

R Y T E C

Spiral[®] LH[®]

Owner's Manual

Models

L – (9-1/2" Side Column)

S – (14" Side Column)



P.O. Box 403, One Cedar Parkway, Jackson, WI 53037

Phone 262-677-9046 Fax 262-677-2058

Rytec website: www.rytecdoors.com Rytec On-line store: www.rytecparts.com

Rytec E-mail: helpdesk@rytecdoors.com, Parts E-mail: parts@rytecdoors.com

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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"). Note: **Motor assembly** is a mechanical component.

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

Standard door panel assemblies, including **panel slats, hinge rollers, and hinges** 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, 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.

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

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

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

*Spiral Door Series Limited Warranty excludes Spiral VP door model.

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INTRODUCTION

The information contained in this manual will allow you to operate and maintain your Rytec® Spiral® LH® Door in a manner which will ensure maximum life and trouble-free operation.

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

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

If you have any questions contact your Rytec representative or call the Rytec Technical Support Department at 800-628-1909. Always refer to the serial number of the door when calling the representative or Technical Support.

The 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. The schematic for a specific door is shipped inside the cover of the System 4 control panel.

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 **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.

DOOR SERIAL NUMBER(S)

To obtain your DOOR SERIAL NUMBER, there are three (3) universal locations that this information can be attained. These are on the left side column assembly (at approximately eye level), on the non-drive side head console assembly, and inside the door of the System 4 Control panel. (See Figure 1)

⚠ CAUTION

When installing multiple doors of the same model, verify & match the serial numbers of all the components for each door (i.e. control panel, side columns, drive assembly, etc.). Mark any items not previously marked.

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

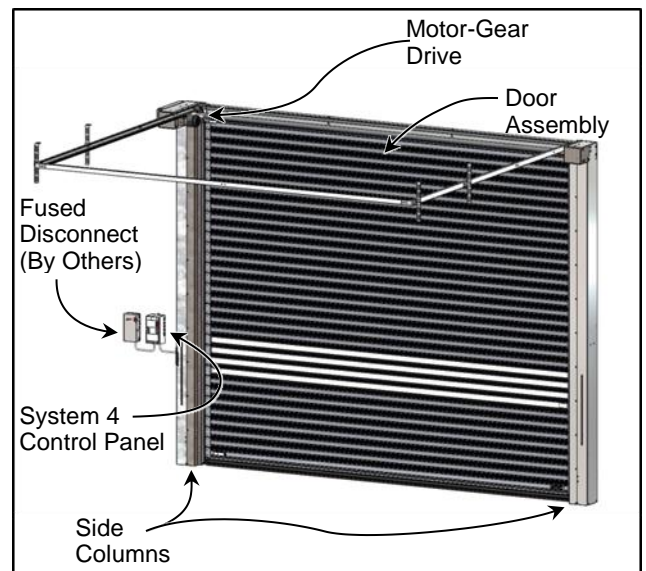


Figure 1

GENERAL ARRANGEMENT OF DOOR COMPONENTS

Figure 2 shows the location of the major components of your Spiral LH door. This illustration also shows the general placement of the associated control sub-assemblies for a typical installation.

The 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.

OPERATION-OPERATING CONTROL SYSTEM

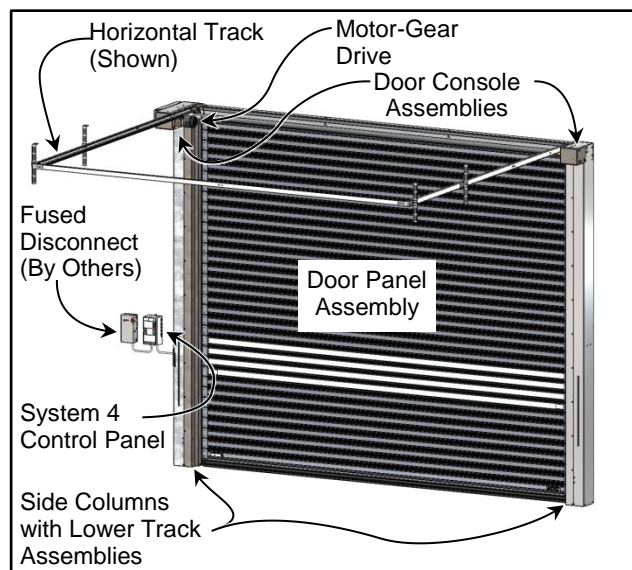


Figure 2

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

OPERATING CONTROL SYSTEM

The Spiral LH 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)

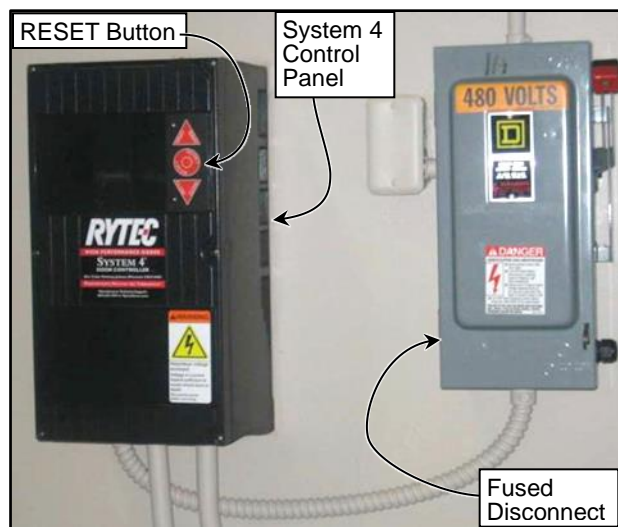


Figure 3

MODES OF OPERATION

The door may be operated in two (2) different operation modes: Automatic & Manual.

Automatic Mode of Operation

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.

Manual Mode of Operation

If a *momentary* contact activator such as a push-button, pull cord, radio control, etc., 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 manual mode, a manually-operated activator is used to open **and** close the door.

NOTE: The System 4 control has separate inputs programmed with or without the use of timers. Any input utilizing a timer can & must be turned OFF by reducing the timer settings to 0 seconds. (See the 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 bottom edge, which is located at the door panel bottom, 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.

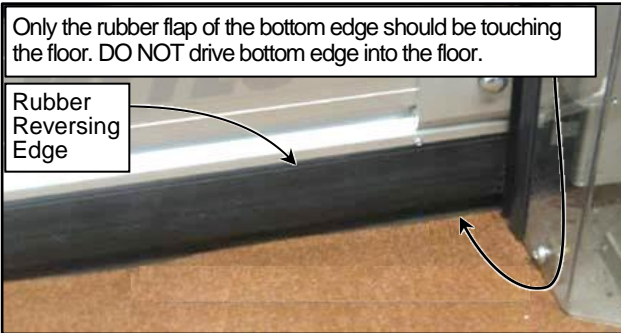


Figure 4

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.

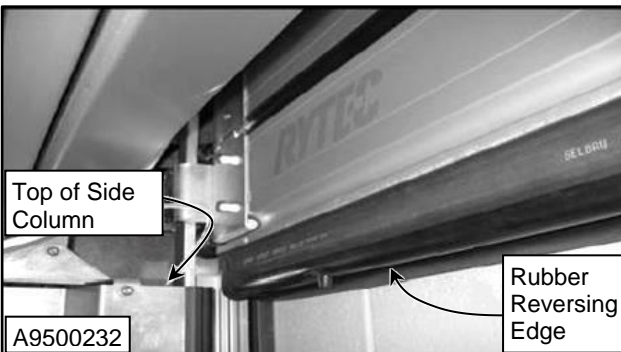


Figure 5

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 (2) sets of photo eyes that monitor the opening 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 the 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.

Two (2) side column factory mounted photo eye sets are included with the Spiral LH Door as a standard. The photo eyes serve as a safety device. They prevent the door from closing if an object is in the path of either photo eye set light beam. The photo eyes are not meant to be used as activators to open or close the door.

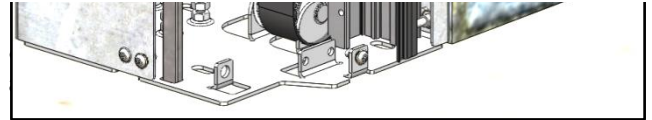


Figure 6)

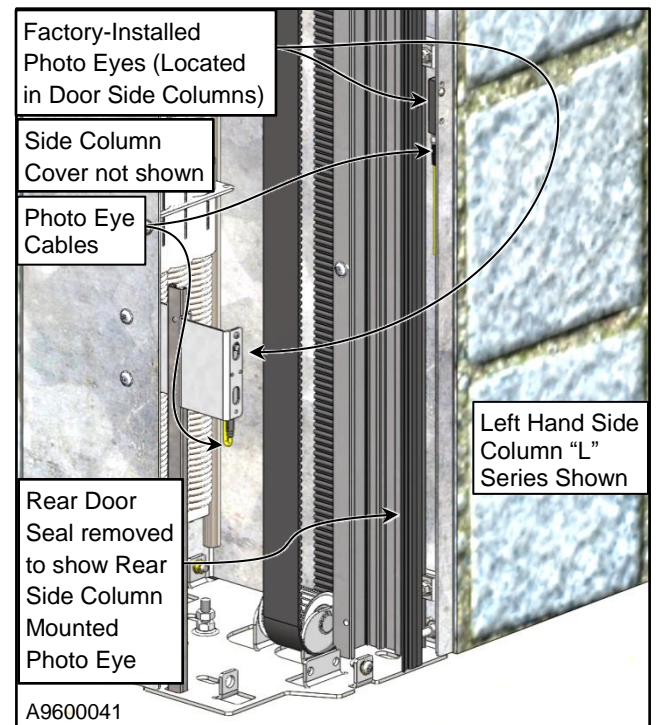


Figure 6

System Reset — Photo Eyes

If either set of photo eyes detects 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 photo 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(s) is in the path of the door opening. Once the object causing the photo eyes to trip is removed from the door opening:

- If the auto-close timer is off, the door close (▼) button must be pressed to close the door.

OPERATION-DOOR PANEL REVERSING EDGE

- If the auto-close timer is on, the door will close when the timer clocks out.

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

DOOR PANEL REVERSING EDGE

An electrically operated reversing edge is mounted along the bottom of the door panel. It is designed to provide a seal between the door panel and the floor. 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. Once the door reaches the fully opened position:

- If the auto-close timer was on when the door was opened, the door will begin to close after the timer clocks out.
- If the auto-close timer is off, the door close (▼) button must be pressed to close the door.
- If the reversing edge is activated 3 consecutive times the door will open & 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 Tripped). 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 (3) seconds.

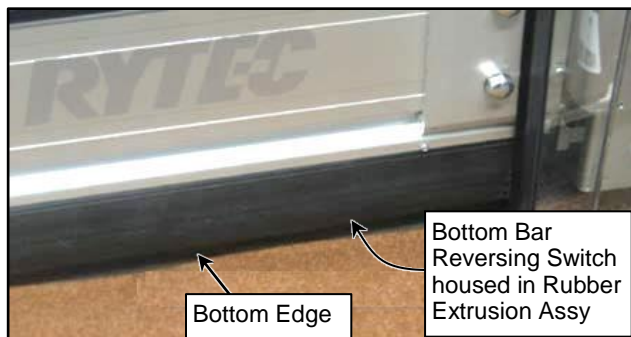


Figure 7

System Reset — Door Panel 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 Tripped)** 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 door's Drive Side Spiral Console Assembly, which is mounted at the drive end of the head assembly. (See Figure 8)

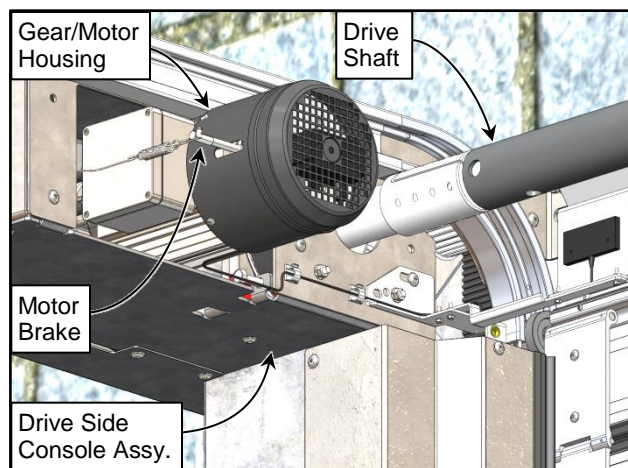


Figure 8

The power drive incorporates an electric brake used as a parking brake to prevent door movement when electrical power to the door is shut off. A manual brake release is provided for manual opening or closing of the door should there be a power failure, or when routine maintenance needs to be performed with the power disconnected.

An encoder, mounted to the end of the motor gearbox, generates electrical signals & magnetic pulses as the door panel is moved. These signals are used by the control system to monitor & 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. The tension of the drive belt is controlled by positioning the drive motor on its mounting bracket. (See Figure 9)

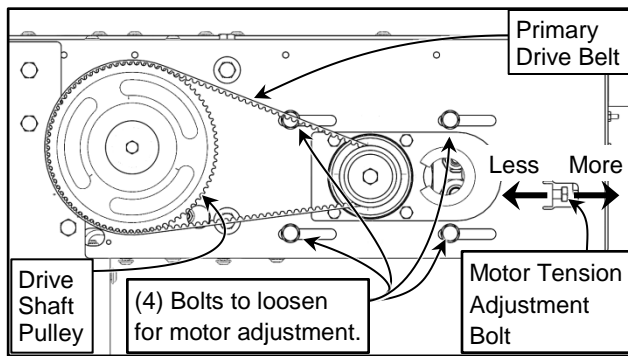


Figure 9

DOOR 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 11)

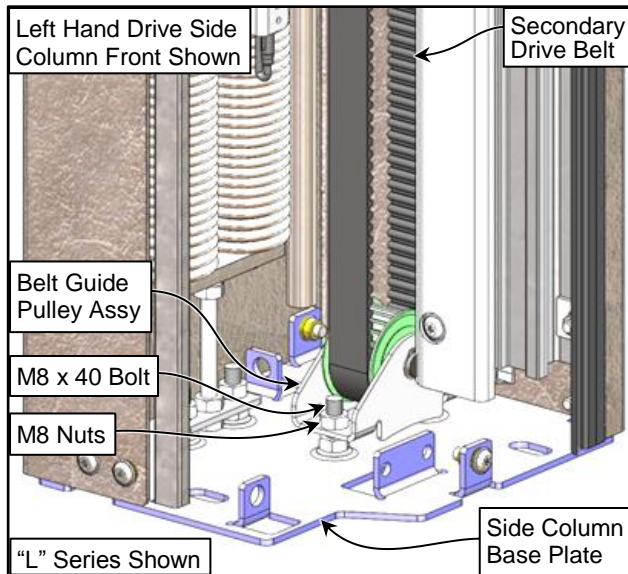


Figure 10

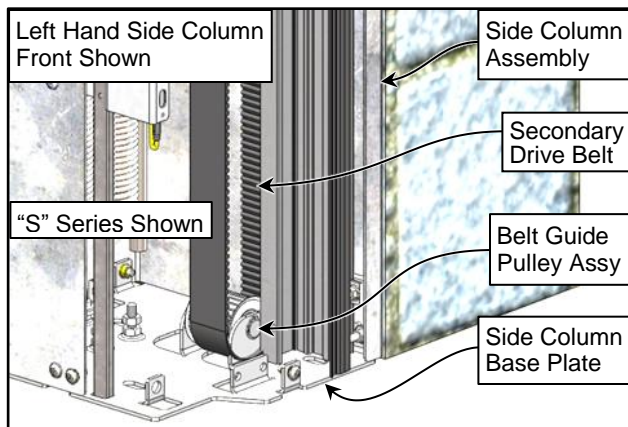


Figure 11

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 12)

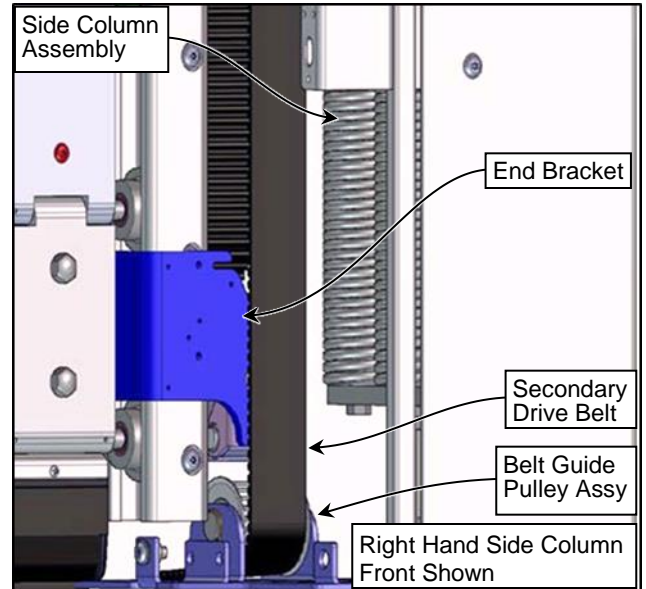


Figure 12

Springs & Spring Packs

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 consisting 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 13)

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.

OPERATION-SAMPLE OBJECT LIST

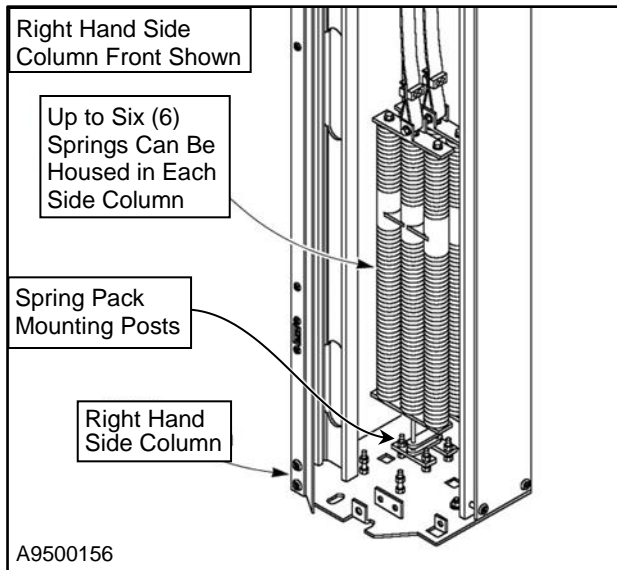


Figure 13

SAMPLE OBJECT LIST

Included with every door shipped is an Object List as shown in Figure 14 which is a sample version. This list contains key information specific to the door such as the model, serial number, door Production Size specifications, etc. Locate this document (it will be with the small parts for the door) as you will need information on it which will be key for proper installation, operation, and maintenance. Keep this document along with the manuals in a safe place for future reference.


		Object list Duplicate		Material number 707	
		Material description SPIRAL SSN-S		Order number XXXXXXX	Order quantity 1 EA
MRP controller 500 B5 ZMAT	Production scheduler T7 Tier 7	Order type ZP02 RYTEC MTO	Start 12/22/2016	Finish 12/27/2016	
Status REL MSPT PRT PRC SETC		Plant 1000 Rytec Corporation	Reservation number 000XXXXXXX	Creation Date 12/12/2016	
Serial number D00XXXX-XXX					
Configuration DOOR MODEL NAME Spiral Low Headroom "S" Door Width (Inches) 214.961 Door Height (Inches) 99.213 Production Width in mm 5,460 Production Height in mm 2,520 Line Voltage 208V motor mount side Left Hand Motor Motor Duty Standard Duty Motor Horsepower 2.0 Number of solid slats 15 Number of windows 0 Number of vent slats 0 Brake Release Location Release lever on side column Number of Springs 6 Spring Tension (in) 3.583 LH Inner Spring Pack Qty 0 LH Outer Spring Pack Qty 3 RH Outer Spring Pack Qty 3 RH Inner Spring Pack Qty 0 Spring Tension in mm 91 Number of pre-wraps 2.300					
Information on routing DOOR ASSEMBLY, SPIRAL SSN-S					

Figure 14

GENERAL CLEANING-RECOMMENDED INSPECTION SCHEDULE

GENERAL CLEANING

Household cleaners are sufficient for general cleaning of the door panel. Isopropyl alcohol can be used on more difficult areas but avoid using bleach and industrial grade cleaners or solvents. Contact the RYTEC Technical support if you have any questions.

PLANNED MAINTENANCE

RECOMMENDED INSPECTION SCHEDULE

Action Items	Daily	Quarterly
Visual Damage Inspection		
Door Operation Inspection		
Bottom Bar Reversing Edge Inspection		
Photo Eye Inspection		
Cleaning Vision Panels		
Electrical/Control Panel Inspection		
Electrical/Door Head Junction Box Connection Inspection		
Hardware Inspection		
Side Column/Mounting Anchor Inspection		
Head Assembly Inspection		
Primary Drive Belt Inspection		
Secondary Drive Belt Inspection		
Spreader Bar Inspection		
Weather Seal Inspection		
Spring Pack Inspection		
Spring Strap Inspection		
Wireless Antenna Inspection		
Door Panel Inspection		
Bottom Bar Reversing Edge Inspection		
Door Limit Inspection		
Motor Brake & Release Cable Inspection		
Top Track Inspection		

IMPORTANT: This door is designed such that it does not require lubrication.

DO NOT lubricate any parts, components, or assemblies of this door. This includes the door panel rollers, guides, & track. Lubricants will attract dust & 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(s), dented side column(s), torn or damaged reversing edge, damaged or broken photo eyes, etc. (See Figure 15)

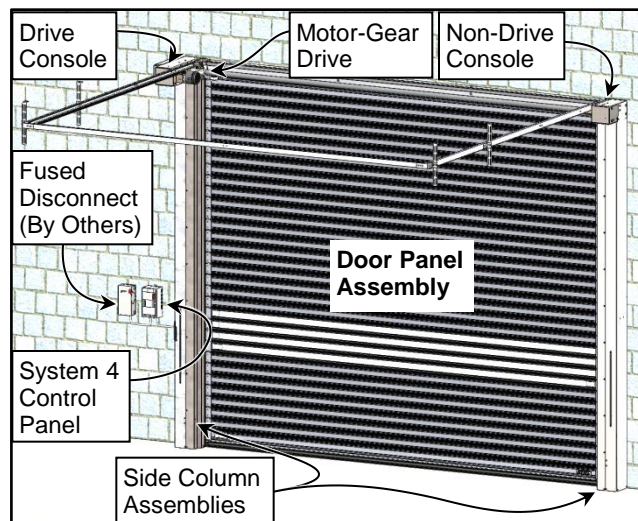


Figure 15

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

Door Panel Assembly: 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.

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

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

Wiring, Chords, Springs, Straps, & Drive Belts: Inspect for damage & 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.

Door Operation Inspection

Run the door through four or five complete cycles to make sure it is operating smoothly & efficiently. Also make sure there is no binding or unusual noise(s).

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

PLANNED MAINTENANCE-DAILY INSPECTION

Bottom Bar Reversing Edge Inspection

Inspect the bottom seal along the bottom bar assembly for wear, tears, and/or abrasion. Replace any worn or damaged parts as required. (See Figure 16)

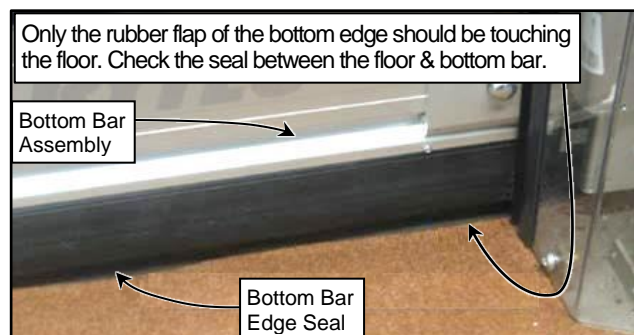


Figure 16

Photo Eye Inspection

To prevent the front & 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 side column mounted photo eye emitters are mounted in the left-front and right-rear corners of the door. The side column mounted photo eye receiver modules are located in the right-front and left-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 sets of photo eyes are interchangeable. Each set performs the same function and operates with the same set of photo eye modules. Also, the photo eye modules that make up the sets of photo eyes each have one indicator light.

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.

NOTE: Photo eyes act as a safety device to prevent the door from closing if an object or person is within the photo eye beam. The photo eyes are not to be used as door activators.

FRONT & REAR SIDE COLUMN FACTORY MOUNTED PHOTO EYES

The eyes are receiving power & are aligned when the indicator on the emitter module (left-front and right-rear corners of the door) is green and the indicator on the receiver module (right-front and left-rear corners of the door) emit a yellow light which only illuminates when it is in proper alignment with the transmitter. If the receiver module indicator light is out, the eyes are not aligned. The emitter has a single green light that comes on when it is powered up. (See Figure 17)

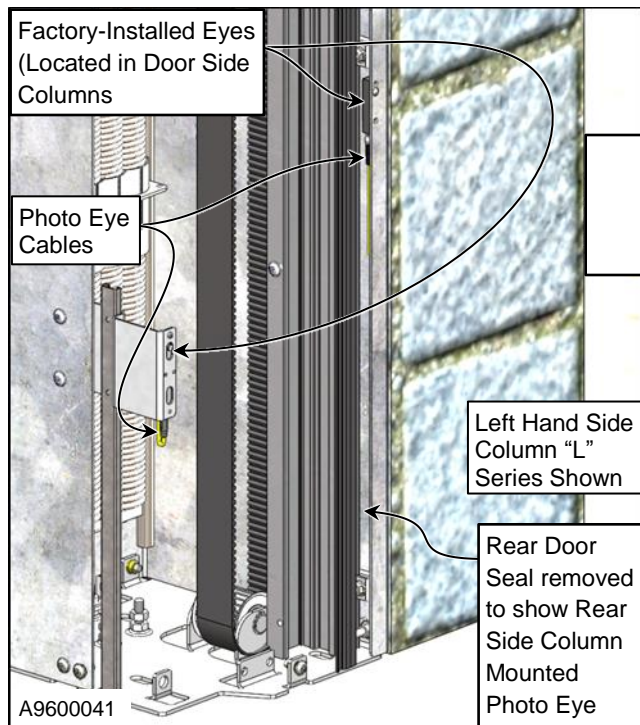


Figure 17

1. The front & rear photo eyes are internally mounted on the rear of the side column. Check that the photo eye & all connections are secure & there is nothing damaged.
2. Confirm the cable/wires are securely & safely routed as necessary through the side column, across the rear spreader, through the consoles, to the junction box, to the control panel, and correctly wired as required.

PHOTO EYE SYSTEM TESTING

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

To prevent injury to personnel and damage to equipment, the photo eye circuit must be thoroughly tested to make sure the photo eye system is operating correctly.

Test the door photo eyes by doing the following procedure:

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.
2. Wait for the door to begin to close or press the door close (▼) button.
3. While the door is closing place an object between the set of photo eyes to be tested, interrupting the beam of light between them.

NOTE: When the front beam of light is interrupted, the display on the control panel will read "Photo Eye – Fr". When the rear beam of light is interrupted, the display will read "Photo Eye – Rr".

4. When operating properly the moment the beam of light is interrupted, the control panel should reverse the direction of the door and park it in the fully-open position. When the beam of light is restored, the door should be able to move to the closed position.

If the photo eyes do not operate properly, the lens may be dirty. Clean as required using window cleaner and a clean, soft cloth (See "Cleaning Photo Eyes" section). Check that each photo eye set is properly lit up & aligned.

Retest the set of eyes. If cleaning does not resolve the problem, realign or replace the photo eyes as required.

To align the photo eyes, see "PHOTO EYE ADJUSTMENT" on page 25 for adjustment procedures. To replace the eyes, see "PHOTO EYE REPLACEMENT" on page 37.

5. Repeat this procedure for each set of photo eyes only after verifying that the set of eyes just tested are working properly.

Cleaning Photo Eyes

WARNING

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

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.

Cleaning Vision Panels

The Vision Panels should be inspected on a daily basis for dirt, grease, etc. & any abrasions. Cleaning must be done when dirt, grease, abrasions, or anything else that diminishes panel clarity is observed. Also refer to "VISION PANEL MAINTENANCE" section on page 42 for additional information. Follow the procedure(s) as necessary:

WARNING

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

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

ROUTINE CLEANING

2. Rinse with flowing water.
3. Clean with warm water and small amount of mild non-abrasive soap (dish soap).
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 panels.
7. Wipe any additional moisture with dry microfiber or lint free cloth.

OCCASIONAL HEAVY CLEANING & 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.

PLANNED MAINTENANCE-QUARTERLY INSPECTION

- 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: The product must be non-abrasive and designed specifically for polycarbonate windows.

QUARTERLY INSPECTION

Electrical/Control Panel Inspection

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



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

- Open the door to the control panel. (See Figure 18)
- Inspect all electrical lines leading to the control panel. Check all electrical connections inside the control panel. All connections must be tightly secured.



Figure 18

- Check for pinched, cracked, or damaged wires & insulation. Repair or replace wires as needed. For the proper control panel electrical connection inspection procedure, see the Rytex “System 4 Drive & Control” manual.
- Inspect the serial number decal for legibility and adhesion. (See Figure 19)



Figure 19

Electrical/Door Head Junction Box Inspection

- Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
- Turn off the door power by placing the fused disconnect in the OFF position.



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

- Remove the drive side head console assembly cover from the door head console assembly located as shown. (See Figure 20)

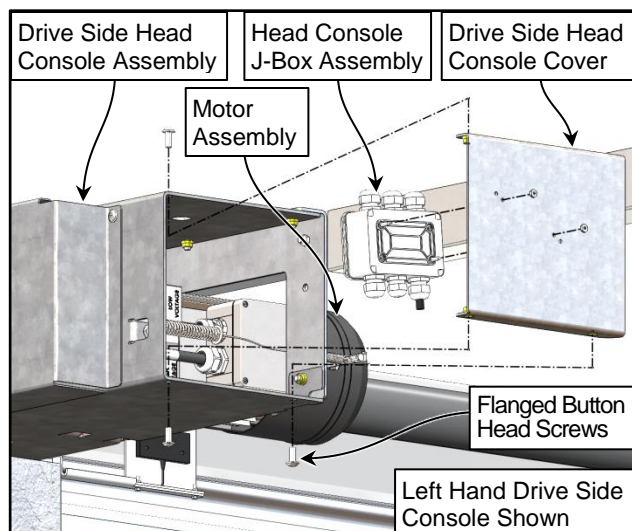


Figure 20

4. Remove the cover from the door head junction box located above the drive motor assembly. (See Figure 21)

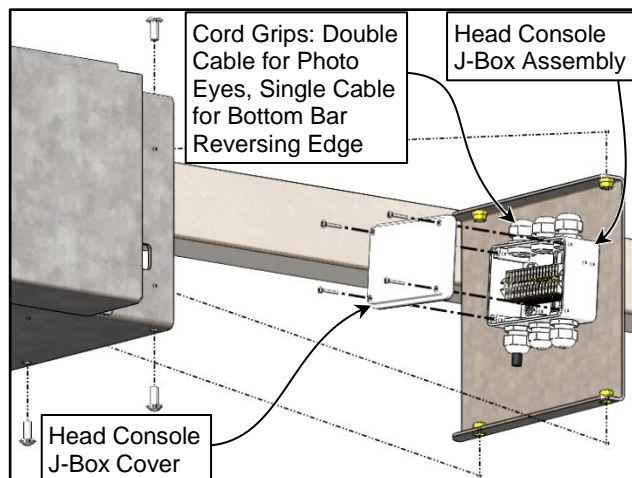


Figure 21

5. Inspect all electrical connections to the power drive system. All connections must be secure and tight.
6. Inspect the electrical connections in the door head junction box located in the head console assembly. All connections must be secure & tight.
7. Check for pinched, cracked, or damaged wires and insulation. Repair or replace wires as needed.
8. Reassemble the door head junction box & head console assembly cover.

Hardware Inspection

Make sure all nuts, bolts, set screws, and anchors are tight throughout the door. Example: motor mounting bolts, wall mounting hardware, floor anchors, shaft set screws, track mounting fasteners, etc.

NOTE: To access the floor and wall anchors, you must first remove the cover from each side column.

Side Column/Mounting Anchor Inspection

1. Move the door to the fully opened 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.



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

3. Remove the side cover from each side column. Each cover is held in place with 20-mm long Button Head TORX® screws. (See Figure 22)

PLANNED MAINTENANCE-QUARTERLY INSPECTION

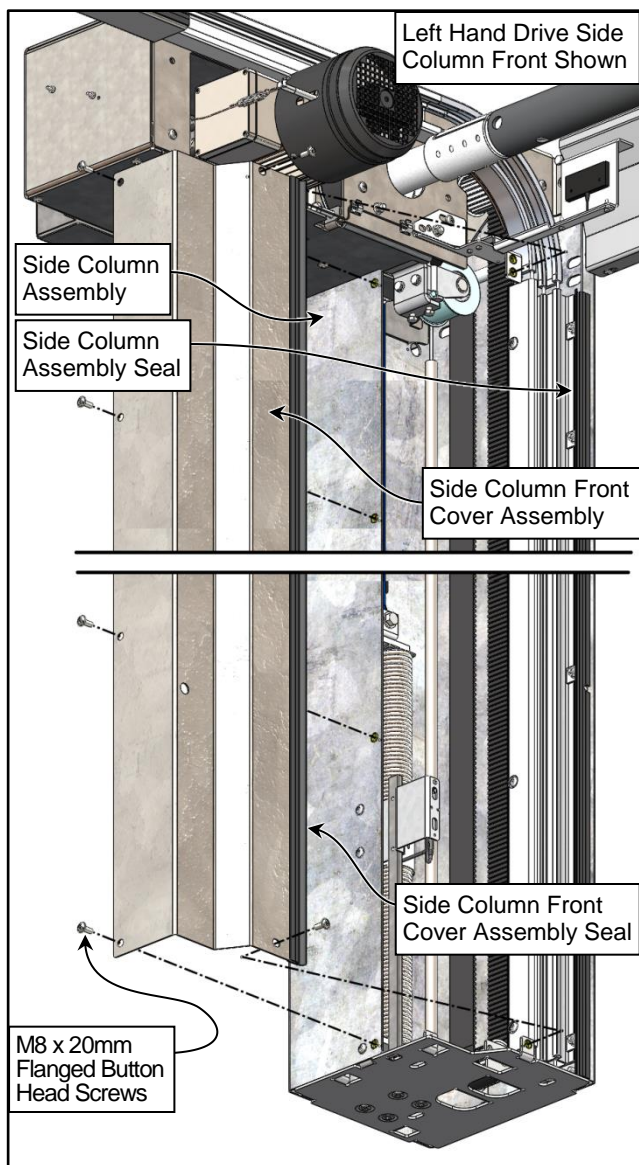


Figure 22

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. (See Figure 23 & Figure 24)

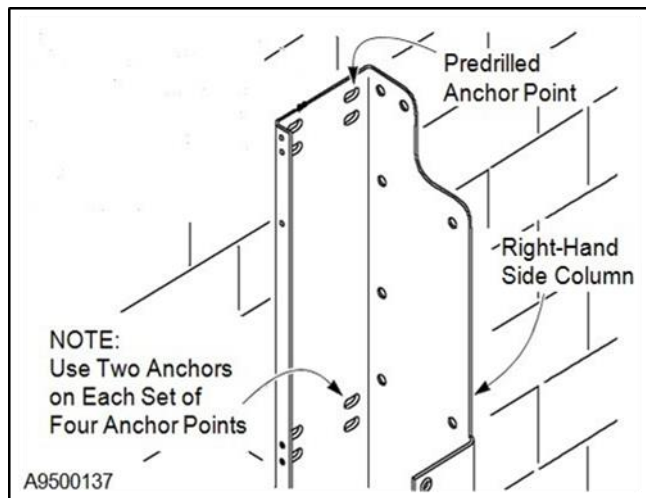


Figure 23

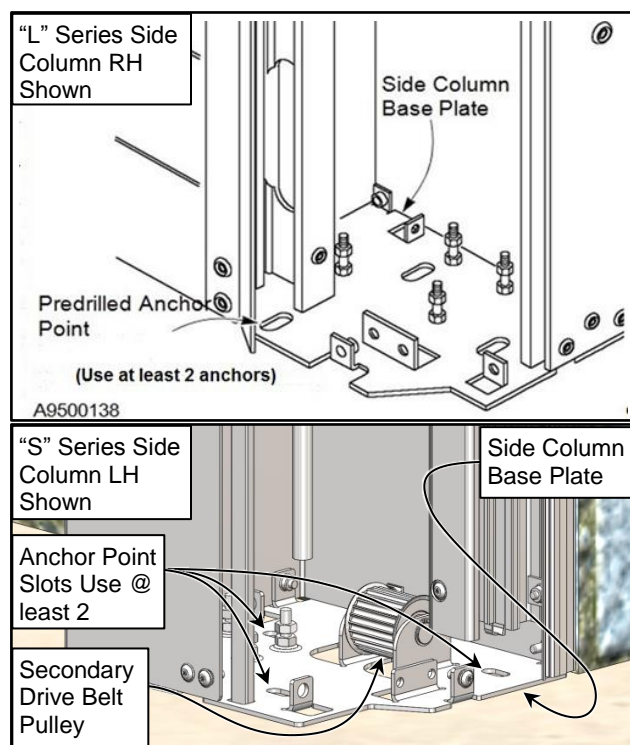


Figure 24

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 23)

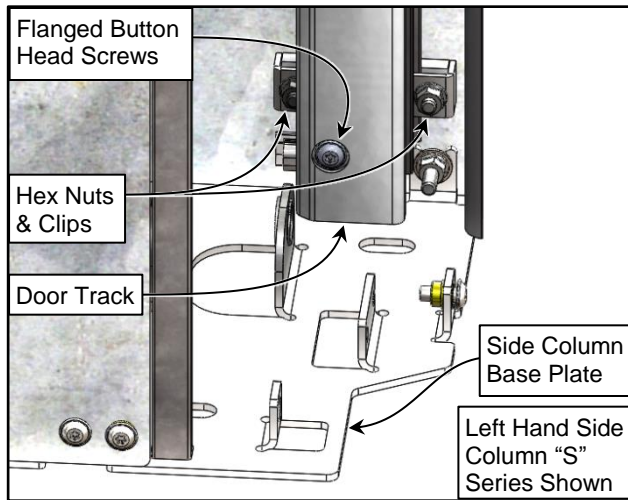


Figure 25

Head Assembly Inspection

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



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

3. Remove the covers from both the head console assemblies. Each is held in place by Button Head TORX® screws. (See Figure 26 & Figure 40)

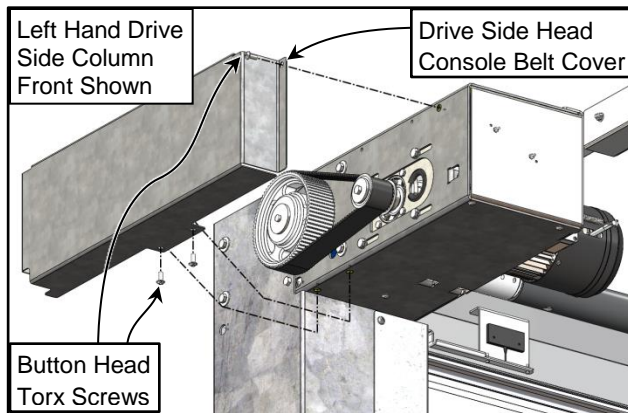


Figure 26

4. Inspect the hex head screws used to secure the head assembly to the side columns. Replace any missing or damaged hardware. (See Figure 27)

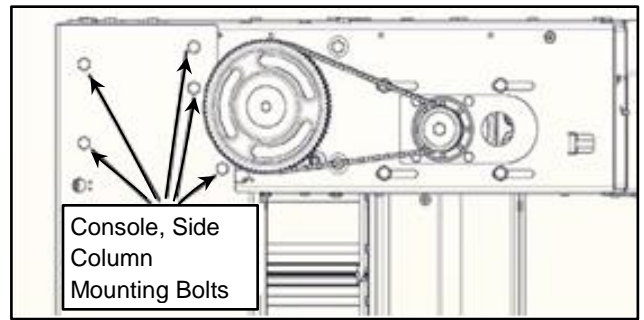


Figure 27

5. Inspect the hardware used to attach the spiral track sections to the left & right console assemblies. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 28)

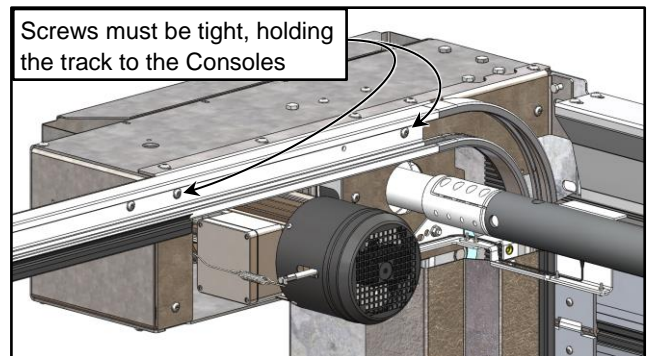


Figure 28

6. Inspect the hardware used to clamp the line shaft to the left & right drive shafts. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 29)

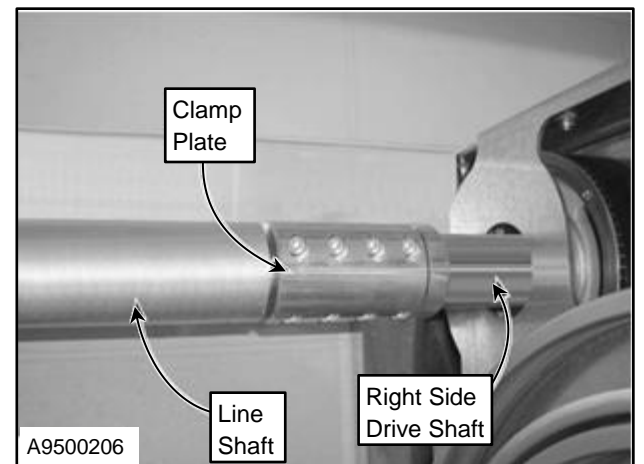


Figure 29

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

PLANNED MAINTENANCE-QUARTERLY INSPECTION

- 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 30)

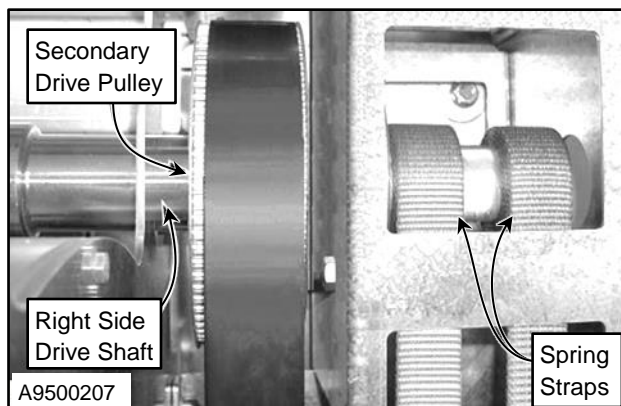


Figure 30

- 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 30)

Primary Drive Belt Inspection

Remove the drive side console assembly belt guard if you haven't already done so. (See Figure 26)

- 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 31)

To replace the belt, see "PRIMARY DRIVE BELT REPLACEMENT" on page 26.

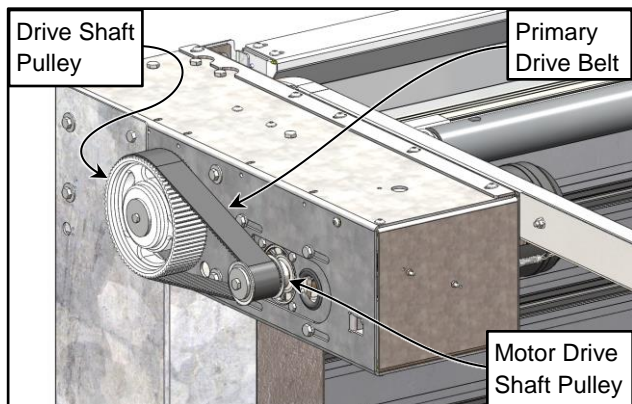


Figure 31

- 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 3/8" in. (See Figure 32)

To adjust the belt tension, see "PRIMARY DRIVE BELT ADJUSTMENT" on page 21.

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension & the belt may jump gearbox pulley cogs or come off.

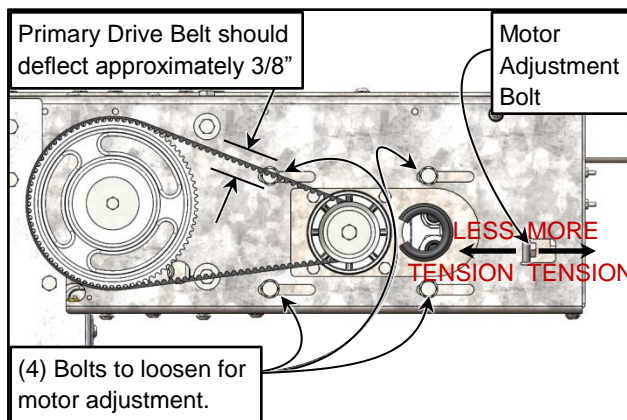


Figure 32

- 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.
- Replace the belt guard & both end caps.

Secondary Drive Belt Inspection

- Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
- 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 procedures.

- Remove the side cover from each side column. Each cover is held in place with 20-mm long Button Head TORX® screws. (See Figure 22)
- 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 the secondary drive belt(s) if necessary. (See Figure 33 & Figure 34)

To replace the Secondary Drive Belt, see "SECONDARY DRIVE BELT REPLACEMENT" section on page 27.

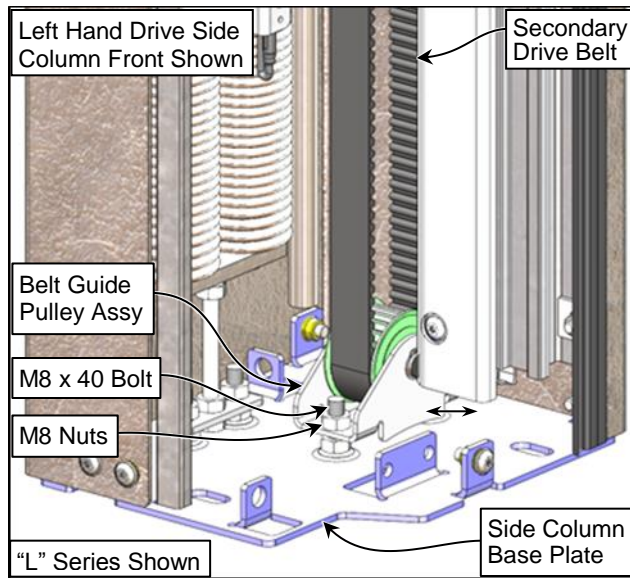


Figure 33

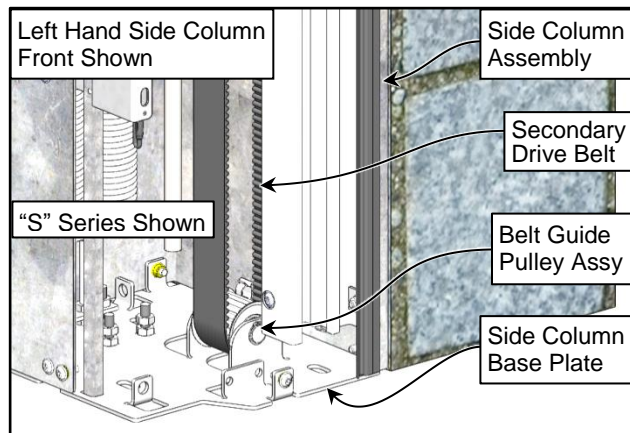


Figure 34

5. Make sure the tension on both secondary drive belts is snug. Adjust the belt tension if necessary.
To adjust the secondary drive belt tension see "SECONDARY DRIVE BELT ADJUSTMENT" section on page 22.

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension can cause the belt to jump gearbox pulley cogs or come off.

Spreader Bar Inspection

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.
2. Turn off power to the door 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 procedures.

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 35)

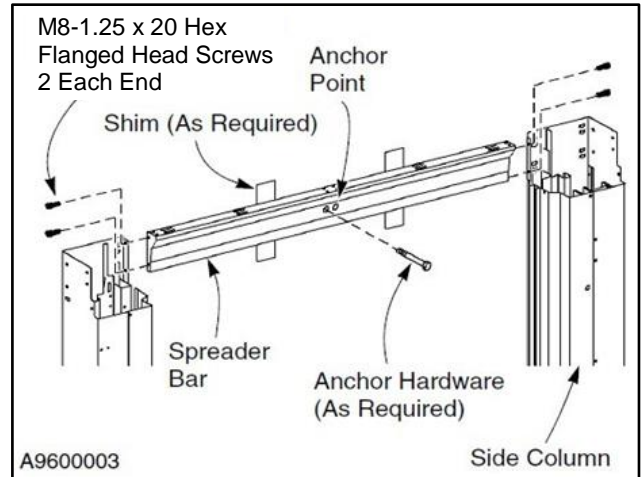


Figure 35

Weather Seal Inspection

There are weather seals on the front & rear side of the door panel in the side columns as well as a brush seal between the door and the wall along the door's top lintel. (See Figure 36 & Figure 37)

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

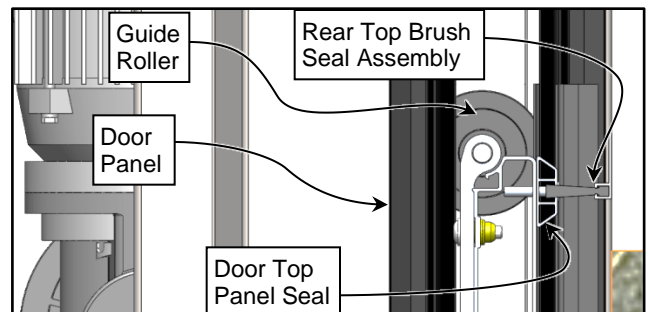


Figure 36

PLANNED MAINTENANCE-QUARTERLY INSPECTION

3. Inspect the weather seals in 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. (See Figure 37 & Figure 38)
4. Remove the side cover from each side column. Each cover is held in place with 20-mm long Button Head TORX® screws. (See Figure 38)

Inspect all weather seals to confirm they are properly positioned.

To replace the weather seal, see “WEATHER SEAL REPLACEMENT” on page 32.

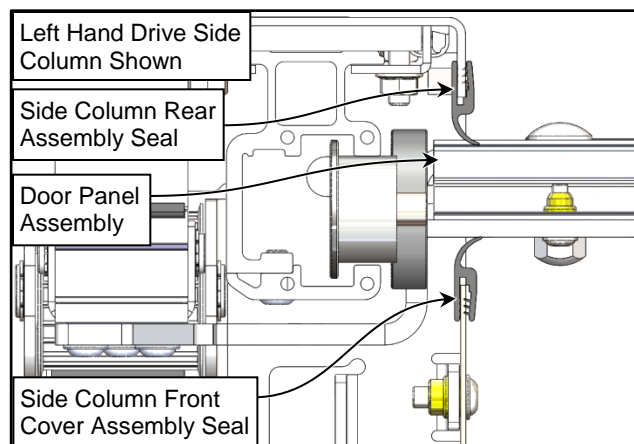


Figure 37

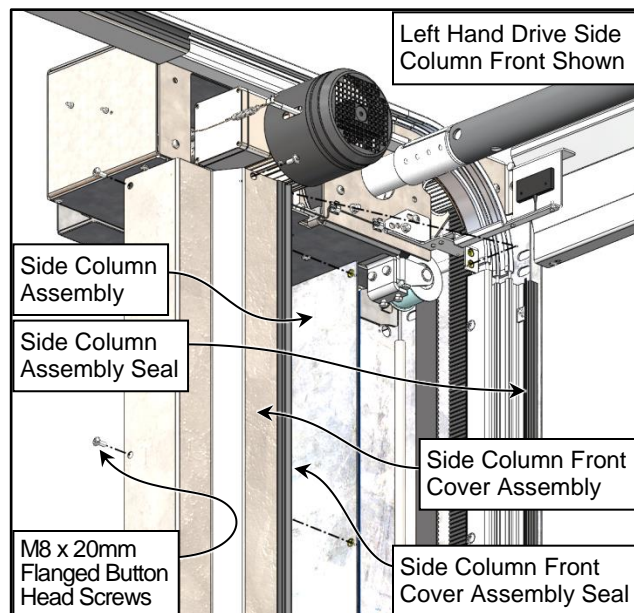


Figure 38

Spring Pack Inspection

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 procedures.

3. Remove the side cover from each side column. Each cover is held in place with 20-mm long Button Head TORX® screws. (See Figure 22)
4. Inspect each spring pack assembly. Springs should not be stretched, worn, or damaged. Replace the spring pack(s) if necessary. Tighten the fastener hardware as required. Replace any missing or damaged hardware. (See Figure 39)

To replace the spring pack, see “SPRING PACK REPLACEMENT” section on page 35.

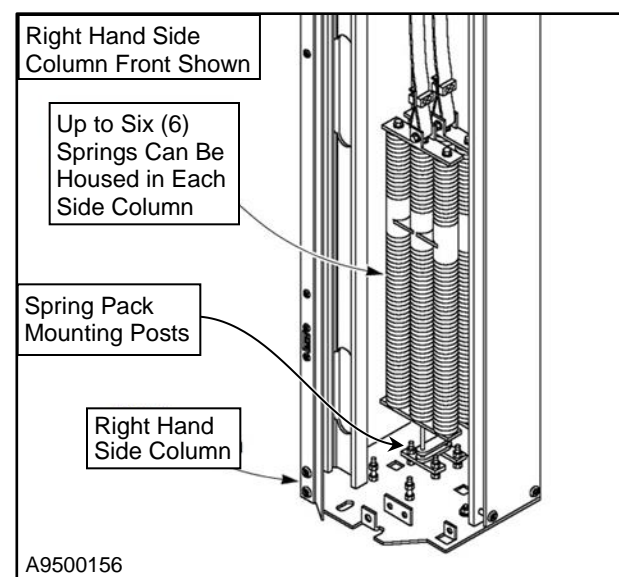


Figure 39

5. Inspect the hex nuts securing each spring pack to the mounting posts. Tighten the nuts as required. Replace any missing or damaged hardware.
6. Inspect the TORX head screws securing the inside spring pack to the side column. Tighten the screws as required. Replace any missing or damaged hardware.

Spring Strap Inspection

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 procedures.

3. Remove the cover from the side column. The cover assembly is held in place with 20-mm-long Button Head TORX® screws. (See Figure 22)

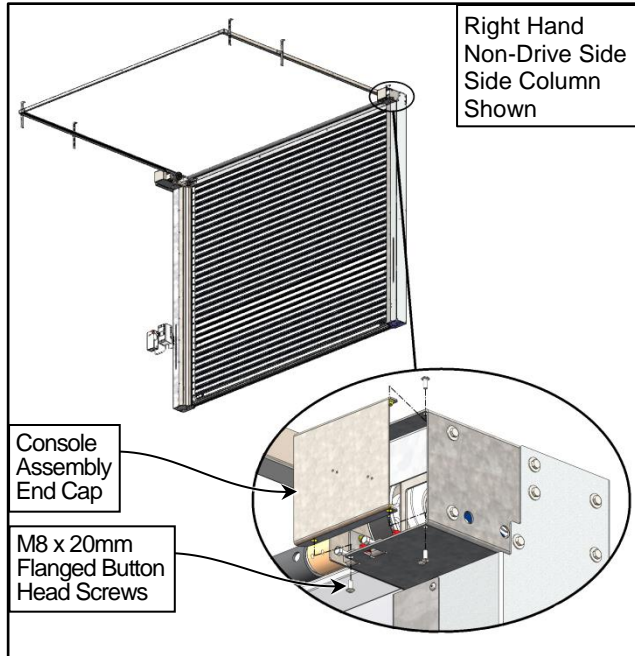


Figure 40

4. Remove the associated end cap cover from the head console assembly to expose the upper end of the spring strap. Each end cap is held in place with (3) M8-20mm long, Button Head TORX® screws. (See Figure 40)
5. 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.
6. 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 32.

7. Inspect the hardware securing each spring strap to its spring pack. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 41)

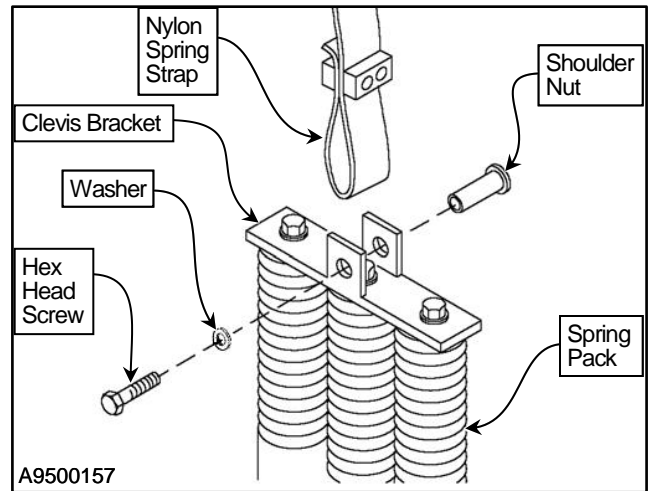


Figure 41

Wireless Antenna Inspection

Located at the top of the drive side (left or right) side column is the Spiral door wireless reversing edge antenna & bracket. Check that all mounting hardware is secure. Inspect the antenna & cable for damage. (See Figure 42)

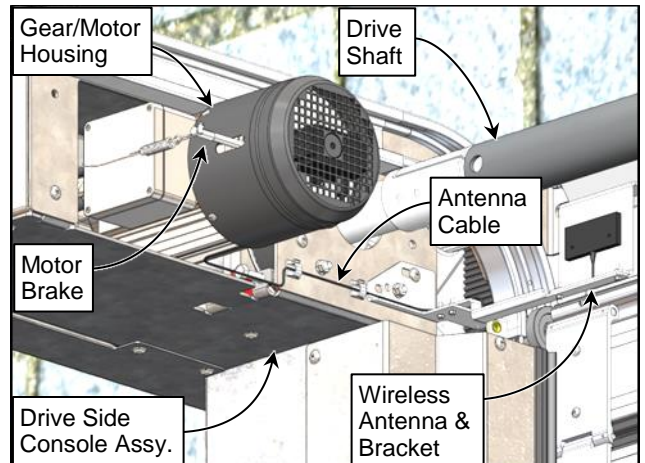


Figure 42

Door Panel Inspection

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

3. Remove the side covers from the side columns. Each cover is held in place with 20-mm- long Button Head TORX® screws. (See Figure 22)

PLANNED MAINTENANCE-QUARTERLY INSPECTION

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” section on page 31.

ROLLER & GUIDE WHEEL INSPECTION

6. Position clamps along both edges of the door above & below the Lower Track Assembly Track Cover to be removed to prevent unexpected door movement as shown. (See Figure 43)
7. Individually remove the Lower Track Assembly track covers 1 at a time to inspect the roller & guide wheels. Reinstall each cover before inspecting the next set of rollers/guides. The covers are held in place with Button Head TORX® screws.

Inspect the rollers and guides for damage or wear. Replace as needed. To replace a roller or guide, see “DOOR ROLLER REPLACEMENT” section on page 35. (See Figure 44)



Figure 43

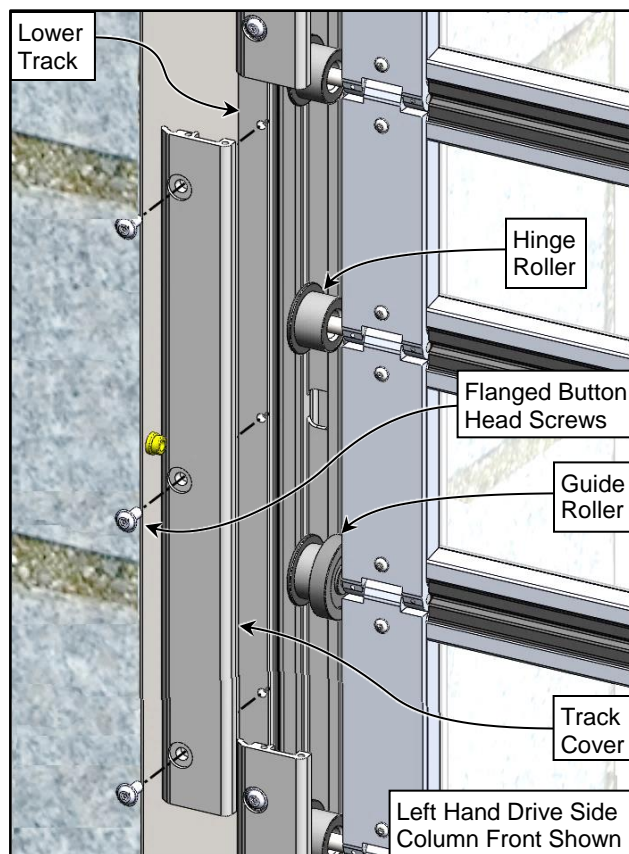


Figure 44

8. 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 $\frac{1}{4}$ inch of each other. A door panel 16 to 28 feet in width is considered level when the ends are within $\frac{3}{8}$ inch of each other. To level the door panel, see “DOOR PANEL ADJUSTMENT” section on page 24.

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

Bottom Bar Reversing Edge Inspection

Inspect the entire length of the bottom bar reversing edge seal for damage such as tears & holes, & for missing or loose hardware. Inspect the edge itself.

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. Failure to stay clear of it may cause damage or personal injury! 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 45)

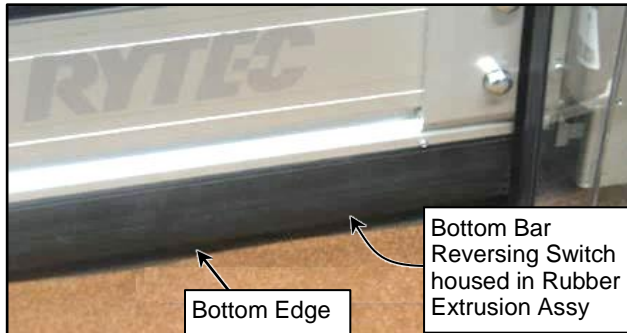


Figure 45

If the reversing edge sensor is working correctly, the door will reverse direction & move to the fully open position. If the door was opened using a timer input, the door will begin counting down on that timer. When the door timer reaches 0 the door will again begin to close, then reverse after the reversing edge is activated.

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, several issues may occur: the control system will only allow the door to open, it will not reverse direction after striking an object when closing, etc. and the issue must be investigated further.

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 46)



Figure 46

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

For other specific issues, error codes, etc. refer to the "System 4 Drive & Control" manual.

To replace the reversing edge, see "REVERSING EDGE REPLACEMENT" on page 37.

Door Limit Inspection

See the Rytec System 4 Drive & Control Installation & Owner's Manual for the proper procedure for setting the open and close door limits. The open & close limit door positions are detailed in the "ADJUSTMENT – DOOR LIMITS" section of that manual.

PLANNED MAINTENANCE-QUARTERLY INSPECTION

Motor Brake & Release Cable Inspection

The power drive brake assembly is designed to act as a parking brake when electrical power is turned off to the motor. If the limit switches are set properly and the door drifts past the set limits, the brake may need to be replaced. Contact your RYTEC customer support for further assistance. The motor brake release cable also may need adjustment or replacement.

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



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

3. Remove the side column cover from the side column where the Brake Release is mounted. The cover assembly is held in place with 20-mm-long Button Head TORX® screws. (See Figure 22)
4. Make sure the brake release handle(s) is in good working order and securely fastened to the left side column and/or the opposite side wall. Replace any missing or damaged hardware as required. (See Figure 47)

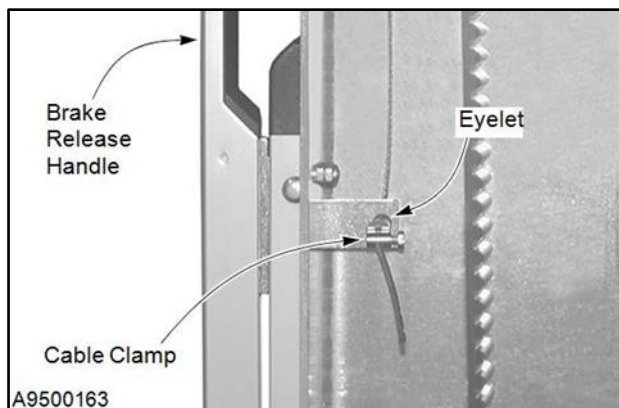


Figure 47

5. Inspect the entire length of the brake release cable(s) running from the brake release handle to the electric brake mechanism located on the drive motor assembly. The cable should not be frayed, worn, or damaged. Replace if necessary. (See Figure 48)

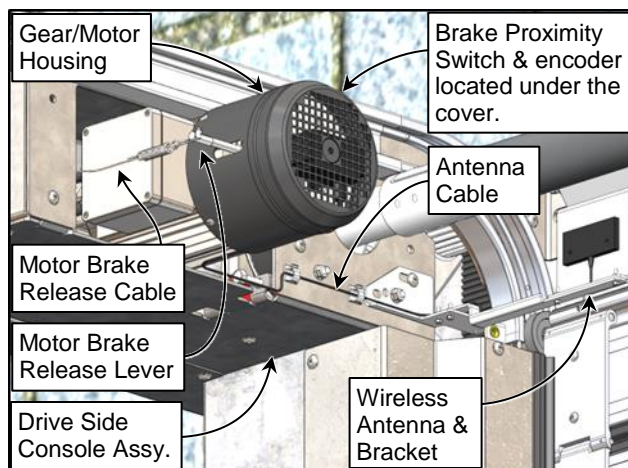


Figure 48

To replace the Brake Release Cable, see “BRAKE RELEASE CABLE REPLACEMENT” on page 30.

6. Make sure the upper end of the cable is securely fastened to the electric brake mechanism.
7. Inspect the cable clamp on the lower end of the cable to ensure it is securely fastened to the brake release handle. (See Figure 47)
8. 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 25.

Top Track Inspection

Confirm that the top track is securely mounted, all fasteners are in place & tightened, tracks are properly positioned & aligned (check track to track distance @ start & end against the object list). Also check that there is no damage, wear, or degradation to any part of the assembly that would indicate any other problems exist or may necessitate replacement. (See Figure 49)

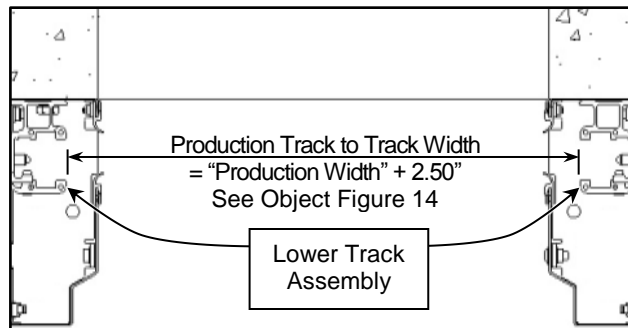


Figure 49

ADJUSTMENTS

PRIMARY DRIVE BELT

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 50)

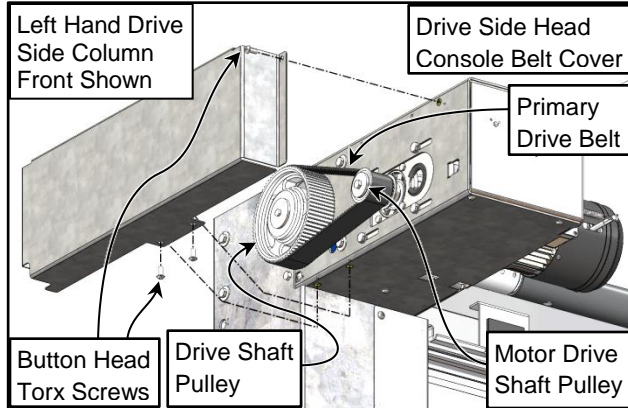


Figure 50

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

3. Remove the primary belt guard cover from the drive side head console assembly. It is held in place by Button Head TORX® screws. (See Figure 50)
4. Loosen the four hex head screws securing the drive motor assembly to the drive side head console assembly. (See Figure 51)

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension & the belt may jump gearbox pulley cogs or come off.

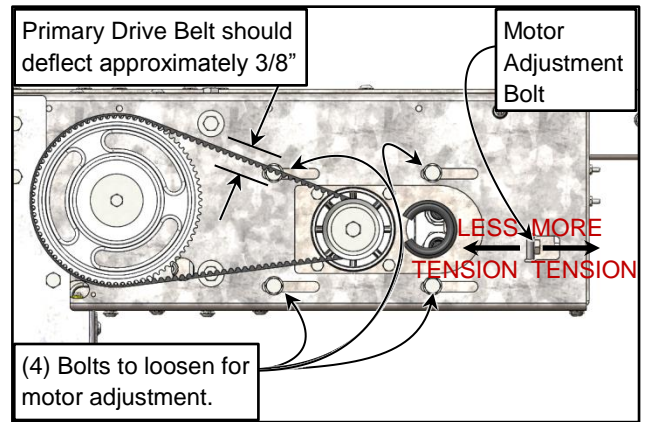


Figure 51

5. Using the Motor Adjustment Bolt, adjust the primary drive belt tension by sliding the drive motor assembly towards or away from the drive shaft pulley to respectively decrease or increase the belt tension. (See Figure 51)
6. Measure the deflection in the belt to verify that the belt tension is properly set.
7. 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.

8. Restore power to the control panel.
9. Cycle the door open & closed several times to adjusted test the 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 procedures.

11. Measure the deflection in the primary drive belt to make sure it is properly tensioned. Readjust the tension as necessary.
12. Reattach the belt guard.
13. Restore power to the control panel.

ADJUSTMENTS-SECONDARY DRIVE BELT

SECONDARY DRIVE BELT

There are two secondary drive belts. Each runs from the drive shaft assembly down through its respective side column. The L – Size door utilizes two adjustments, the pulley at the bottom of the side column and the trolley located at the top of the side column. The S – Size uses only the trolley at the top of the side column to increase or decrease the tension.

L – SIZE SERIES ADJUSTMENT

1. Move the door to the 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.



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

3. Remove the side column covers from the side columns. Each cover is held in place with 20-mm-long Button Head TORX® screws. (See Figure 73)
4. Belt tension should just be snug. It is adjusted by repositioning the guide pulley bracket on the front mounting post and the trolley at the top of the side column in L – Size doors.

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 52)

The trolley at the top of the side column increases tension as the trolley is moved towards the wall and decreases the tension when moved away from the wall. (See Figure 53)

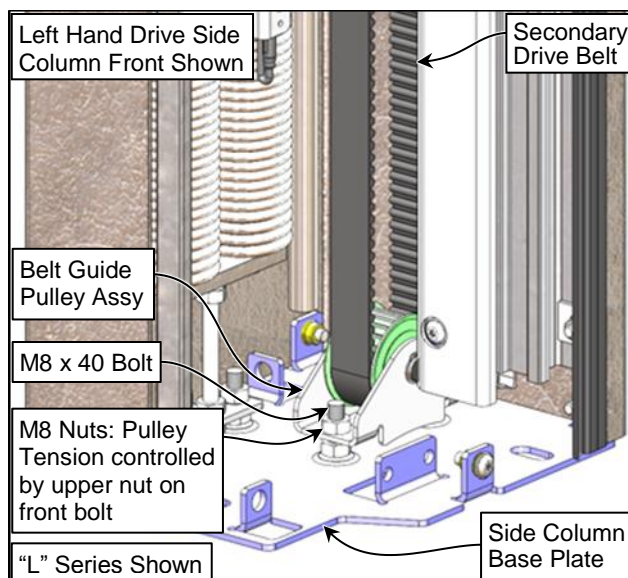


Figure 52

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension & the belt may jump gearbox pulley cogs or come off.

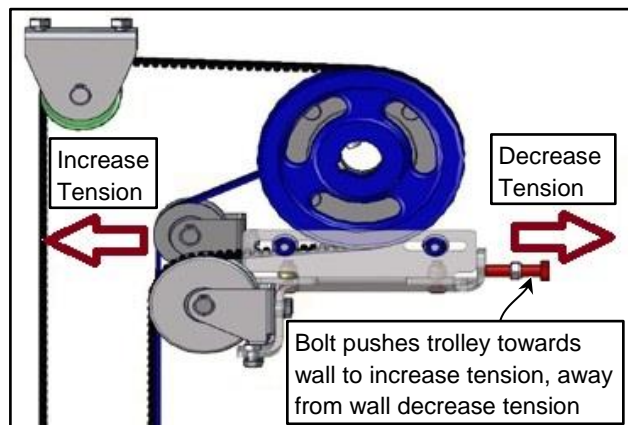


Figure 53

5. Lock in the belt tension by tightening the lower nut against the bottom of the pulley bracket. (See Figure 52)
6. If additional tension on the L – Size door is required the trolley at the top of the side column can be adjusted for additional tension. (See Figure 53)

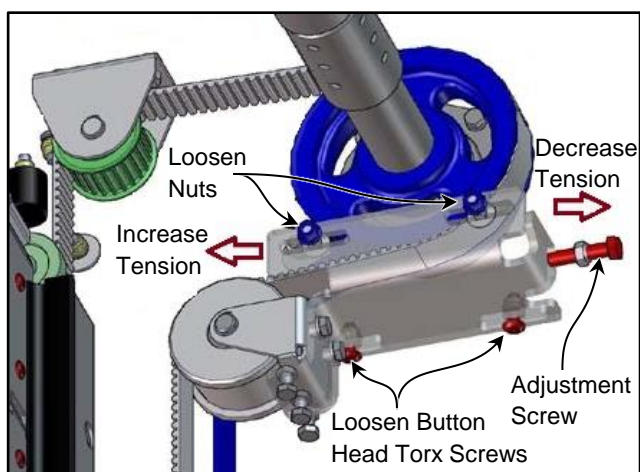


Figure 54

7. The trolley is secured with (2) Button Head Torx screws on the bottom and (2) nuts on the side of the console. A bolt pushes the trolley towards the wall. The face of the console can be removed to provide greater access to the trolley. (See Figure 54)

WARNING

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

8. Tighten all hardware.
9. Restore power to the control panel.
10. Cycle the door completely several times to work each drive belt.
11. 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 procedures.

12. Measure the deflection in each drive belt to make sure they are both properly tensioned. Readjust the belt tension as necessary.
13. Check the door panel for level and adjust the panel if necessary. (See "DOOR PANEL ADJUSTMENT" on page 24)

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.

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

15. Restore power to the control panel.

S – SIZE SERIES ADJUSTMENT

1. Move the door to the 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.
3. Remove the side column covers from the side columns. Each cover is held in place with 20-mm-long Button Head TORX® screws. (See Figure 73)

WARNING

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

4. Belt tension should just be snug. It is adjusted by repositioning the trolley at the top of the side column in S – Size doors. The trolley at the top of the side column increases tension as the trolley is moved towards the wall and decreases the tension when moved away from the wall. The face of the console can be removed to provide greater access to trolley. (See Figure 55)

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension & the belt may jump gearbox pulley cogs or come off.

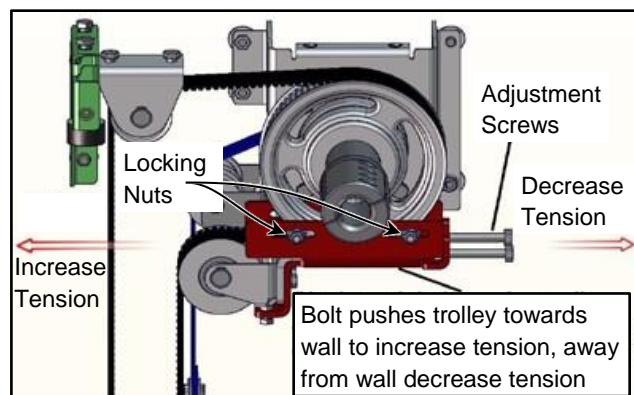


Figure 55

5. The S – Size trolley has four nuts that must be loosened before trolley adjustment can be made. Two are located on the side of the console and two can be accessed via two holes on the outside of the console. A socket extension will be required to perform this procedure. The face of the console can also be removed providing greater access to the nuts. (See Figure 56 & Figure 57)

ADJUSTMENTS-DOOR PANEL

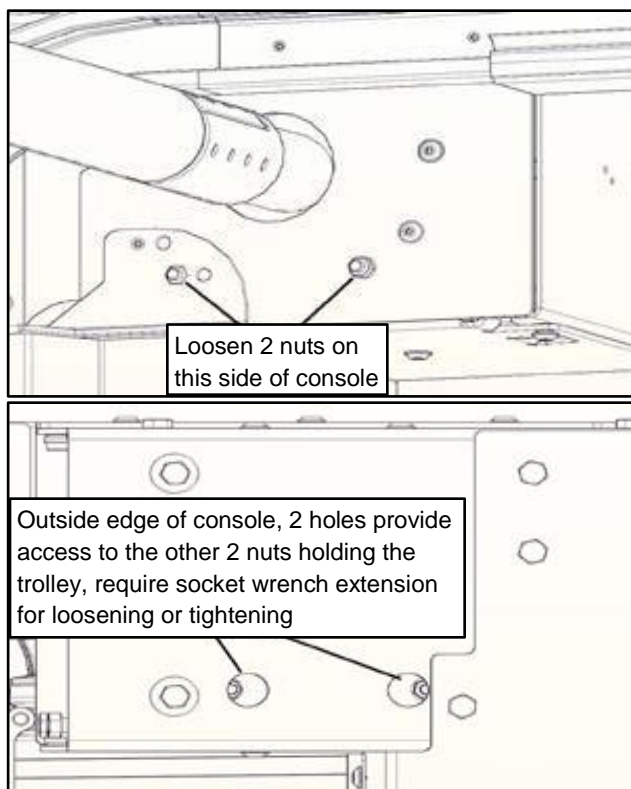


Figure 56

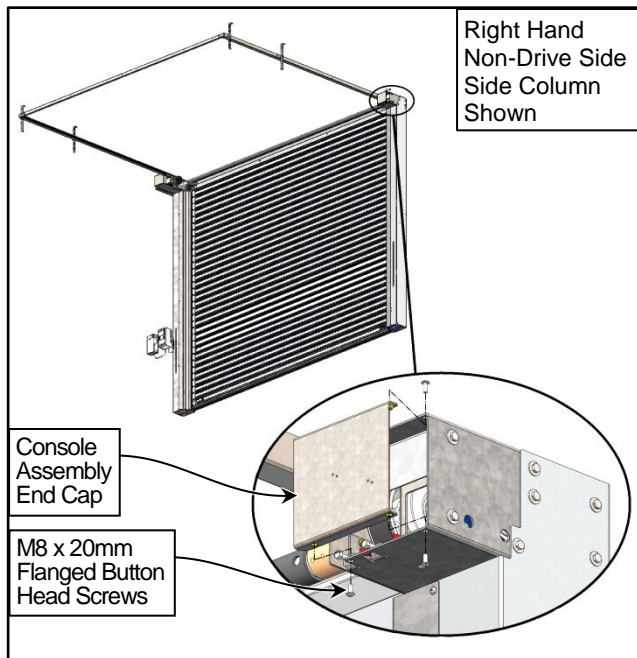


Figure 57

6. Make the necessary tension adjustment to the secondary drive belt.
7. Tension to be equal in each side column.
8. Tighten all hardware.
9. Restore power to the control panel.
10. Cycle the door several times to work each drive belt.

11. 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 procedures.

12. Measure the deflection in each Secondary drive belt to determine if tension is equal. Readjust the belt tension as necessary.
13. Check the door panel for level and adjust the panel if necessary. (See "DOOR PANEL ADJUSTMENT" on page 24.)

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.

14. After adjustments are completed, reattach covers.
15. Restore power to the control panel.

DOOR PANEL

To ensure the door operates smoothly and efficiently, the door panel must be level between the side columns. Before performing this procedure, the secondary drive belts must both be properly tensioned.

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

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 Button Head TORX® screws. (See Figure 73)

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.

- Performing the panel adjustment is similar for the L & S size doors. To see the difference in trolleys see Figure 54 (L-size) page 23 and Figure 55 (S-size) page 23. On the side that is high, release the tension by adjusting the trolley at the top of the side column. (See Figure 58)

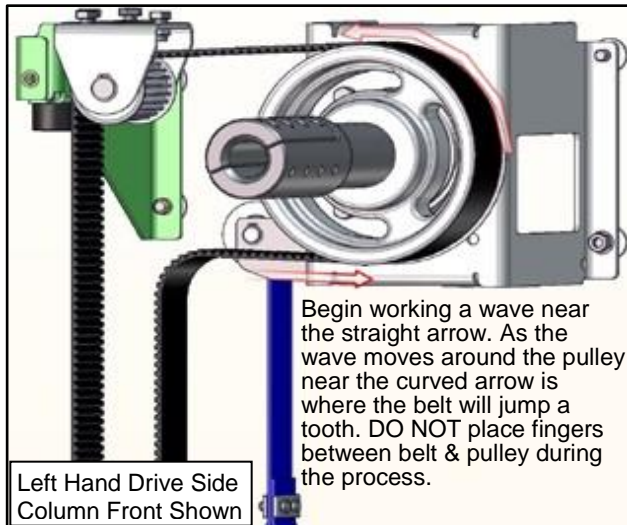


Figure 58

- Removing the face of the console may provide greater access to belt. (See Figure 57)
- Make adjustments until the door panel is level.
- Re-apply the tension to the belt with the trolley.
- Tighten all hardware.
- Restore power to the control panel.
- Cycle the door opened & closed 20 times.
- 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 procedures.

- Check the door panel for level. Repeat the above procedure, as required, until the panel is level.
- After all adjustments are complete, re-attach the side column cover.
- Restore power to the control panel.

PHOTO EYE ALIGNMENT

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

- To align a photo eye, reposition the photo eye where mounted 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" section on page 37.

- After all adjustments are complete, reattach the side column covers.
- Restore power to the control panel and reset open & close door limits as necessary.

BRAKE RELEASE CABLE ADJUSTMENT

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

- Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
- 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 procedures.

- Remove the side column cover from the side column assembly on the motor drive side. Each cover is held in place with 20-mm- long Button Head TORX® screws. (See Figure 73)
- Locate the end of the cable passing through the brake release handle. (See Figure 59)
- 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.

REPLACEMENT PROCEDURES-PRIMARY DRIVE BELT

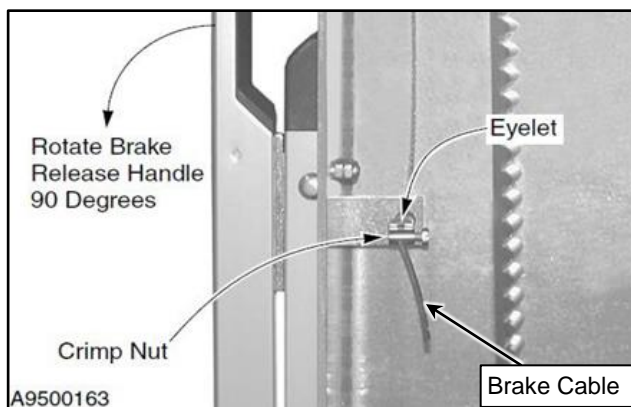


Figure 59

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

REPLACEMENT PROCEDURES

PRIMARY DRIVE BELT

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 60)

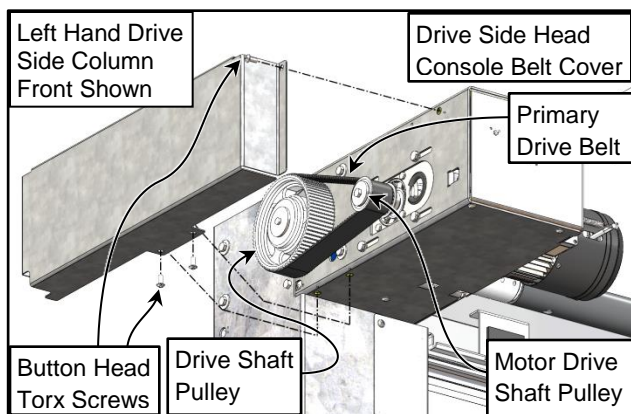


Figure 60

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

3. Remove the primary belt guard cover from the drive side head console assembly. It is held in place by Button Head TORX® screws. (See Figure 60)
4. Loosen the four hex head screws securing the drive motor assembly to the drive side head console assembly. (See Figure 61)

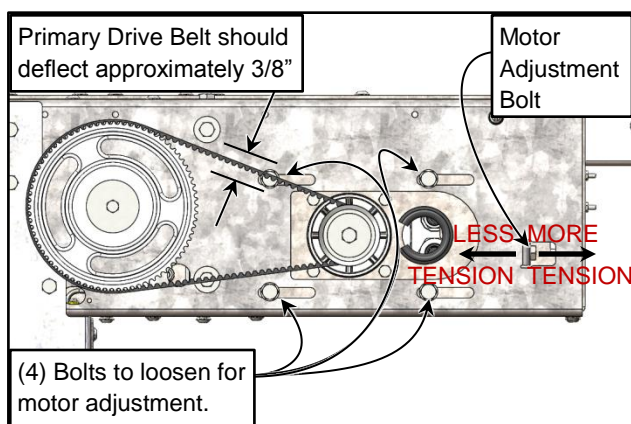


Figure 61

5. Adjust the drive motor assembly toward the wall to release the tension in the drive belt.
6. Remove and replace the drive belt.

IMPORTANT: Excessive belt tension can result in accelerated belt and/or bearing wear. Insufficient belt tension & the belt may jump gearbox pulley cogs or come off.

7. To adjust the belt tension, see "PRIMARY DRIVE BELT ADJUSTMENT" on page 21
8. Tighten all hardware fasteners securing the motor.

⚠ 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.

9. Restore power to the control panel by placing the fused disconnect in the ON position.

10. Cycle the door several times to work the new drive belt.
11. 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 procedures.

12. Re-inspect the drive belt to make sure it is properly tensioned. (See Figure 61)
13. After all adjustments are complete, re-attach the belt guard. (See Figure 60)
14. Restore power to the control panel/door by placing the fused disconnect in the ON position.

SECONDARY DRIVE BELT

L – SIZE SERIES

1. Move the door panel assembly to the position where the bottom reversing edge is approximately 5 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 procedures.

3. Remove the cover from the side column assembly containing the secondary drive belt to be replaced. The cover is held in place with Button Head TORX® screws. (See Figure 73)
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 62)

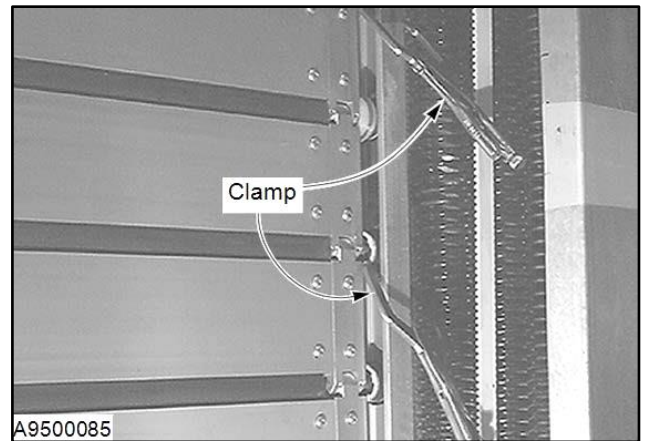


Figure 62

5. Release the tension from the secondary drive belt by moving the trolley bracket at the top of the side column away from the wall. (See Figure 63)

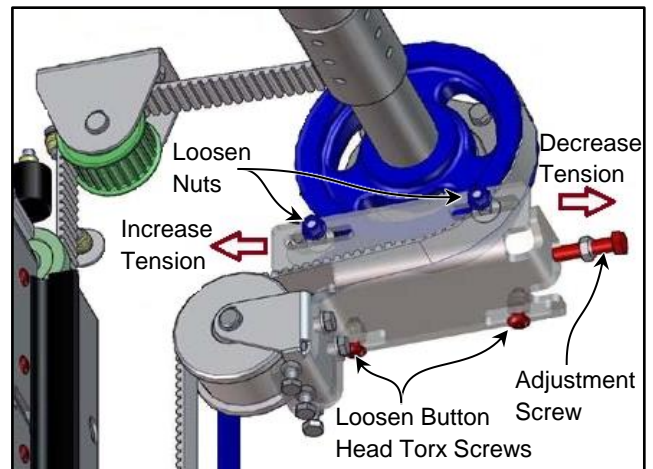


Figure 63

6. Tension is released and the guide pulley at the bottom of the side column can be removed. Remove the nut from the front mounting post and loosen the rear nut to remove the guide pulley. (See Figure 64)

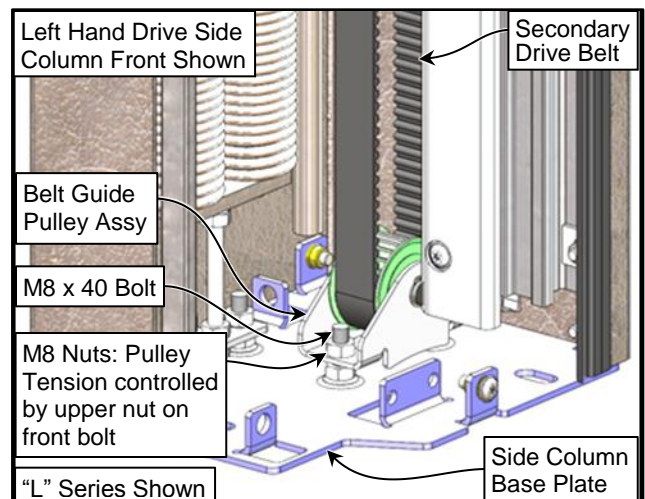


Figure 64

REPLACEMENT PROCEDURES-SECONDARY DRIVE BELT

7. Loosen the hex head bolts on the end bracket to release the secondary drive belt from the splice block. The splice block pivots to allow the panels to enter the radius at the top of the side column. (See Figure 65)

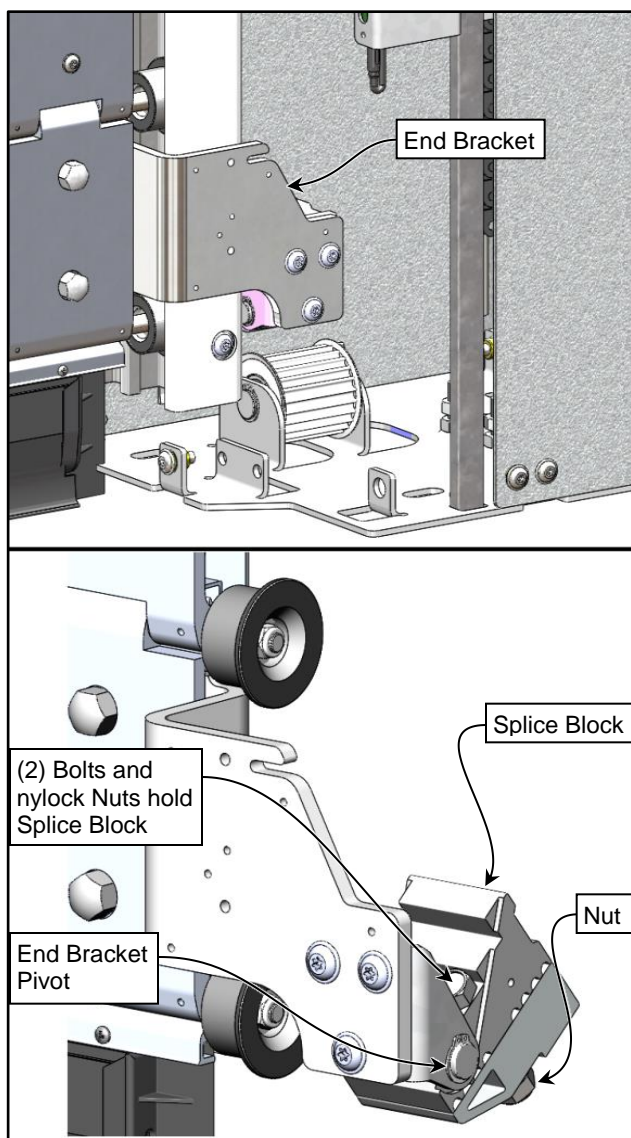


Figure 65

8. Remove the old secondary drive belt from around the upper drive pulley and the guide pulley. Discard the old belt.
9. Install the new secondary drive belt in the same manner as the old belt.
10. Place the ends of the new drive belt between the splice block & splice clamp. Then tighten the hex bolts to clamp the belt to the end bracket.
11. Connect the guide pulley bracket to the mounting posts. Adjust the belt tension. (See "SECONDARY DRIVE BELT ADJUSTMENT" on page 22)
12. Remove all clamps securing the door panel.

13. 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.
14. 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.

15. Restore power to the control panel/door by placing the fused disconnect in the ON position.
16. Cycle the door several times to work the drive belt.
17. Verify the new drive belt is working correctly.
18. 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 procedures.

19. Check the tension of the drive belt and readjust if necessary.
20. Check that the door is level and adjust as needed. (See "DOOR PANEL ADJUSTMENT" on page 24)
21. After all adjustments are complete, reattach the side column cover.
22. Restore power to the control panel/door by placing the fused disconnect in the ON position.

S – SIZE SERIES

1. Move the door panel assembly to the position where the bottom reversing edge is approximately 5 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 procedures.

REPLACEMENT PROCEDURES-SECONDARY DRIVE BELT

3. Remove the cover from the side column assembly containing the secondary drive belt to be replaced. The cover is held in place with Button Head TORX® screws. (See Figure 73)
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 62)
5. Release the tension from the secondary drive belt by moving the trolley bracket at the top of the side column away from the wall. (See Figure 66)

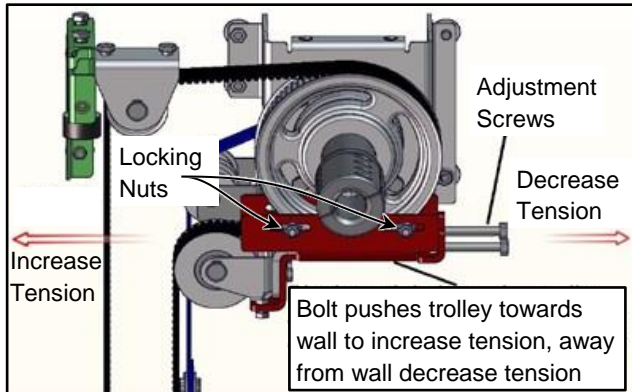


Figure 66

The S – Size trolley has four nuts that must be loosened before trolley adjustment can be made. Two are located on the side of the console and two can be accessed via two holes on the outside of the console. A socket extension will be required to perform this procedure. The face of the console can also be removed providing greater access to the nuts. (See Figure 67 & Figure 68)

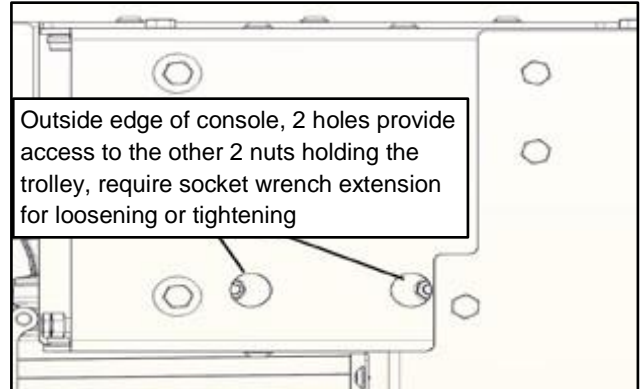
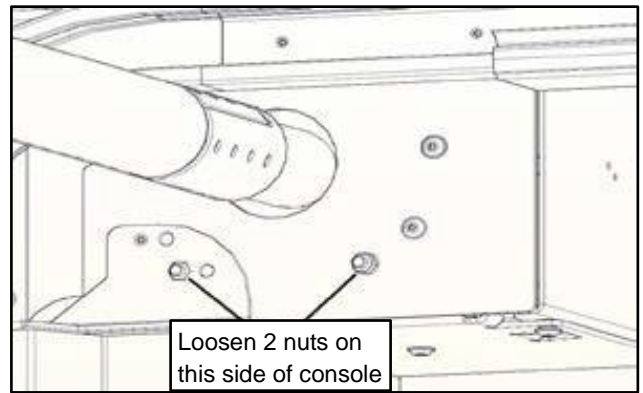


Figure 67

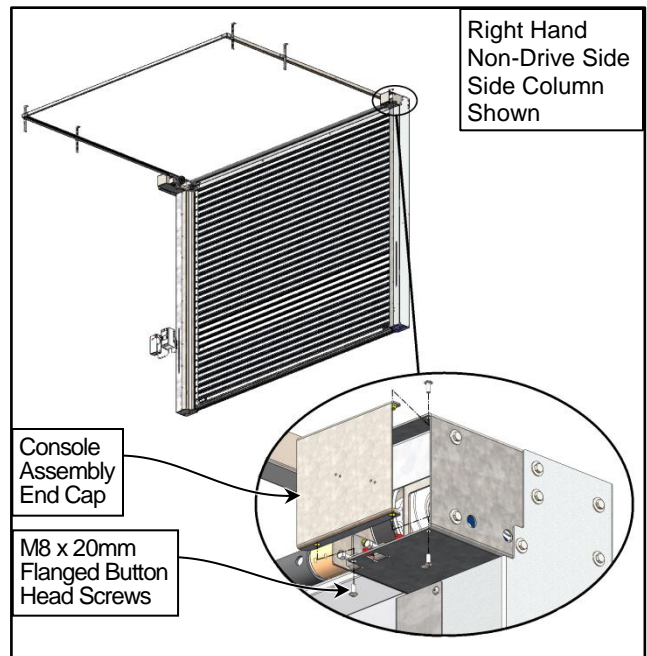


Figure 68

6. Repeat steps 7 – 22 from the “L - SIZE SERIES SECONDARY BELT REPLACEMENT” section.

REPLACEMENT PROCEDURES-MOTOR BRAKE RELEASE CABLE REPLACEMENT

MOTOR BRAKE RELEASE CABLE REPLACEMENT

The motor brake release cable may need to be replaced over the life of this door.

1. Move the door to the fully closed position by pressing the door close (▼) 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 procedures.

3. On the door's drive side remove the cover from the side column assembly. The cover is held in place with Button Head TORX® screws. (See Figure 73)
4. Disconnect the old brake release cable from the electric brake mechanism by removing the cable clamps, washers, and spring. Take note of the order & how all items are disassembled. Save all hardware. (See Figure 69 & Figure 70)

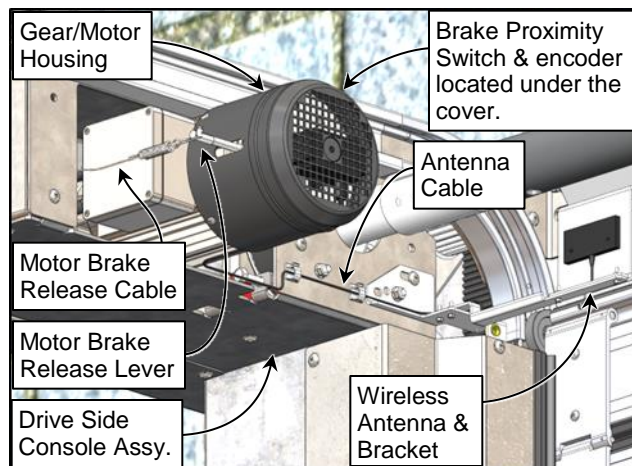


Figure 69

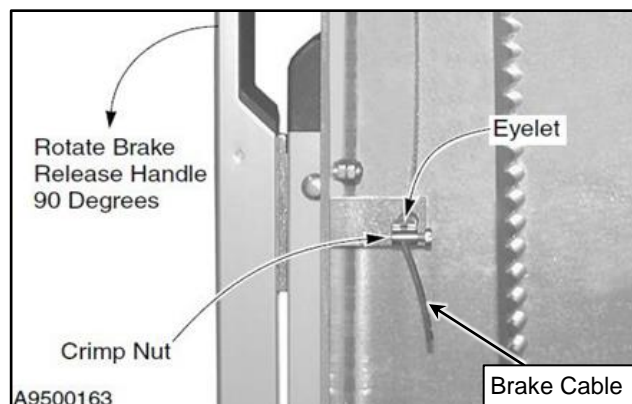


Figure 70

5. Remove & 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 70)
6. 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 & the motor gearbox. (See Figure 71)

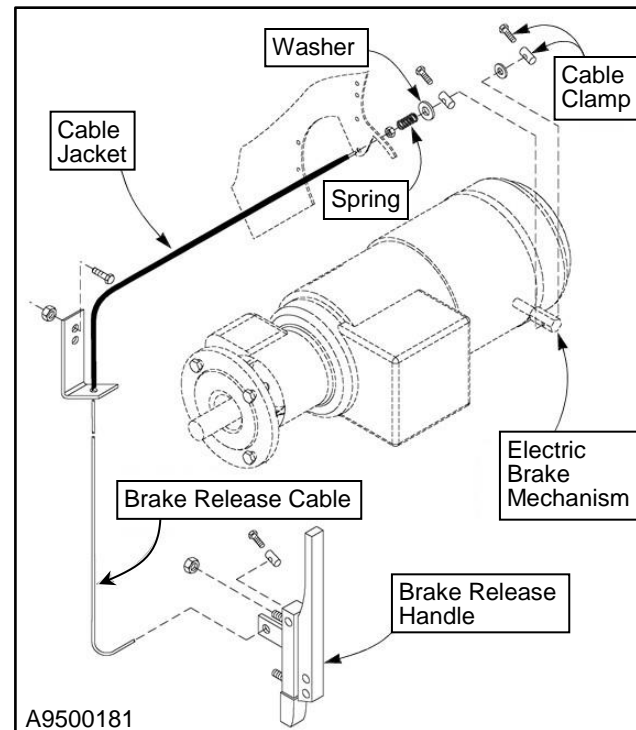


Figure 71

7. 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 70 & Figure 71)
8. 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. (See Figure 71)
9. 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 the eyelet. Then tighten down the setscrew with the majority of slack removed from the cable. (See Figure 70)
10. 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.

11. After all adjustments are complete, cut the cable to final length, an inch or two past the cable clamp. (See Figure 70)
12. Install the side column cover.
13. Restore power to the control panel.

DOOR PANEL

1. Place the door in "JOG MODE": Press and hold the RESET (●) and CLOSE (▼) arrow until the control panel reads "JOG MODE". Press the OPEN (▲) arrow until the desired height is reached. To place the door back into operational mode, repeat the above process.
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 procedures.

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.

3. Remove the cover from each side column assembly. The cover is held in place with Button Head TORX® screws. (See Figure 73)

CAUTION

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

4. Position clamps along both edges of the door above and below the panel to be removed to prevent unexpected door movement. (See Figure 72)

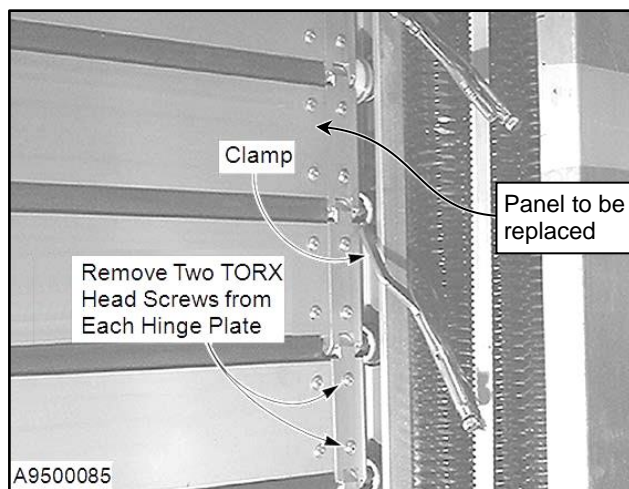


Figure 72

5. At the ends of the door panel to be replaced, remove the two Button Head TORX® screws securing each hinge plate to the panel. (See Figure 72)
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 that the old panel was removed.
9. After screwing the hinge plates to the new panel, reattach the rubber seals. Place a small amount of adhesive near the end of the rubber seal to prevent contraction of the seal. A screen roller will assist the installation of the rubber seal.
10. Remove clamps from the tracks.
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 head assembly.

12. Restore power to the control panel.
13. Operate the door several times to verify that the door panel functions normally. Adjust & repeat this procedure as necessary.

REPLACEMENT PROCEDURES-WEATHER SEAL REPLACEMENT

WEATHER SEAL REPLACEMENT

1. Move the door to the fully opened 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 procedures.

3. Remove the side column cover from the side column assembly containing the weather seal to be replaced. The cover is held in place with Button Head TORX® screws. (See Figure 73)

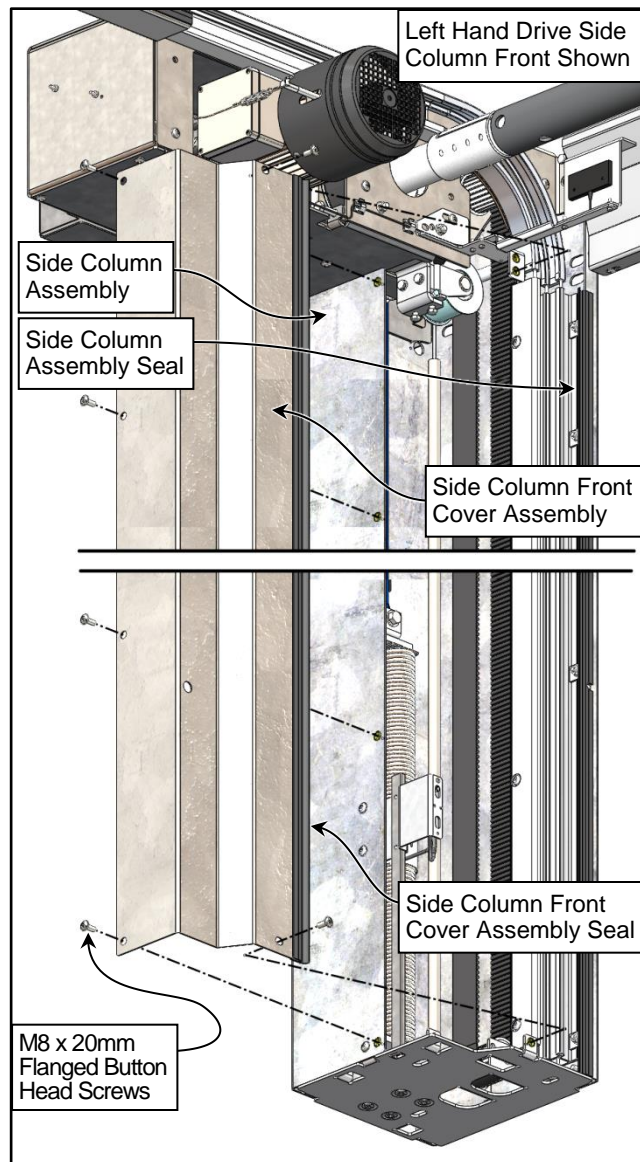


Figure 73

4. 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. (See Figure 74)

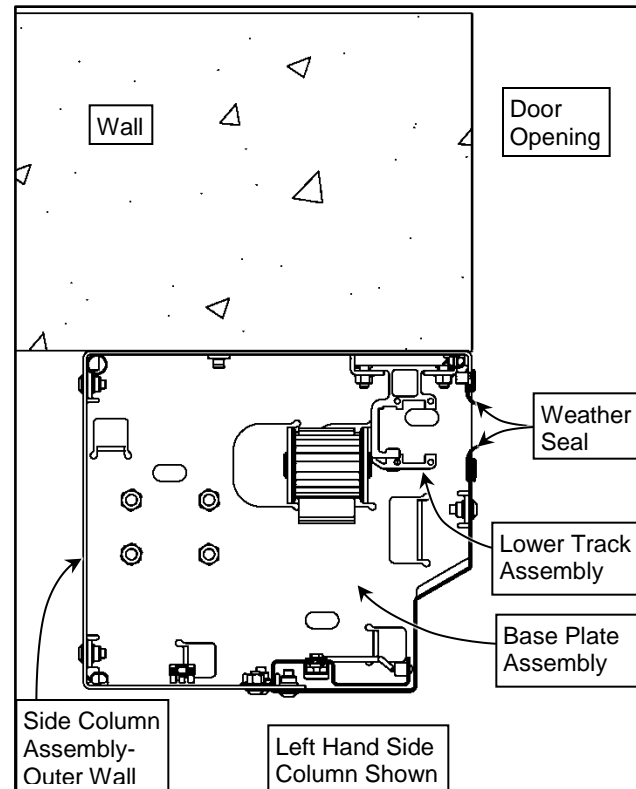


Figure 74

5. Attach the new weather seal in the opposite manner the old seal was removed. Make sure the seal is firmly seated along the edge. (See Figure 73 & Figure 74)
6. Attach the cover to the side column assembly.
7. Restore power to the control panel.
8. Confirm the new weather seal properly seals against the door panel. Adjust as necessary.

SPRING STRAP REPLACEMENT

1. Move the door to the fully opened 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 procedures.

REPLACEMENT PROCEDURES-SPRING STRAP REPLACEMENT

3. Remove the cover from the side column. The cover is held in place with 20-mm-long, Button Head TORX® screws. (See Figure 73)

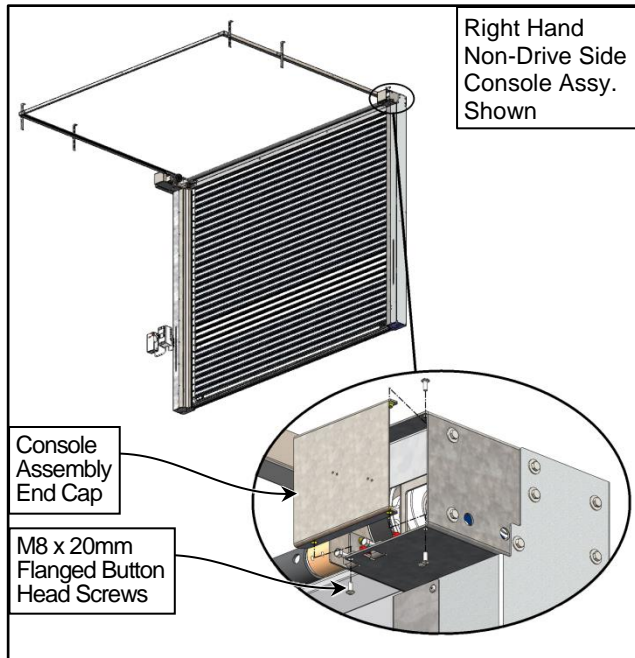


Figure 75

4. Remove the associated end cap from the head console assembly to expose the upper end of the spring strap. Each end cap is held in place with three, M8-20mm long, Button Head TORX® screws. (See Figure 75)

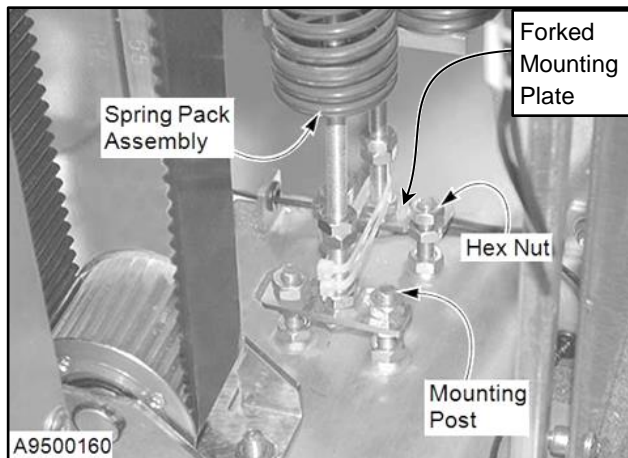


Figure 76

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 76)
6. To release the strap from the spring pack, remove the hex head screw & the shoulder nut passing through the clevis bracket at the top of the spring pack. Save all hardware. (See Figure 77)

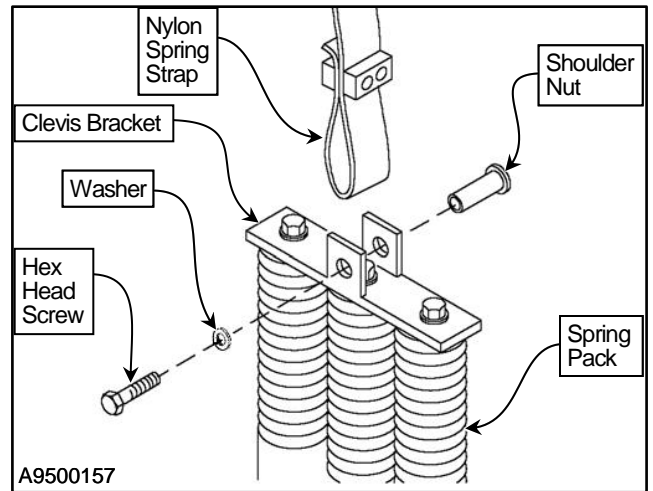


Figure 77

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 78)

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.

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.

REPLACEMENT PROCEDURES-SPRING STRAP REPLACEMENT

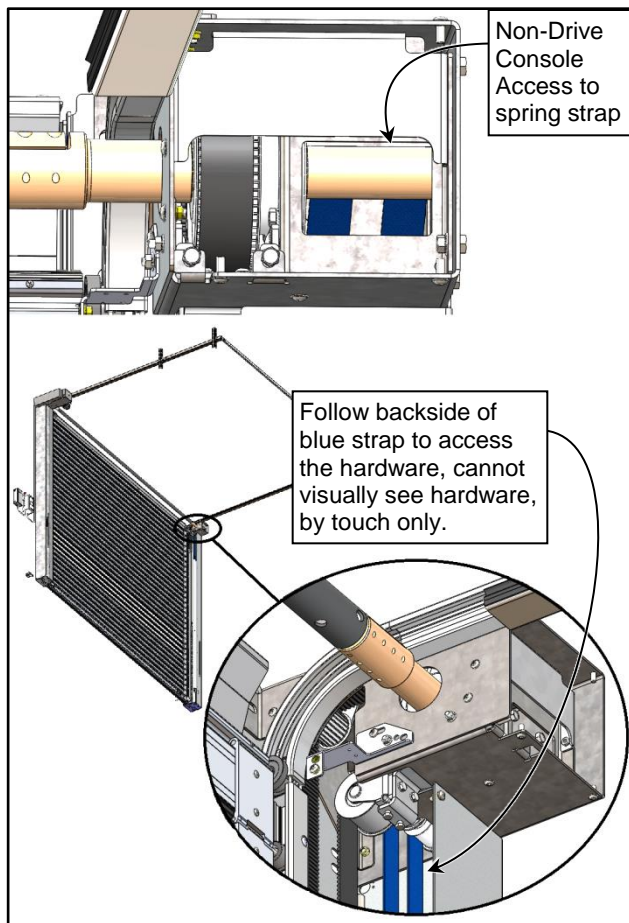


Figure 78

10. "Dead wrap" the new strap around the drive shaft. Make sure the strap comes off the same direction as the strap previous. 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. The strap 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 77)
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 79)

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.

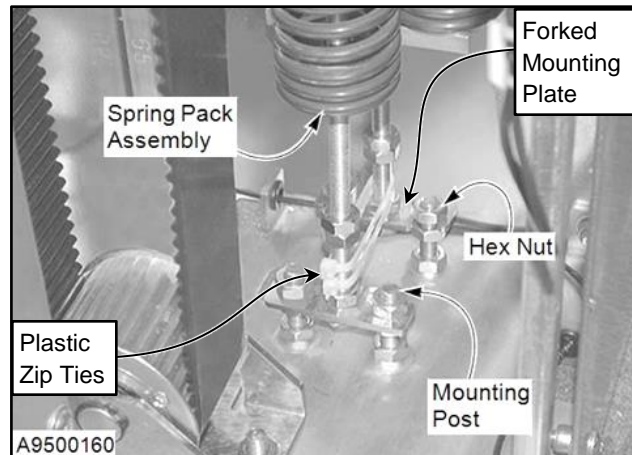


Figure 79

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 side columns.

15. Restore power to the control panel/door by placing the fused disconnect in the ON position.
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 procedures.

18. After all adjustments are complete, attach the end cap and the side column cover assembly.
19. Restore power to the control panel/door by placing the fused disconnect in the ON position.

SPRING PACK REPLACEMENT

1. Move the door to the fully opened 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 procedures.

3. Remove the cover from the side column. The cover is held in place with 20-mm-long, Button Head TORX® screws. (See Figure 73)
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 79)
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 77)
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 in the Spring Tension value on the Object List that was shipped with the door. (See Figure 14)

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 80)

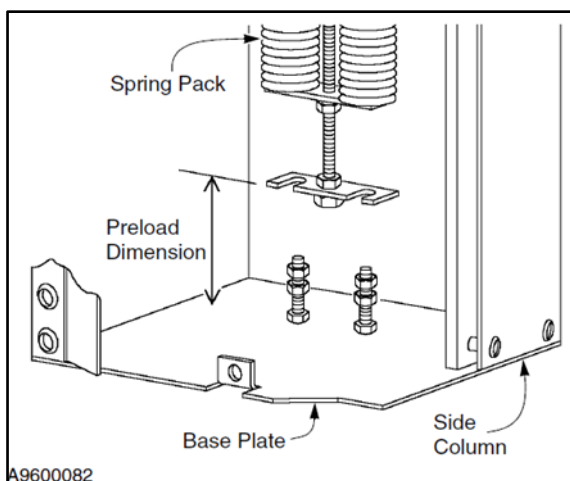


Figure 80

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 79)

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.

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 procedures.

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

DOOR ROLLER REPLACEMENT

1. Place the door in "JOG MODE": Press and hold the RESET (●) and CLOSE (▼) arrow until the control panel reads "JOG MODE". Press the OPEN (▲) arrow until the desired height is reached. To place the door back into operational mode, repeat the above process.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

REPLACEMENT PROCEDURES-DOOR ROLLER REPLACEMENT

⚠ WARNING

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

3. Remove the side column cover from the side column assembly containing the roller or guide wheel to be replaced. The cover is held in place with Button Head TORX® screws. (See Figure 73)

⚠ CAUTION

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

4. Position clamps along both edges of the door above the Lower Track Assembly track cover to be removed for roller wheel/guide wheel replacement to prevent unexpected door movement as shown. (See Figure 81)

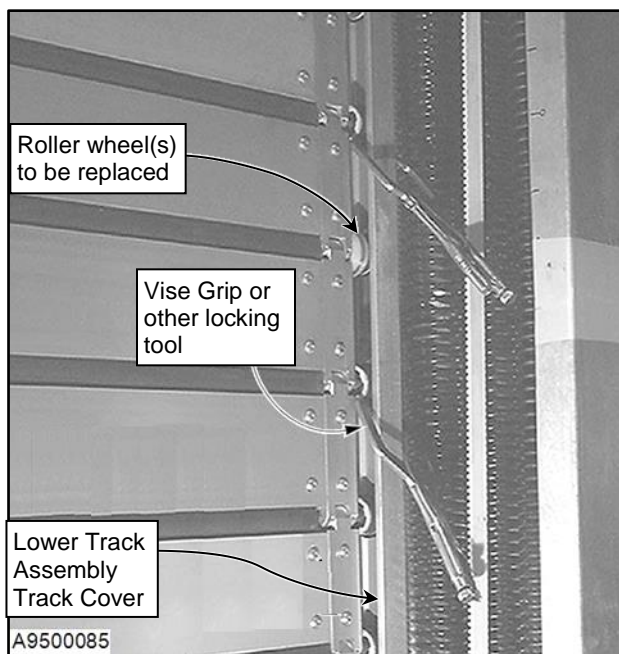


Figure 81

⚠ 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.

5. Individually remove the Lower Track Assembly Covers 1 at a time to replace the roller and/or guide wheels as necessary. The cover is held in place with Button Head TORX® screws. (See Figure 82)

6. Remove the Button Head TORX screws from the hinge plates above & below the roller or guide wheel to be removed. (See Figure 82)

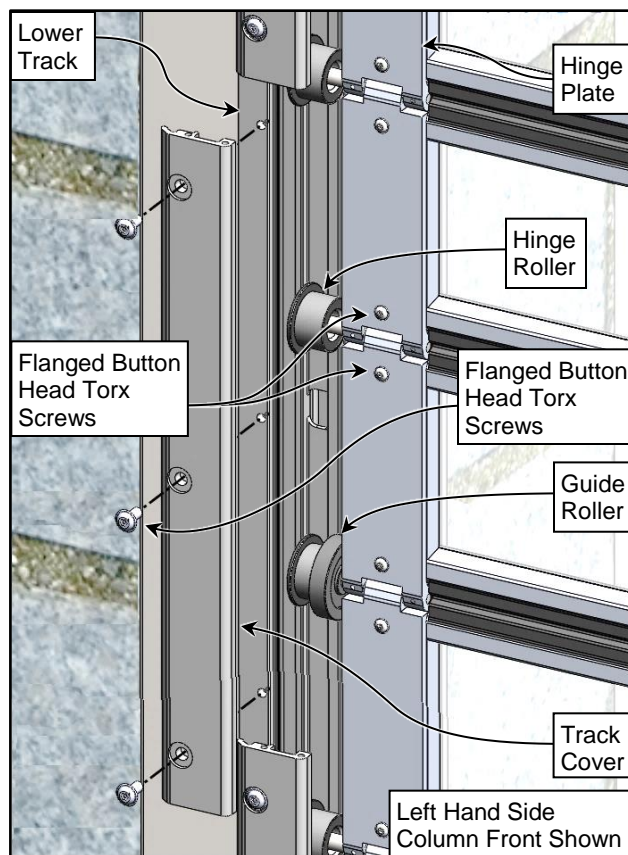


Figure 82

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 82 & Figure 83)

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

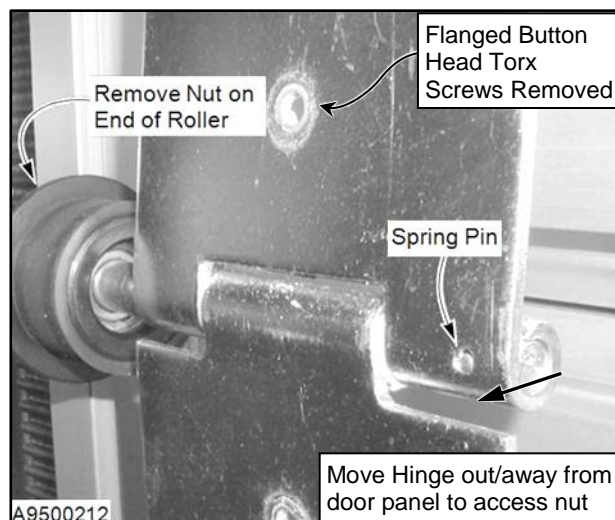


Figure 83

8. Install the new roller, and reassemble the door and the track in the reverse order of disassembly.
9. Remove the clamps and/or brackets from the track.
10. Release the motor electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to test the new roller. Make any adjustments 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 head assembly.

11. Restore power to the control panel by placing the fused disconnect in the ON position.
12. Cycle the door open & closed several times. Verify that the new roller 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 procedures.

14. Make adjustments as needed & repeat testing.
15. When the door is operating properly, reattach both side column covers.
16. Restore power to the control panel by placing the fused disconnect in the ON position.

PHOTO EYE REPLACEMENT

When replacing the photo eyes, note that the emitter modules are located in the left- front & right-rear corners of the door and the receiver modules are located in the right-front & left-rear corners of the door. The emitter & receiver modules located in the side columns of the door need to be replaced with the same identical modules. When replacing both modules it is best to replace one module at a time to avoid any errors.

The eyes must be installed with the emitter modules and receiver modules mounted diagonally across from each other. This will 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 interchangeable — but each set of eyes is uniquely wired.

1. Move the door to the fully opened 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 procedures.

3. Remove the side column cover from the side column assembly containing the photo eye module to be replaced. The cover is held in place by Button Head TORX® screws. (See Figure 73)
4. Remove the photo eye module from the side column assembly that needs to be replaced. Only replace one at a time.
5. Disconnect the module from the wire & replace it with the new module.
6. Reinstall the new module into the side column assembly. Repeat this for the module in the opposite side column assembly as necessary.
7. Check and clean photo eye modules as necessary. See “Cleaning Photo Eyes” section on page 9.
8. Align the photo eyes per the “Photo Eye Alignment” section on page 25.
9. Restore power to the control panel by placing the fused disconnect in the ON position.
10. Confirm that the photo eyes are operating properly. See “PHOTO EYE INSPECTION” section for this procedure on page 9. Repeat this process and adjust until the photo eyes are operating correctly.
11. Reinstall all covers & safety guards.

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 position for working on replacing the bottom bar reversing edge. Do this by jogging or releasing the brake to position the door.

REPLACEMENT PROCEDURES-REVERSING EDGE REPLACEMENT

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 procedures.

3. Remove the side column cover from the side column assemblies. The cover is held in place with Button Head TORX® screws. (See Figure 73)

WARNING

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 84)

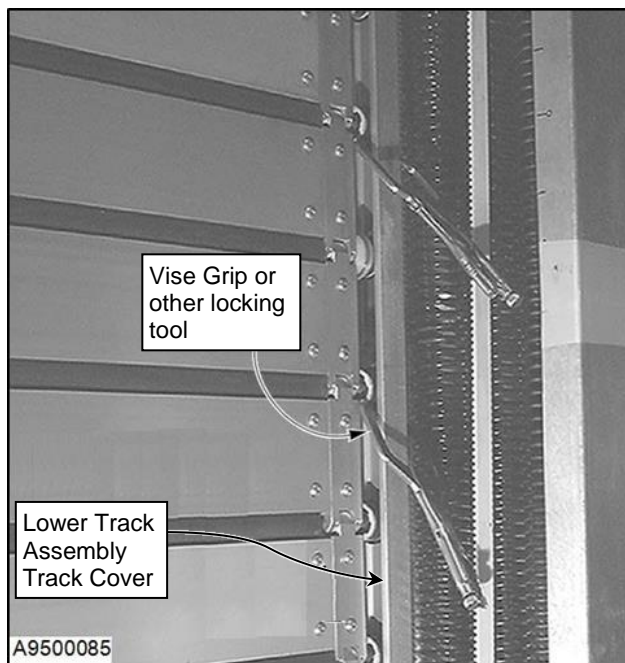


Figure 84

5. Disconnect the reversing edge control wires from the mobile unit terminal block. (See Figure 85)

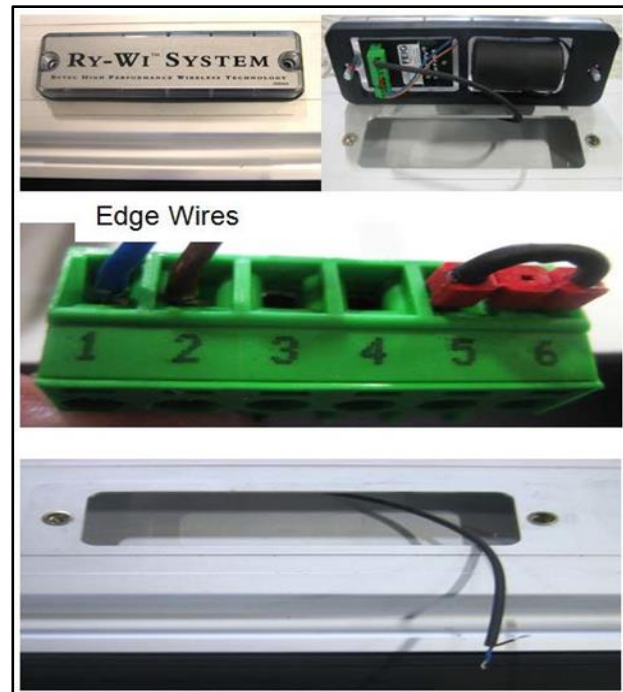


Figure 85

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 86)

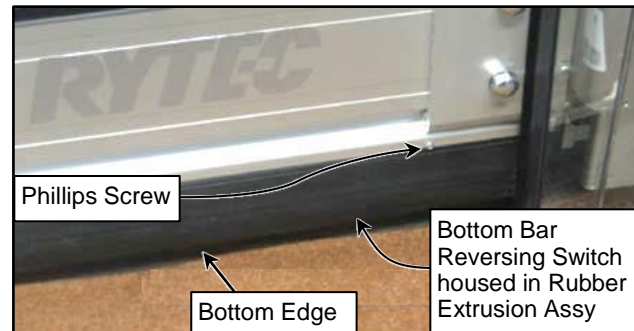


Figure 86

7. "L" Series: Release the tension from each secondary drive belt by removing the belt guide pulley assembly from its front & rear mounting posts. The pulley assembly is held in place by a nut threaded onto each post. The trolley near the top can also be used to reduce the tension on the secondary drive belt for both the L & S size doors. (See Figure 87)

REPLACEMENT PROCEDURES-REVERSING EDGE REPLACEMENT

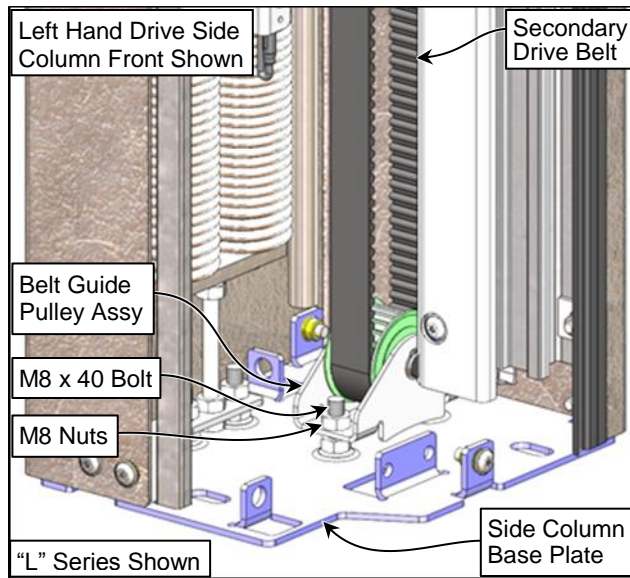


Figure 87

"S" Series: Release the tension from each secondary drive belt. The trolley near the top in the console assembly must be used to reduce the tension in the S size doors. (See Figure 88)

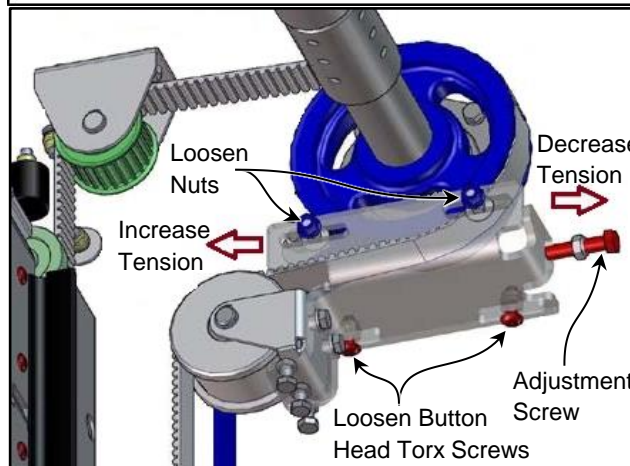
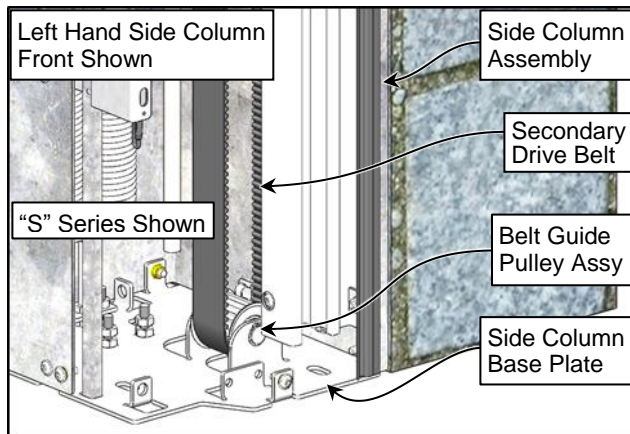


Figure 88

8. Remove the lower assembly track cover from the lower section of door track on both sides of the door panel. Save all hardware. (See Figure 89)

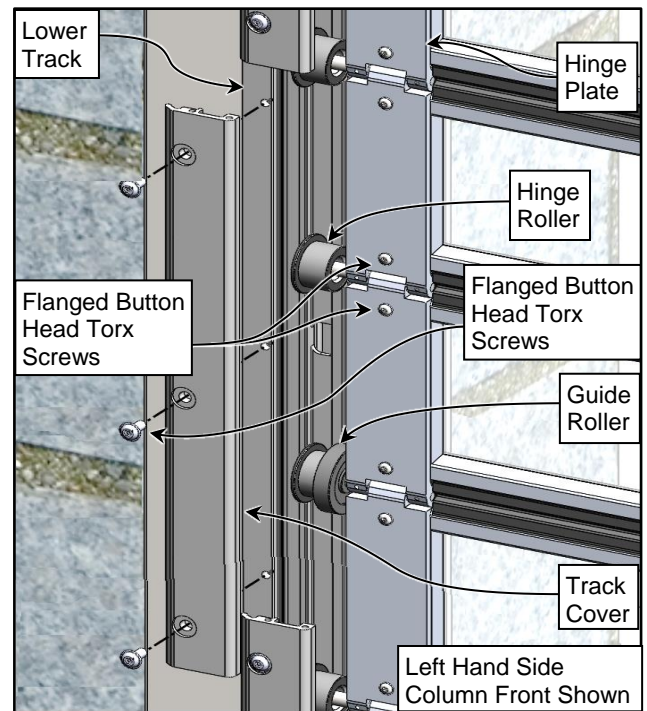


Figure 89

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. If the tension trolley was used to reduce the tension, re-apply the tension to the secondary drive belt.
13. Inspect the tension on each secondary drive belt. If adjustment is necessary, see "SECONDARY DRIVE BELT ADJUSTMENT" on page 22.
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. Adjust as necessary.

REPLACEMENT PROCEDURES-WIRELESS ANTENNA BRACKET/ENCODER

⚠ 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. Reengage the brake release mechanism.
17. Restore power to the control panel by placing the fused disconnect in the ON position.
18. Cycle the door several times. Verify that the door panel rolls smoothly and is working correctly.
19. Test the new reversing edge to make sure that it is operating properly. See "REVERSING EDGE INSPECTION" on page 19.
20. 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 procedures.

21. After all adjustments are complete, attach the side column covers.
22. Restore power to the control panel by placing the fused disconnect in the ON position.

WIRELESS ANTENNA BRACKET/ENCODER

Located at the top of the drive side (left or right) side column assembly is the Spiral door wireless antenna bracket assembly. (See Figure 90)

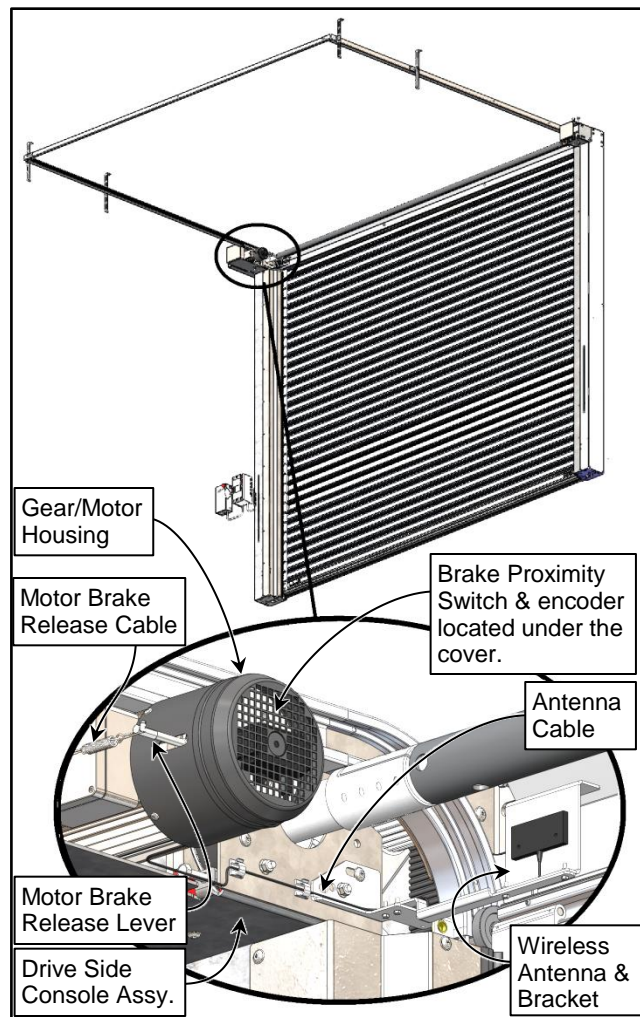


Figure 90

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

If the wireless antenna is damaged the wireless encoder assembly will need to be replaced. Part #R00141120

To replace the wireless encoder, the brake cover will need to be removed to access the wireless encoder. (See Figure 91)

REPLACEMENT PROCEDURES-WIRELESS ANTENNA BRACKET/ENCODER

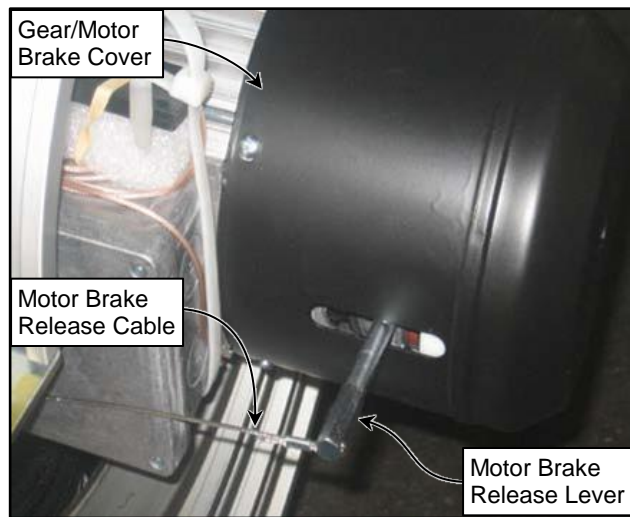


Figure 91

1. Remove the brake release cable from the brake lever. (See Figure 92)



Figure 92

2. Unscrew the brake lever from the motor. (See Figure 93)



Figure 93

3. Remove the screws holding the brake cover on the motor and remove the brake cover. (See Figure 94 & Figure 95)

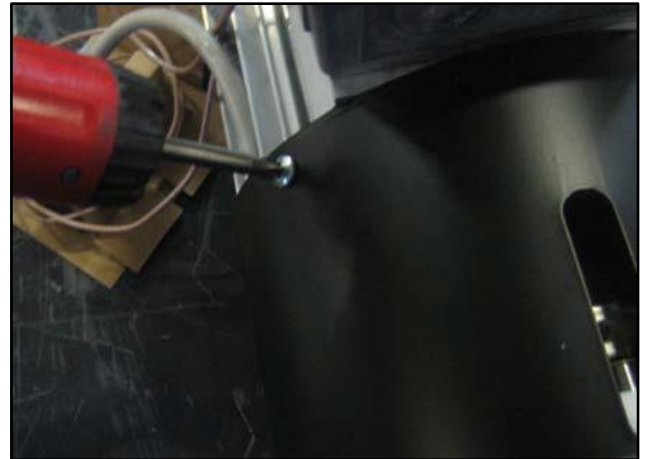


Figure 94

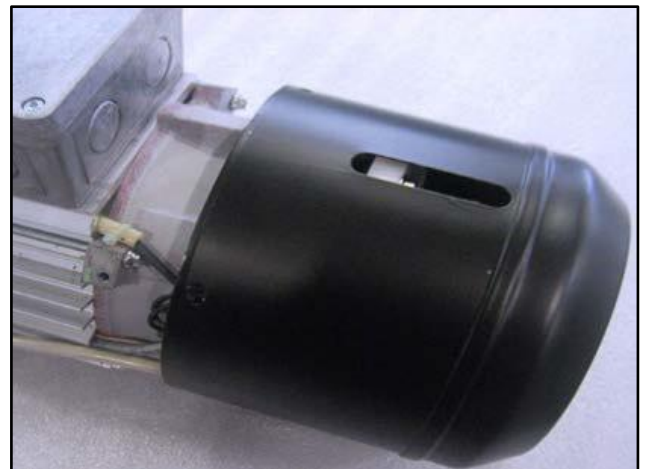


Figure 95

4. Remove the two large Philips head screws that hold the encoder to the white plate. (See Figure 96)

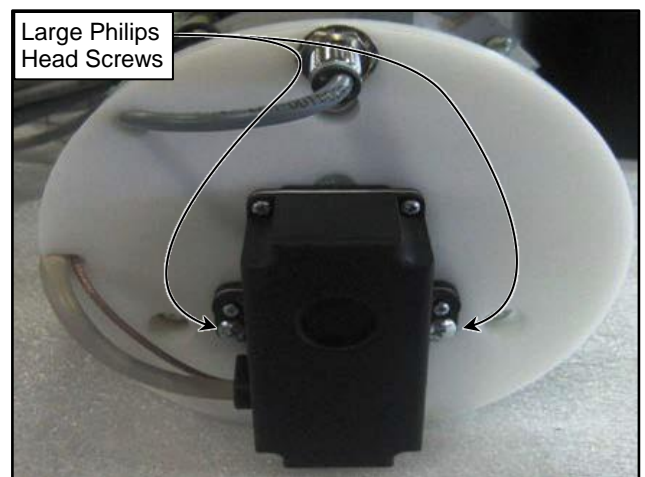


Figure 96

REPLACEMENT PROCEDURES-VISION PANEL MAINTENANCE

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 97)



Figure 97

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 98)

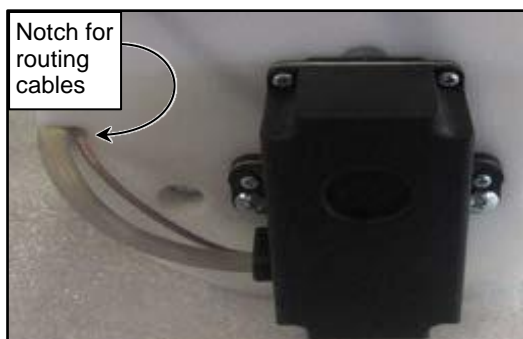


Figure 98

VISION PANEL MAINTENANCE

Vision Panel (Slat) Cleaning

The Vision Panels should be inspected on a daily basis for dirt, grease, etc. & any abrasions. Cleaning must be done when dirt, grease, abrasions, or anything else that diminishes panel clarity is observed. Follow the procedure(s) as necessary:

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



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

ROUTINE CLEANING

9. Rinse with flowing water.
10. Clean with warm water & a small amount of mild non-abrasive soap (dish soap).

11. Lightly rinse vision panels using a water spray.
12. Remove excess water using a clean and dry Micro-fiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.
13. Wipe any additional moisture with dry micro-fiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.

OCCASIONAL HEAVY CLEANING & FINE SCRATCH REMOVAL

14. Remove all surface dirt & dust with warm water spray.
15. Mix a mild non-abrasive soap (dish soap) into a bucket of warm water.
16. Gently wash using a microfiber or lint free cloth keeping the cloth sudsy at all times.
17. Lightly rinse vision panels using a water spray.
18. Remove excess water using a clean and dry microfiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.
19. Over the counter products can be used to polish the vision panels. Products such as (Novus Polish #2 – www.novuspolish.com) are 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: The product must be non-abrasive and designed specifically for polycarbonate windows. Avoid the use of abrasive cleaners, squeegees and/or other cleaning implements that may mar or gouge the coating.

Cleaning Agents Found To Be Compatible w/ Lexan™ Sheets:

AQUEOUS SOLUTIONS OF DETERGENTS:

Top Job²
Mr. Clean²
Joy²
Formula 409⁴
Fantastik³

TM Trademark of SABIC Innovative Plastics IP BV

² Registered Trademark of Proctor & Gamble.

³ Registered Trademark of Texize, Division of Norton Norwich Products Inc.

⁴ Registered Trademark of the Clorox Company.

ORGANIC SOLVENTS:

Butyl Cellosolve
Hexcel, F.O. 554
Kerosene
Neleco-Placer
Naphtha (VM&P) Grade
Turco 5042

ALCOHOLS:

Methanol and Isopropyl

All residual organic solvents should be removed with a secondary rinse.

GRAFFITI REMOVAL:

- A) Butyl Cellosolve (for removal of paints, marking pen inks, lipstick, etc.). The use of masking tape, adhesive tape or lint removal tools works well for lifting off old weathered paints.
- B) To remove labels, stickers, etc., the use of kerosene or VM&P naphtha are generally effective.

When the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

Vision Panel (Slat) Cleaning

Novus 1

PLASTIC CLEAN & SHINE

- 20. Remove surface dust with soft cloth.
- 21. Shake well. Apply a light mist of polish.
- 22. Spread evenly over the entire surface.
- 23. Buff with a clean, soft, lint-free cloth.

If the surface is extremely dirty, apply Novus 1 liberally and wipe using long, sweeping strokes. **Do not use pressure** at this time or large dirt particles may scratch the Lexan™.

Re-apply Novus 1 Polish using short, circular strokes with a clean portion of the cloth.

When the surface is thoroughly clean and uniformly covered, buff to a slippery glaze with a clean portion of the cloth. Surfaces buffed to a high glaze are more resistant to dust and future scratching.

Reapply Novus 1 regularly to maintain the antistatic, smudge and scratch resistant properties.

Novus 2

FINE SCRATCH REMOVER

Observe condition of the surface to be treated. The deeper the scratches, the greater the pressure required to remove them. If the surface is dirty, clean with NOVUS No.1 before applying NOVUS No. 2.

- 24. Shake well. Test in an inconspicuous area.
- 25. Remove surface dust with clean, soft cloth.
- 26. Apply polish in circular motion until dry.
- 27. Buff with a clean cloth. Repeat as necessary.

Apply NOVUS No. 2 liberally. Using a clean, soft cloth, polish with a firm back-and-forth motion at right angles to the scratches. Keep the cloth saturated with polish at all times.

When the worst scratches have been polished out, reapply NOVUS No.2 uniformly in a circular motion to the entire surface using short, circular strokes and light pressure. Allow to dry to a light haze.

Using a clean portion of the cloth, buff the surface to a slippery glaze using firm, short strokes. This procedure is imperative in achieving the best results.

For heavy scratches, multiple applications of NOVUS No. 2 or application of NOVUS No. 3 may be required. Follow with NOVUS No. 1 for best results.

Novus 3

HEAVY SCRATCH REMOVER

- 28. Shake well. Test in an inconspicuous area.
- 29. Remove surface dust with a clean, soft cloth.
- 30. Using a clean, soft cloth, apply Novus 3 with firm back and forth strokes at right angle to visible scratches. Reapply polish as needed.
- 31. Continue polishing until only the fine scratches remain. Using a cloth, remove all of the remaining polish.
- 32. Apply Novus 2 in a circular motion using a clean cloth. Follow directions on the Novus 2 bottle.

Apply Novus 3 liberally. Using a clean, soft cloth, polish with a firm back-and-forth motion at right angles to the scratches. Keep the cloth saturated with polish at all times.

Continue polishing until only fine scratches remain. Using a cloth, remove all remaining polish, **this is very important!**

Using a clean cloth, apply Novus 2 in a circular motion uniformly to entire surface. Polish using light pressure until Novus 2 dries to a light haze.

PARTS LIST-PARTS ORDERING INFORMATION

Using a clean portion of the cloth, buff the surface clean. Follow with Novus 1 for best results.

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PARTS LIST

PARTS ORDERING INFORMATION

How to Order Parts

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.
2. To place an order, contact your local Rytec representative or the Rytec Technical Support Department at 800-628-1909 or 262-677-2058 (fax). Rytec Corporation also has an on-line store at WWW.Rytecparts.com access to this on-line store requires an invitation from Rytec. The on-line store is open 24/7, 365 days. Some items are available to ship next day. Not all Rytec parts are carried in the on-line store.
3. To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number is located on the front of both the left and right side column covers @ about eye level, on the drive motor gearbox in the head assembly, or on the door of the System 4 Control Panel. All these serial numbers should match. (See Figure 99)

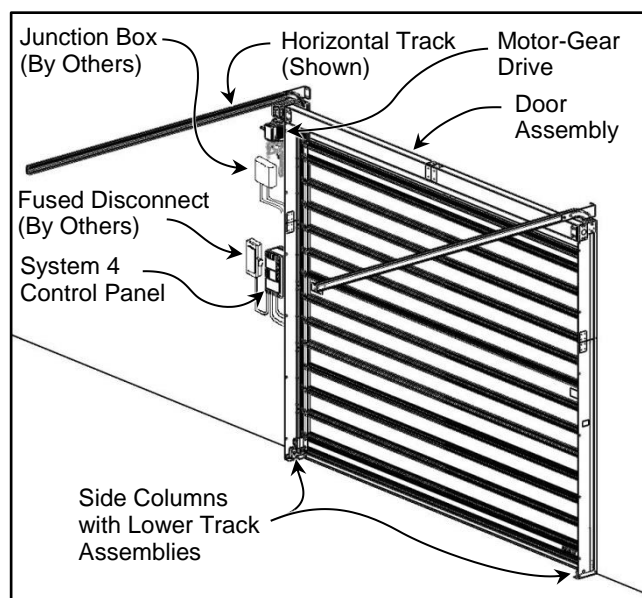


Figure 99

Substitute Parts

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

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

substituted for the part ordered.

Return of Parts

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

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

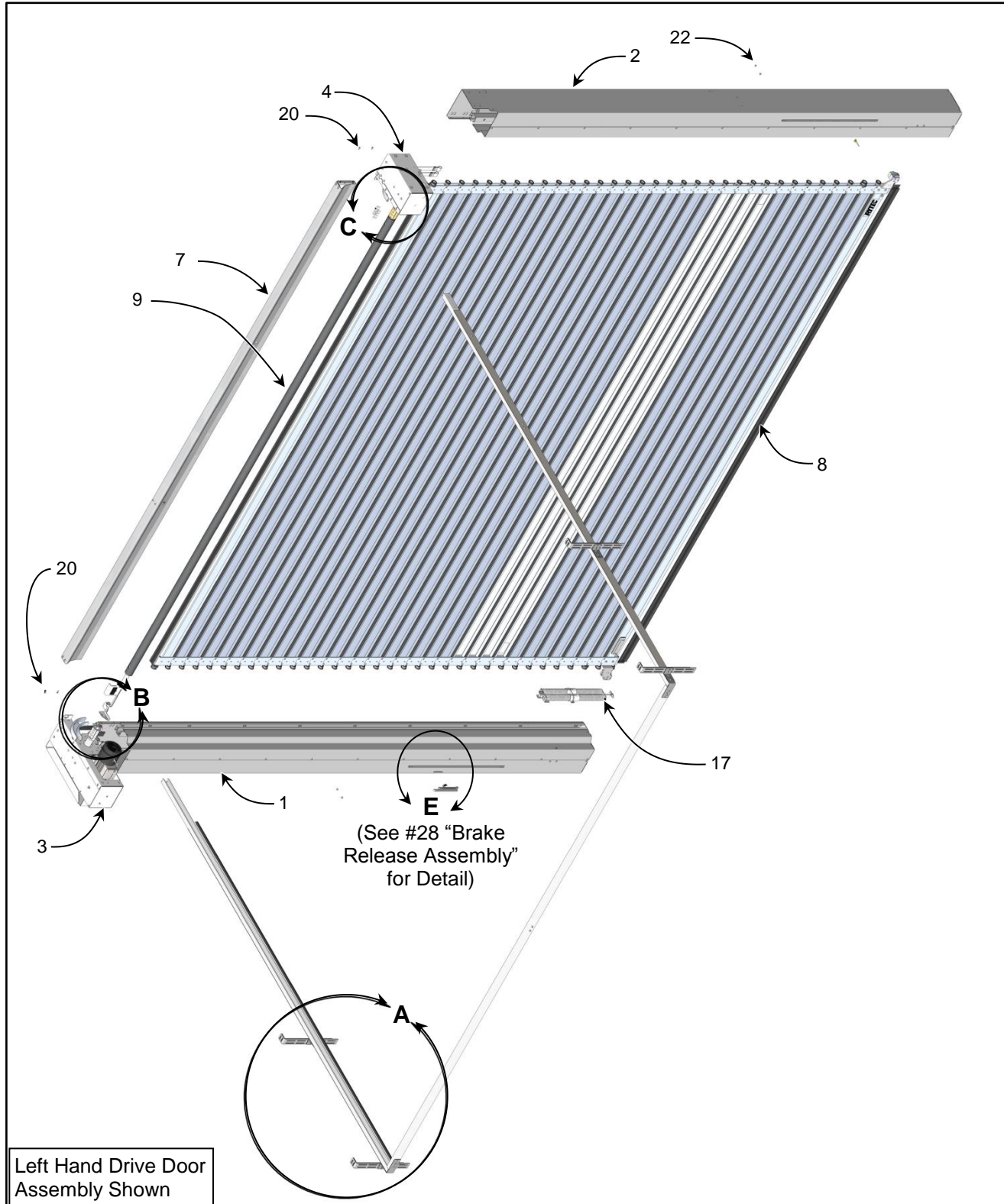
IMPORTANT: Obtain an incident number from the Rytec Technical Support Technician.

RYTEC TECHNICAL KNOWLEDGE CENTER

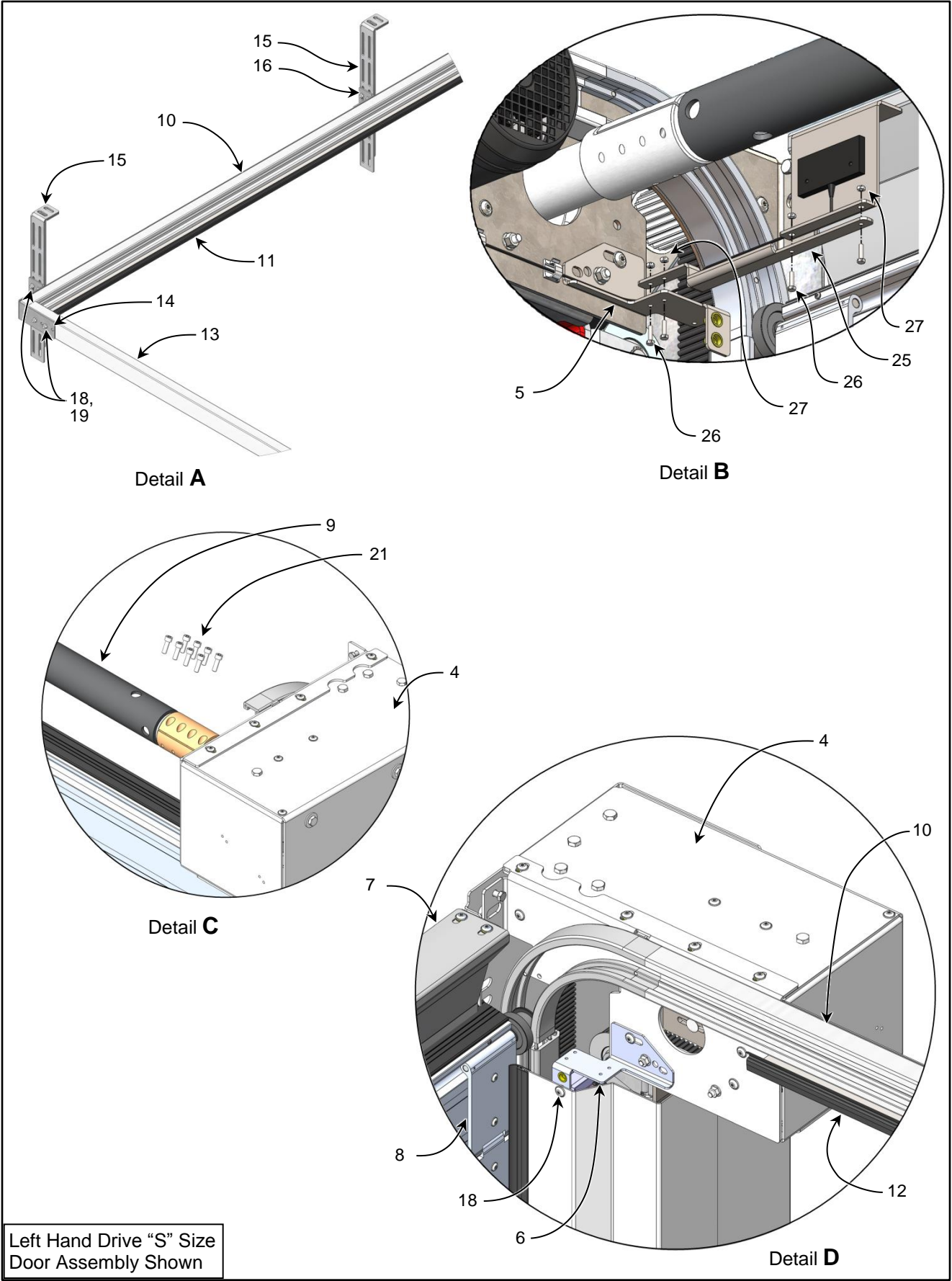
At WWW.Rytecdoors.com under the "Contact Us" pull down tab, a link to the Rytec Technical Knowledge Center can be found by selecting the "Customer Support" option. You will be directed to the Customer Support webpage. Within the "Technical Documents and Manuals" section you will find the link "Rytec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

PARTS LIST-SPIRAL LH DOOR ASSEMBLY-LAYOUT

SPIRAL LH DOOR ASSEMBLY-LAYOUT



SPIRAL LH DOOR ASSEMBLY-LAYOUT



PARTS LIST-DOOR ASSEMBLY-LAYOUT BOM

DOOR ASSEMBLY-LAYOUT BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	CF	Final Assembly, Spiral LH SSN-S, LH
			Final Assembly, Spiral LH SSN-S, RH
			Final Assembly, Spiral LH SSN-L, LH
			Final Assembly, Spiral LH SSN-L, RH
1	1	R1071312-1X01	Assembly, Side Column, SSN-L, LH
		R1071313-1X01	Assembly, Side Column, SSN-S, LH
2	1	R1071312-2X01	Assembly, Side Column, SSN-L, RH
		R1071313-2X01	Assembly, Side Column, SSN-S, RH
3	1	R243853-1Z1	Assembly, Console, SSN-L, LH Drive, LH
		R243853-1RZ1	Assembly, Console, SSN-L, RH Drive, LH
		R236853-1Z1	Assembly, Console, SSN-S, LH Drive, LH
		R236853-1RZ1	Assembly, Console, SSN-S, RH Drive, LH
4	1	R243853-2Z1	Assembly, Console, SSN-L, LH Drive, RH
		R243853-2RZ1	Assembly, Console, SSN-L, RH Drive, RH
		R236853-2Z1	Assembly, Console, SSN-S, LH Drive, RH
		R236853-2RZ1	Assembly, Console, SSN-S, RH Drive, RH
5	1	R1070963-1Z04	Assembly, Upper Corner Bracket, LH
6	1	R1070963-2 Z04	Assembly, Upper Corner Bracket, RH
7	1	R1071628-0X	Seal Assembly, Rear Horizontal
8	1	R1070853-0	Panel/Hinge Assembly, SSN-L
		R1070865-0	Panel/Hinge Assembly, SSN-S
9	1	R217706Z1	Line Shaft Weldment, "L" size
		R218704Z1	Line Shaft Weldment, "S" size
10	1	R236856	Guide Assy, Horizontal Rail, SSN
11	1	CF	Cover Assy, Horizontal Track 1-Piece, Drive Side, LH
			Cover Assy, Horizontal Track 1-Piece, Non-Drive Side, LH
			Cover Assy, Horizontal Track Fixed Segment, LH
			Cover Assy, Horizontal Track Variable Segment, LH
12	1	CF	Cover Assy, Horizontal Track 1-Piece, Drive Side, LH
			Cover Assy, Horizontal Track 1-Piece, Non-Drive Side, LH
			Cover Assy, Horizontal Track Fixed Segment, LH
			Cover Assy, Horizontal Track Variable Segment, LH
13	1	R236325	Profile, Horizontal Dist, SSN
14	2	R236319Z4	Bracket, Back Corner
15	A/R	R236322Z4	Standoff, Horizontal Track
16	A/R	R236321Z4	Bracket, Horizontal Track Standoff

CF = Consult Factory

A/R = As Required

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

DOOR ASSEMBLY-LAYOUT BOM

ITEM	QTY.	PART #	DESCRIPTION
17	A/R	R1070868-0	Assembly, Spring Pack
18	A/R	R01900820	BSCSF, M8-1.25 x 20, T40, ZN
19	A/R	R01901508	Nut, M8 Flanged
20	4	R5550278-0Z01	HFSMS, M8-1.25 x 20, ZN
21	A/R	R01180525	SHCS, M8-1.25 x 25, DIN 912-12.9
22	4	R01900812	BSCSF, M8-1.25 x 12, T40, ZN
23			
24			
25	1	R1071027-0Z04	Upper Corner Bracket Wireless Arm w/ Tag
26	4	R5550246-0Z01	HHCS, M4-0.7 x 16, Gr 5 ZN
27	4	R5550057-0Z01	Nut, M4-0.7, Hex Head, Locking, Nylon Insert, ZN
28	1	REFERENCE	Assembly, Motor Brake Release

CF = Consult Factory

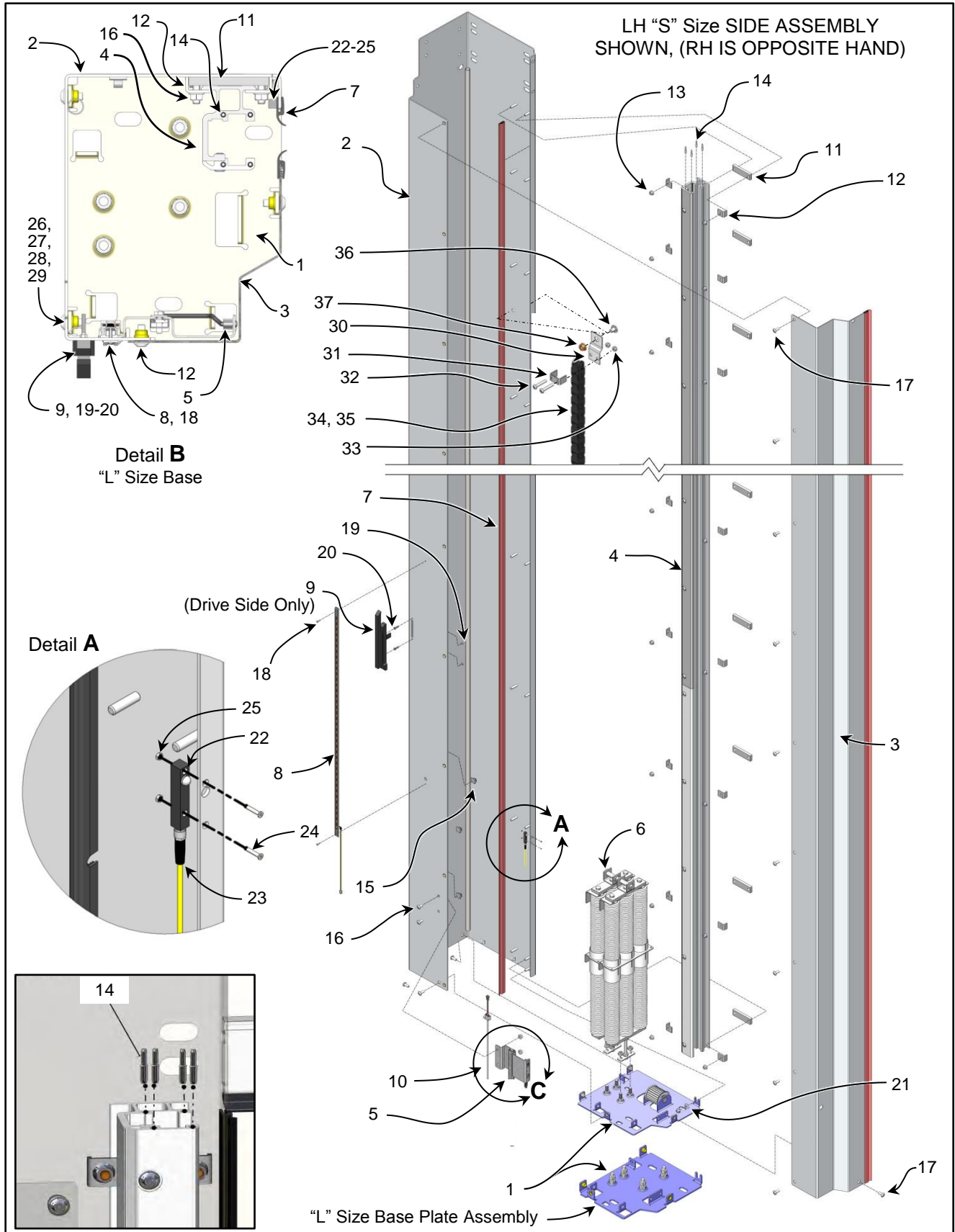
A/R = As Required

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST-SIDE COLUMN ASSEMBLY

SIDE COLUMN ASSEMBLY



SIDE COLUMN ASSEMBLY BOM

ITEM	QTY	PART #	DESCRIPTION
-	1	R1071312-1X01	Assy, Left Side Column, SSN-L
		R1071313-1X01	Assy, Left Side Column, SSN-S
		R1071312-2X01	Assy, Right Side Column, SSN-L
		R1071313-2X01	Assy, Right Side Column, SSN-S
1	1	R1071412-1Z01	Assembly, Left Base Plate, SSN-L
		R1071414-1Z01	Assembly, Left Base Plate, SSN-S
		R1071412-2Z01	Assembly, Right Base Plate, SSN-L
		R1071414-2Z01	Assembly, Right Base Plate, SSN-S
2	1	R1071330-XZ01	Sub-Assy, SC 1-Pc, SSN-L, LH/RH
		R1071338-XZ01	Sub-Assy, SC Sliced, SSN-L, LH/RH
		R1071331-XZ01	Sub-Assy, SC 1-Pc, SSN-S, LH/RH
		R1071339-XZ01	Sub-Assy, SC Sliced, SSN-S, LH/RH
3	1	R1071373-1Z01	Assy, Front SC Cover, SST-L/R, LH
		R1071374-1Z01	Assy, Front SC Cover, STT-S, LH
		R1071373-2Z01	Assy, Front SC Cover, SST-L/R, RH
		R1071374-2Z01	Assy, Front SC Cover, STT-S, RH
4	1	R237803-1A	Assy, Vertical Track "L" Size, LH
		R237803-1B	Assy, Vertical Track "S" Size, LH
		R237803-2A	Assy, Vertical Track "L" Size, RH
		R237803-2B	Assy, Vertical Track "S" Size, RH
5	1	(See Detail C)	Assy, Front Photoeye Side Column
6	REF.	REF.	Assy, Spring Pack
7	1	R1071136-1X	Weather Seal, SC Rear Photo Eye, LH
		R1071136-2X	Weather Seal, SC Rear Photo Eye, RH
		R04010337X	Weather Seal, Side Column
8	1	R1210173-0	Kit, LED Warning Strip
9	1*	WN524-C-01	Brake Release Lever*
	1	R1071405-0Z01	Cover, Brake Release Lever
10	1	R1210224-0	Assy, LED Terminal Block, Prewired
11	A/R	R1071425-0	Spacer, Vertical Track
12	A/R	R217102Z1	Holder, Guide Profile
13	A/R	R01901508	Nut, M8 Flanged

ITEM	QTY	PART #	DESCRIPTION
14	4	R217507Z1	Pin, Track, Side Column Locating
15	A/R	R0014497	Cable Clip
16	A/R	R5550278-0Z01	HFSMS, M8-1.25 x 20, CL10.9 ZN
17	A/R	R01900820	Screw, Button Cap Flanged, M8-1.25 x 20, T40, Zn
18	2	R0550235	Screw, #6-32 x 5/8, Pan Self Tap
19	2**	R5550057-0Z01	Nut, M4-0.7, Hex Lock, w/ Nylon Insert, ZN
20	2**	R5550054-0Z01	PFMS, M4-0.7 x 12mm, ZN
21	1	R5550301-0Z01	HFSMS, M8-1.25 x 8, CL10.9 ZN
22	1	R1160153-0	Photo Eye, Transmitter, Telco SMT
		R1160145-0	Photo Eye, Receiver, Telco SMR
23	1	R1160059-0A00	Photo Eye Cable, Telco SG 10, 10M
		R1160059-0B00	Photo Eye Cable, Telco SG 10, 15M
24	4	R5550068-0Z04	FSCS, M3-0.5 x 16, SS
25	4	R5550069-0Z04	Nut, M3-0.5, SS
26	1	R0204211	Plug, Ø $\frac{5}{8}$ Dome
		R0004415	Grommet, $\frac{3}{8}$ ID x $\frac{5}{8}$ OD, Neoprene
27	1	R0550252	PFMS, #10-24 x $\frac{3}{4}$, STL ZN
28	1	RS021820	Nut, #10-24 Serrated Flg, SS
29	A/R	R5550306-0Z01	Loop Clamp-"P" Style Cable Clip, Ø3/16
Following items installed on NON-Wireless Doors in Right Hand Side Columns only			
30	1	R206055Z1	Bracket, Energy Chain
31	1	R08120609	Bracket, Angle, Energy Chain
32	2	R01010160	Screw, M4 x 25 Hex Hd, Zn
33	2	R01335004	Nut, M4 Nylon Lock
34	1	R00141054	Cable, Energy Chain Wire
35	1	R08120607	Energy Chain
36	1	R01900708	Screw, Button Cap Flanged, M6 x 8, T30, Zn
37	1	R01901506	Nut, M6 Hex Flange, Zn

CF = Consult Factory

A/R = As Required

*Installed Only on Door's Drive Side Side Columns.

**Included w/ Item #9 (Brake Release Lever) when installed.

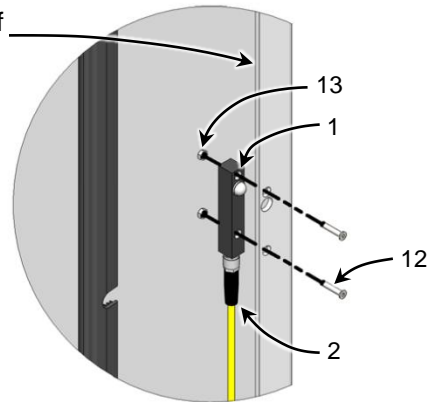
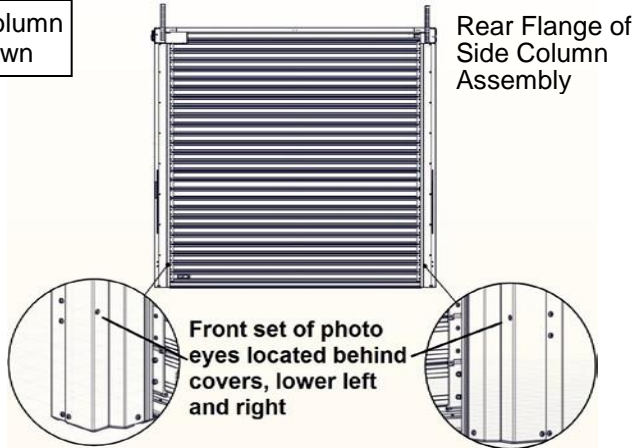
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

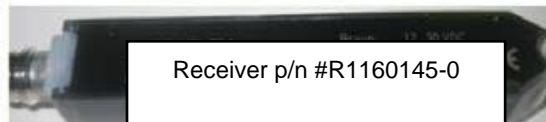
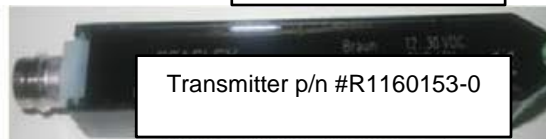
PARTS LIST-FRONT MOUNTED PHOTO EYES & PHOTO EYE CABLES

FRONT MOUNTED PHOTO EYES & PHOTO EYE CABLES

Front Side Column
Mounted Shown



Rear Photo Eye Mount

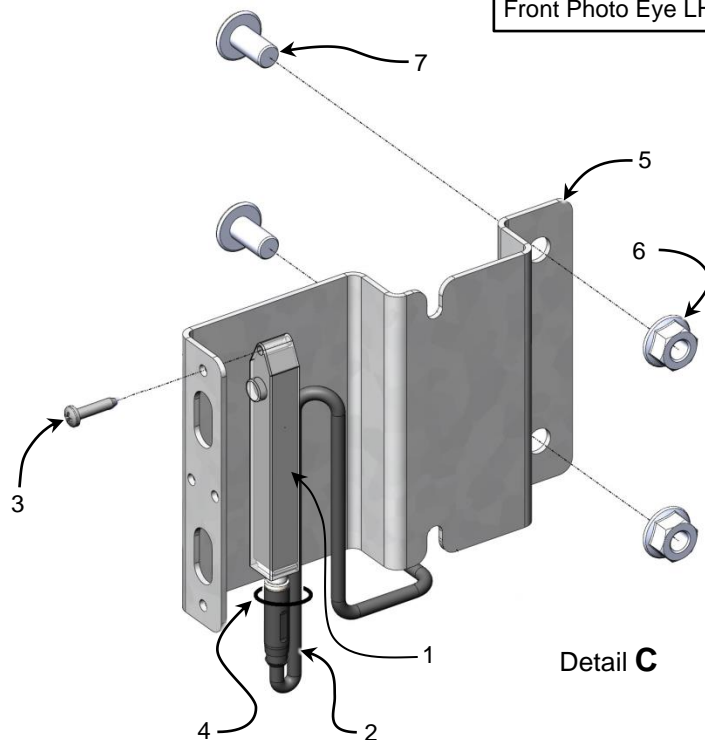


Front & Rear Photo Eye Cables:

PE Cable, Telco SG 10, 10 Meters, p/n #R1160059-0A00, Drive Side

PE Cable, Telco SG 10, 15 Meters, p/n # R1160059-0B00, Non-Drive Side

Front Photo Eye LH Mount



Detail C

PARTS LIST-FRONT MOUNTED PHOTO EYES & PHOTO EYE CABLES BOM

FRONT MOUNTED PHOTO EYES & PHOTO EYE CABLES BOM

ITEM	QTY.	PART #	DESCRIPTION
-	REF	R1071312-1X01	Assembly, Side Column, SSN-L, LH
		R1071313-1X01	Assembly, Side Column, SSN-S, LH
		R1071312-2X01	Assembly, Side Column, SSN-L, RH
		R1071313-2X01	Assembly, Side Column, SSN-S, RH
1	1	R1160153-0	Photo Eye, Transmitter, Telco SMT
		R1160145-0	Photo Eye, Receiver, Telco SMR
2	1	R1160059-0A00	Photo Eye Cable, Telco SG 10, 10M (Drive Side)
		R1160059-0B00	Photo Eye Cable, Telco SG 10, 15M (Non-Drive Side)
3	2	R0550235	Screw, #6-32 UNC x 5/8 Pan Head Self Tapping
4	A/R	RN000046	Ties, Lock 5-5/8"
5	1	R1071415-0Z01	Bracket, Photo Eye Front
6	2	R01901508	Nut, M8 Flanged
7	2	R01900820	BSCFS,M8-1.25 x 20, T40, ZN
8			
9			
10			
11			
12	2	R5550068-0Z04	FSCS, M3-0.5 x 16, SS
13	2	R5550069-0Z04	Nut, M3-0.5, SS

CF = Consult Factory

A/R = As Required

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

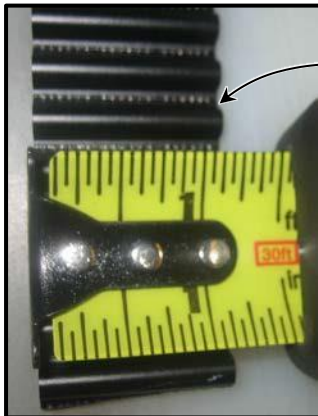
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

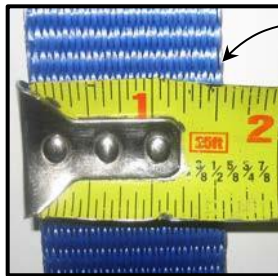
PARTS LIST-STRAPS & BELTS (SSN-L & S)

STRAPS & BELTS (SSN-L & S)

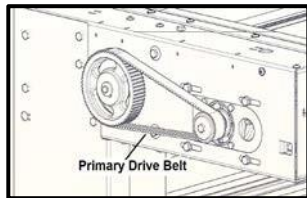
SECONDARY DRIVE BELT (Black poly belt located in the side column, 2 sizes, please provide door serial number to determine length when ordering.)



SPRING BELT (SSN L & S) (Blue belt in side columns, all Spiral Model doors use same blue spring belt, please provide door serial number to determine length when ordering.)



PRIMARY DRIVE BELT (SSN L & S), Belt From motor to drive shaft, 2 sizes.



STRAPS & BELTS (SSN-L & S) BOM

ITEM	QTY.	PART #	DESCRIPTION
1	REF	R1210580-0	Secondary Tooth Belt, "L" Size HTB
2	REF	R1210581-0	Secondary Tooth Belt, "S" Size HTB
3	REF	R217603	Spring Belt, Poly 40mm Wide
4	REF	R08310426	Drive Belt, "L" Size HTD
5	REF	R083104261	Drive Belt, "S" Size HTD

CF = Consult Factory

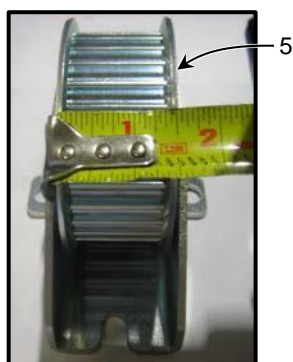
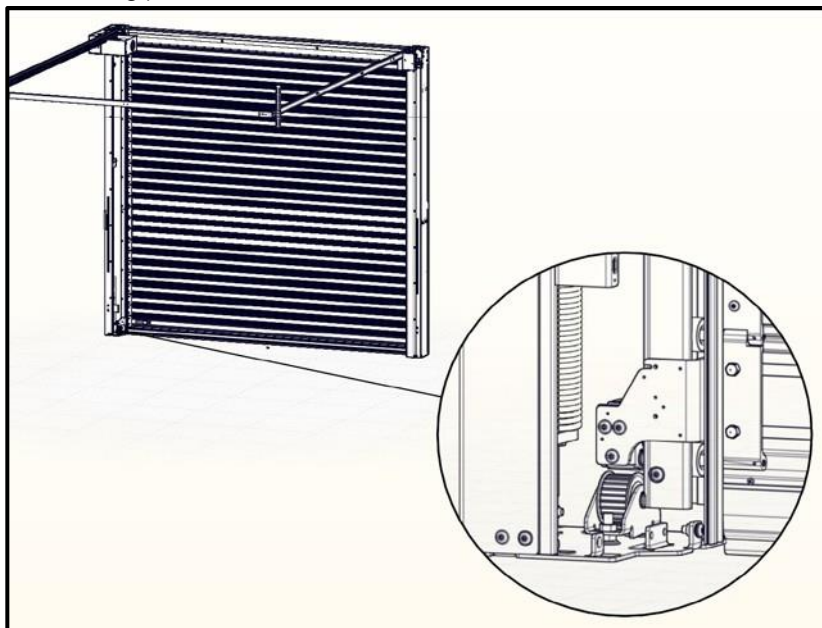
A/R = As Required

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

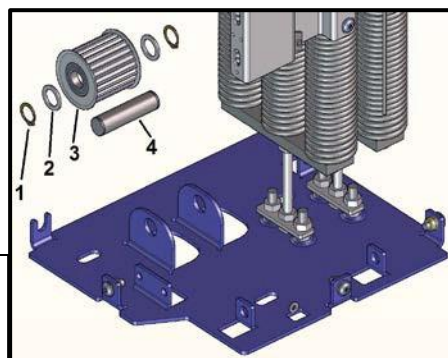
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

LOWER PULLEYS – SSN-L & S

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



Right Hand Side
Column
Assembly Shown



LOWER PULLEYS – SSN-L & S BOM

ITEM	QTY.	PART #	DESCRIPTION
1	1	R01130020	Retaining Ring
2	2	R01340120	Shim Ring, 20 x 28 x 2, DIN 988 SS
3	1	R236817-01	Pulley Assembly, D83, HTD,
4	1	R238505-01Z1	Pin, Serrated Belt Pulley
5	1	R243807	Pulley Assembly, D66, HTD

CF = Consult Factory

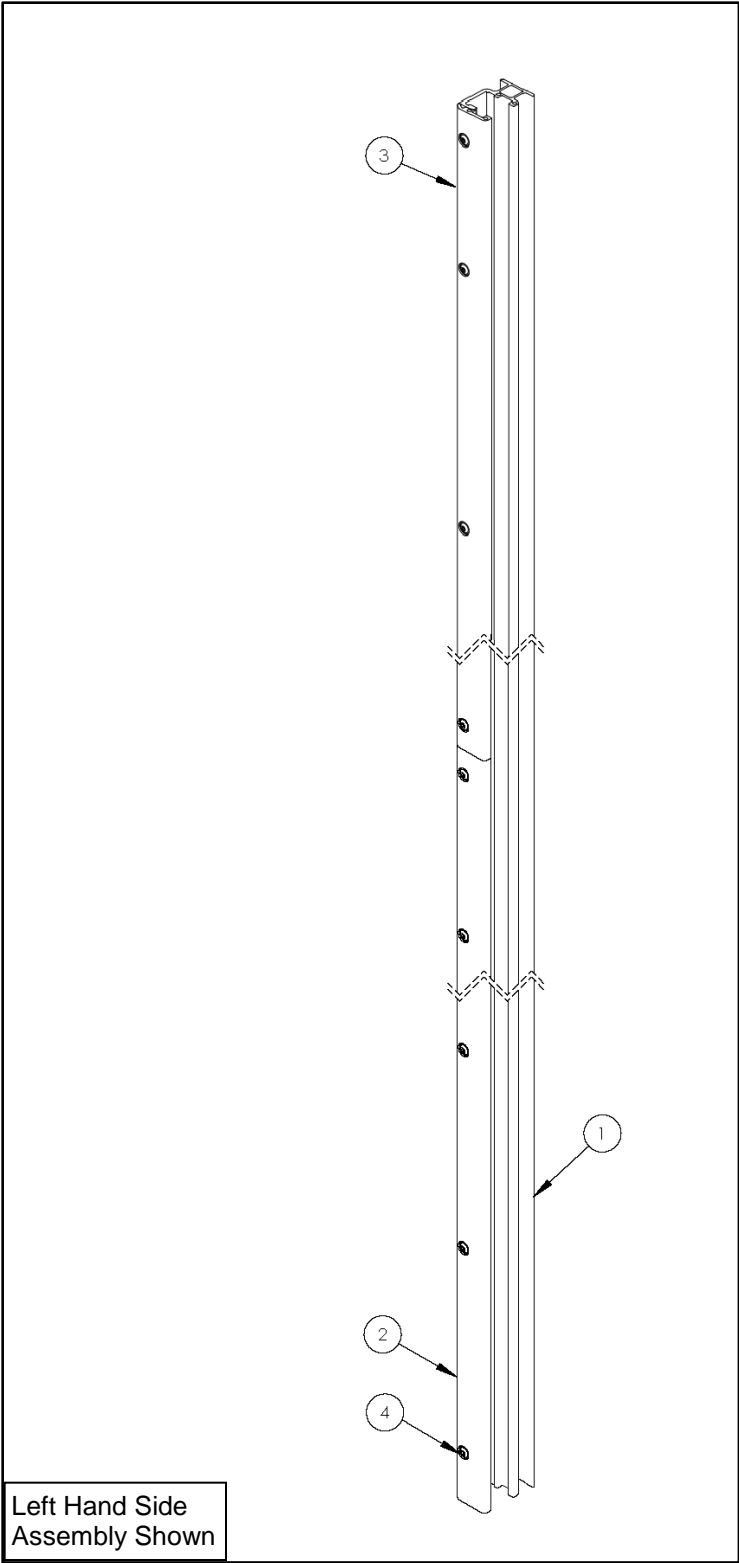
A/R = As Required

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST-LOWER TRACK & COVER ASSEMBLY

LOWER TRACK & COVER ASSEMBLY



PARTS LIST-LOWER TRACK & COVER ASSEMBLY BOM

LOWER TRACK & COVER ASSEMBLY BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R237803-1X	Assembly, Vertical Track, LH
		R237803-2X	Assembly, Vertical Track, RH
1	1	REF	Vertical Track, Machined, LH
			Vertical Track, Machined, RH
2	1	REF	Cover, Lower Track, Bottom, LH
			Cover, Lower Track, Bottom, RH
3	1	REF	Cover, Lower Track, Upper, LH
			Cover, Lower Track, Upper, RH
4	A/R	REF	BSCSF,M8-1.25 X 16,T40,ZN

CF = Consult Factory

A/R = As Required

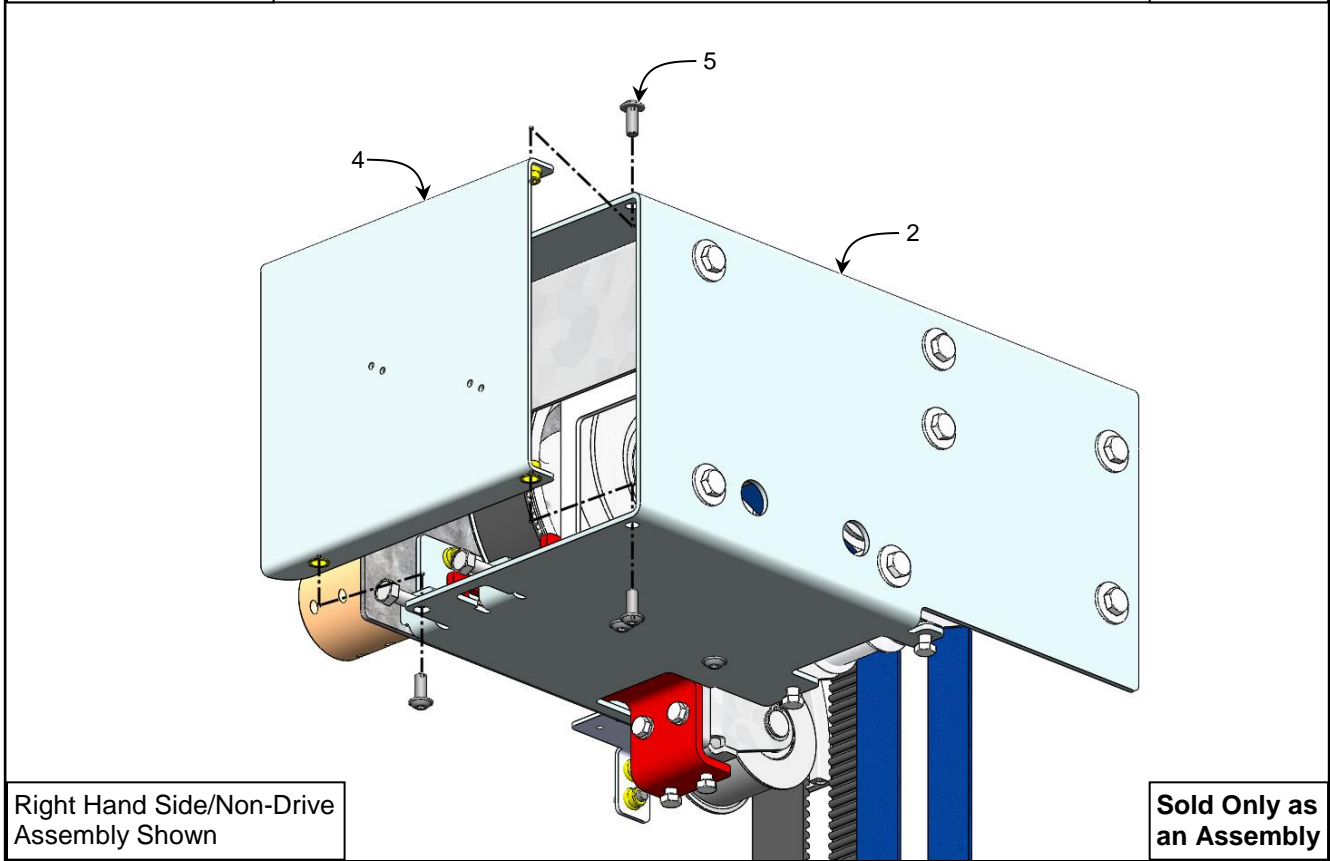
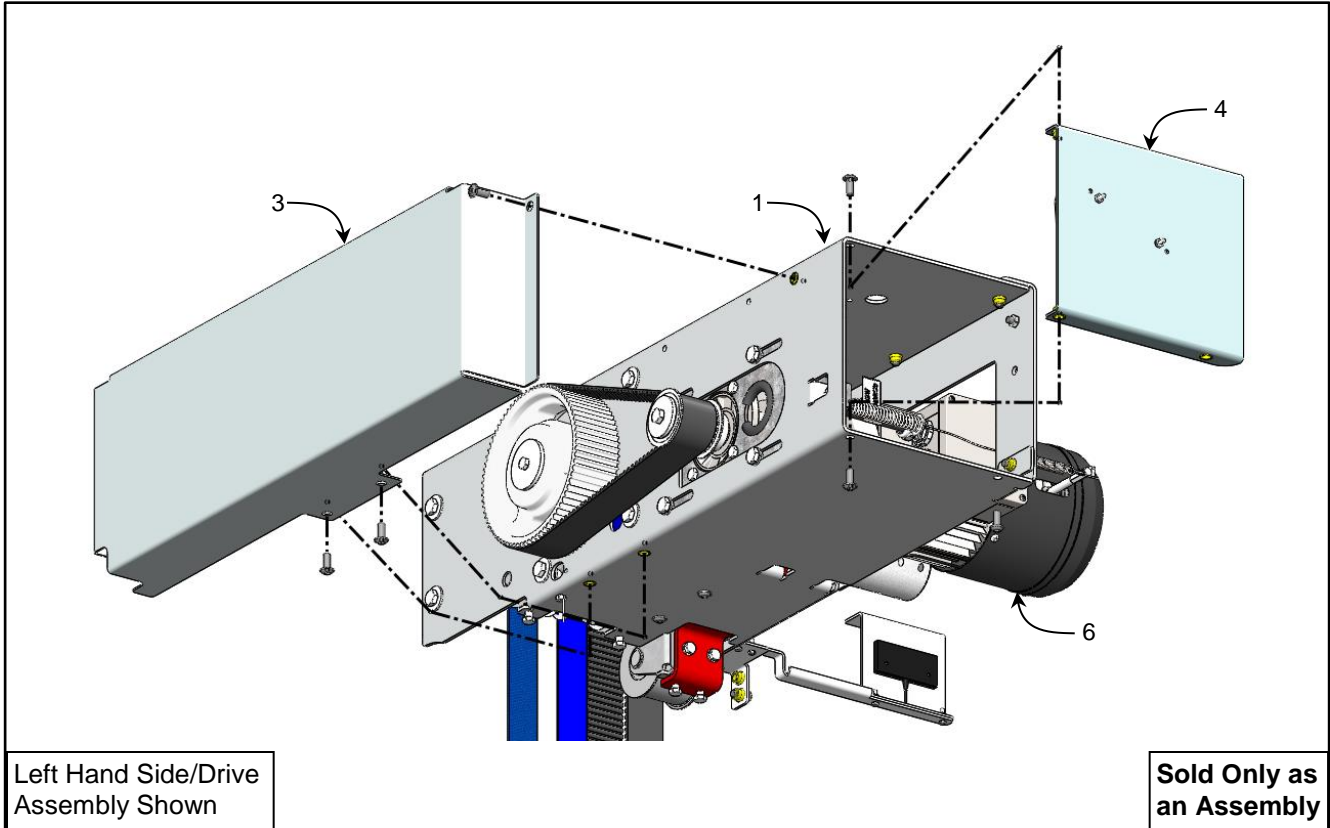
Items are produced based on manufactured height and width of door.

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST-CONSOLE ASSEMBLY

CONSOLE ASSEMBLY



CONSOLE ASSEMBLY BOM

ITEM	QTY.	PART #	DESCRIPTION
1	1	R236853-1Z1	Assembly, Console, SSN-S, LH Drive, LH
		R243853-1Z1	Assembly, Console, SSN-L, LH Drive, LH
		R236853-2RZ1	Assembly, Console, SSN-S, RH Drive, RH
		R243853-2RZ1	Assembly, Console, SSN-L, RH Drive, RH
2	1	R236853-2Z1	Assembly, Console, SSN-S, LH Drive, RH
		R243853-2Z1	Assembly, Console, SSN-L, LH Drive, RH
		R236853-1RZ1	Assembly, Console, SSN-S, RH Drive, LH
		R243853-1RZ1	Assembly, Console, SSN-L, RH Drive, LH
3	1	R236318Z1(REF)	Belt Guard, SSN, LH
		R236318-2Z1(REF)	Belt Guard, SSN, RH
4	1	CF	Cover Assembly, Insert
5	REF	R01900820	BSCSF,M8-1.25 X 20,T40,ZN
6	1	CF	Motor Assembly, Complete

CF = Consult Factory

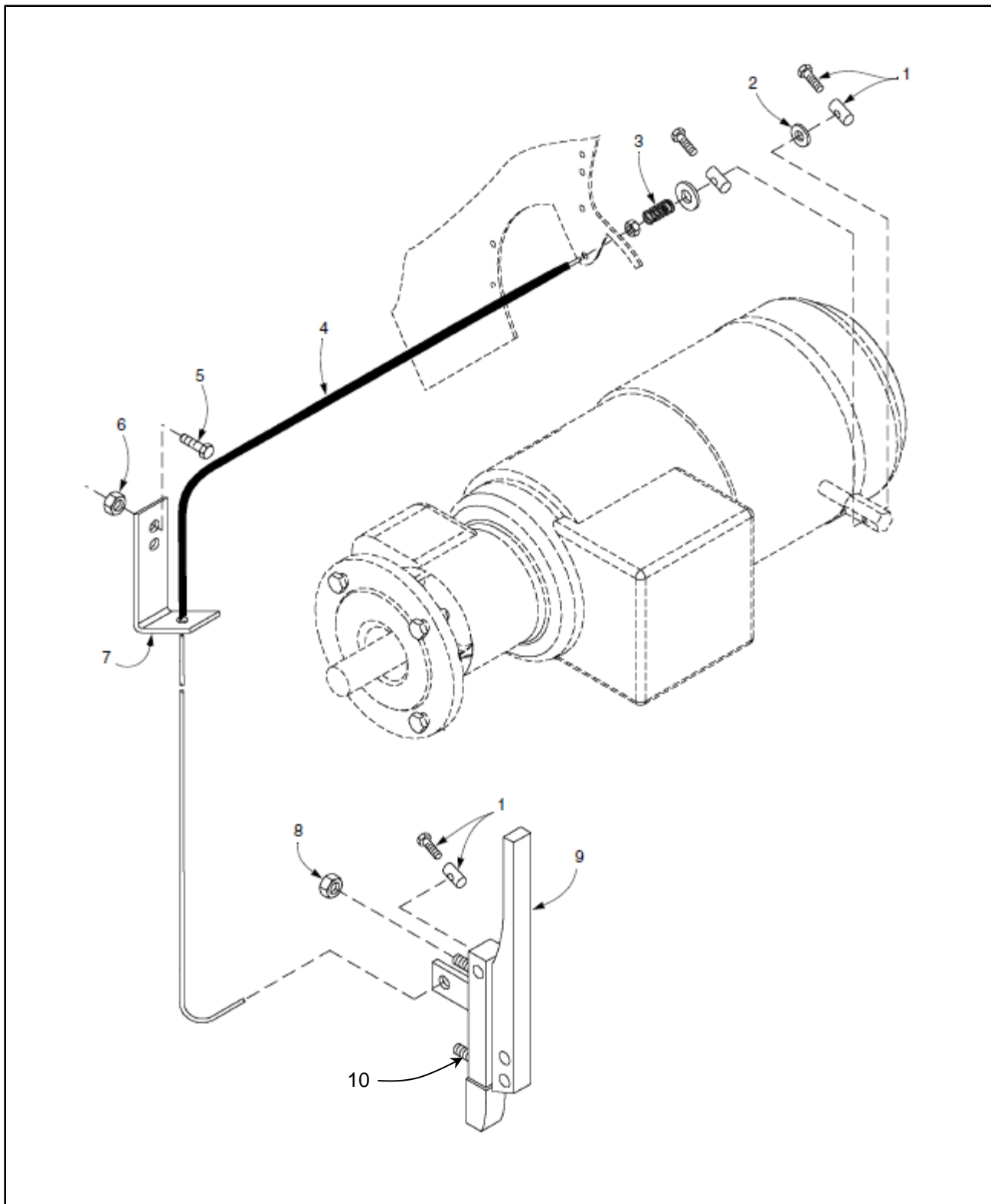
A/R = As Required

*Items are produced based on manufactured height and width of door.***ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER**

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

PARTS LIST-BRAKE RELEASE ASSEMBLY

BRAKE RELEASE ASSEMBLY



BRAKE RELEASE ASSEMBLY BOM

ITEM	QTY.	PART #	DESCRIPTION
1	2	R08151080	Clamp, Cable Stop
2	2	R01900050	Washer, Flat, H1231 6.4 x 25 x 1.25 Thk
3	1	R080701071	Spring
4	1	R0804228	Cable Casing
5	2	R01900712	Screw, M6 x 20 T30, Dome Washer Head
6	2	R01901506	Nut, M6, Flanged Hex, ZN
7	1	R217361-Z1	Bracket, Motor Brake Cable
8	2*	R5550057-0Z01	Nut, M4-0.7, Hex Lock, w/ Nylon Insert, ZN
9	1*	RWN524-C-01	Brake Release Lever*
10	2*	R5550054-0Z01	PFMS, M4-0.7 x 12mm, ZN

CF = Consult Factory

A/R = As Required

*Installed Only on Door's Drive Side Side Columns.

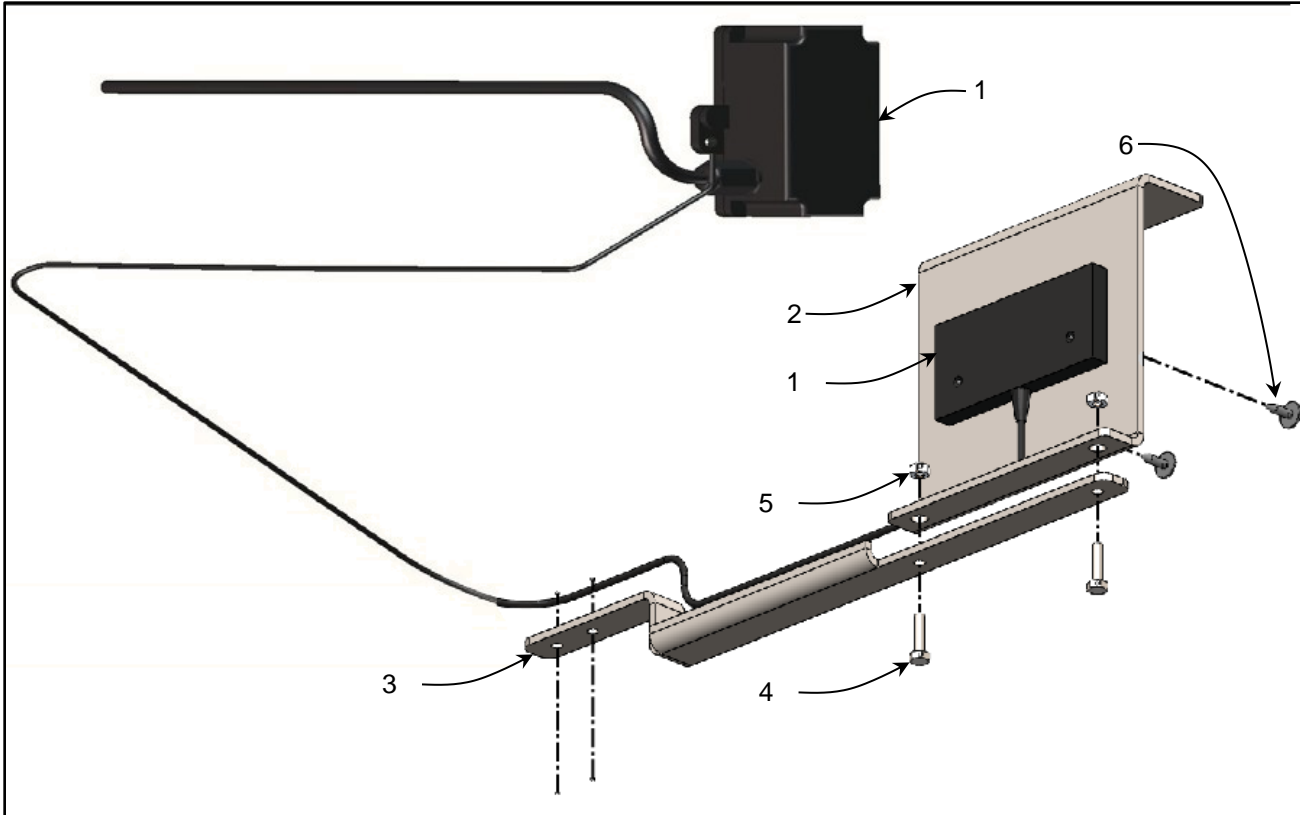
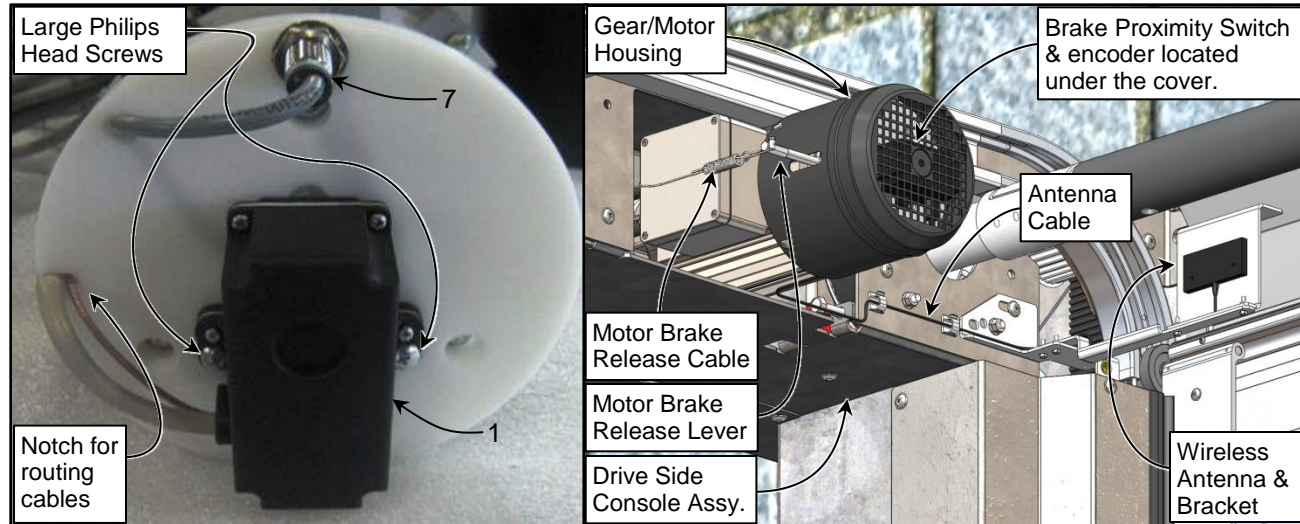
Items are produced based on manufactured height and width of door.

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST-WIRELESS ANTENNA BRACKET & ENCODER ASSEMBLY

WIRELESS ANTENNA BRACKET & ENCODER ASSEMBLY



PARTS LIST-WIRELESS ANTENNA BRACKET & ENCODER ASSEMBLY BOM

WIRELESS ANTENNA BRACKET & ENCODER ASSEMBLY BOM

ITEM	QTY.	PART #	DESCRIPTION
1	1	R00141120	Wireless Encoder w/ Antenna, XR 60" Spiral
2	1	R1070678-0Z01	Bracket, Wireless Antenna Mounting, Spiral
		R1070699-2Z01	Corner Bracket, Upper RH Wireless L & L/S size
3	1	R1070960-0Z01	Bracket, Upper Corner Wireless Arm
4	2	R5550246-0Z01	HHCS, M4-0.7 x 16, Gr 5 ZN
5	2	R5550057-0Z01	Nut, M4-0.7, Hex Lock, w/ Nylon Insert, ZN
6	2	R5550264-0	Ratchet Fastener, 0.160 Hole x 0.040-0.250 Thk, Black Nylon
7	1	R00111188	Inductive Sensor, M12x1.0, 4.0mm Gap, 10-30 DVC

CF = Consult Factory

A/R = As Required

*Installed Only on Door's Drive Side Side Columns.

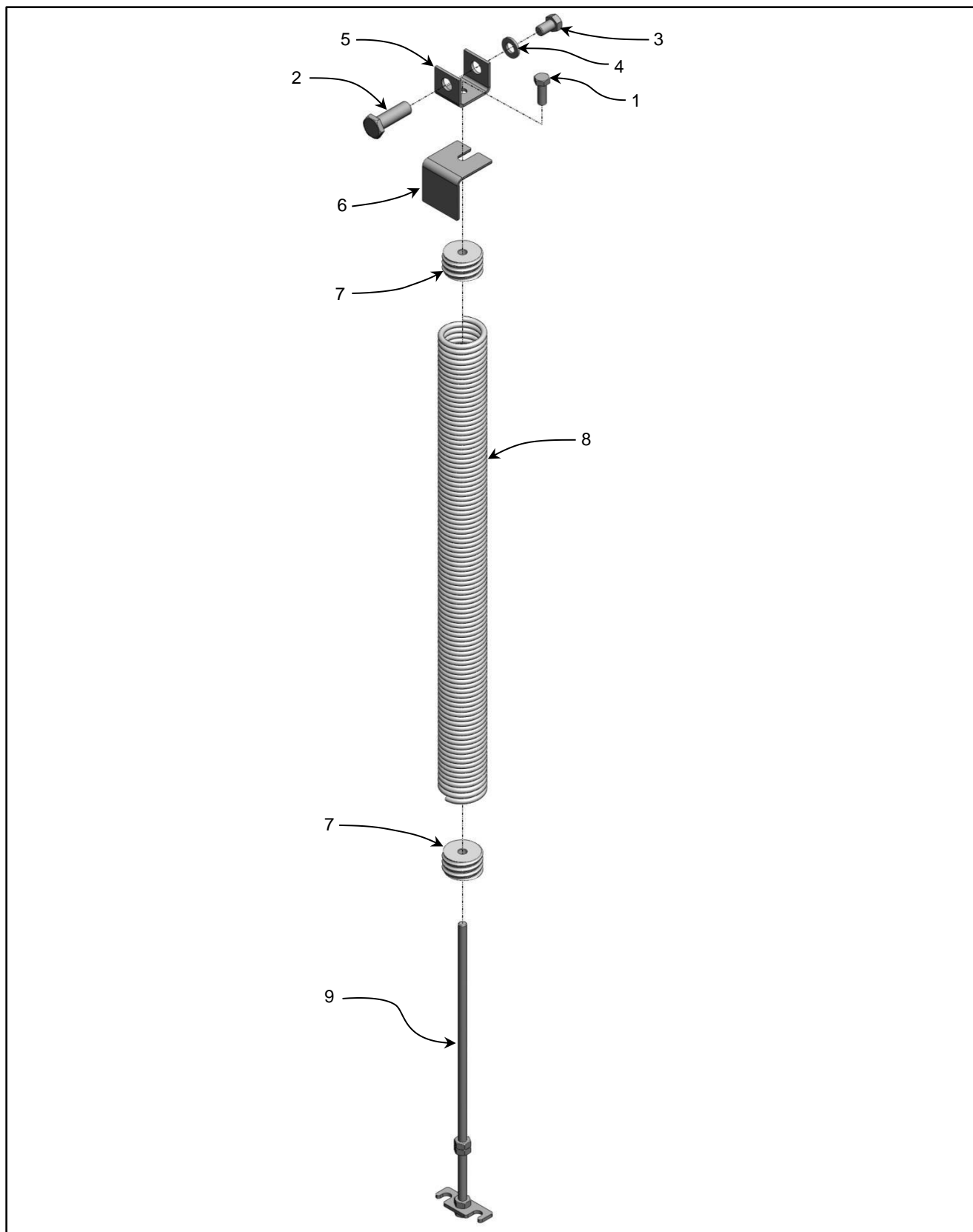
Items are produced based on manufactured height and width of door.

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

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



PARTS LIST-SINGLE SPRING PACK (SST-L & L/R, SST-S & S/R) ASSEMBLY BOM

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

ITEM	QTY.	PART #	DESCRIPTION
-	1	R217871B02Z1	Spring Pack Assembly (1 Outside)
1	1	REF	Screw, M10 x 30 Hex Head, DIN 933 8.8
2	1	R609270BZ1	Shoulder Nut, Special Spring Clevis
3	1	R01260400	Screw, M12 x 20 Hex Head, DIN 933
4	1	R01060044	Washer, 13 mm Flat, ZN
5	1	REF	Clevis, Spring Pack
6	1	REF	Guide, Outer Spring Pack, 1 or 2
7	2	REF	Spring, Plug
8	1	REF	Tension Spring
9	1	REF	Assembly, Spring Pack Adjustment Rod

CF = Consult Factory

A/R = As Required

*Installed Only on Door's Drive Side Side Columns.

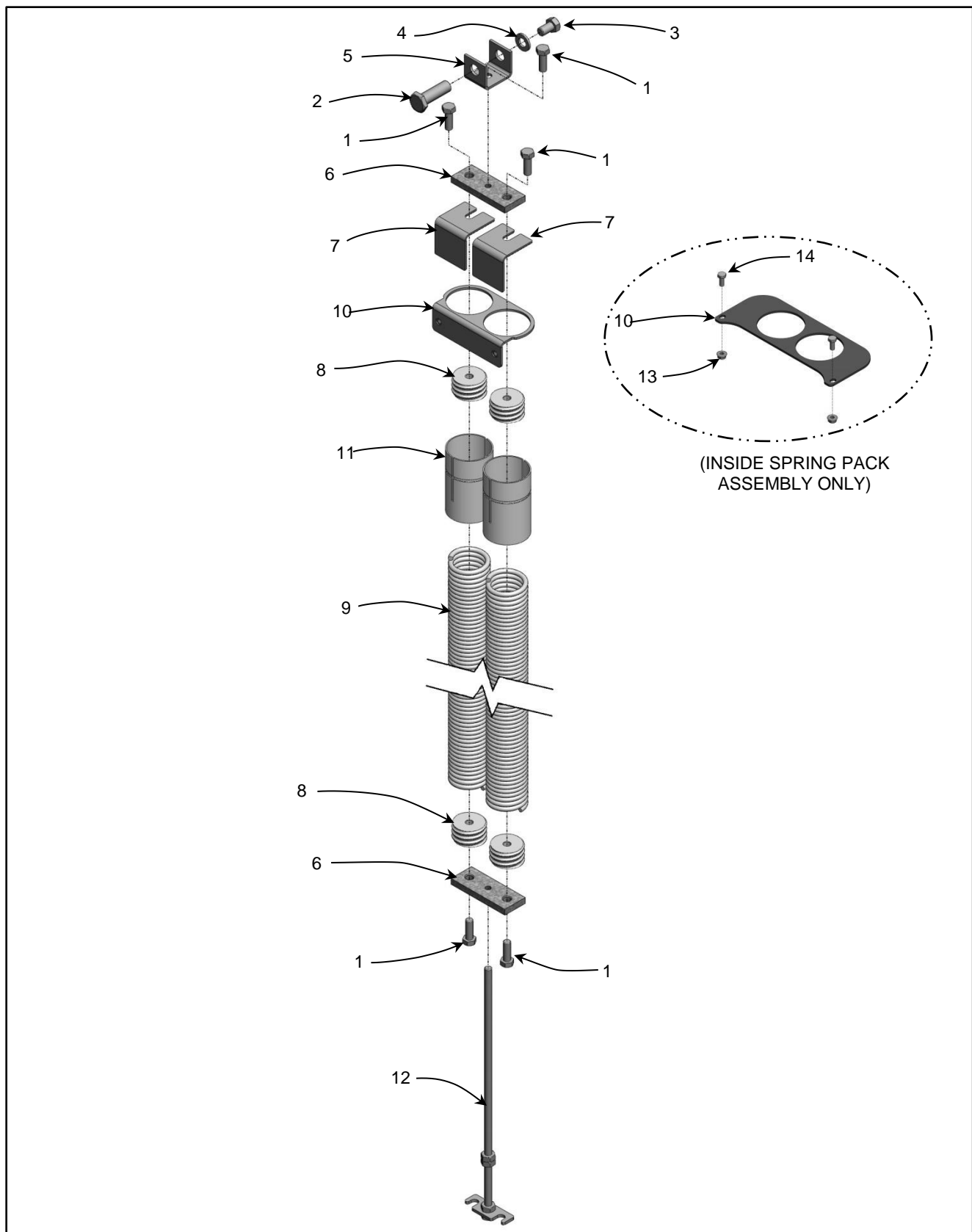
Items are produced based on manufactured height and width of door.

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

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



PARTS LIST-DOUBLE SPRING PACK (SST-L & L/R, SST-S & S/R) ASSEMBLY BOM

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

ITEM	QTY.	PART #	DESCRIPTION
-	1	R217871A03Z1	Spring Pack Assembly (2 Outside)
		R217871A03Z1	Spring Pack Assembly (2 Outside) "L" Series
		R217871DZ1	Spring Pack Assembly (2 Inside)
1	5	REF	Screw, M10 x 30 Hex Head, DIN 933 8.8
2	1	R609270BZ1	Shoulder Nut, Special Spring Clevis
3	1	R01260400	Screw, M12 x 20 Hex Head, DIN 933
4	1	R01060044	Washer, 13 mm Flat, ZN
5	1	REF	Clevis, Spring Pack
6	2	REF	Bar, 2 Spring Pack
7	2	REF	Guide Outer Spring Pack, Hard PVC (Outside Spring Pack Assembly only)
8	4	REF	Spring, Plug
9	2	REF	Tension Spring
10	1	REF	Guide Bracket Assembly, Outer Dual Spring (L Series)
		REF	Guide Bracket Assembly, Outer Dual Spring
		REF	Guide Bracket Assembly, Inside Dual Spring
11	2	REF	Guide Tube, Spring Pack Hard PVC
12	1	REF	Assembly, Spring Pack Adjustment Rod
13	2	REF	Nut, M6 Hex Flange (Inside Spring Pack Assembly only)
14	2	REF	Screw, M6 x 14 mm Hex Head Cap, Zn (Inside Spring Pack Assembly only)

CF = Consult Factory

A/R = As Required

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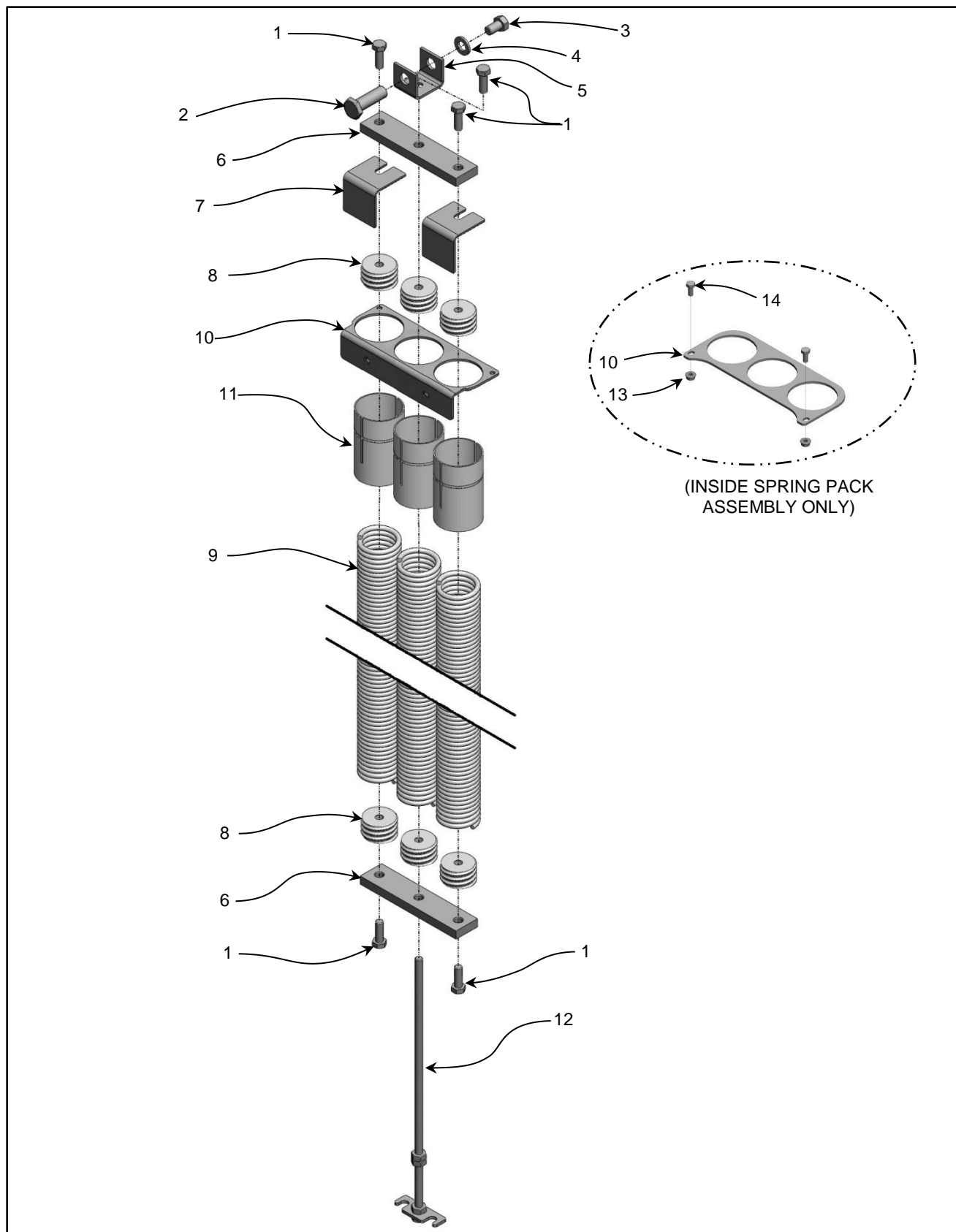
Items are produced based on manufactured height and width of door.

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

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



PARTS LIST-TRIPLE SPRING PACK (SST-L & L/R, SST-S & S/R) ASSEMBLY BOM

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

ITEM	QTY.	PART #	DESCRIPTION
-	1	R217871C03Z1	Spring Pack Assembly (3 Outside)
		R217871EZ1	Spring Pack Assembly (3 Inside)
1	5	REF	Screw, M10 x 30 Hex Head, DIN 933 8.8
2	1	R609270BZ1	Shoulder Nut, Special Spring Clevis
3	1	R01260400	Screw, M12 x 20 Hex Head, DIN 933
4	1	R01060044	Washer, 13 mm Flat, ZN
5	1	REF	Clevis, Spring Pack
6	2	REF	Bar, 3 Spring Pack
7	2	REF	Guide Outer Spring Pack, Hard PVC (Outside Spring Pack Assembly only)
8	6	REF	Spring, Plug
9	3	REF	Tension Spring
10	1	REF	Guide Bracket Assembly, Outer Triple Spring
		REF	Guide Bracket Assembly, Inside Triple Spring (Inside Spring Pack Assembly only)
11	3	REF	Guide Tube, Spring Pack Hard PVC
12	1	REF	Assembly, Spring Pack Adjustment Rod
13	2	REF	Nut, M6 Hex Flange (Inside Spring Pack Assembly only)
14	2	REF	Screw, M6 x 14 mm Hex Head Cap, Zn (Inside Spring Pack Assembly only)

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A/R = As Required

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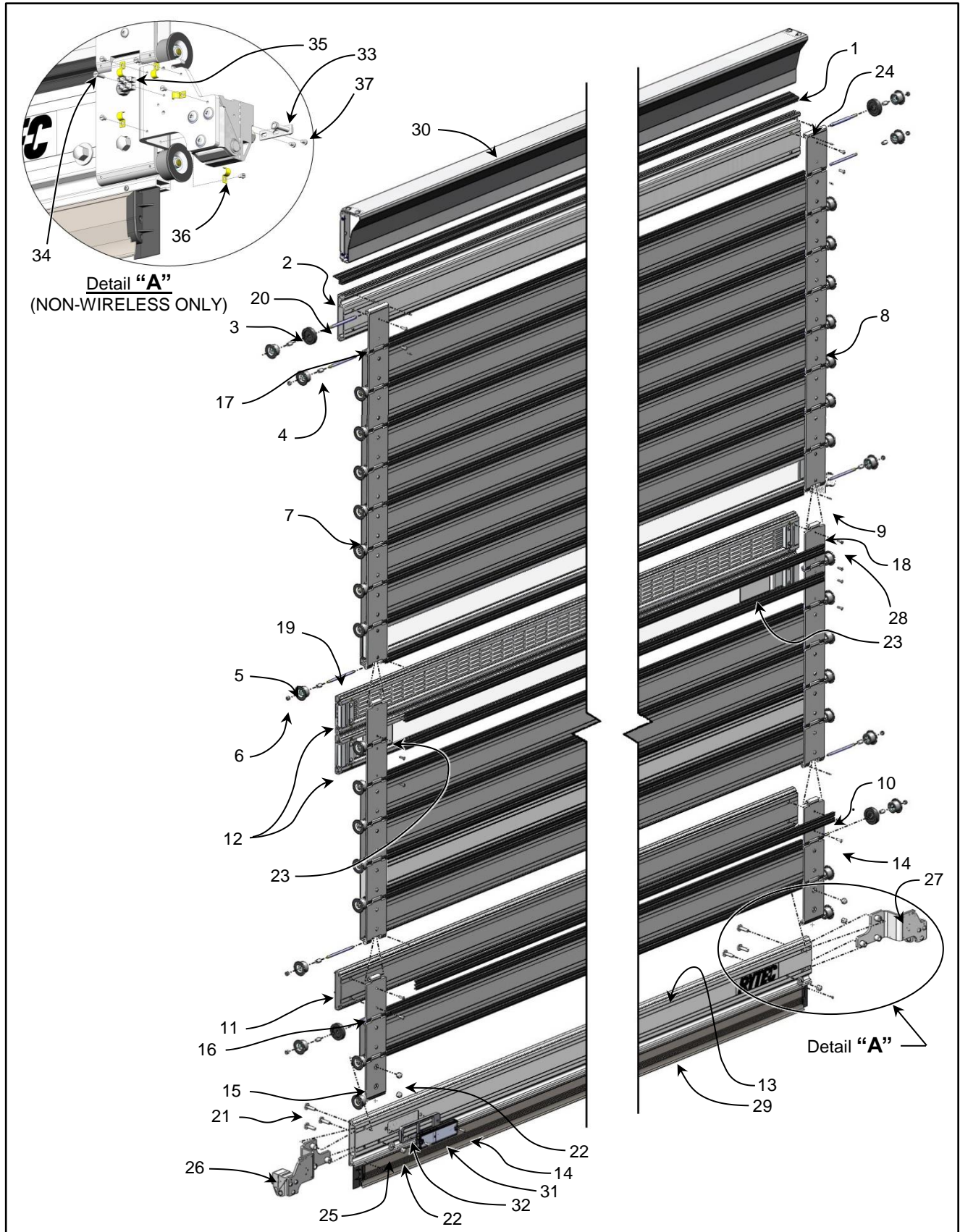
Items are produced based on manufactured height and width of door.

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PARTS LIST-SPREADER AND DOOR PANEL ASSEMBLY

SPREADER AND DOOR PANEL ASSEMBLY



PARTS LIST-SPREADER AND DOOR PANEL ASSEMBLY BOM

SPREADER AND DOOR PANEL ASSEMBLY BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1070853-0	Panel/Hinge Assembly, SSN-L
		R1070865-0	Panel/Hinge Assembly, SSN-S
1	1	R04010170	Top Seal
2	1	R237834	Assembly, Top Panel, 20mm SST-L
		R238832	Assembly, Top Panel, 30mm SST-S
3	4	R237602	Guide, Slide Door Panel
4	A/R	R217505Z1	Spacer, Axle
5	A/R	R205625	Roller, Hinge
6	A/R	R01335008	Nut, Lock, DIN 985-8 M8 Nylon Insert Hex
7	1	R231860-1	Hinge, Chain Assembly, LH, SST-L
		R232826-1	Hinge, Chain Assembly, LH, SST-S
8	1	R231860-2	Hinge, Chain Assembly, RH, SST-L
		R232826-2	Hinge, Chain Assembly, RH, SST-S
9	A/R REF	R1070525	Pin, Groove (Included in Items 7 & 8)
10	A/R	R04010085-04	Seal, Panel Hinge
11	A/R	R237833	Panel Assembly, 20 mm, SST-L
		R238833	Panel Assembly, 30 mm, SST-S
12	A/R	R231858	Window Assembly w/ Spacers, 20 mm, SST-S, SST-S/R, SSN-L
		R232830	Window Assembly w/ Spacers, 30 mm, SST-S, SST-S/R, SSN-S
	A/R	R231858-Vent	Vent Assembly w/ Spacers, 20 mm, SST-S, SST-S/R, SSN-L
		R232830-Vent	Vent Assembly w/ Spacers, 30 mm, SST-S, SST-S/R, SSN-S
13	1	R1070668-0X	Bottom Panel Assembly, 20 mm, SST-L, SSN-L
		R1070663-0X	Bottom Panel Assembly, 30 mm, SSN-S
14	A/R	R01900720	Screw, M6 x 20 T30 Torx Drive, Dome Washer Head
15	A/R REF	R231110	Hinge, Aluminum, Bottom, 151x65 (Included in Items 7 & 8)
		R232102	Hinge, Aluminum, Bottom, 151x100 (Included in Items 7 & 8)
16	A/R REF	R231120	Hinge, Aluminum, Middle, 151x65 (Included in Items 7 & 8)
		R232111	Hinge, Aluminum, Middle, 151x100 (Included in Items 7 & 8)

ITEM	QTY.	PART #	DESCRIPTION
17	A/R REF	R231111	Hinge, Aluminum, Top, 151x65 (Included in Items 7 & 8)
		R232101	Hinge, Aluminum, Top, 151x100 (Included in Items 7 & 8)
18	A/R REF	R231114	Hinge, Aluminum, Window-Vent, 151x65 (Included in Items 7 & 8)
		R232100	Hinge, Aluminum, Window-Vent, 151x100 (Included in Items 7 & 8)
19	A/R REF	R217502-02Z1	AXLE, HINGE, 98mm (Included in Items 7 & 8)
		R218504Z1	AXLE, HINGE, 133mm (Included in Items 7 & 8)
20	2 REF	R237506Z1	AXLE, HINGE, Top, 99mm (Included in Items 7 & 8)
		R238506Z1	AXLE, HINGE, Top, 134mm (Included in Items 7 & 8)
21	4	R01160505	Screw, Mushroom Head Square NeckM8x35 (SST-L)
	6	R01160600	Screw, Mushroom Head Square NeckM10x40 (SST-S)
22	6	R01230010	Nut, M10-1.5 Hex Cap
	4	R01230008	Nut, M8 Hex Cap
23	2	R01915015	Label, Window Wipe Down Caution
24	4	R0550235	Screw, #6-32UNCx5/8 PH Tapping
25	A/R	R01800080	Washer, 10.5mm
26	1	R243831-1Z1	End Bracket Assembly, LH SSN-L
		R236831-1Z1	End Bracket Assembly, LH SSN-S
27	1	R243831-2Z1	End Bracket Assembly, RH SSN-L
		R236831-2Z1	End Bracket Assembly, RH SSN-S
28	A/R	R01900705	Screw, M5 x 20 T25 Torx Drive, Dome Washer Head (Window-Vent)
29	1	CF	Reversing Edge Assembly
30	1	R236807	Rear Spreader
31	1	R1070669-0	Cover Assembly, Spiral Mobile Unit
32	1	R1070625-0	Gasket, Wireless Cover
33	1	R1070777-0	Assembly, Energy Chain Clamp (Non-Wireless Only)
34	1	R01010152	Screw, M4 x 16 SCMS (Non-
35	1	R00111174	Block, Terminal (Non-Wireless
36	5	R02382756	Wire Clip (Non-Wireless only)
37	7	R01010125	Screw, SCMS M4 x 6 mm (Non-Wireless only)

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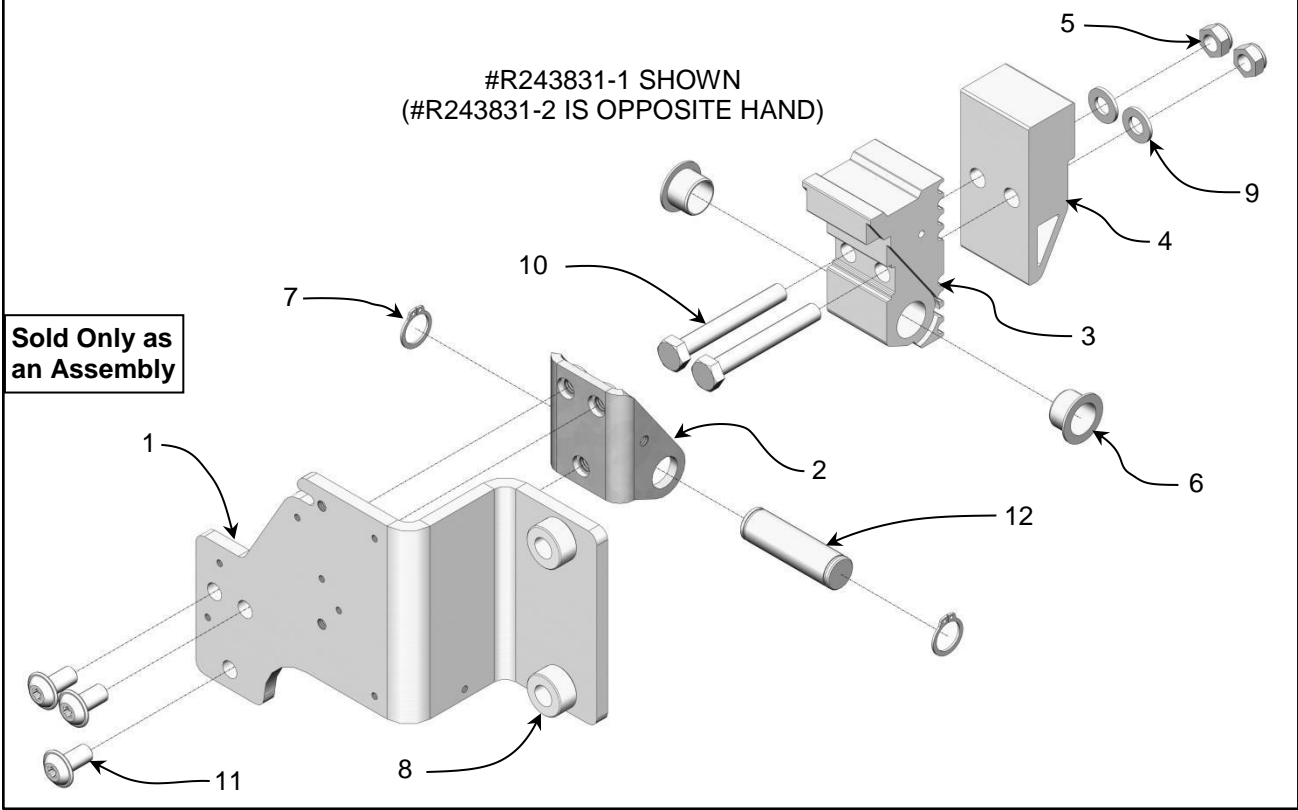
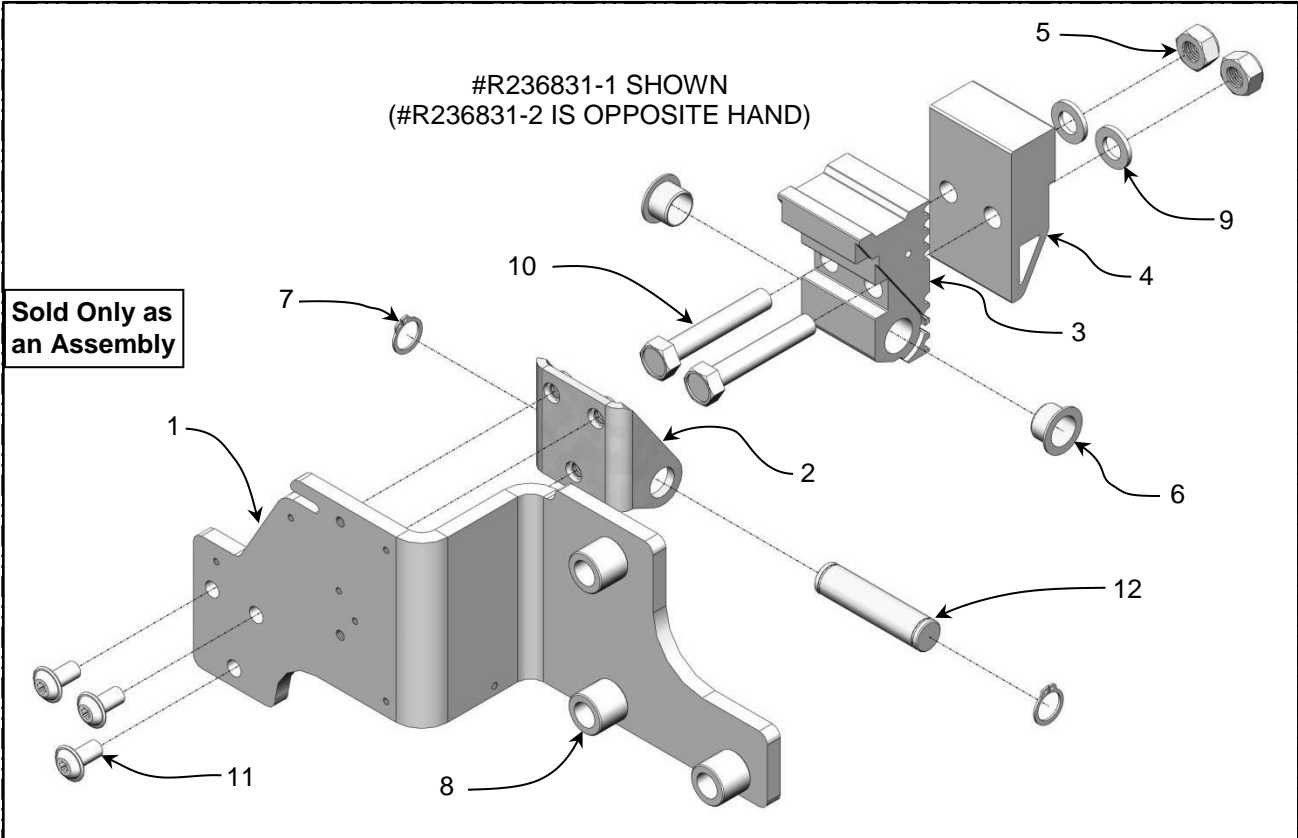
**Items are produced based on manufactured height and width of door.*

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PARTS LIST-DOOR PANEL BOTTOM BAR END BRACKET ASSEMBLIES

DOOR PANEL BOTTOM BAR END BRACKET ASSEMBLIES



PARTS LIST-DOOR PANEL BOTTOM BAR END BRACKET ASSEMBLY BOMS

DOOR PANEL BOTTOM BAR END BRACKET ASSEMBLY BOMS

ITEM	QTY.	PART #	DESCRIPTION
-	1	R236831-1	End Bracket Assembly, LH SSN-S (236831-2 is opposite hand)
1	1	CF	End Plate, End Bracket, LH SSN-S
2	1	CF	Pivot Assembly, End Bracket, SSN-S
3	1	CF	Splice Block, End Bracket, 8M-30mm
4	1	CF	Splice Clamp, End Bracket, 8M-30mm
5	2	CF	Nut, M10, Nylon Lock
6	2	CF	Bearing, End Bracket, 15x17x12
7	2	CF	Retaining Ring
8	3	CF	Spacer Bushing, End Bracket, 17mm
9	2	CF	Washer, 10.5mm Flat, Zn
10	2	CF	Screw, M10x60 Hex Head Cap, Zn
11	3	CF	Screw, M8-1.25 x 16, T40 Button Head, Zn
12	1	CF	Shaft, End Bracket, SSN-S
End Brackets Sold as Complete Assemblies only			
-	1	R243831-1	End Bracket Assembly, LH SSN-L (243831-2 is opposite hand)
1	1	CF	End Plate, End Bracket, LH SSN-L
2	1	CF	Pivot Assembly, End Bracket, SSN-L
3	1	CF	Splice Block, End Bracket, 8M-30mm
4	1	CF	Splice Clamp, End Bracket, 8M-30mm
5	2	CF	Nut, M8, Nylon Lock
6	2	CF	Bearing, End Bracket, 15x17x12
7	2	CF	Retaining Ring
8	2	CF	Spacer Bushing, End Bracket, 10mm
9	2	CF	Washer, 8.4mm Flat, Zn
10	2	CF	Screw, M10x60 Hex Head Cap, Zn
11	3	CF	Screw, M8-1.25 x 16, T40 Button Head, Zn
12	1	CF	Shaft, End Bracket, SSN-L

CF = Consult Factory

A/R = As Required

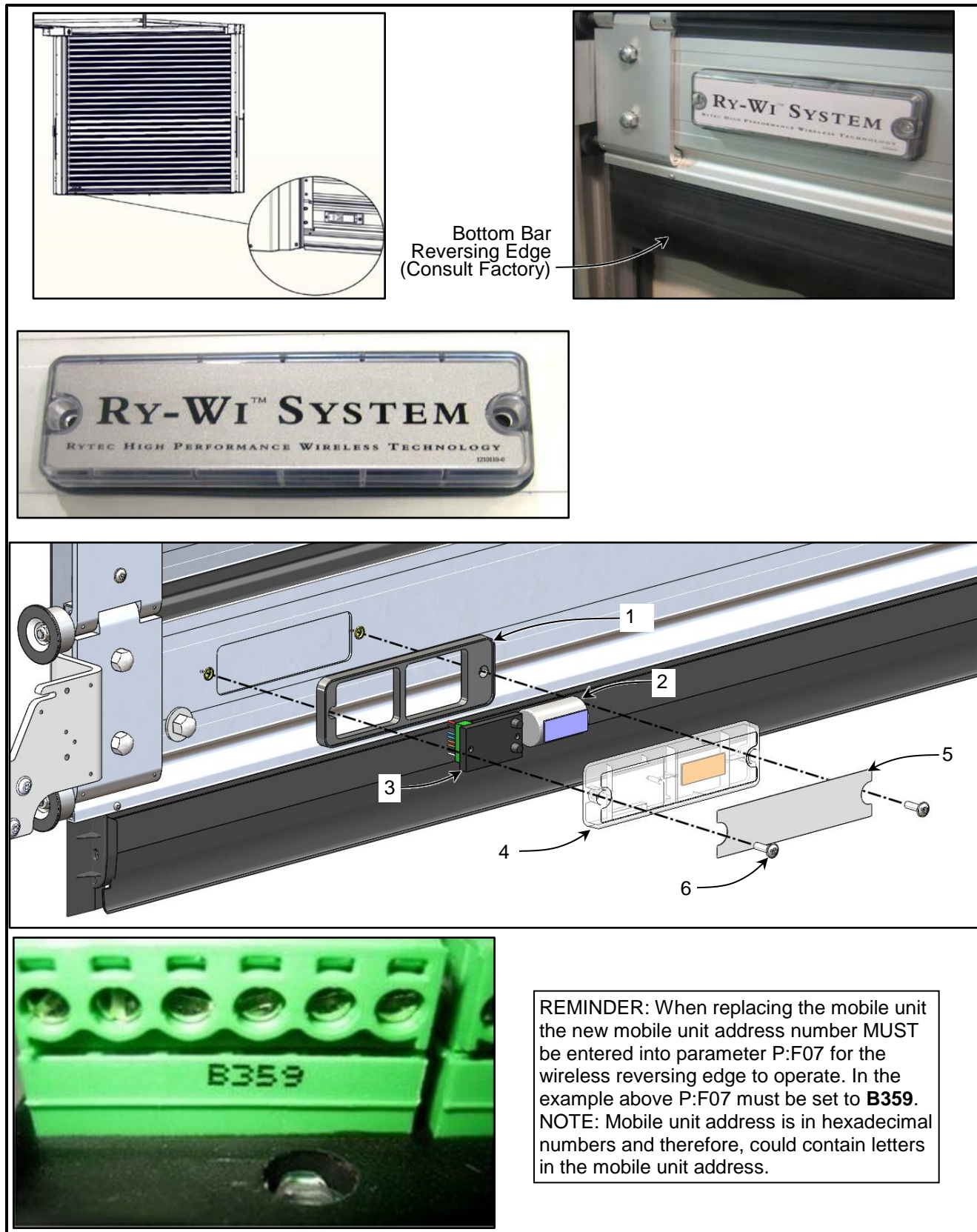
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PARTS LIST-REVERSING EDGE – WIRELESS

REVERSING EDGE – WIRELESS



REVERSING EDGE – WIRELESS BOM

ITEM	QTY.	PART #	DESCRIPTION
1	1	R1070625-1	Gasket, Wireless Cover
2	1	R00111193	Battery, Wireless "D" w/ Tabs
3	1	R1210463-0	Mobile Unit, Sealed Wireless Transmitter XL
4	1	R1060116-0	Wireless Cover
5	1	R1210110-0	Label, RY-WI Wireless Cover
6	2	R01900720	BSCSF, M5 x 20, T25 ZN

CF = Consult Factory

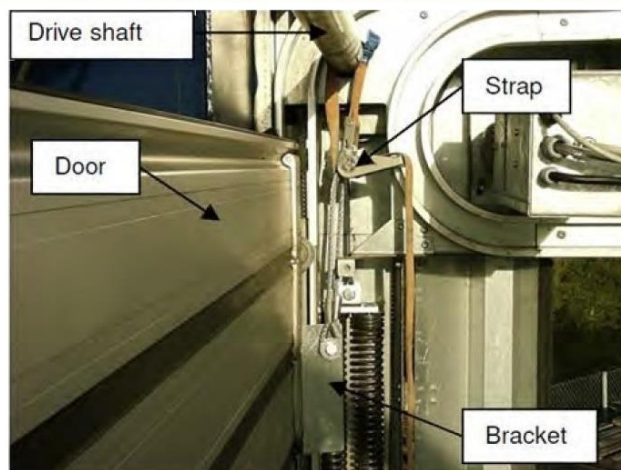
A/R = As Required

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PARTS LIST-SPIRAL PANEL LIFTING BRACKET

SPIRAL PANEL LIFTING BRACKET



SPIRAL PANEL LIFTING BRACKET BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1070360-0Z1	Plate, Door Panel Service, one bracket per side

CF = Consult Factory

A/R = As Required

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