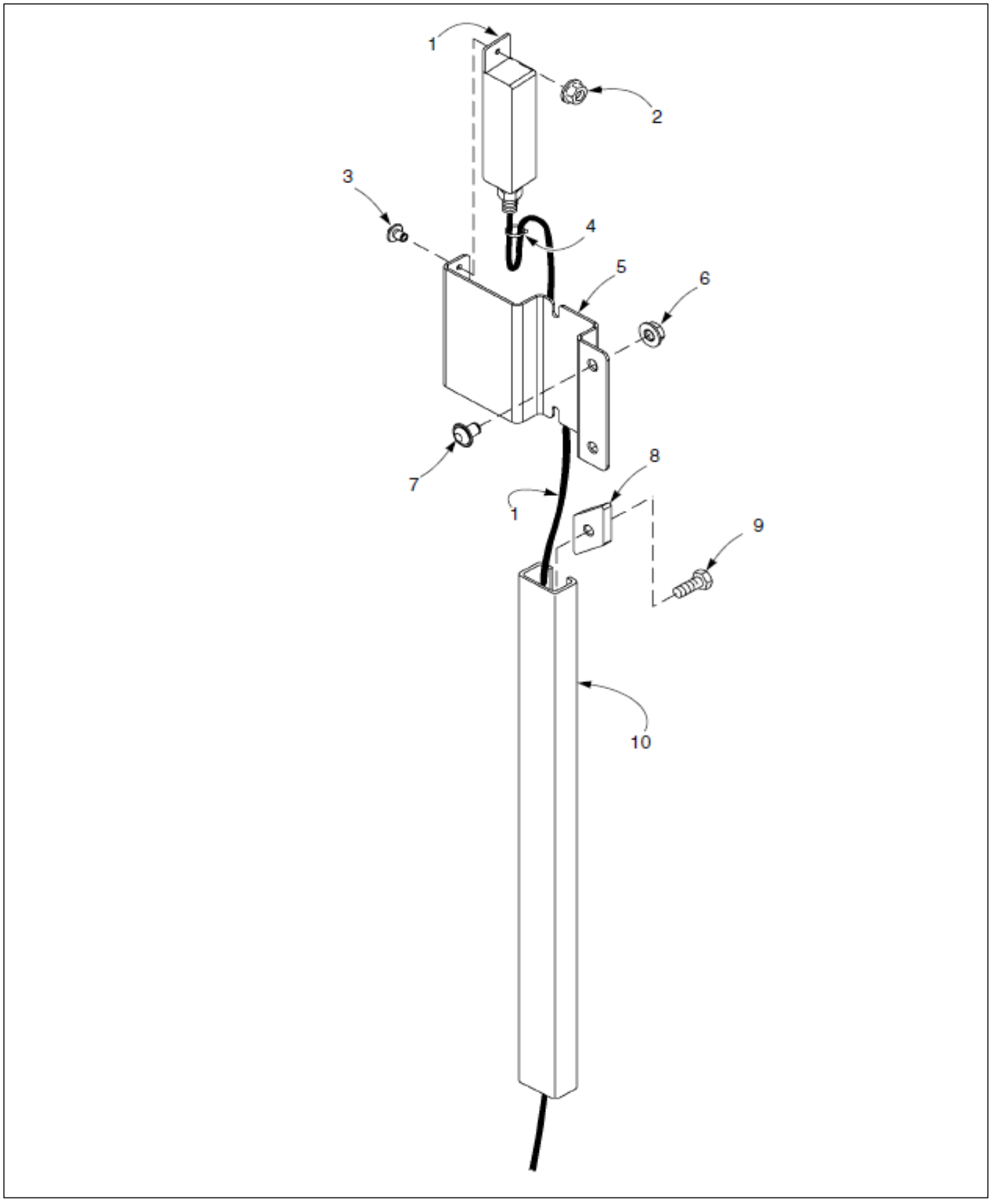


Figure 91

ITEM	QTY.	PART #	DESCRIPTION
1	1	0222320851	Photo Eye, Transmitter (Factory-Installed)
	1	0222320852	Photo Eye, Receiver (Factory-Installed)
	1	02222784	Cable, Photo Eye, 4-Pole, L=8 m
	1	02222786	Cable, Photo Eye, 4-Pole, L=15 m
2	2	01335004	Nut, Lock, DIN 985-8 M4
3	2	01010156	Screw, DIN 84-4.8, M4 x 20
4	A/R	N000084	Ties, Cable 15" Black 3M 06277
5	2	23733401Z1	Bracket, Photo Eye
6	8	01901508	Nut, M8 Flange Hex, Zinc
7	8	01900812	Screw, M8 x 12 T30 Torx Drive Dome Washer Head
8	A/R	0191010	Nut, M6 Flanged Hex, Zinc
9	A/R	0190708	Screw, M6 x 8 T30, Dome Washer Head
10	2	08041001D	Wire Raceway, 43 cm Long

SINGLE SPRING PACK (SST-L & L/R, SST-S & S/R)

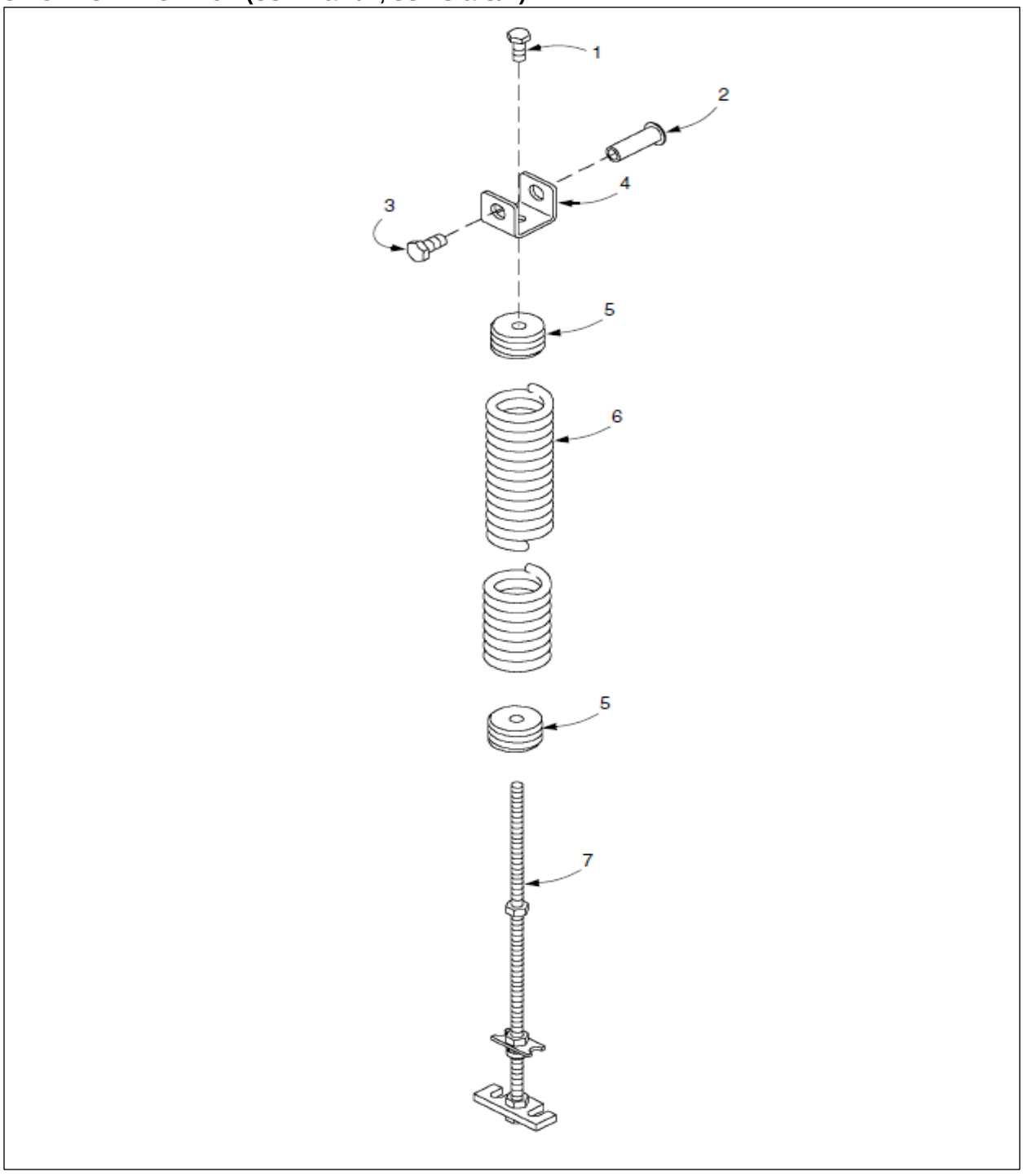


Figure 92

ITEM	QTY.	PART #	DESCRIPTION
-	A/R	217871B02Z1	Spring Pack Assembly, 1 Outside
1	1	01260320	Screw, DIN 933 8.8 M10 x 25, Hex Head
2	1	609270A	Shoulder Nut, Spring Clevis
3	1	01260400	Screw, DIN 933 M12 x 25 Hex Head
4	1	207070	Clevis, Spring Pack
5	2	205512	Spring Plug
6	1	WN350/AA	Spring, Tension
7	1	217891BZ1	Adjustment Rod Assembly, Spring Pack

DOUBLE SPRING PACK (SST-L & L/R, SST-S & S/R)

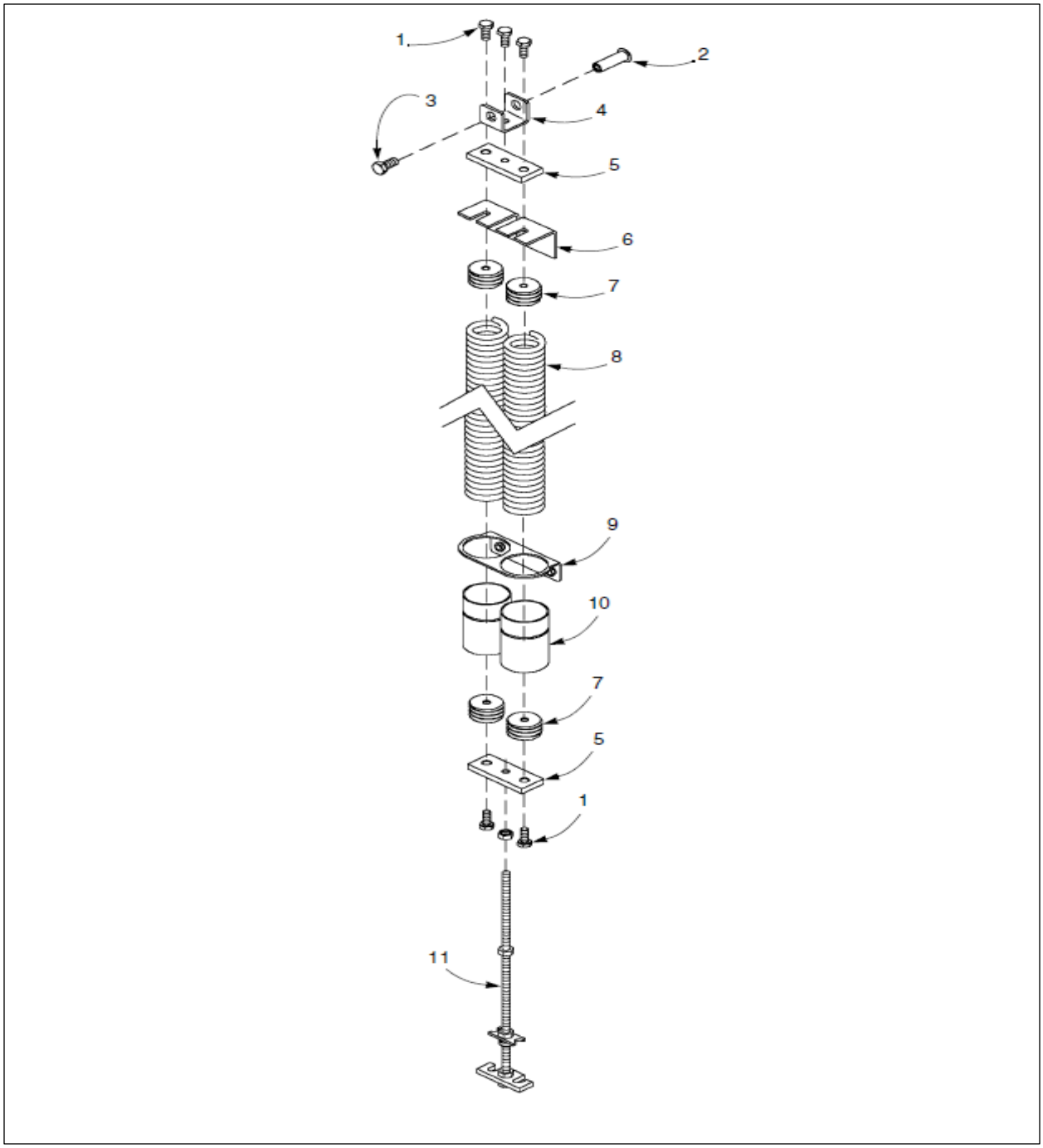


Figure 93

ITEM	QTY.	PART #	DESCRIPTION
-	1	217871A03Z1	Spring Pack Assembly, 2 Outside
-	1	217871DZ1	Spring Pack Assembly, 2 Inside
1	5	01260320	Screw, DIN 933 8.8 M10 x 25, Hex Head
2	1	609270A	Shoulder Nut, Spring Clevis
3	1	01260400	Screw, DIN 933 M12 x 25 Hex Head
4	1	207070	Clevis, Spring Pack
5	1	205084	Bar, Dual Spring Pack
6	2	217604	Guide, Spring Pack, Hard PVC (Outside Spring Pack Assembly Only)
7	4	205512	Spring Plug
8	2	WN350/AA	Spring, Tension
9	1	217902Z1	Outside Guide Bracket, Dual Springs
	1	218104Z1	Inside Guide Bracket, Dual Springs
10	2	217605	Guide Tube, PVC Spring Pack
11	1	217891BZ1	Adjustment Rod Assembly, Spring Pack

TRIPLE SPRING PACK (SST-L & L/R, SST-S & S/R)

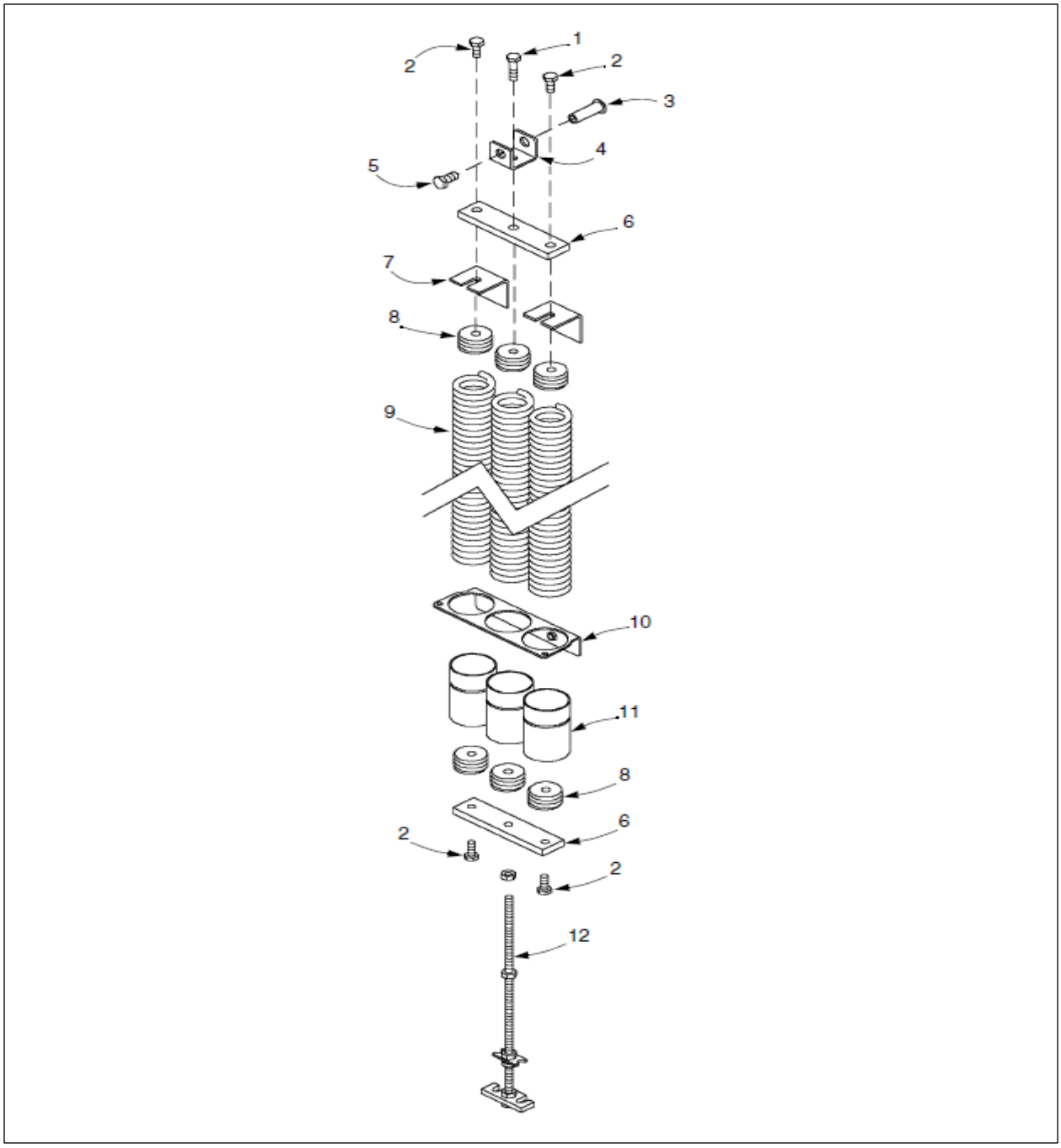


Figure 94

ITEM	QTY.	PART #	DESCRIPTION
-	1	217891C03Z1	Spring Pack Assembly, 2 Outside
-	1	217891EZ1	Spring Pack Assembly, 2 Inside
1	1	01260340	Screw, DIN 933 8.8 M10 x 40 Hex Head
2	4	01260320	Screw, DIN 933 8.8 M10 x 25, Hex Head
3	1	609270A	Shoulder Nut, Spring Clevis
4	1	207070	Clevis, Spring Pack
5	1	01260410	Screw, DIN 933 M12 x 25 Hex Head
6	1	206070Z1	Bar, 3 Spring Pack
7	2	217604	Guide, Spring Pack, Hard PVC (Outside Spring Pack Assembly Only)
8	6	205512	Spring Plug
9	3	WN350/AA	Spring, Tension
10	1	217902Z1	Outside Guide Bracket, Dual Springs
	1	218104Z1	Inside Guide Bracket, Dual Springs
11	3	217605	Guide Tube, PVC Spring Pack
12	1	217891BZ1	Adjustment Rod Assembly, Spring Pack

DOOR PANEL (SST-L & L/R)

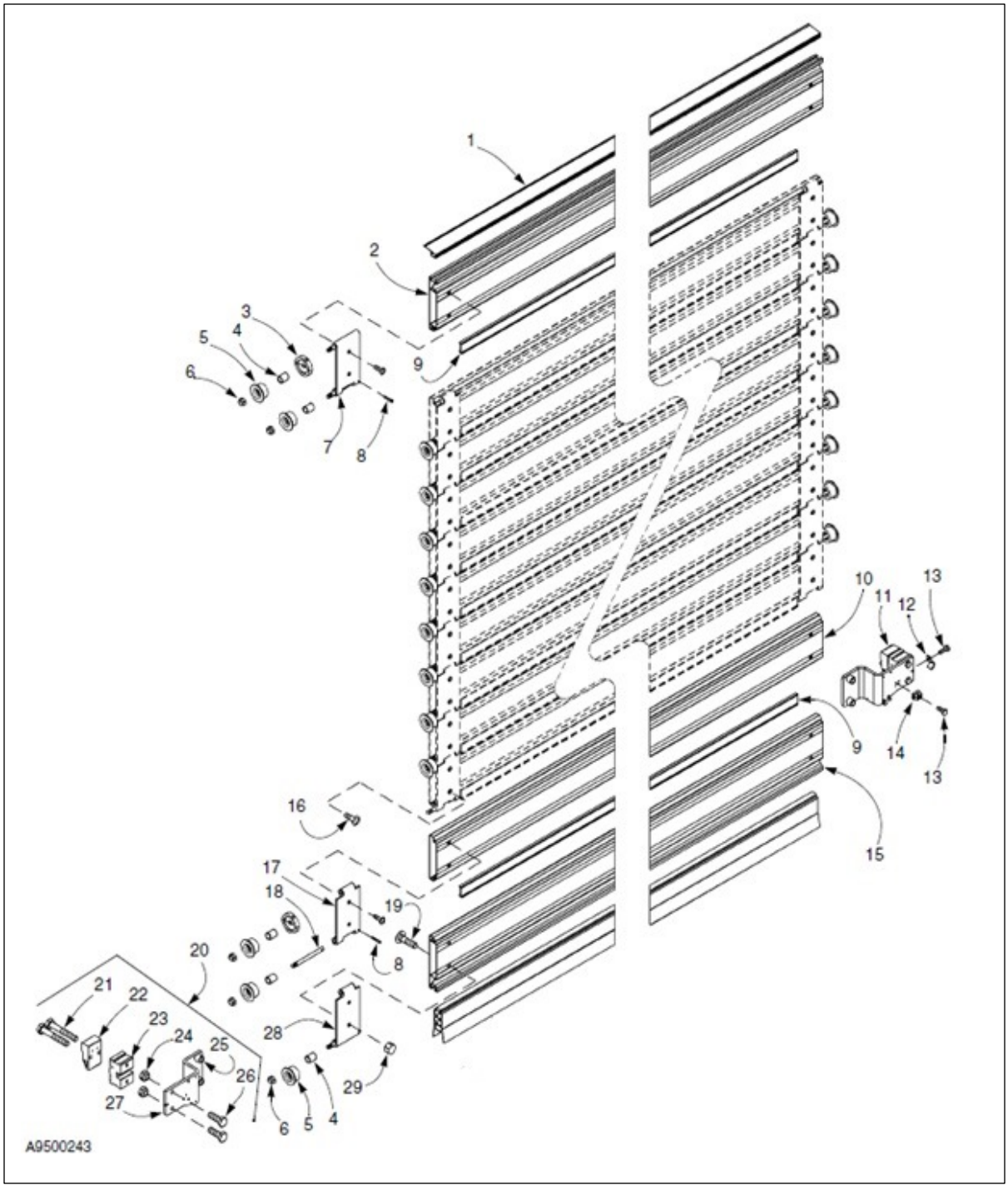


Figure 95

ITEM	QTY.	PART #	DESCRIPTION
-	1	237830*	Panel/Hinge Assembly, L/R
1	1	04010170*	Top Seal
2	1	237835*	Top Panel Assembly, 30 mm, L/R
	1	237834*	Top Panel Assembly, 20 mm, L/R
3	4	237602	Guide, Side Door Panel
4	A/R	217505Z1	Spacer, Axle
5	A/R	205625	Roller, Hinge
6	A/R	01335008	Nut, Lock, DIN 985-8 M8 Nylon Insert Hex
7	1	217852/1Z1	Hinge Assembly, LH Top, Metal, L/R
	1	231828/1	Hinge Assembly, RH Top, Alum., L/R (Not Shown)
	1	217852/2Z1	Hinge Assembly, RH Top, Metal, L/R (Not Shown)
	1	231828/2	Hinge Assembly, RH Top, Alum., L/R (Not Shown)
8	A/R	0021750	Pin, Spring 3 mm Dia. x 18 mm
9	A/R	0401008503*	Seal, Panel Hinge
10	A/R	237836*	Panel Assembly, 30 mm, L/R
	A/R	237833	Panel Assembly, 20 mm, L/R
	A/R	231843	Window Assembly, w/ Spacers, 30 mm, L/R
	A/R	231858	Window Assembly, w/ Spacers, 20 mm, L/R
11	1	237831/2Z1	End Bracket Assembly, RH L/R (Consists of items 21 thru 27)
12	3	02382756	Wire Clip
13	7	01010152	Screw, SCMS M4 x 16
14	1	00111174	Block, Terminal
15	1	237328*	Bottom Panel, Cut/Drill, 30 mm
	A/R	237310*	Bottom Panel, Cut/Drill, 20 mm

ITEM	QTY.	PART #	DESCRIPTION
16	A/R	01900720	Screw, M6 x 20 T30 TORX® Drive Dome Washer Head
17	A/R	217853/1Z1	Hinge Assembly, LH, Middle, Metal, L/R
	A/R	231859/1Z1	Hinge Assembly, RH Middle, Alum., L/R
	A/R	217853/2Z1	Hinge Assembly, RH Middle, Metal, L/R (Not Shown)
	A/R	231859/2Z1	Hinge Assembly, RH Middle, Alum., L/R (Not Shown)
18	A/R	21750202Z1	Axle, Hinge 98 mm Lg., L/R
19	4	01160505	Screw, Mushroom Head Square Neck DIN 603 M8 x 35
20	1	237831/1Z1	End Bracket Assembly, LH, L/R (Consists of items 21 thru 27)
21	4	01260363	Screw, DIN 933-8.8 M10 x 65 Hex Head
22	2	237102	Splice Clamp, End Bracket, L/R
23	2	237101	Splice Block, End Bracket, L/R
24	4	01335010	Nut, Lock, DIN 985-8 M10 Nylon Insert Hex
25	4	237501AZ1	Spacer, End Bracket, L/R
26	4	01260330	Screw, DIN 933-8.8 M10 x 30 Hex Head
27	1	237318/1Z1	End Plate, End Bracket, LH, L/R
	1	237318/2Z1	End Plate, End Bracket, RH L/R (Not Shown)
28	1	231827/1	Hinge Assembly, LH Bottom, Alum., L/R (Not Shown)
	1	231827/2	Hinge Assembly, RH Bottom, Alum., L/R (Not Shown)
29	N/A		

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

LEFT DRIVE ASSEMBLY (SST-S & S/R)

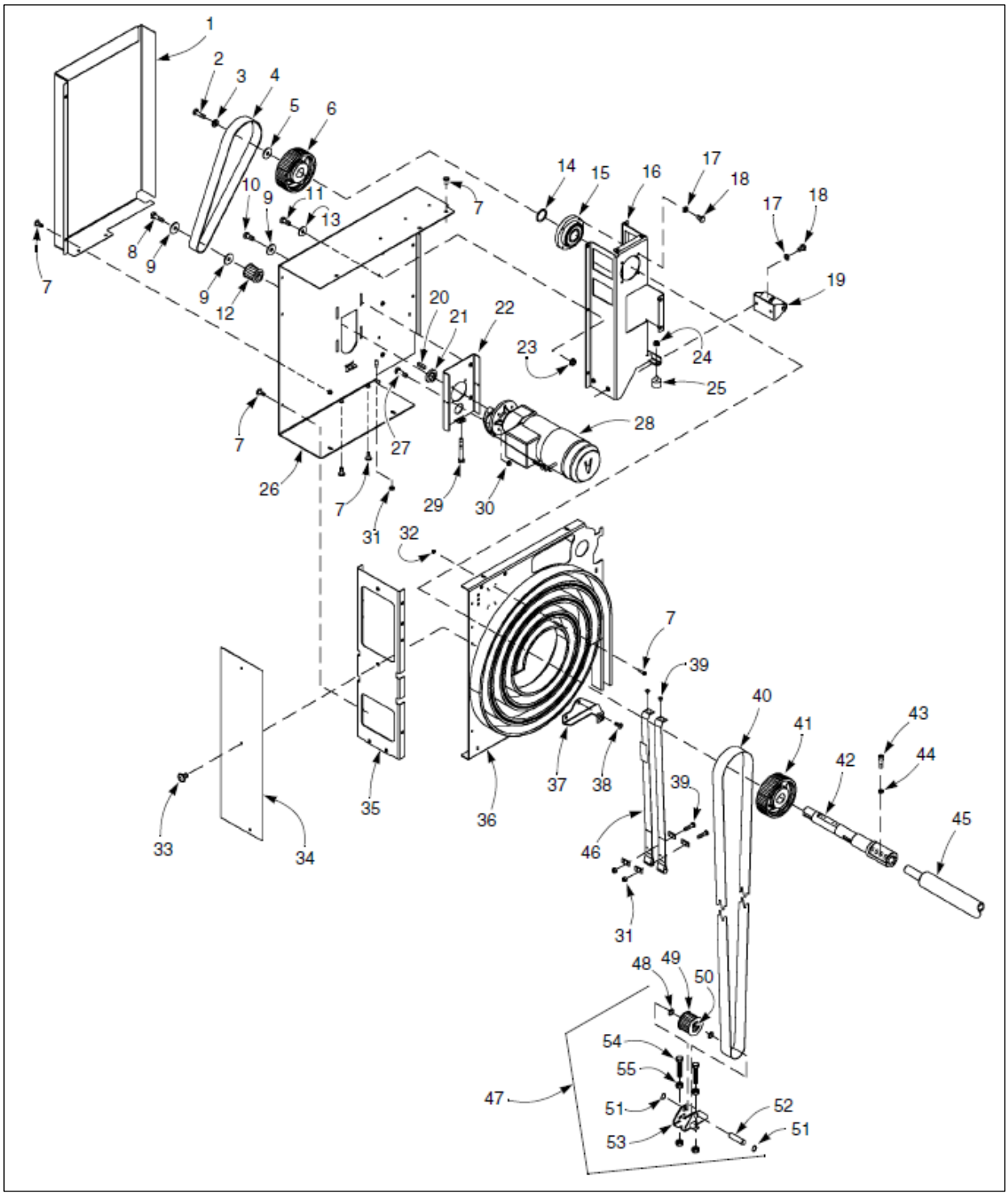


Figure 96

ITEM	QTY.	PART #	DESCRIPTION
1	1	238353DZ1	Belt Guard, LH Motor, SR 5000<H<=6000
2	1	01260272	Screw, DIN 933-8.8 M8 x 16 Hex Head
3	1	01080030	Lock Washer, DIN 127 A8
4	1	083104317	Drive Belt, HTD 1440-8M-50, S/R
5	1	WN018/C	Spacer, Thrust D60 x 9 x 5
6	1	206514	Drive Pulley, S/R
7	28	01900820	Screw, M8 x 20 T40, Dome Washer Head
8	1	01250595	Screw, DIN 933-8.8 M10 x75 Zinc
9	1	WN018/A	Spacer, Thrust 50 lg. x 5 mm
10	6	01260320	Screw, M10 x 25, Hex Head
11	3	01260310	Screw, M10 x 20, Hex Head
12	1	206515	Motor Pulley, S/R
13	3	01060043	Washer, Flat, DIN 125 A10.5
14	1	01340230	Spacer, DIN 988 HP 50 x 62 x 2 mm
15	1	238856Z1	Housing, Bearing S/R
16	1	238906/1DZ1	Support Housing, LH S/R
17	6	01080040	Lock Washer, DIN 127 A8
18	6	01260300	Screw, DIN 933-8.8 M10 x 16 Hex Head
19	1	238863Z1	Guide Pulley Assembly, S/R
20	1	01531420	Key, DIN 6885 14 x 9 x 56
21	1	WN250/C	Ring, Equalizing w/ Groove
22	1	237865Z1	Mounting Plate, Motor
23	3	01901510	Nut, Flange Hex M10
24	1	01901508	Nut, Flange Hex M8
25	1	04100145	Bumper, Upper Travel
26	1	238902/1DZ1	Console Assembly, LH Non-Drive
27	4	01260280	Screw, DIN 933-8.8 M8 x 25 Zinc
28	1	02241793	Motor/Gearbox Assembly, 0.75 kW, 430 rpm***
	1	02241744	Motor/Gearbox Assembly, 1.50 kW, 410 rpm***
	1	02241783	Motor/Gearbox Assembly, 0.75 kW, 275 rpm***
	1	02241695	Motor/Gearbox Assembly, 0.37 kW, 85 rpm***
29	1	01260365	Screw, DIN 933-8.8 M10 x 75 Hex Head
30	4	01335008	Nut, Lock, DIN 985-8 M8 Nylon Insert Hex
31	2	01270040	Nut, DIN 934-8 M6 Hex
32	2	01335004	Nut, Lock, DIN 985-8 M4 Nylon Insert
33	3	01900820	Screw, M8 x 20 T40 TORX® Drive Dome Washer Head
34	1	238354DZ1	Front Cover, Head Side, S/R
35	1	238913D	Brace Assembly, Console Front
36	1	238903/1D01Z1	Console Inside w/Spiral Links, LH, 4000<H<=5000
37	1	238864/1Z1	Upper Corner Bracket, LH Cover, S/R
38	2	01900812	Screw, M8 x 12 T30 Cover, S/R, Dome Washer Head
39	8	01900708	Screw, M6 x 8 T30 Dome Washer Head
40	1	08310435*	Tooth Belt, LL-8M-50
41	1	206513	Pulley, Tooth, S/R
42	1	238503/1Z1	Drive Shaft, Motor Side, S/R
43	16	01180525	Screw, DIN 912-12.9 M8 x 25 Hex Socket
44	16	01690080	Lock Washer, DIN 7980 M8
45	1	218704Z1*	Line Shaft Weldment, S/R
46	A/R	217872*	Spring Belt Assembly, 40 mm
47	1	238803Z1	Pulley Assembly, Tooth Belt, S/R (Consists of items 48 thru 53)
48	2	01340120	Washer, Flat, DIN 988, SS, 20 x 28 x 2mm, Zinc
49	1	206516A	Pulley, Tooth, D83, HDT P30-8M-30
50	2	05020080	Bearing, Ball 6204-2RS 1
51	2	01130020	Retaining Ring, External, DIN 471 A20
52	1	23850501Z1	Pin, Bottom Pulley, S/R
53	1	238317Z1	Clevis, Bracket, Bottom Pulley, S/R
54	2	01260286	Bolt, M8 x 40
55	4	01270050	Nut, M8

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

RIGHT DRIVE ASSEMBLY (SST-S & S/R)

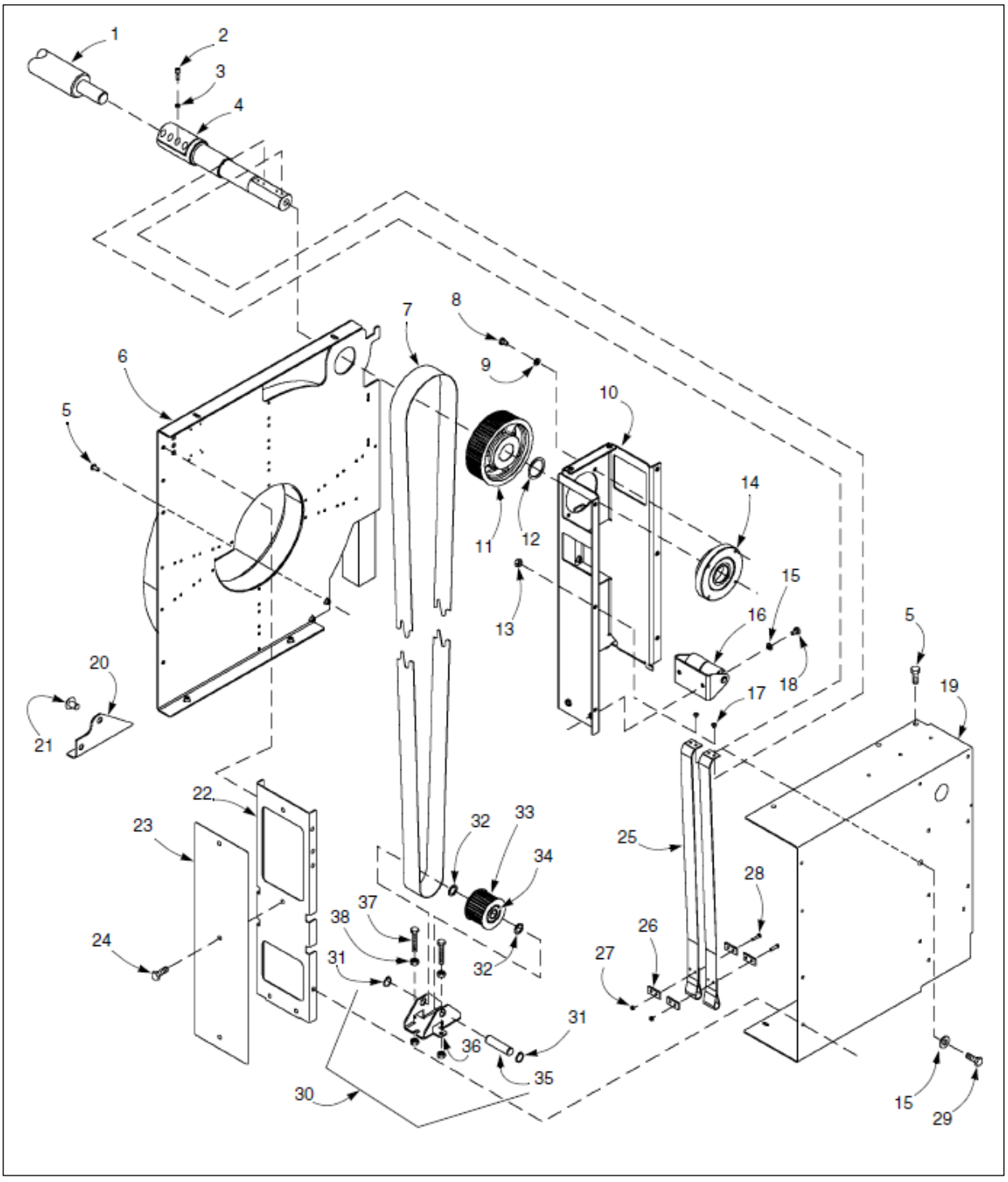


Figure 97

ITEM	QTY.	PART #	DESCRIPTION
1	1	218704Z1*	Line Shaft Weldment, S/R
2	16	01180525	Screw, DIN 912-12.9 M8 x 25 Hex Socket
3	16	01690080	Lock Washer, DIN 7980 M8
4	1	238503/1Z1	Drive Shaft, Non-Drive Side, S/R
5	18	01900820	Screw, M8 x 20 T40 Dome Washer Head
6	1	238903/2D01Z1	Console Inside w/Spiral Links, RH 4000<H<=5000
7	1	08310435*	Tooth Belt, LL-8M-50
8	6	01260300	Screw, DIN 933-8.8 M10 x 16 Hex Head
9	6	01080040	Lock Washer, DIN 127 A10
10	1	238906/2DZ1	Support Housing, RH S/R
11	1	206513	Pulley, Tooth, S/R
12	1	01340230	Spacer, DIN 988 HP 50 x 62 x 2mm
13	3	01901510	Nut, M10 Flange Hex
14	1	238856Z1	Housing, Bearing w/ Housing, S/R
15	2	01060043	Washer, Flat, DIN 125 A10.5
16	1	238863Z1	Assembly, Guide Pulley, S/R
17	8	01900708	Screw, M6 x 8 T30, Drive Dome Washer Head
18	2	01260300	Screw, DIN 933-8.8 M10 x 16 Hex Head
19	1	238902/2DZ1	Console Assembly RH, Non-Drive
20	1	238864/2Z1	Upper Corner Bracket, LH Cover, S/R
21	2	01900812	Screw, M8 x 12 T30, Dome Washer Head
22	1	238913D	Brace Assembly, Console Front
23	1	238354DZ1	Front Cover, Head Side, S/R
24	3	01900820	Screw, M8 x 20 T40 Dome Washer Head
25	2	217872*	Spring Belt Assembly, 40 mm
26	4	205082Z1	Clamp Plate
27	4	01270040	Nut, DIN 934-8 M6 Hex
28	4	01260160	Screw, DIN 933-8.8 M6 x 25 Hex Head, Zinc
29	3	01260310	Screw, M10 x 20 Hex Head
30	1	238803Z1	Pulley Assembly, Tooth Belt, S/R (Consists of items 31 thru 38)
31	2	01130020	Retaining Ring, External, DIN 471, A20
32	2	01340120	Washer, Flat, DIN 988, SS, 20 x 28 x 2mm, Zinc
33	1	206516A	Pulley, Tooth, D83, HDT P30-8M-30
34	2	05020080	Bearing, Ball 6204-2RS 1
35	1	23850501Z1	Pin, Bottom Pulley, S/R
36	1	238317Z1	Clevis Bracket, Bottom Pulley, SR
37	2	01260286	Bolt, M8 x 40
38	4	01270050	Nut, M8

SPREADER BARS (SST-S & S/R)

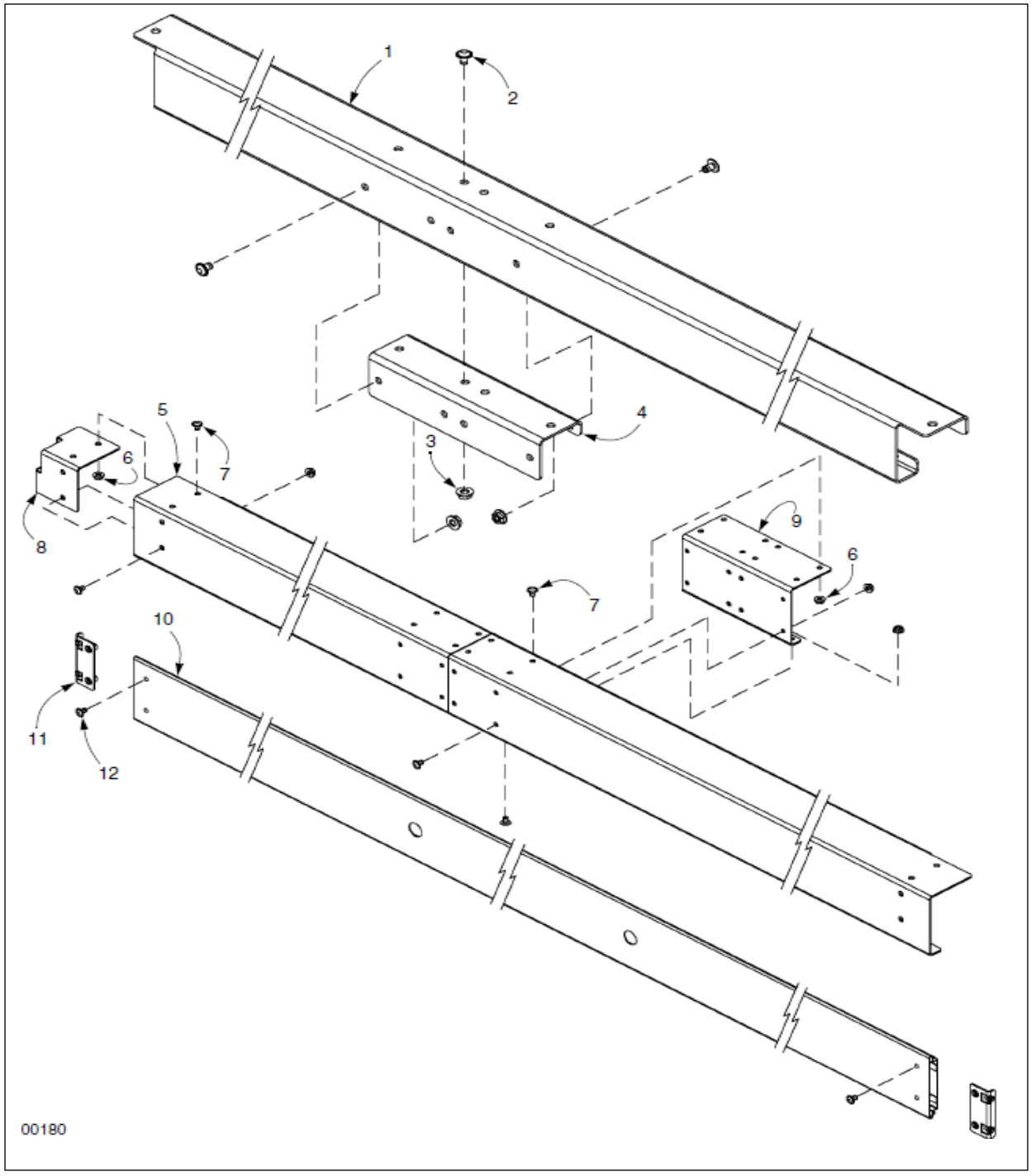


Figure 98

ITEM	QTY.	PART #	DESCRIPTION
-	1	23890702Z1*	Rear Spreader Assembly, S/R
-	1	23890801Z1*	Front Spreader Assembly, S/R
1	A/R	23835402Z1*	Rear Spreader, S/R
2	N/A		
3	N/A		
4	N/A		
5	1	23835501Z1*	Front Spreader, S/R
6	N/A		
7	N/A		
8	2	231320Z1	Corner Bracket, Front Spreader
9	N/A		
10	1	237313*	Horizontal Sealing Section
11	2	237868Z1	End Bracket Assembly, Horizontal Seal
12	4	01900812	Screw, M8 x 12 T30 Torx Drive Dome Washer Head

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

SIDE COLUMNS (SST-S & S/R)

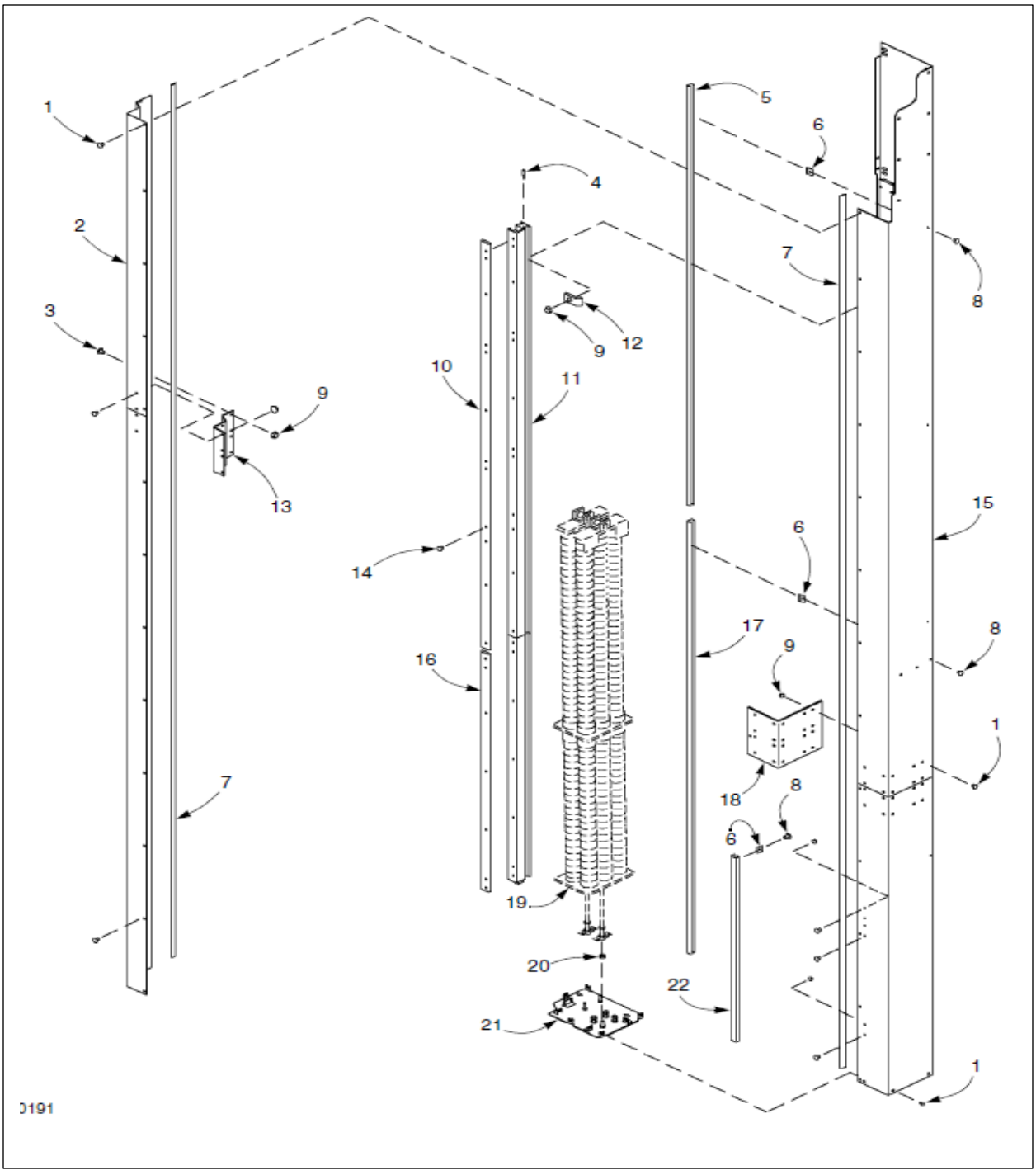


Figure 99

ITEM	QTY.	PART #	DESCRIPTION
-	1	237800/2	Assembly, Right Side Column, S/R
-	1	237800/1	Assembly, Left Side Column, S/R (not shown)
1	A/R	01900812	Screw, M8 x 12 T30 Torx Drive Dome Washer Head
2	1	238308/2Z1*	Front Cover, Right, Side Column, RH S/R
	1	238308/1Z1*	Front Cover, Side Column, LH, S/R (Not Shown)
3	A/R	01900816	Screw, M8 x 16 T40 Torx Drive Dome Washer Head
4	4	217507	Track Pin
5	1	08041001C*	Wire Raceway, Reversing Edge Cable
6	5	01901010	Nut, Lock, M6 Hex
7	2	040103376*	Weather Seal, Side Column
8	5	01900708	Screw, M6 x 8 T30 Torx Drive Dome Washer Head
9	A/R	01901508	Nut, M8 Flange Hex
-	1	237803/2S/R	Vertical Track Assembly, RH, S/R
-	1	237803/1S/R	Vertical Track Assembly, LH, S/R
10	1	2373032*	Vertical Track Cap, Upper, Right
	1	2373031*	Vertical Track Cap, Upper, Left (Not Shown)
11	1	2373022*	Vertical Track, Upper Right
	1	2373021*	Vertical Track, Upper Left (Not Shown)
12	A/R	217102Z1	Rail Clip
13	N/A		
14	A/R	01900820	Screw, M8 x 20 T40, Dome Washer Head
15	1	238801/2Z1*	Sub-Assembly, Side Column, Right, S/R
	1	238801/1Z1	Sub-Assembly, Side Column, Left, S/R (Not Shown)
16	1	237304*	Vertical Track Cap, Lower x 1680 Long
17	1	08041001B*	Wire Raceway, Lower Rear Right Side Column
18	N/A		
19	A/R	-*	Spring Pack (Refer to pages 80 thru 85)
20	12	01270060	Nut, DIN 934-8 M10 Hex
21	1	238802/2Z1	Base Plate Assembly, RH S/R
	1	238802/1Z1	Base Plate Assembly, LH, S/R (Not Shown)
22	1	08041001E	Wire Raceway, Right Side Column, Photo Eye
	1	08041001D	Wire Raceway, Left Side Column, Photo Eye Bracket x 43 cm Long (Not Shown)
23	1	WN524/C01	Handle, Brake Release (Left Side Column Only, Not Shown – Refer to page 48)
24	1	08120607	Energy Chain (Right Side Column Only, Not Shown – Refer to page 78)

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*

DOORS PANEL (SST-S & S/R)

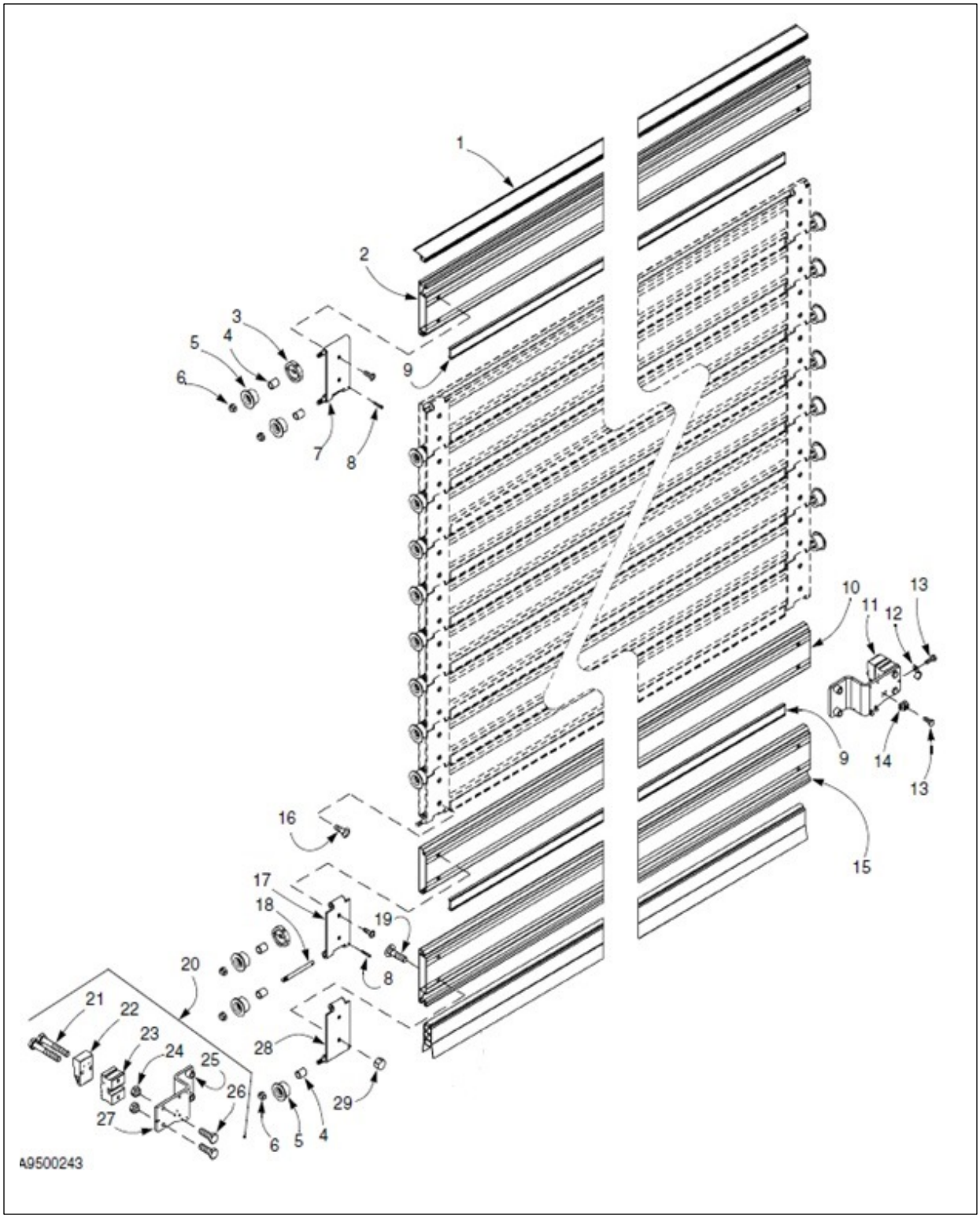


Figure 100

ITEM	QTY.	PART #	DESCRIPTION
-	1	238830*	Panel/Hinge Assembly, S/R
1	1	04010170*	Top Seal
2	1	238832*	Top Panel Assembly, 30 mm, S/R
3	4	237602	Guide, Side Door Panel
4	A/R	217505Z1	Spacer, Axle
5	A/R	205625	Roller, Hinge
6	A/R	01335008	Nut, Lock, DIN 985-8 M8 Nylon Insert Hex
7	1	218866/1Z1	Hinge Assembly, LH Top, Metal, S/R
	1	232817/1	Hinge Assembly, LH Top, Alum., S/R (Not Shown)
	1	218866/2Z1	Hinge Assembly, RH Top, Metal, S/R (Not Shown)
	1	232817/2	Hinge Assembly, RH Top, Alum., S/R (Not Shown)
8	A/R	0021750	Pin, Spring 3 mm Dia. x 18 mm
9	A/R	0401008503*	Seal, Panel Hinge
10	A/R	238833*	Panel Assembly, 30 mm, S/R
	A/R	232830	Window Assembly, w/ Spacers, 30 mm, S/R
11	1	238831/2Z1	End Bracket Assembly, RH S/R (Consists of items 21 thru 27)
12	3	02382756	Wire Clip
13	7	01010152	Screw, SCMS M4 x 16
14	1	00111174	Block, Terminal
15	1	238305*	Bottom Panel, Cut/Drill, 30 mm
16	A/R	01900720	Screw, M6 x 20 T30 Torx Drive Dome Washer Head
17	A/R	218867/1Z1	Hinge Assembly, LH, Middle, Metal, S/R
	A/R	218867/2Z1	Hinge Assembly, SH, Middle, Metal, S/R (Not Shown)
18	A/R	218504Z1	Axle, Hinge 133 mm Lg., S/R
19	4	01160600	Screw, Mushroom Head Square Neck DIN 603 M10 x 40
20	1	238831/1Z1	End Bracket Assembly, LH, S/R (Consists of items 21 thru 27)
21	4	01260363	Screw, DIN 933-8.8 M10 x 65 Hex Head
22	2	238102	Splice Clamp, End Bracket, S/R
23	2	238101	Splice Block, End Bracket, S/R
24	4	01335010	Nut, Lock, DIN 985-8 M10 Nylon Insert Hex
25	4	237501BZ1	Spacer, End Bracket, S/R
26	4	01260330	Screw, DIN 933-8.8 M10 x 30 Hex Head
27	1	238310/1Z1	End Plate, End Bracket, LH, S/R
	1	238310/2Z1	End Plate, End Bracket, RH S/R (Not Shown)
28	1	218865/1Z1	Hinge Assembly, LH Bottom, Metal, S/R
	1	232816/1	Hinge Assembly, LH Bottom, Alum., S/R
	1	218865/2Z1	Hinge Assembly, RH Bottom, Metal, S/R
	1	232816/2	Hinge Assembly, RH Bottom, Alum., S/R
29	N/A		

A/R = As required.

N/A = Not applicable to this assembly.

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

*** Items used only on doors 16 feet and taller.*

**** Call Rytec with door serial number to confirm part number(s).*