

R Y T E C

Spiral[®]

Owner's Manual

Models

L & L/R (9 ½" Side Column)

S & S/R (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@rytecdors.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").

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

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

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

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

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

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

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

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

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

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

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

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

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

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NOTES

INTRODUCTION

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

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

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

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

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

DOOR SERIAL NUMBER(S)

To obtain your **DOOR SERIAL NUMBER**, there are two locations where this information can be found. These are at the inside of the left side column (approximately eye level), and on or inside the inside the System 4 control panel. (See Figure 1.)

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

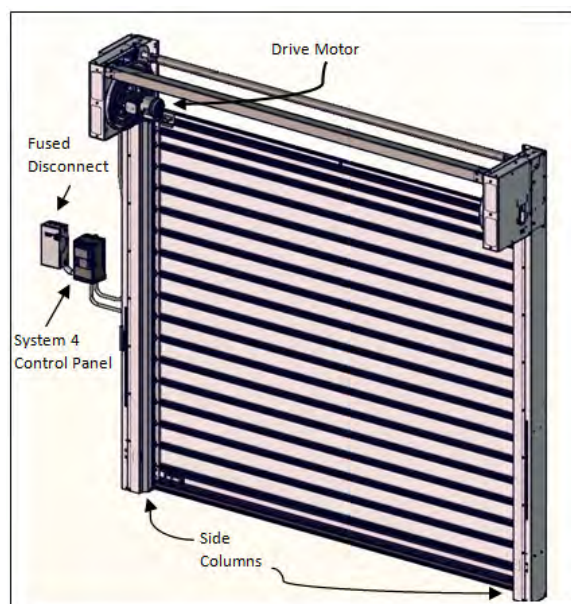


Figure 1

HOW TO USE MANUAL

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

⚠ WARNING

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

⚠ CAUTION

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

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

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

OPERATION—GENERAL ARRANGEMENT OF DOOR COMPONENTS

GENERAL ARRANGEMENT OF DOOR COMPONENTS

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

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

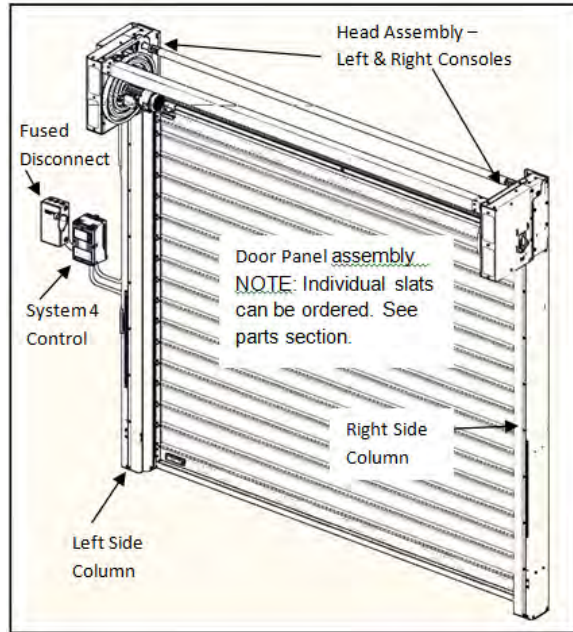


Figure 2

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

OPERATION

CONTROL PANEL

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



Figure 3

Modes of Operation

AUTOMATIC MODE

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

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

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

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

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

In summary, in the automatic mode, an externally installed activator device is used to open the door and an internal timer is used to close the door.

NON-AUTOMATIC MODE

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

- The door will open when the device is activated.
- After passing through the door, a similar type of device must be used to close the door.

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

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

OPEN AND CLOSE DOOR LIMIT POSITIONS

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



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

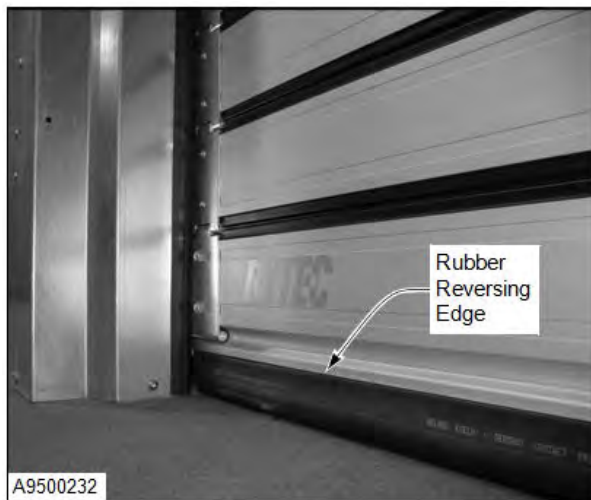


Figure 4

Open Limit Position

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

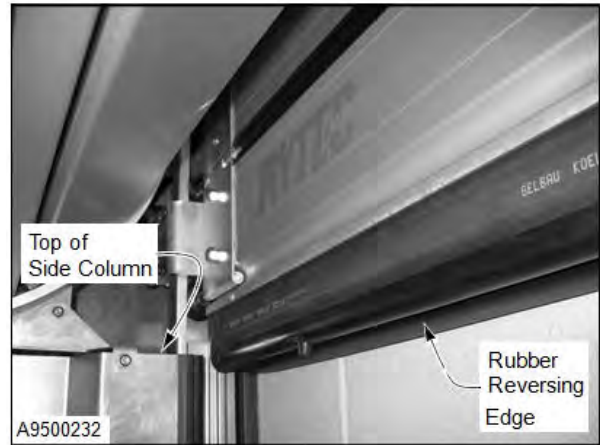


Figure 5

General

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

PHOTO EYES

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

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

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

The set of factory-installed eyes are mounted in the side columns. The set of dealer-installed eyes are mounted on the back side of the door. (See Figure 6.)

OPERATION—REVERSING EDGE

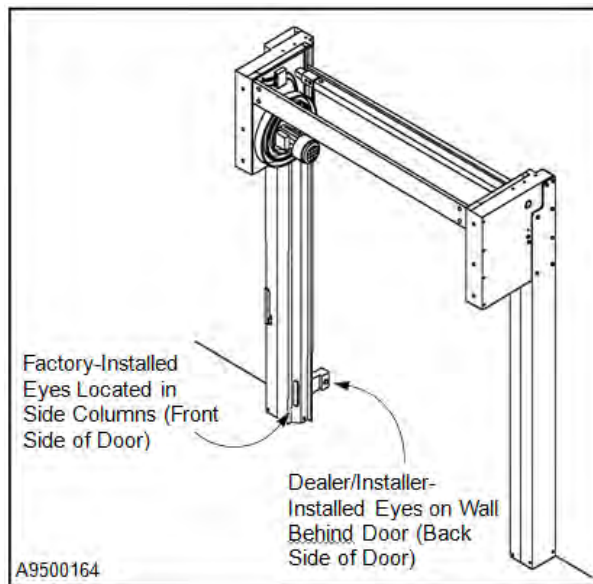


Figure 6

System Reset — Photo Eyes

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

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

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

REVERSING EDGE

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

NOTE: Anytime the reversing edge is activated, the "System 4" Control Panel will read **"F.361"** (Edge Trip). After three consecutive reversing edge trips the door will require a **RESET** to place the door back into operation. To reset the control system, press and hold the **RESET** (●) button for approximately three seconds

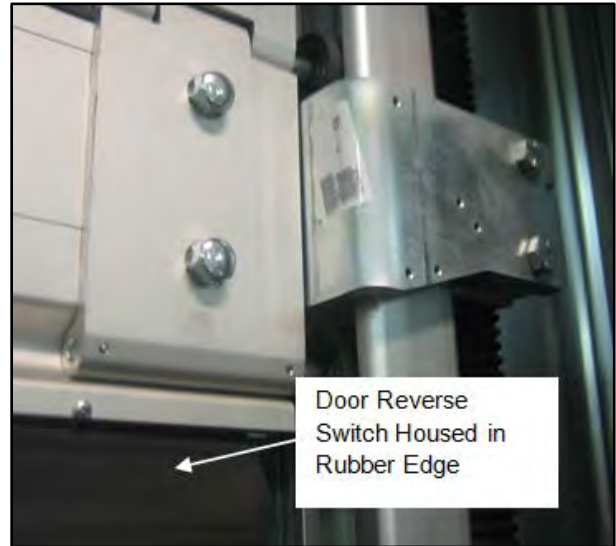


Figure 7

System Reset — Door Reversing Edge

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

1. To reset the control system with **"F.361"** displayed, first make sure the area directly below the path of the door is clear of all objects and personnel.
2. Then press and hold the **RESET** (●) button on the control panel to reset the control system. (See Figure 3.)

POWER DRIVE SYSTEM

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

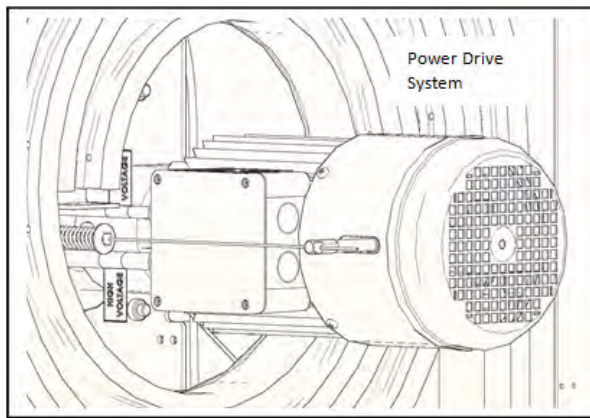


Figure 8

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

The encoder generates electrical signals and magnetic pulses that are used by the electronic control system to track the position of the door.

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

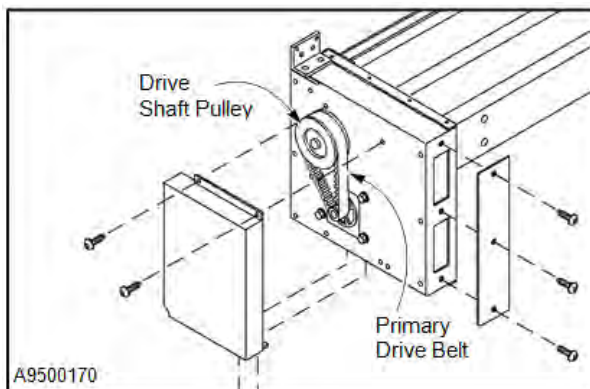


Figure 9

LIFT SYSTEM

Secondary Drive Belts (Toothed Timing Belt)

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

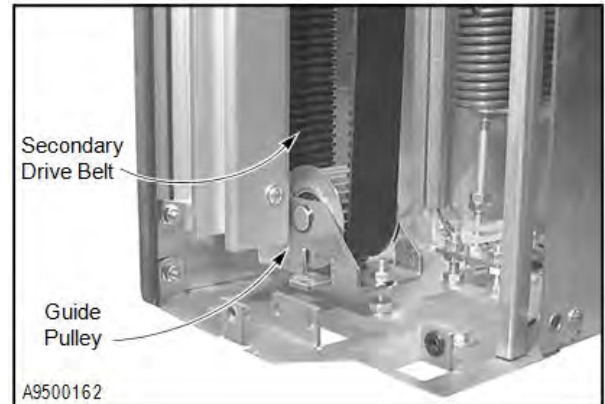


Figure 10

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

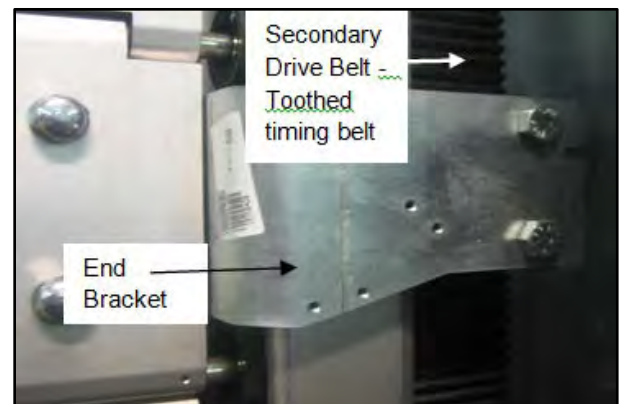


Figure 11

PLANNED MAINTENANCE—RECOMMENDED INSPECTION SCHEDULE

Springs

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

Springs are arranged in spring pack assemblies 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 12.)

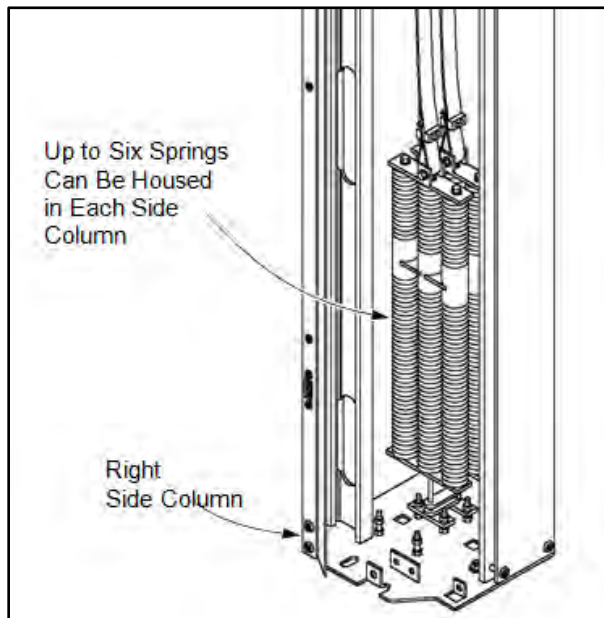


Figure 12

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

PLANNED MAINTENANCE

RECOMMENDED INSPECTION SCHEDULE

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

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

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

DAILY INSPECTION

Visual Damage Inspection

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

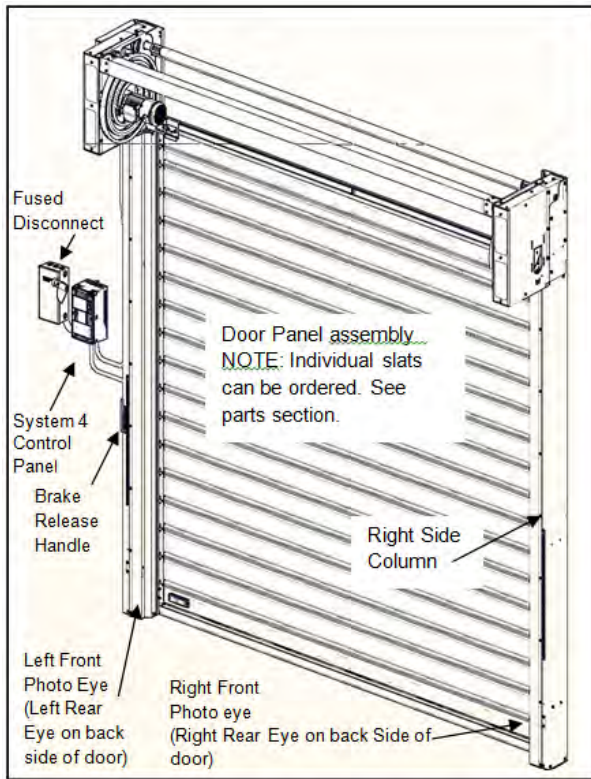


Figure 13

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

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

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

Springs, Straps, and Drive Belts: Inspect for damage and wear that may prevent the door from operating properly.

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

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

Door Operation Inspection

Run the door through four or five complete cycles to ensure it is operating smoothly and efficiently.

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

Reversing Edge Inspection



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

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

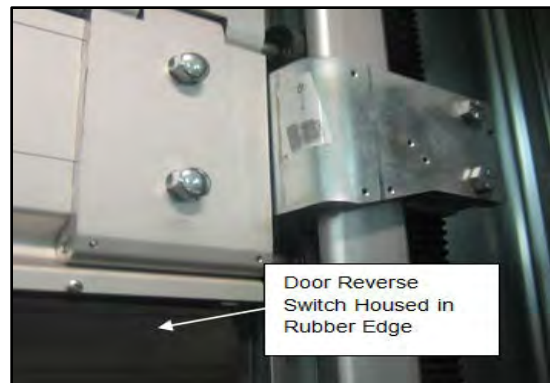


Figure 14

If the reversing edge sensor is working correctly, The door will reverse direction and move to the fully open position, if the door was opened using a timer input the door will begin counting that timer. When the door timer reaches 0 the door will again begin to close. If the reversing edge is activated 3 consecutive times the door will open and remain open displaying F:361 "Edge Tripped".

To reset the control system, see "System Reset — Door Reversing Edge".

PLANNED MAINTENANCE—DAILY INSPECTION

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

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

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



Figure 15

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

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

Photo Eye Inspection

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

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

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

FRONT SET OF EYES

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

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

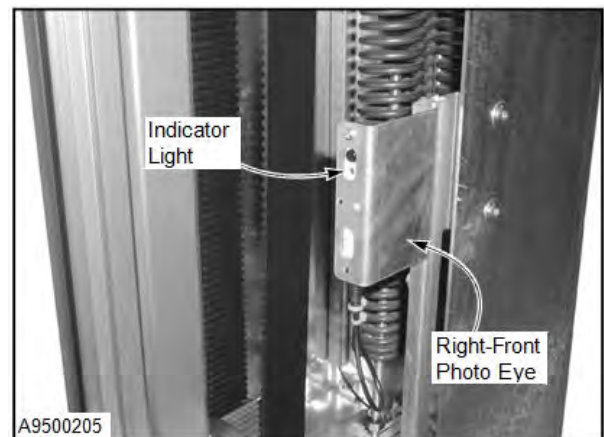


Figure 16

REAR SET OF EYES

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

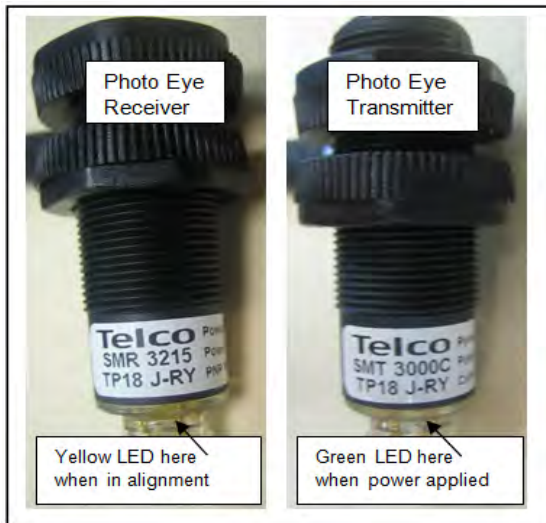


Figure 17

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

! WARNING

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

1. Move the door to the fully open position by pressing the door open (▲) button located on the control panel.
2. Place an object between the front set of photo eyes to interrupt the beam of light between the eyes.
3. Press the door close (▼) button on the control panel. The door should not operate.
4. If the photo eyes do not operate properly, the lens may be dirty. Clean as required using window cleaner and a clean, soft cloth. Then retest the front set of eyes. If cleaning does not resolve the problem, align or replace the photo eyes as required.
To align the photo eyes, see "PHOTO EYE ALIGNMENT" on page 19. To replace the eyes, see "PHOTO EYE REPLACEMENT".
5. Repeat the above procedure on the rear set of photo eyes only after verifying that the front set of eyes is working properly.

QUARTERLY INSPECTION

Electrical Inspection

CONTROL PANEL

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

! WARNING

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

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



Figure 18

3. Inspect all electrical lines leading to the control panel. Check all electrical connections inside the control panel. All connections must be tightly secured.
4. Check for pinched, cracked, or damaged wires and insulation. Repair or replace wires as needed.

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



Figure 19

DOOR HEAD JUNCTION BOX

1. Move the door to the closed position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

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

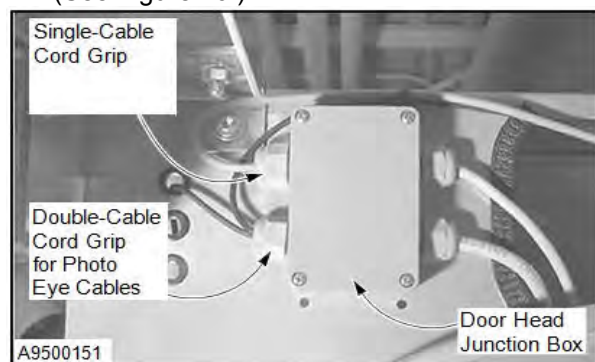


Figure 20

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

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

6. Replace the cover.

UPPER JUNCTION BOX

NOTE: The upper junction box is an optional item that may have been installed during the installation of your door. If an upper junction box was installed, it was most likely mounted on the wall, just above the control panel. If your door has an upper junction box, it must be inspected.

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

⚠ WARNING

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

2. Remove the cover from the upper junction box located near the left side column. (See Figure 21.)

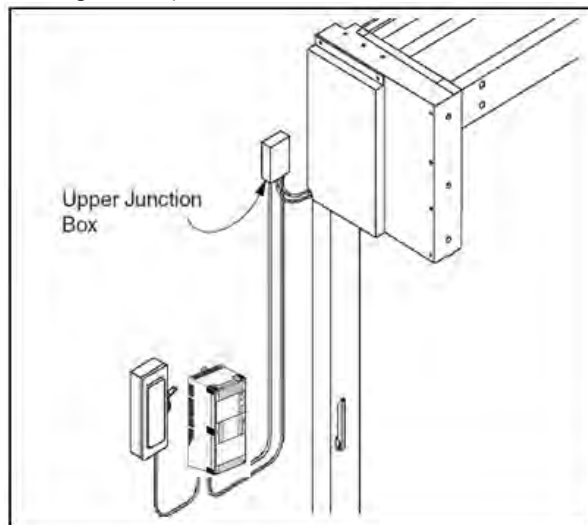


Figure 21

3. Inspect all electrical connections in the upper junction box. All connections must be tightly secured.
4. Check for pinched, cracked, or damaged wires and insulation. Repair or replace wires as needed.
5. Replace the cover.

Head Assembly Inspection

1. Move the door to the closed position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

! WARNING

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

3. Remove the end caps from the left and right drive assemblies. Each end cap is held in place by three, 20-mm-long, Torx head screws. (See Figure 22.)

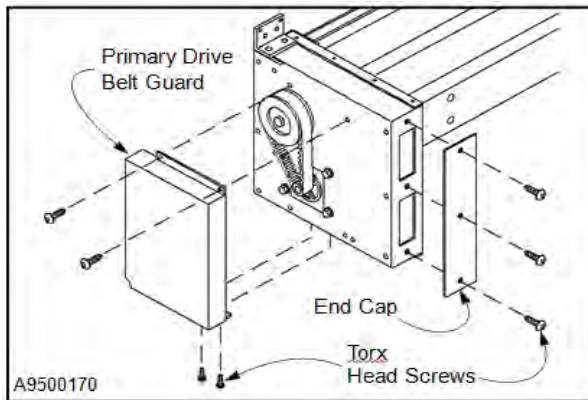


Figure 22

4. Remove the primary drive belt guard from the left drive assembly. The guard is held in place with four, 20-mm-long, TORX® head screws. (See Figure 22.)
5. Inspect the hex head screws used to secure the head assembly to the side columns. Replace any missing or damaged hardware. (See Figure 23.)

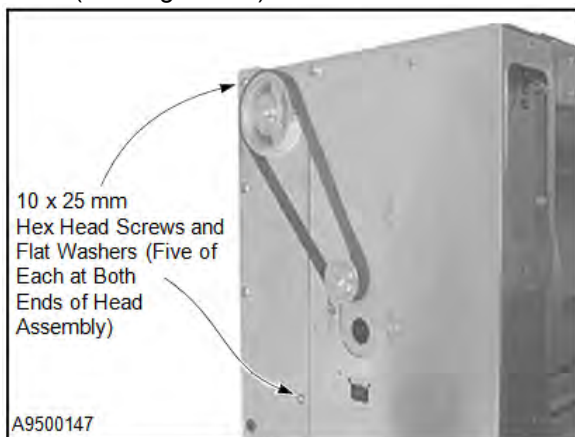


Figure 23

6. Inspect the hardware used to attach the spiral track sections to the left and right drive assemblies. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 24.)

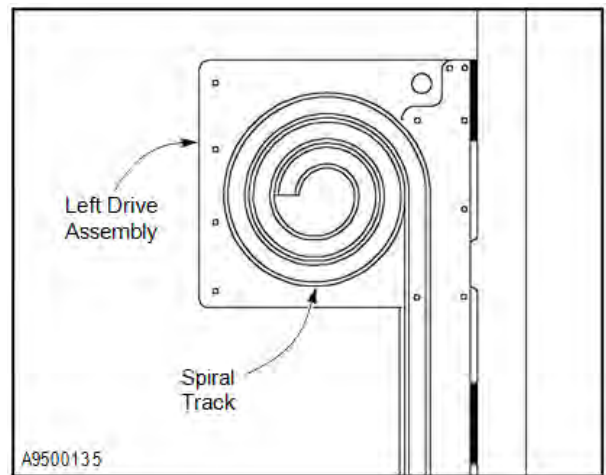


Figure 24

7. Inspect the hardware used to clamp the line shaft to the left and right drive shafts. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 25.)

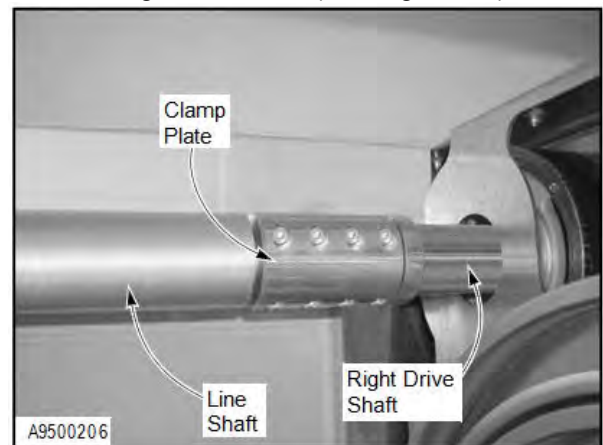


Figure 25

8. Release the electric brake mechanism by pulling the brake release lever. Then manually move the door to the fully open position.
9. Inspect the hardware used to attach the secondary drive pulleys to the left and right drive shafts. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 26.)

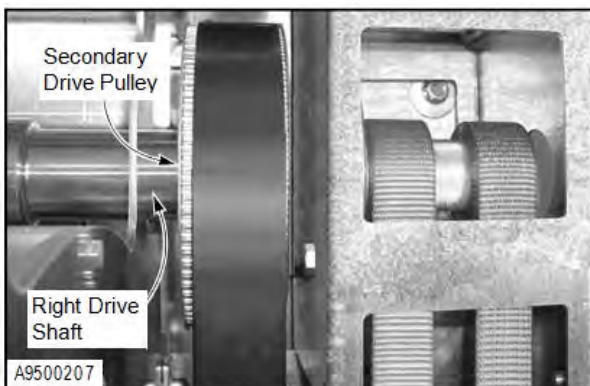


Figure 26

10. Inspect the clamp plate securing the upper end of each spring strap to its respective drive shaft. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 27.)

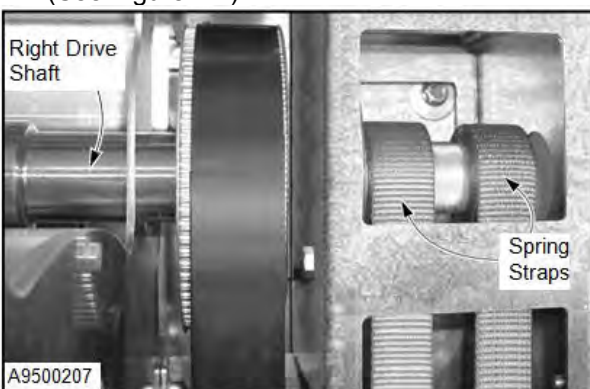


Figure 27

PRIMARY DRIVE BELT INSPECTION

1. Inspect the primary drive belt. The belt should not be frayed, cracked, worn, or damaged. Also check for any damaged or missing teeth. Replace the drive belt if necessary. (See Figure 28.)

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

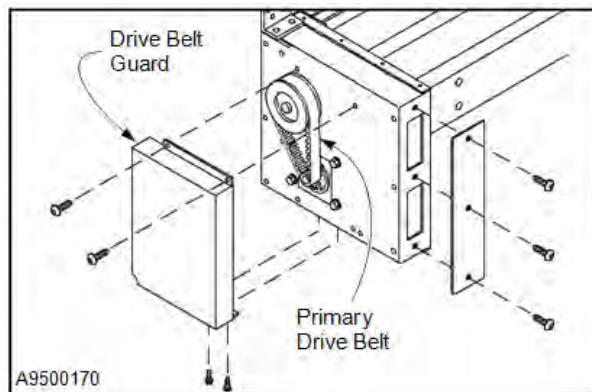


Figure 28

2. Check the tension setting of the primary drive belt by placing moderate pressure against the mid-point of the belt. A properly tensioned belt should deflect approximately $\frac{1}{8}$ in. (See Figure 29.)

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

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

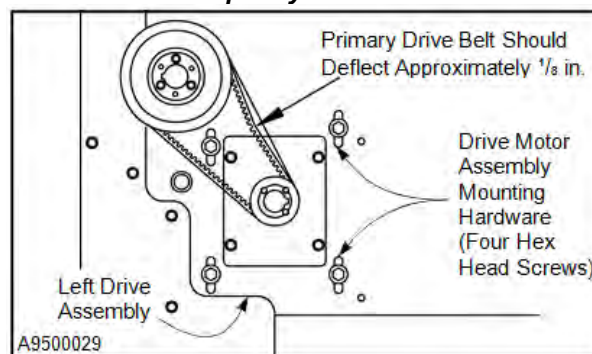


Figure 29

3. Inspect the hardware securing the drive motor assembly to the left drive assembly. Tighten any loose hardware. Replace any missing or damaged hardware as required. (See Figure 29.)
4. Replace the belt guard and both end caps.

Spreader Bar Inspection

1. Move the door to the pen position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

3. Inspect the hardware used to attach the spreader bar to the side columns. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 30.)

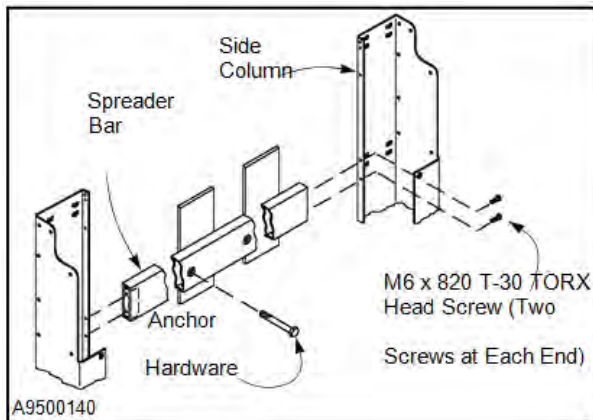


Figure 30

Weather Seal Inspection

1. Move the door to the closed position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

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

To replace the weather seal, see "WEATHER SEAL REPLACEMENT".

Side Column Inspection

SIDE COLUMN HARDWARE INSPECTION

1. Move the door to the open position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

⚠ WARNING

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

3. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Inspect all nuts, through bolts, threaded rods, and anchors used to secure the side columns to the wall and floor. Tighten any loose hardware. Replace any missing or damaged hardware as required.
5. Inspect the hardware used to attach the vertical track sections to the left and right side columns.

Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 31.)

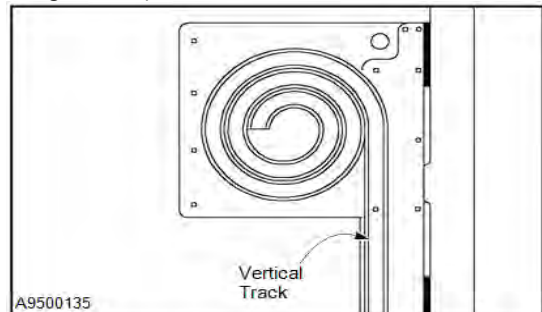


Figure 31

BRAKE RELEASE INSPECTION

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

⚠ WARNING

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

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

3. Make sure the brake release handle is in good working order and securely fastened to the left side column. Replace any missing or damaged hardware as required. (See Figure 32.)

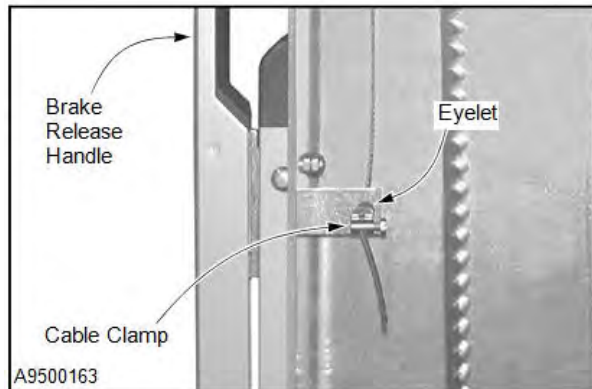


Figure 32

4. Inspect the entire length of the brake release cable 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 33.)

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

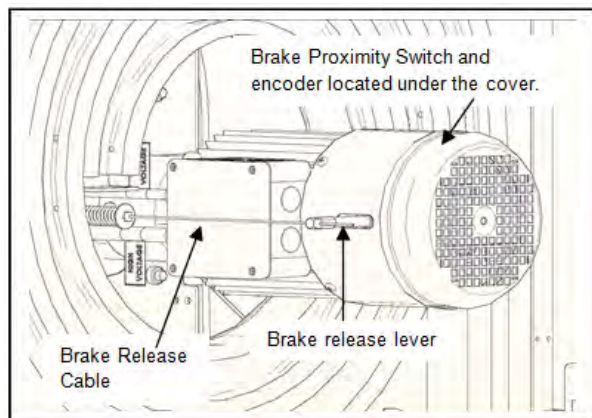


Figure 33

5. Make sure the upper end of the cable is securely fastened to the electric brake mechanism.
6. Inspect the cable clamp on the lower end of the cable to ensure it is securely fastened to the brake release handle. (See Figure 32.)
7. Test the cable by pulling on the brake release handle. Verify the electric brake mechanism is disengaged by repositioning the door.

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

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

SPRING STRAP INSPECTION

1. 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 procedure.

2. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
3. Inspect the hardware securing each spring strap to the drive shaft (be sure to check both the left and right drive shafts). Tighten the hardware as required. Replace any missing or damaged hardware.
4. Inspect the entire length of each spring strap. The straps should not be frayed, worn, or damaged. Replace if necessary.

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

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

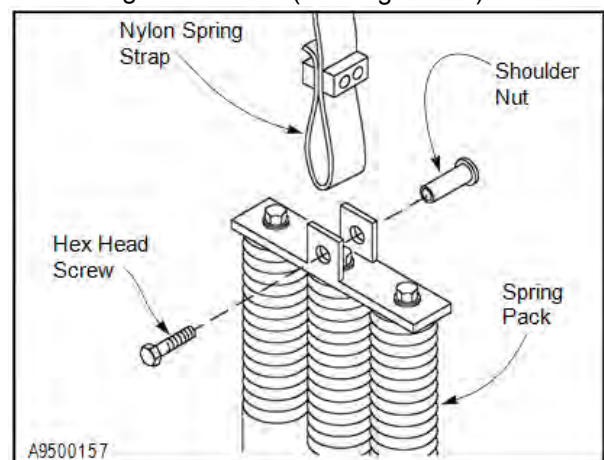


Figure 34

SPRING PACK INSPECTION

1. 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 procedure.

2. Remove the side cover from each side column. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
3. Inspect each spring pack assembly. Springs should not be stretched, worn, or damaged. Replace if necessary. Tighten the hardware as required. Replace any missing or damaged hardware. (See Figure 35.)

To replace a spring pack, see "SPRING PACK REPLACEMENT".

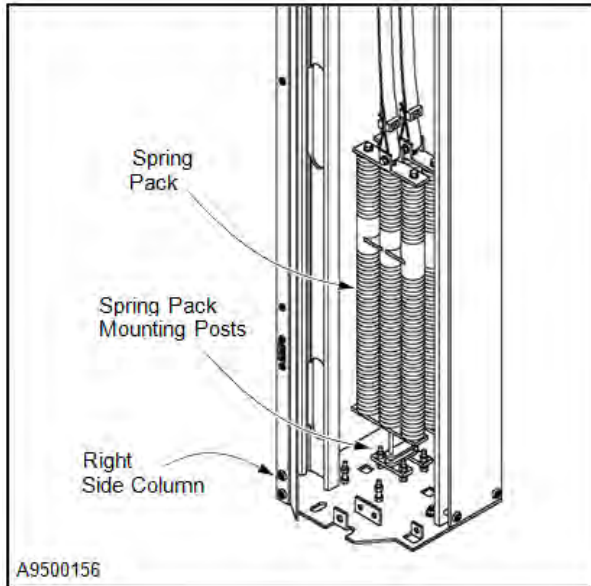


Figure 35

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

SECONDARY DRIVE BELT INSPECTION

1. 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 procedure.

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

To replace a drive belt, see "SECONDARY DRIVE BELT REPLACEMENT".

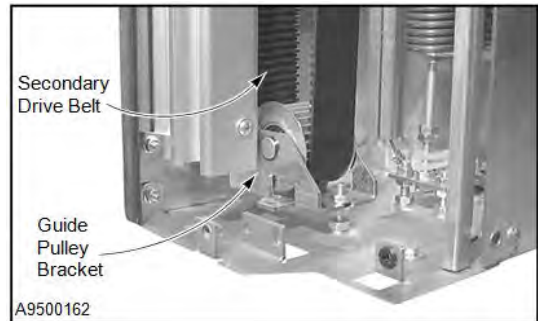


Figure 36

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

To adjust belt tension, see "SECONDARY DRIVE BELT ADJUSTMENT".

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

Door Panel Inspection

1. Move the door to the closed position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.



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

ADJUSTMENTS—PRIMARY DRIVE BELT ADJUSTMENT

3. Remove the side covers from the side columns. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Inspect the entire door panel assembly. Check for damaged or missing hardware. Replace as needed. Also check for loose hardware. Tighten as required.
5. Check for any damaged door panels. Replace as necessary.
6. Inspect for damaged or worn rollers and guides. Replace as needed. (See Figure 37.)

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

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

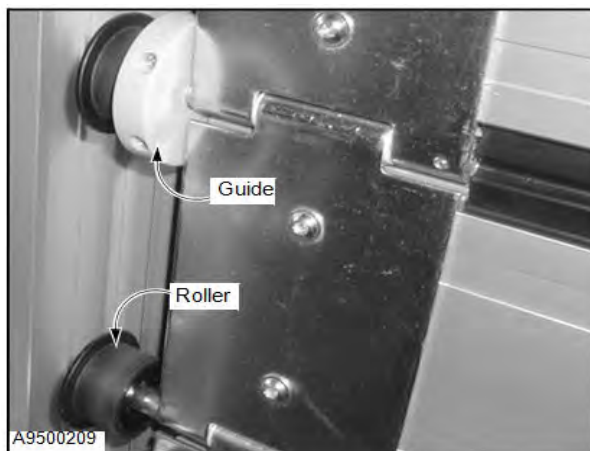


Figure 37

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

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

A door panel up to 16 feet in width is considered level when the ends of the bottom edge are within $\frac{1}{4}$ in. of each other. A door panel 16 to 28 feet in width is considered level when the ends are within $\frac{3}{8}$ in. of each other.

To level the door panel, see “DOOR PANEL ADJUSTMENT”.

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

ADJUSTMENTS

PRIMARY DRIVE BELT ADJUSTMENT

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

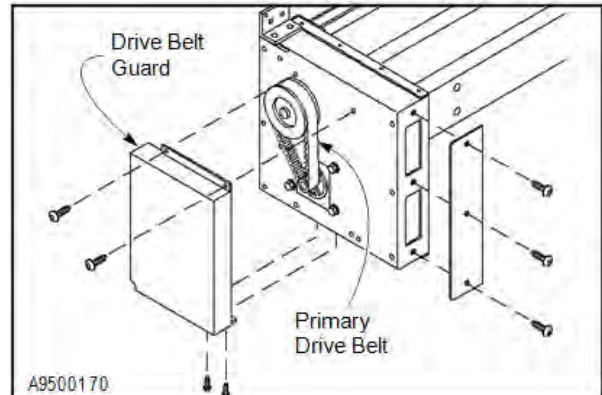


Figure 38

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

WARNING

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

2. Remove the belt guard from the head assembly. The belt guard is held in place with four, 20-mm-long, TORX® head screws.
3. Loosen the four hex head screws securing the drive motor assembly to the left drive console. (See Figure 39.)

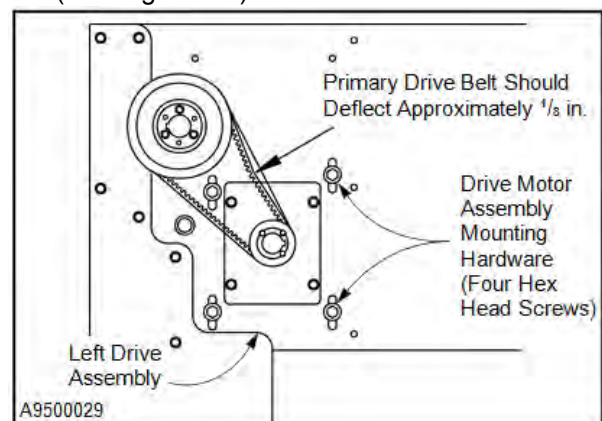


Figure 39

4. Adjust the primary drive belt tension by sliding the drive motor assembly up or down to decrease or increase the belt tension. (See Figure 39.)

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

5. Measure the deflection in the belt to verify that the belt tension is properly set.
6. Tighten all four hex-head screws to lock in the adjustment.

WARNING

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

10. Measure the deflection in the drive belt to make sure it is properly tensioned. Readjust the tension as necessary.
11. After all adjustments are complete, reattach the belt guard.
12. Restore power to the control panel.

SECONDARY DRIVE BELT ADJUSTMENT

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

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

WARNING

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

2. Remove the side cover from both side columns. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
3. Belt tension should just be snug. It is adjusted by repositioning the guide pulley bracket on the front mounting post. Moving the pulley closer to the base plate will increase belt tension. Moving the pulley away from the base plate will decrease belt tension. (See Figure 40.)

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

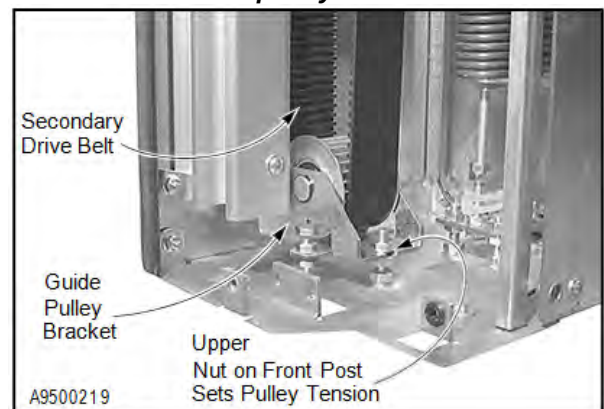


Figure 40

4. Lock in belt tension by tightening the lower nut against the bottom of the pulley bracket.
5. Belt should be centered on the guide pulley. To adjust the belt to the right or left, use the bolt and nuts located on the tabs. To move the belt to the right, adjust the left tab down. Recheck belt tension when finished.

ADJUSTMENTS—BRAKE RELEASE CABLE ADJUSTMENT

WARNING

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

6. Restore power to the control panel.
7. Cycle the door several times to work each drive belt.
8. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

9. Measure the deflection in each drive belt to make sure they are both properly tensioned. Readjust the belt tension as necessary.
10. Check the door panel for level and adjust the panel if necessary. (See “DOOR PANEL ADJUSTMENT”.)

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

11. After all adjustments are complete, reattach the side column covers.
12. Restore power to the control panel.

BRAKE RELEASE CABLE ADJUSTMENT

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

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

WARNING

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

2. Remove the cover from the left side column.
3. Locate the end of the cable passing through the brake release handle. (See Figure 41.)

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

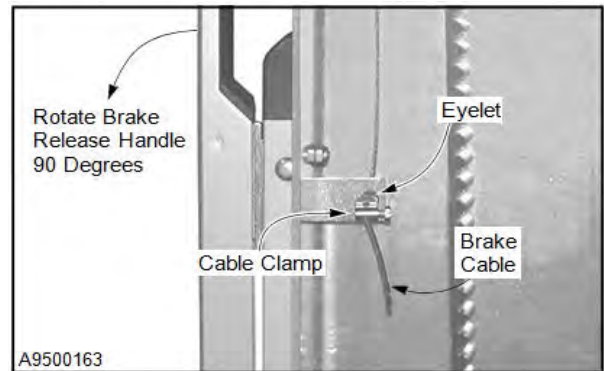


Figure 41

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

DOOR PANEL ADJUSTMENT

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

1. Move the door to the fully open position.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

WARNING

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

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

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

- 4 Release the tension on the secondary drive belt by loosening the nuts that tension the guide pulley bracket from the front & rear mounting post. (See Figure 42.)

NOTE: It is NOT necessary to remove the pulley from the posts to perform this adjustment.

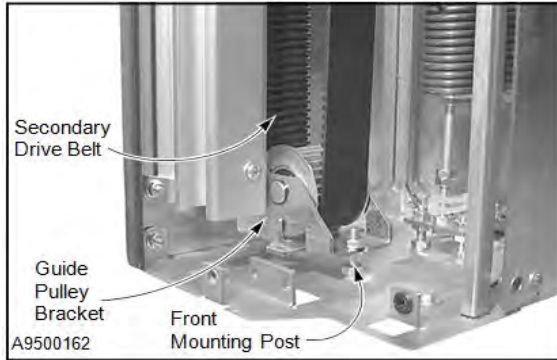


Figure 42

5. Level the door panel by re-indexing the secondary drive belt on the upper drive pulley. To do this, push on the smooth portion of the black toothed belt facing you. Begin sliding your hand up the belt. A wave will begin to form near the top (secondary drive pulley). When the wave reaches the secondary drive pulley the belt will jump or slip as the wave goes around the pulley. (See Figure 43.)

NOTE: Reposition the drive belt no more than one notch (tooth) at a time.



Be careful not to get your fingers caught or pinched between the upper drive pulley and the secondary drive belt.

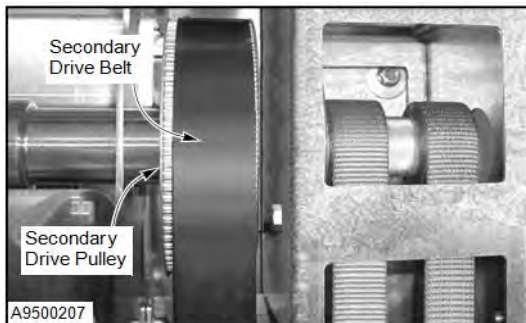


Figure 43

6. Reconnect the guide pulley bracket to the mounting post and set the belt tension. (See "SECONDARY DRIVE BELT ADJUSTMENT".)



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

7. Restore power to the control panel.
8. Cycle the door several times.
9. 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 procedure.

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

PHOTO EYE ALIGNMENT

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



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

2. If aligning the front set of photo eyes, remove the side column covers. Each cover is held in place with nine, 20-mm-long, TORX® head screws.
3. To align a photo eye, reposition the bracket the photo eye is mounted on, as required.

To determine when the photo eyes are properly aligned, see "Photo Eye Inspection". If photo eye replacement is necessary, see "PHOTO EYE REPLACEMENT".

4. After all adjustments are complete, reattach the side column covers.
5. Restore power to the control panel and reset open and close door limits.

REPLACEMENT PROCEDURES—PRIMARY DRIVE BELT REPLACEMENT

REPLACEMENT PROCEDURES

PRIMARY DRIVE BELT REPLACEMENT

The primary drive belt that runs from the gearbox pulley to the primary drive shaft pulley is located behind the belt guard, on the left end of the head assembly. (See Figure 44.)

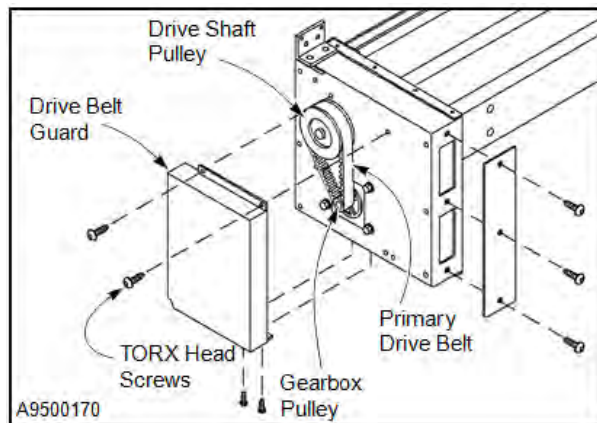


Figure 44

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

! WARNING

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

2. Remove the belt guard from the head assembly. The belt guard is held in place with four, 20-mm- long, TORX head screws.
3. Loosen the four hex head screws securing the drive motor assembly to the left drive console. (See Figure 45.)

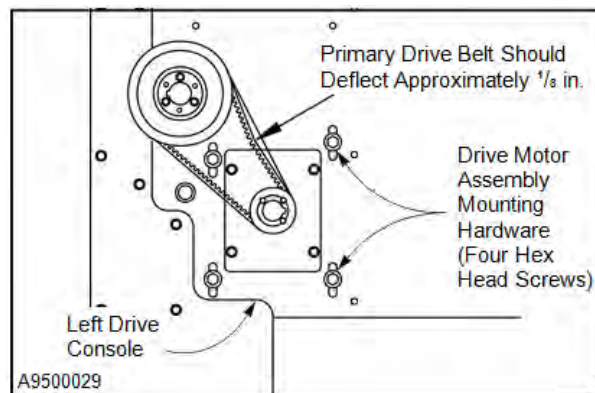


Figure 45

4. Slide the drive motor assembly up toward the top of the head assembly to release the tension in the drive belt. Tighten one hex nut to temporarily lock the drive motor assembly in place.
5. Remove and replace the drive belt.
6. Loosen the hex nut to lower the drive motor and apply tension against the new drive belt.
7. To adjust belt tension, see "PRIMARY DRIVE BELT ADJUSTMENT".

! WARNING

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

8. Restore power to the control panel.
9. Cycle the door several times to work the new drive belt.
10. Remove power to the control panel by placing the fused disconnect in the OFF position.

! WARNING

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

11. Re-inspect the drive belt to make sure it is properly tensioned. (See Figure 45.)
12. After all adjustments are complete, attach the belt guard.
13. Restore power to the control panel.

SECONDARY DRIVE BELT REPLACEMENT

1. Open the door completely, the spring has the least amount tension with the door completely open.
2. Remove power to the control panel by placing the fused disconnect in the OFF position.

! WARNING

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

REPLACEMENT PROCEDURES—SECONDARY DRIVE BELT REPLACEMENT

3. Remove the cover from the side column containing the belt to be replaced. The side cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Place clamps or brackets at the rollers to secure the door and prevent it from accidentally moving once belt tension is released. (See Figure 46.& 47)

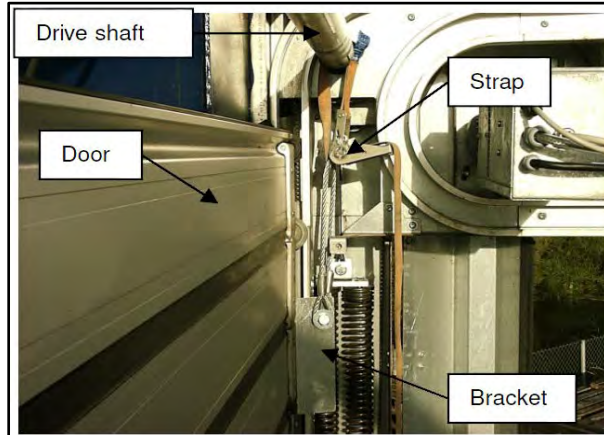


Figure 46

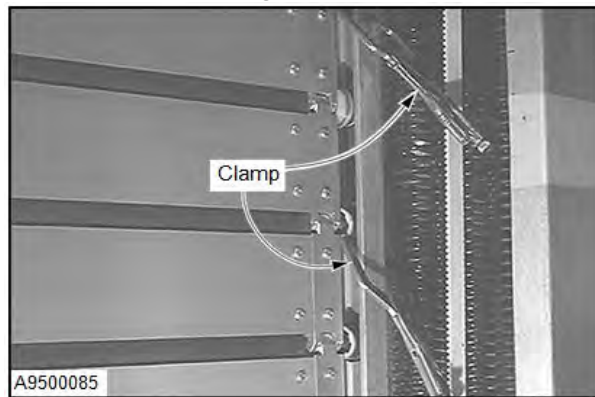


Figure 47

5. Release the tension from the secondary drive belt by removing the guide pulley bracket from the mounting posts. The pulley bracket is held in place by a pair of nuts threaded onto the mounting posts. (See Figure 48.)

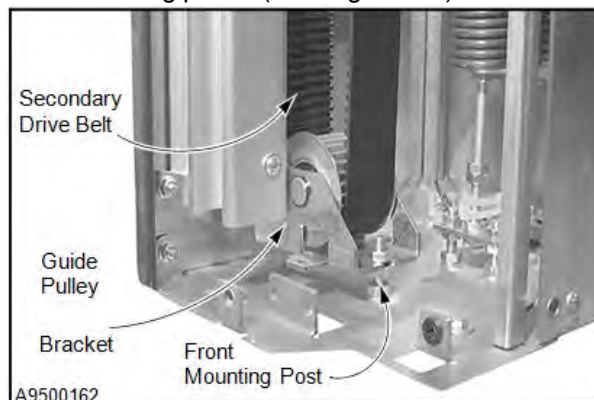


Figure 48

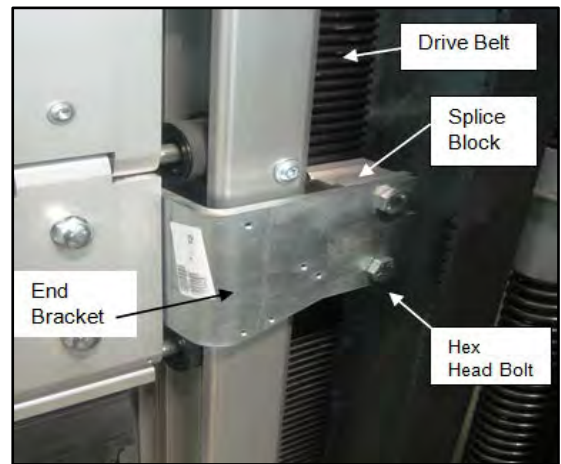


Figure 49

7. Remove the old drive belt from around the upper drive pulley and the guide pulley. Discard the old belt.
8. Install the new secondary drive belt in the same manner as the old belt.
9. Place the ends of the new drive belt between the splice block and splice clamp. Then tighten the hex bolts to clamp the belt to the end bracket.
10. Connect the guide pulley bracket to the mounting posts. Adjust the belt tension. (See "SECONDARY DRIVE BELT ADJUSTMENT".)
11. Remove all clamps or brackets securing the door panel.
12. Release the electric brake mechanism by pulling the brake release lever. Manually move the door up and down several times to rotate the drive belt.
13. Inspect the belt for normal action as the door travels up and down. Check the tension of the belt. Readjust if necessary.

! WARNING

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

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

REPLACEMENT PROCEDURES—BRAKE RELEASE CABLE REPLACEMENT

⚠ WARNING

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

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

BRAKE RELEASE CABLE REPLACEMENT

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

⚠ WARNING

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

2. Remove the side cover from the left side column.
3. Disconnect the old brake release cable from the electric brake mechanism by removing the cable clamps, washers, and spring. Save all hardware. (See Figure 50 and Figure 52.)

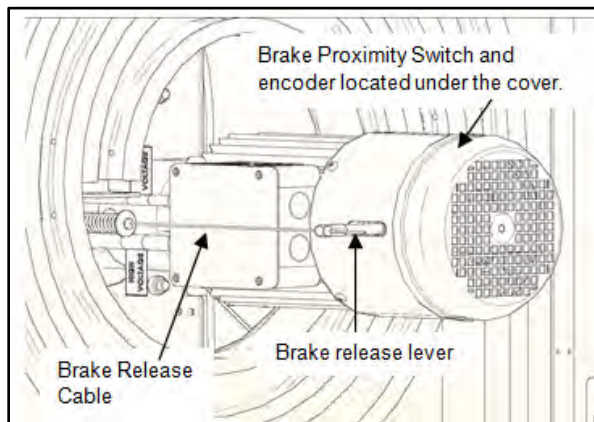


Figure 50

4. Remove and save the cable clamp at the handle end of the cable. Pull the old cable out of the head assembly and side column. Then discard the old cable. (See Figure 50.)

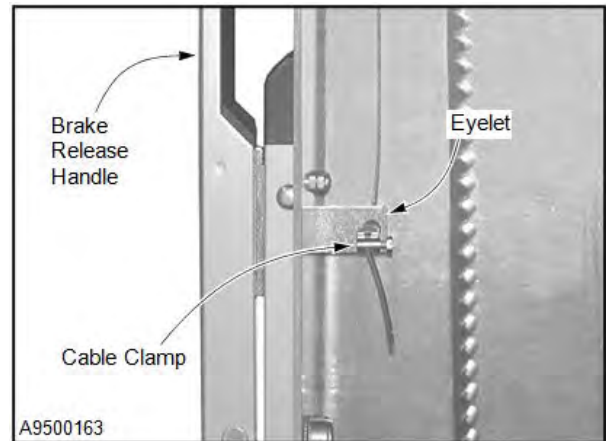


Figure 51

5. Install the new brake release cable, taking the same path as the old cable. Be sure to feed the cable through the cable jacket that runs between the side column and the motor gearbox. (See Figure 52.)

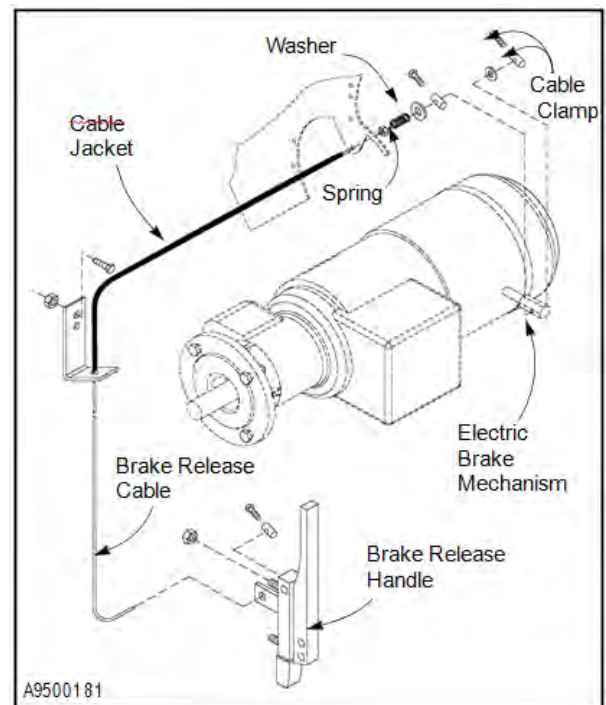


Figure 52

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

7. With the brake release handle fully extended out or at 90 degrees, feed the cable through the eyelet in the bottom of the handle. Slide a crimp nut over the end of the cable with the nut tight against eyelet. Then tighten down the setscrew — with the majority of slack removed from the cable. (See Figure 53.)

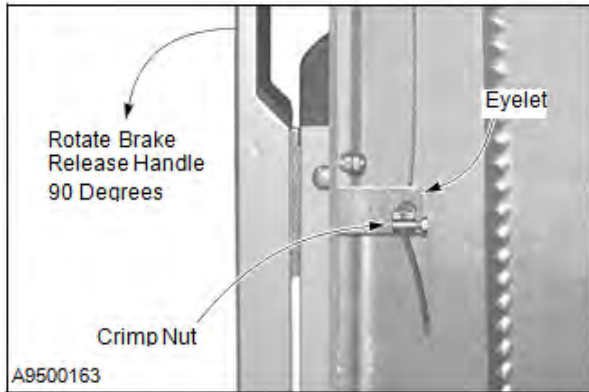


Figure 53

8. Pull the handle several times to work the new cable. Check the action of the electric brake mechanism for proper travel. Verify that the door can be repositioned when the brake release handle is pulled. Reposition the cable clamp if necessary.
9. After all adjustments are complete, cut the cable to final length, an inch or two past the cable clamp.
10. Install the side column cover.
11. Restore power to the control panel.

DOOR PANEL REPLACEMENT

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



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

3. Remove the cover from each side column.



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

4. Once the door is positioned, set the brake and clamp both sides of the door to the vertical track. Position clamps along both edges of the door above and below the panel to be removed to prevent the remaining panels from moving. (See Figure 54 & 55.)

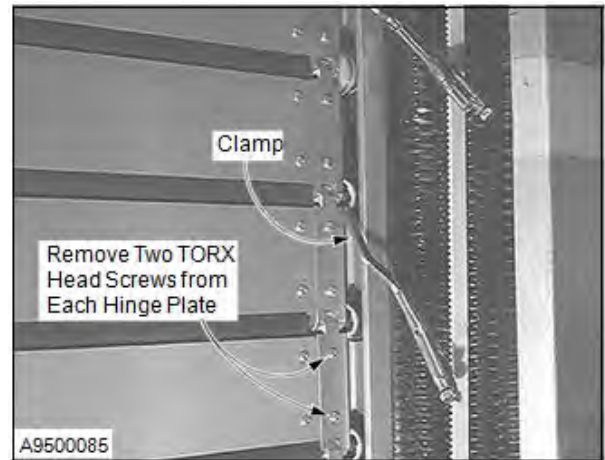


Figure 54

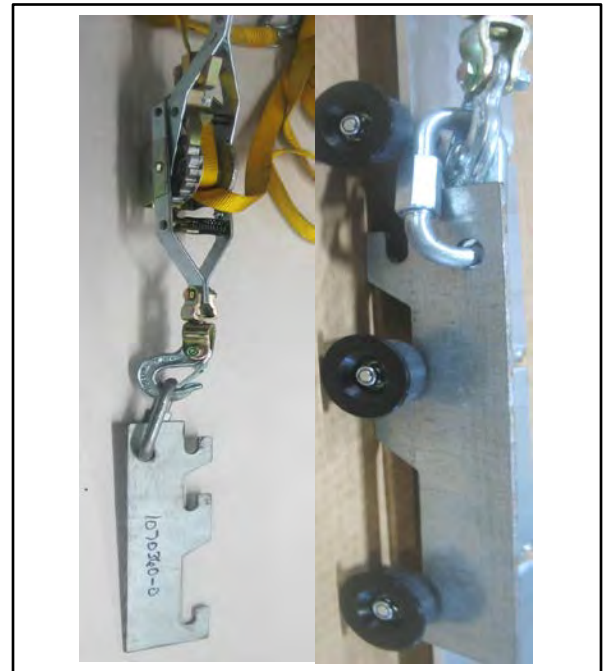


Figure 55

5. At the ends of the door panel to be replaced, remove the two TORX® head screws securing each hinge plate to the panel. (See Figure 54.)
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.)

REPLACEMENT PROCEDURES—WEATHER SEAL REPLACE

8. Install the new door panel in the reverse order the old panel was removed.
9. After screwing the hinge plates to the new panel, reattach the rubber seals.
10. Remove clamps or brackets.
11. Release the brake by pulling the brake release lever. Manually move the door up and down several times. Verify that the door panel and spring packs function normally. Make any necessary adjustment.

WARNING

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

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

WEATHER SEAL REPLACEMENT

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

WARNING

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

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

SPRING STRAP REPLACEMENT

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

WARNING

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

3. Remove the cover from the side column. The cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Remove the associated end cap from the head assembly to expose the upper end of the spring strap. Each end cap is held in place with three, 20-mm-long, TORX® head screws. (See Figure 56.)

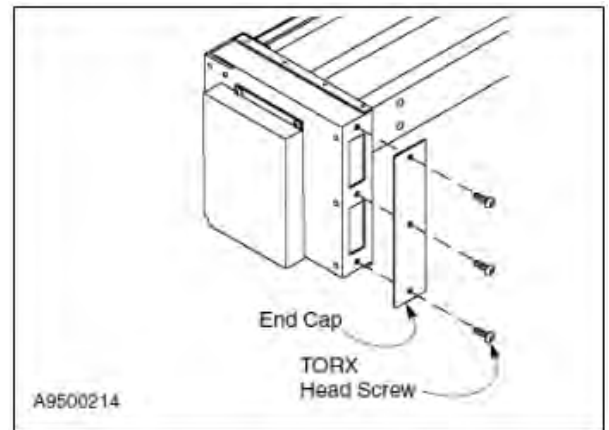


Figure 56

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 57.)

REPLACEMENT PROCEDURES—SPRING STRAP REPLACEMENT

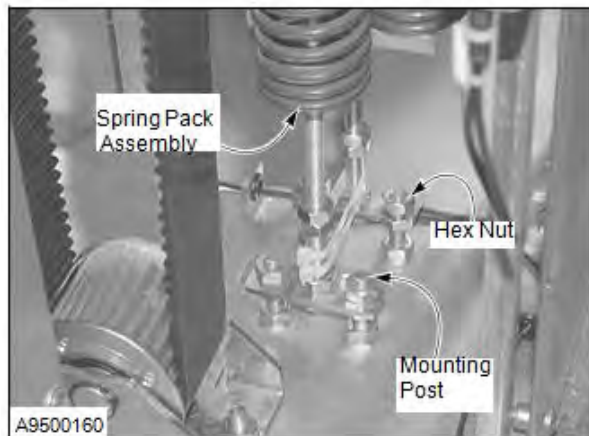


Figure 57

6. To release the strap from the spring pack, remove the hex head screw and the shoulder nut passing through the clevis bracket at the top of the spring pack. Save all hardware. (See Figure 58.)

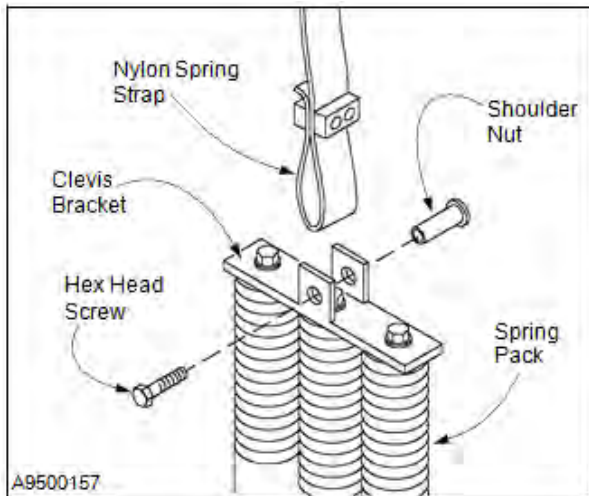


Figure 58

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 59.)

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

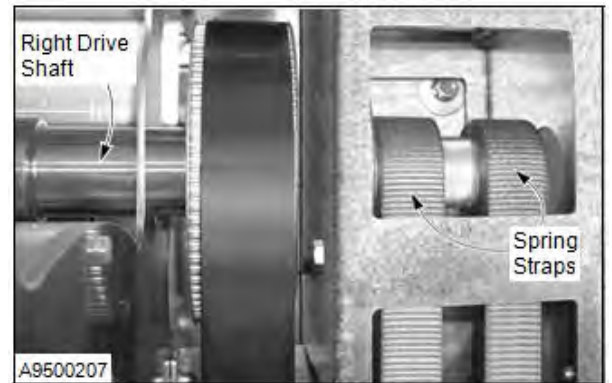


Figure 59

9. Attach the new strap to the drive shaft using the saved hardware. The hardware must be securely fastened to ensure that the spring strap does not disconnect from the drive shaft.
10. “Dead wrap” the new strap around the drive shaft. Make sure the strap comes off the front of the shaft. Wrap the new strap around the drive shaft the same number of times the old strap was dead wrapped around the shaft. (If the door was moved to rotate the clamp plates, move the door back to its original position to ensure the belt is wrapped correctly.)

CAUTION

It is critical that the new spring strap be “dead wrapped” around the drive shaft the correct number of times. 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.

REPLACEMENT PROCEDURES—SPRING PACK REPLACEMENT

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 60.)

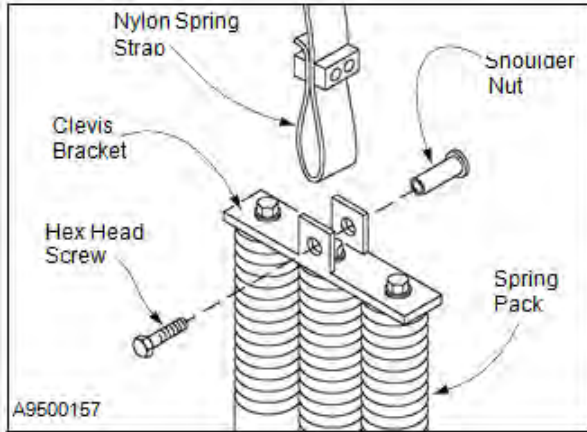


Figure 60

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 61.)

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. Cable ties are not required.

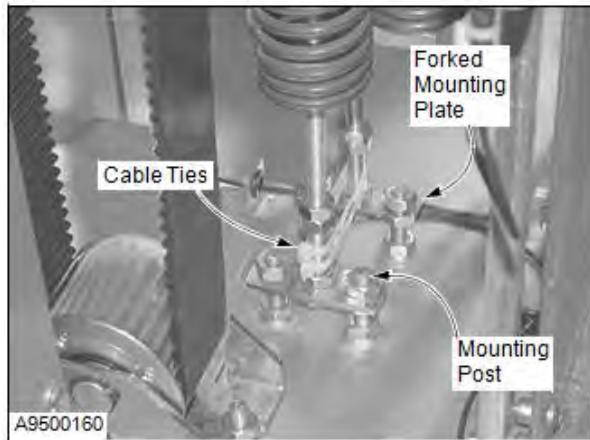


Figure 61

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

⚠ WARNING

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

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

⚠ WARNING

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

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

SPRING PACK REPLACEMENT

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

⚠ WARNING

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

3. Remove the side cover from the side column. The side cover is held in place with nine, 20-mm-long, TORX® head screws.
4. Disconnect the old spring pack assembly from the base plate. The spring pack is held in place by two hex nuts threaded onto a pair of mounting posts. (See Figure 62.)

REPLACEMENT PROCEDURES—SPRING PACK REPLACEMENT

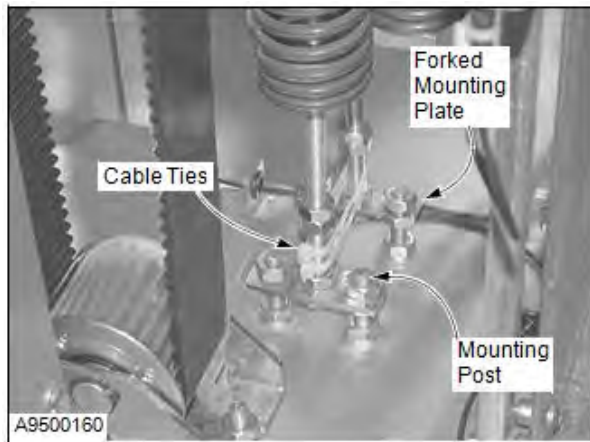


Figure 62

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 63.)

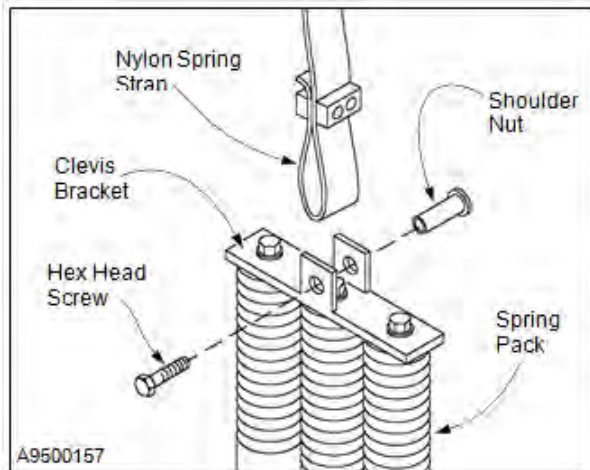


Figure 63

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

Preload is the measured distance from the base plate to the forked plate of the spring pack. To pre-load a spring pack, spin the adjustment rod until the rod assembly is the correct length. (See Figure 64.)

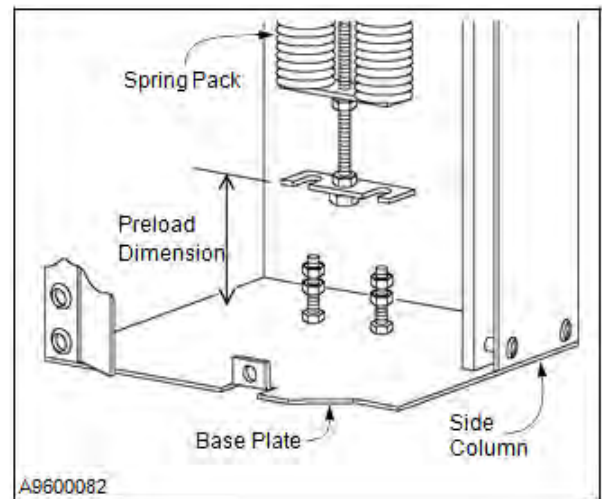


Figure 64

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 65.)

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

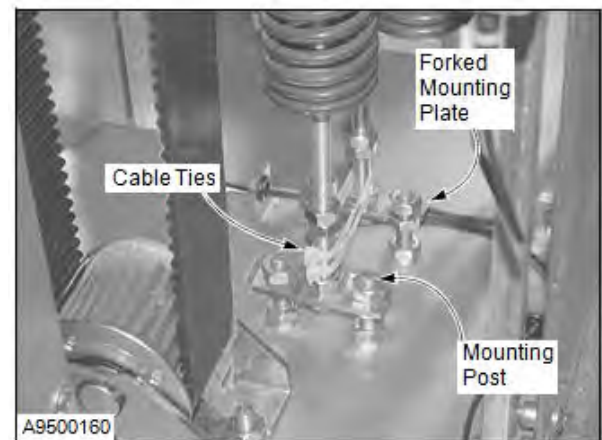


Figure 65

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.

REPLACEMENT PROCEDURES—DOOR ROLLER REPLACEMENT

10. Inspect the spring pack for normal action as the door travels up and down. Make any necessary adjustments.

WARNING

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

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

WARNING

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

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

DOOR ROLLER REPLACEMENT

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

WARNING

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

3. Remove the cover from each side column.
4. Once the door is positioned, clamp or bracket both sides of the door to the vertical track. Position clamps or brackets along both edges of the door. (See Figure 66 & 67.)

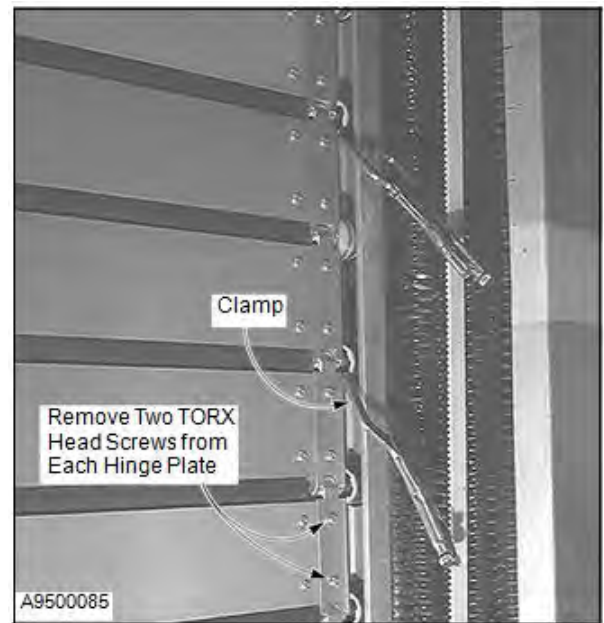


Figure 66

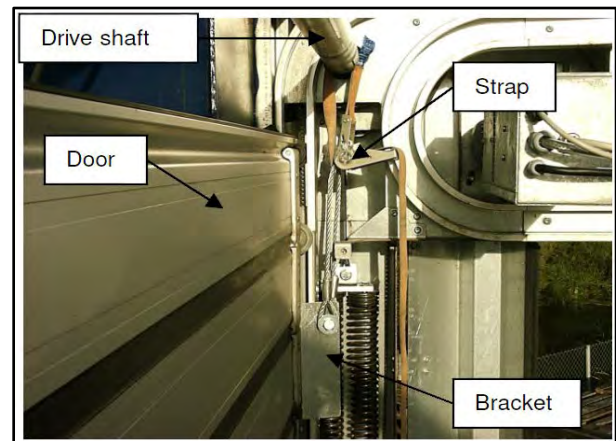


Figure 67

5. Remove the vertical door track cap that is covering the roller to be removed. The cap is held in place with TORX® head screws. (See Figure 68.)

WARNING

The vertical track caps hold the door panel assembly in the track. DO NOT remove all the vertical track caps simultaneously. Only remove the vertical caps sections required to perform the replacement. Failure to follow this procedure could result in injury or damage to equipment.

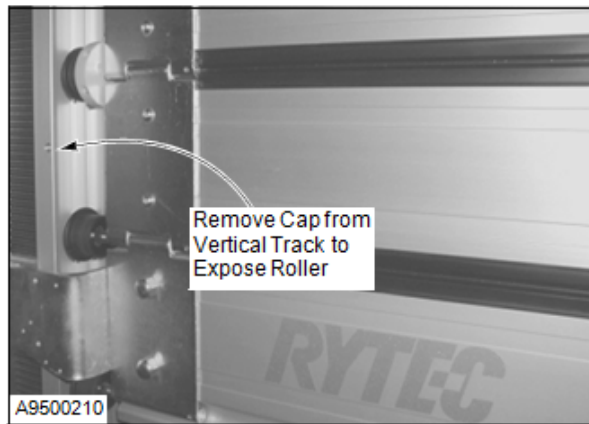


Figure 68

6. Remove the TORX head screws from the hinge plates along both sides of the roller to be removed. (See Figure 66.)
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 69.)

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 69

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

CAUTION

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

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

WARNING

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

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

WARNING

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

13. After all adjustments are complete, attach both side column covers.
14. Restore power to the control panel.

PHOTO EYE REPLACEMENT

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

WARNING

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

Cleaning Photo Eyes

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

REPLACEMENT PROCEDURES—REVERSING EDGE REPLACEMENT

REVERSING EDGE REPLACEMENT

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

WARNING

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

3. Remove the cover from each side column.

CAUTION

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

4. Clamp or bracket both sides to the track. (See Figure 70 & 71.)



Figure 70

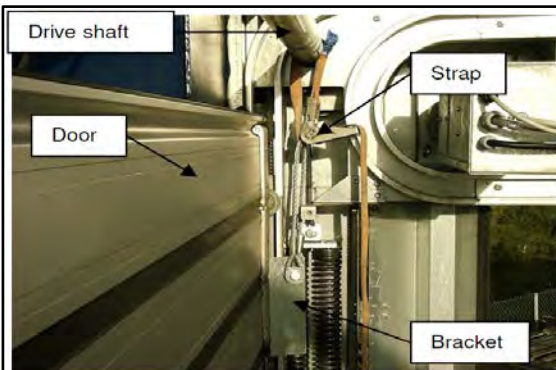


Figure 71

5. Disconnect the reversing edge wires from the mobile unit terminal block. (See Figure 72.)



Figure 72

6. Remove and save the two small Phillips head screws securing the rubber reversing edge to the bottom door panel. Each screw is located 4 inches from the ends of the panel, above the reversing edge. (See Figure 73.)

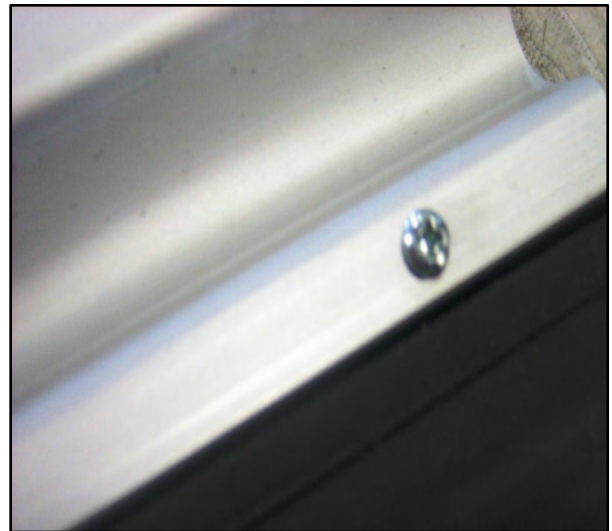


Figure 73

8. Release the tension from each secondary drive belt by removing the guide pulley bracket from its front and rear mounting posts. The pulley bracket is held in place by a nut threaded onto each post. (See Figure 74.)

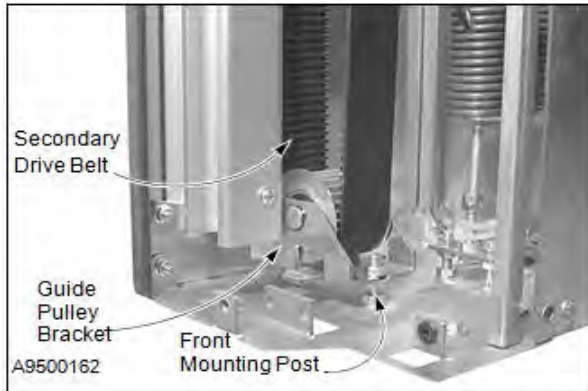


Figure 74

9. Remove the track cap from the lower section of door track along both sides of the door panel. Save all hardware. (See Figure 75.)



Figure 75

10. Lift the lower door panel away from the door opening until the reversing edge just clears the front of each side column.
11. Slide the reversing edge out of the T-channel it hangs from along the bottom edge of the door.
12. 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 Philips head screws.
13. Connect both drive pulley brackets to the mounting posts in the bottom of the side columns.
14. Inspect the tension each secondary drive belt. If adjustment is necessary see "SECONDARY DRIVE BELT ADJUSTMENT".
15. Reattach the spring packs to the mounting posts. Make sure the strap that each spring pack hangs from is not twisted.

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

⚠ WARNING

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

17. Restore power to the control panel.
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".)
20. Remove power to the control panel by placing the fused disconnect on the OFF position.

⚠ WARNING

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

21. After all adjustments are complete, attach the side column covers.
22. Restore power to the control panel.

Vision Slat Care

Vision Slat – Cleaning

1. Rinse with flowing water.
2. Clean with warm water and small amount of mild non-abrasive soap (dish soap).
3. Lightly rinse vision panels using a water spray.
4. Remove excess water using a clean and dry Micro-fiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.
5. 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 and Fine Scratch Removal

1. Remove all surface dirt and dust with warm water spray.
2. Mix a mild non-abrasive soap (dish soap) into a bucket of warm water.
3. Gently wash using a microfiber or lint free cloth keeping the cloth sudsy at all times.
4. Lightly rinse vision panels using a water spray.
5. Remove excess water using a clean and dry Micro-fiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.
6. Wipe any additional moisture with a dry Micro-fiber or lint free cloth. If practical, use high velocity fan or leaf blower to blow the panels dry for best results.
7. Over the counter products can be used to polish the vision panels. Products such as (Novus Polish – www.novuspolish.com) are designed specifically for polycarbonate windows and will help maintain clarity and shine of the vision panels.

NOTE: Please be sure the product is 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 WHICH HAVE BEEN FOUND TO BE COMPATIBLE WITH LEXAN™ SHEETS:

• Aqueous solutions of detergents.

Top Job²
Mr. Clean²
Joy²
Formula 409⁴
Fantastik³

- TMTrademark of SABIC Innovative Plastics IP BV
- ²Registered Trademark of Proctor & Gamble.
- ³Registered Trademark of Texize, Division of Norton Norwich Products Inc.
- ⁴Registered 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 Slat Polishing

Novus 1

Plastic Clean & Shine

1. Remove surface dust with soft cloth.
2. Shake well. Apply a light mist of polish.
3. Spread evenly over entire surface.
4. 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 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.

1. Shake well. Test in an inconspicuous area.
2. Remove surface dust with clean, soft cloth.
3. Apply polish in circular motion until dry.
4. 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

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

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

- ™Trademark of SABIC Innovative Plastics IP BV

PARTS LIST

PARTS ORDERING INFORMATION

IMPORTANT: To ensure you order and receive the right parts for your door, determine the model (series) designation of your door by measuring the width of either side column. Spiral L series side column is 9 ½ in. (240mm) wide; Spiral S-series side column is 14 in. (350mm) wide.

How to Order Parts

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.
2. To place an order, contact your local Rytec dealer or Rytec Parts 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 decal is located inside the left side column and should match the serial number decal on or inside the control panel. (See Figure 76.)

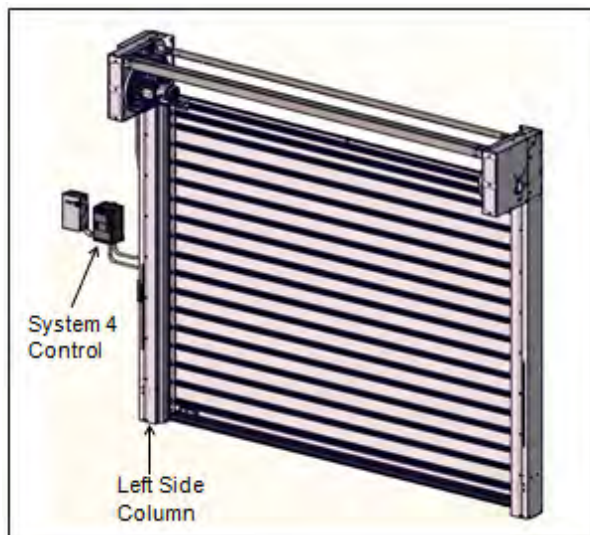


Figure 76

Substitute Parts

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

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

Return of Parts

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

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

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

RYTEC TECHNICAL KNOWLEDGE CENTER

At WWW.Rytecdoors.com under the "Customer Support" tab a link to the Rytec Technical Knowledge Center can be found. This knowledge center contains on-line manuals, service bulletins and video presentations of various Rytec models and repair information.

RYTEC ON-LINE WEBSTORE

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

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

RETURNS POLICY FOR ON-LINE WEBSTORE

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

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

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

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

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

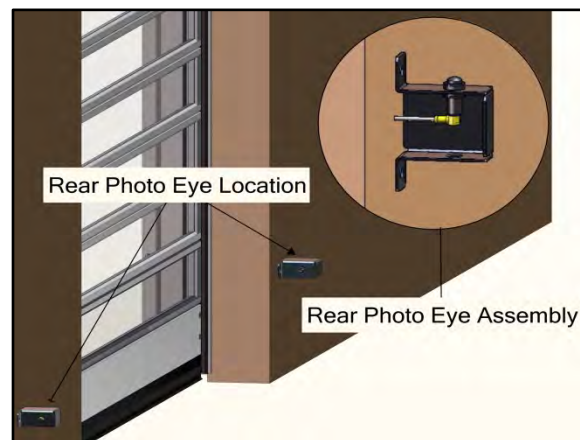
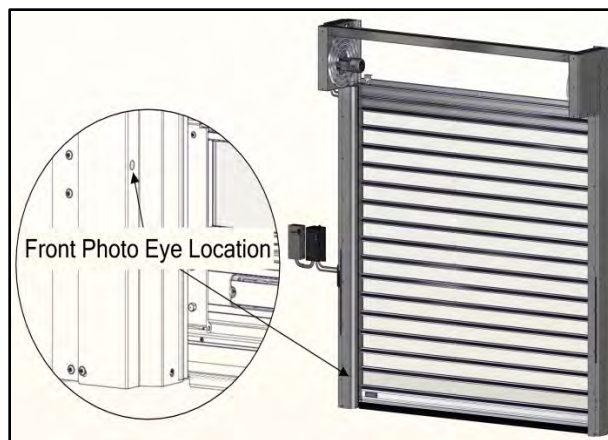
Instructions to return items to webstore:

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

Prices subject to change.

PARTS LIST - PHOTO EYES & CABLES

PHOTO EYES & CABLES



Front Photo Eyes sold as a set.



Transmitter Part #R0222320851

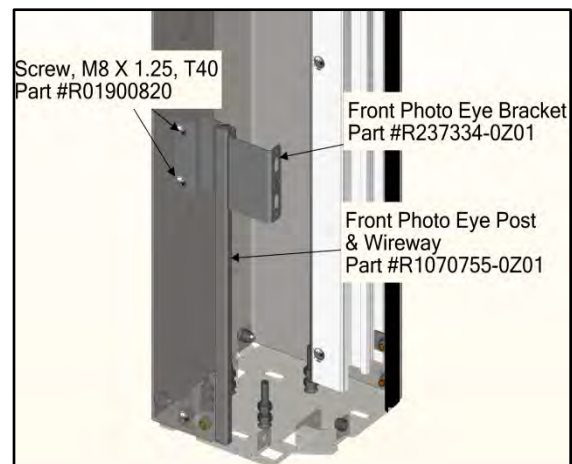


Receiver Part #R0222320852



**Drive Side – Part #R02222784,
Cable 8 Meters**

**Non Drive – Part #R02222786,
Cable 15 Meters**



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.

PHOTO EYES & CABLES

Rear Photo Eyes – Telco



**Transmitter
SMT3000C**

Part # R00141088

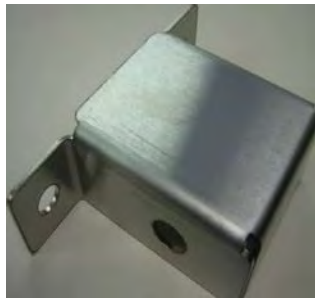


**Receiver
SMR3215**

Part # R00141087



**Rear Photo Eye Cable 65 Feet
Part#R0012738**



**Rear Photo Eye Bracket
Part #RS702429**

**NOTE: Rear photo eyes, cable and brackets
can be ordered as an assembly.**

**Transmitter assembly,
Part #R07991572.**

**Receiver assembly,
Part #R07991573.**

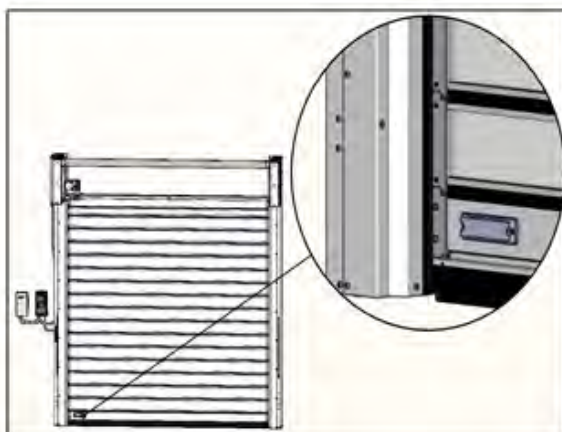
**Assembly includes photo eye, cable,
& bracket.**

ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

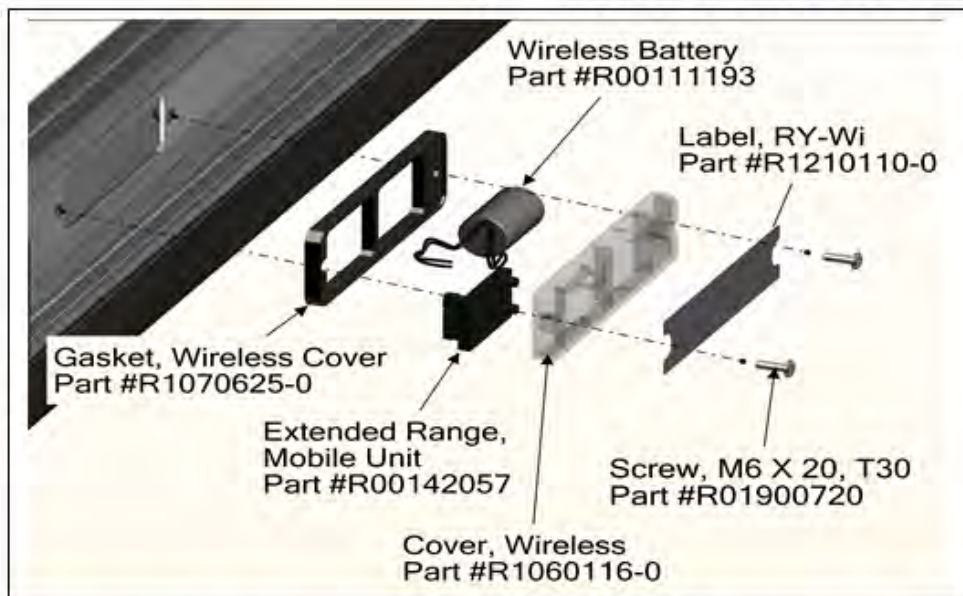
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

PARTS LIST - REVERSING EDGE

REVERSING EDGE – WIRELESS



Reversing Edge Assembly
Reference Part #R1070776-1 for LH
Part #R1070776-2 for RH,
ALL non-wireless doors use RH edge
assembly.
Requires door serial Number



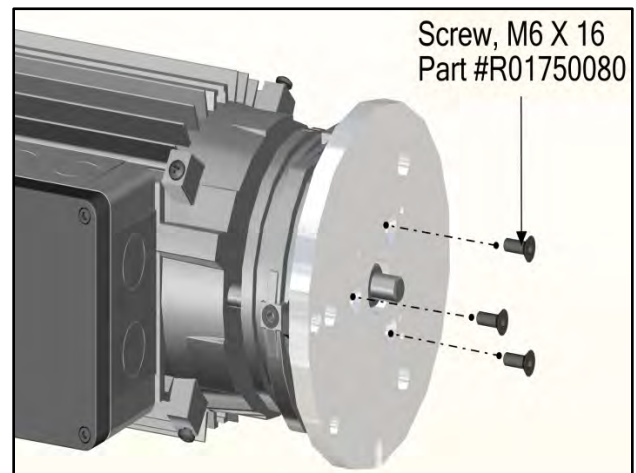
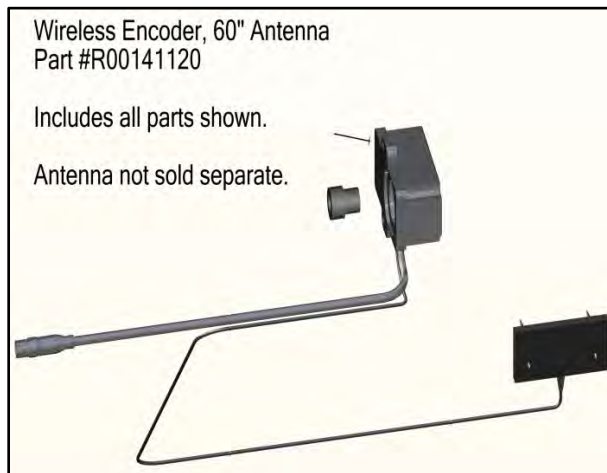
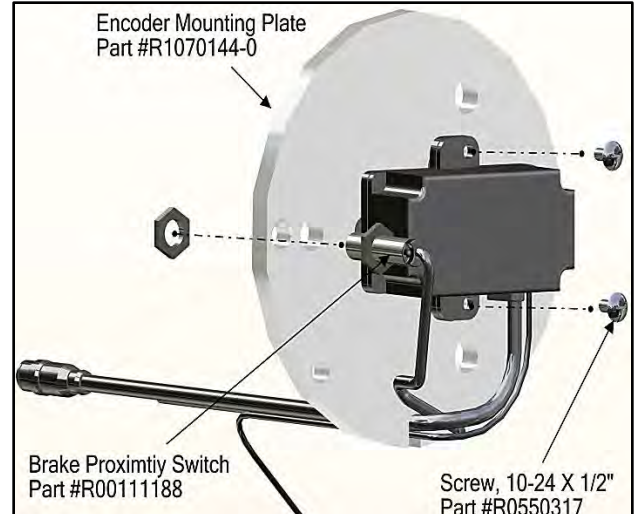
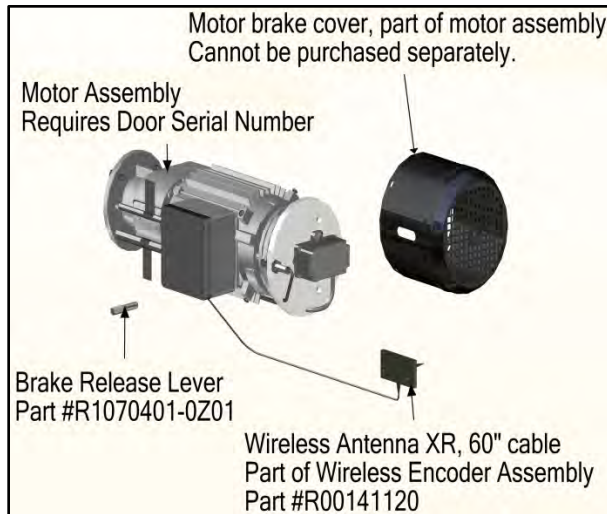
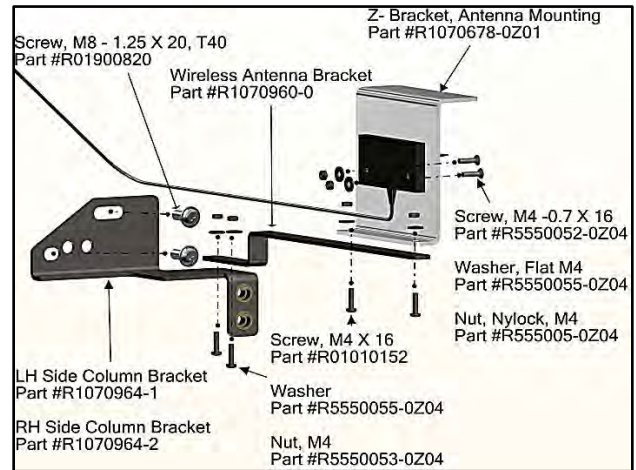
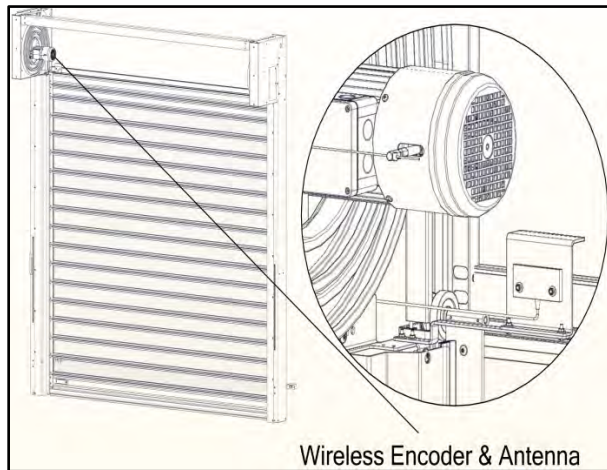
REMINDER: When replacing the mobile unit. The new mobile unit address number **MUST** be entered into parameter **P:F07** for the wireless reversing edge to operate. In the example above **P:F07** must be set to **B359**. **NOTE:** Mobile unit address is in hexadecimal numbers and therefore, could contain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

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 ENCODER, ANTENNA & BRACKETS

WIRELESS ENCODER, ANTENNA & BRACKETS



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST—SIDE COLUMNS (SST-L & L/R)

COLUMNS (SST-L & L/R)

Left Hand Side Column Assembly
Reference Part #R237800-1

Requires Door Serial Number
for Ordering.

Right Side Column Assembly
Reference Part #R237800-2

Requires Door Serial Number
for ordering.

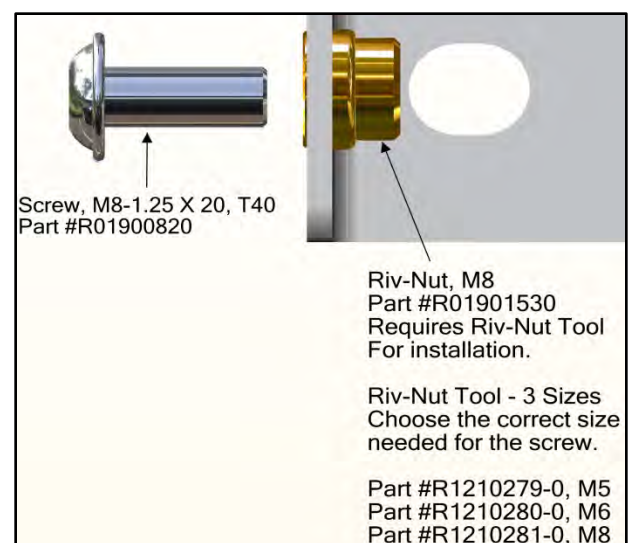
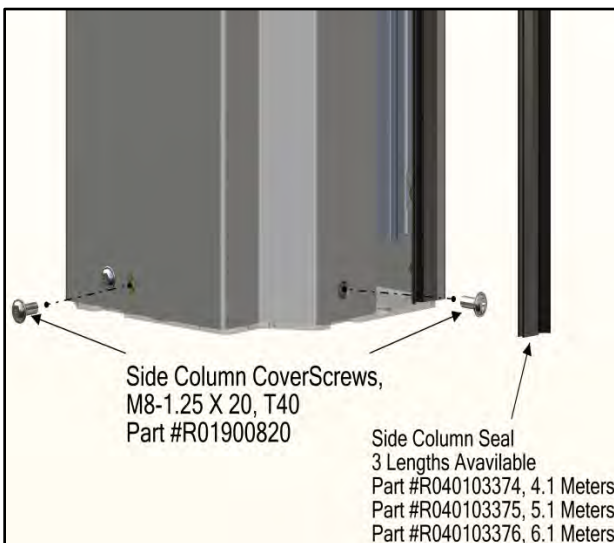
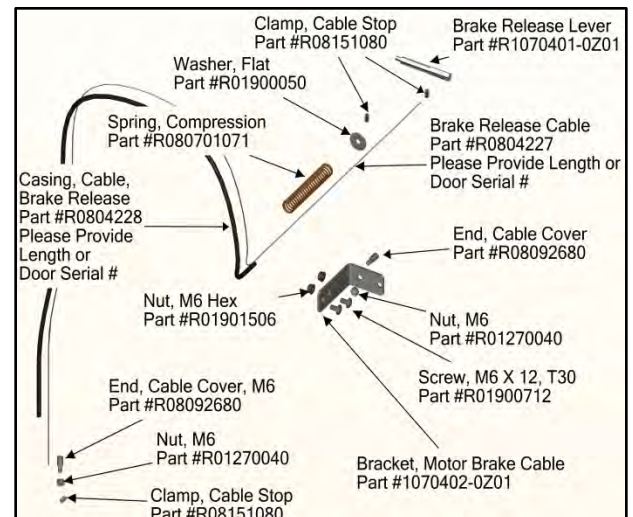


L - Size Side columns are 9 1/2" wide,
measure from these two points.

Brake Release Lever
Part #RWN524-C-01

Install Hardware
Screw, Part #R01305200
Nut, Nylock, Part #R01335005

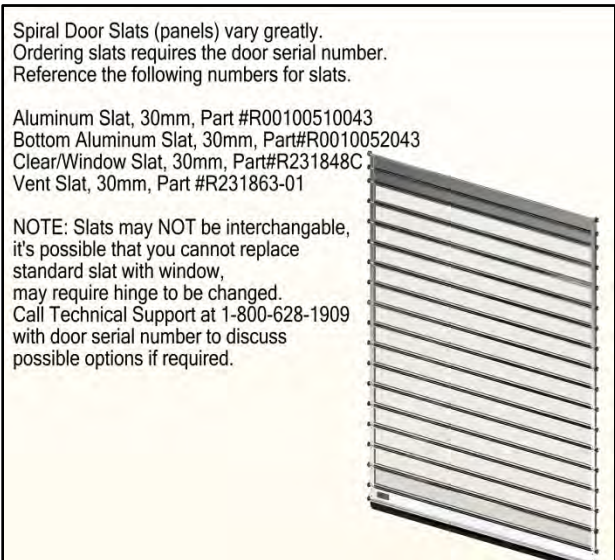
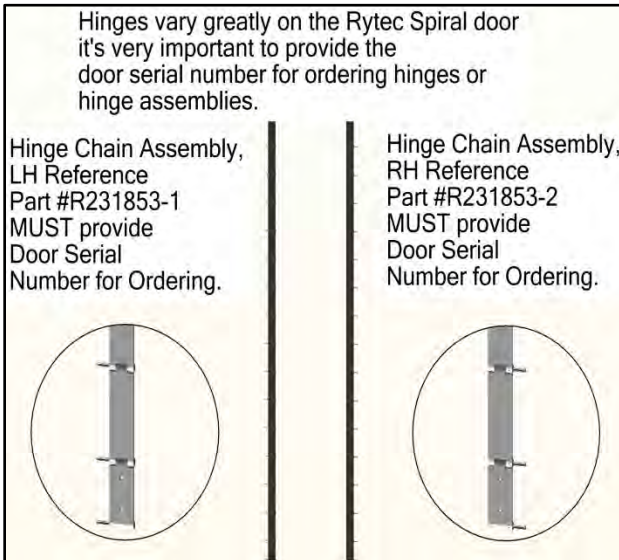
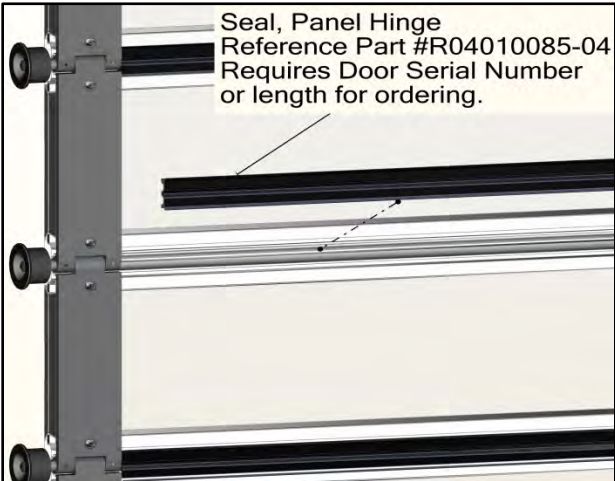
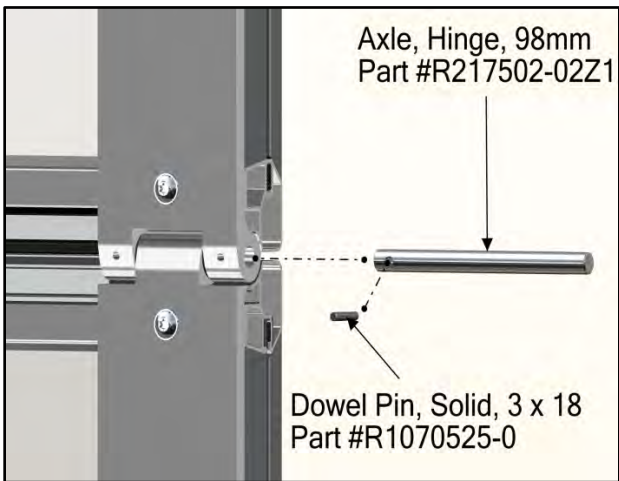
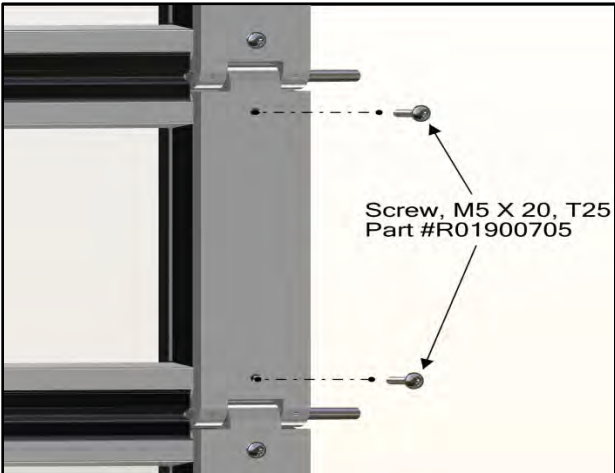
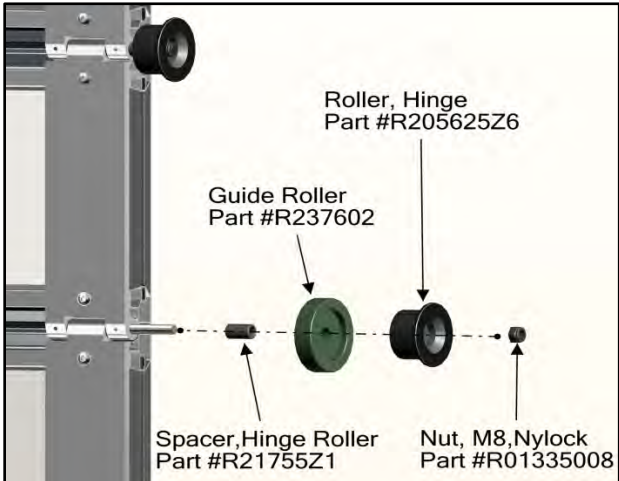
LED Warning Strip Kit
Part #R1210173-0



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.

PANEL, ROLLERS, HINGE



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 - BELTS

BELTS-SPIRAL-SIZE (L-L/R & S-S/R)

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



Tooth Belt, L&L/R, approx. 1 1/4"
Part #R08310450

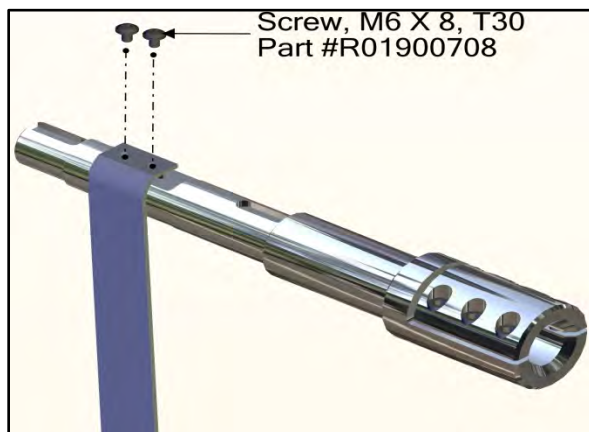
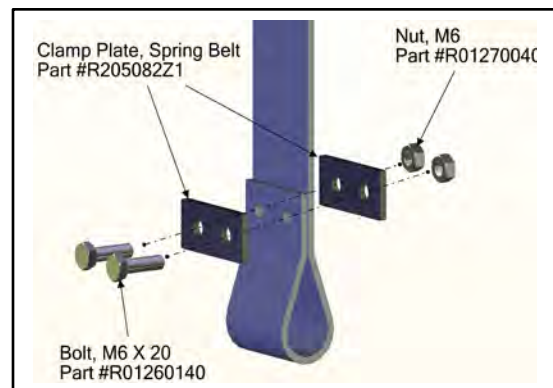


Tooth Belt, S&S/R, approx.. 2"
Part #R08310435

SPRING BELT-SPIRAL DOORS, ALL SPIRAL DOORS USE THE SAME BLUE BELT, LENGTH VARIES PER DOOR SIZE. Please provide door serial number for ordering.



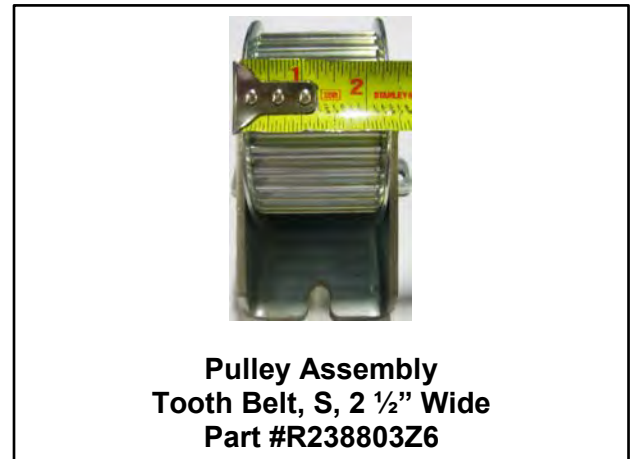
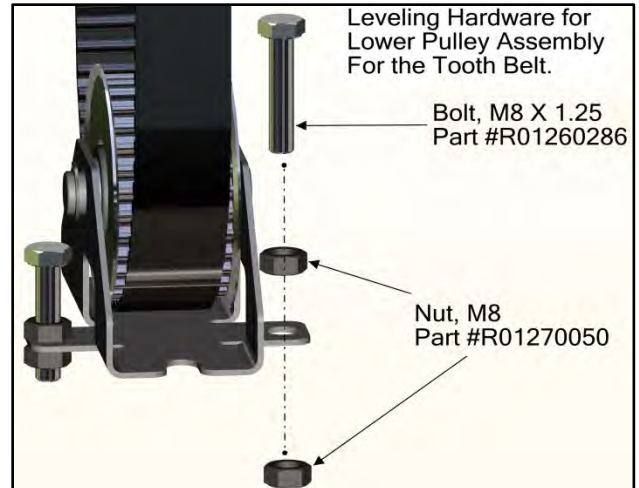
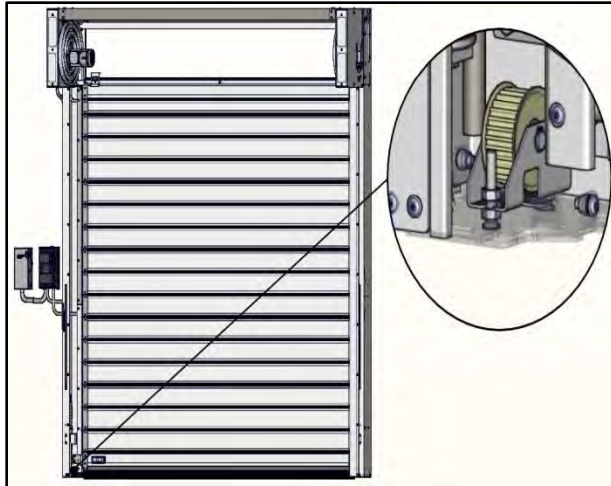
Part #R217603
Approx. 1 1/2"



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.

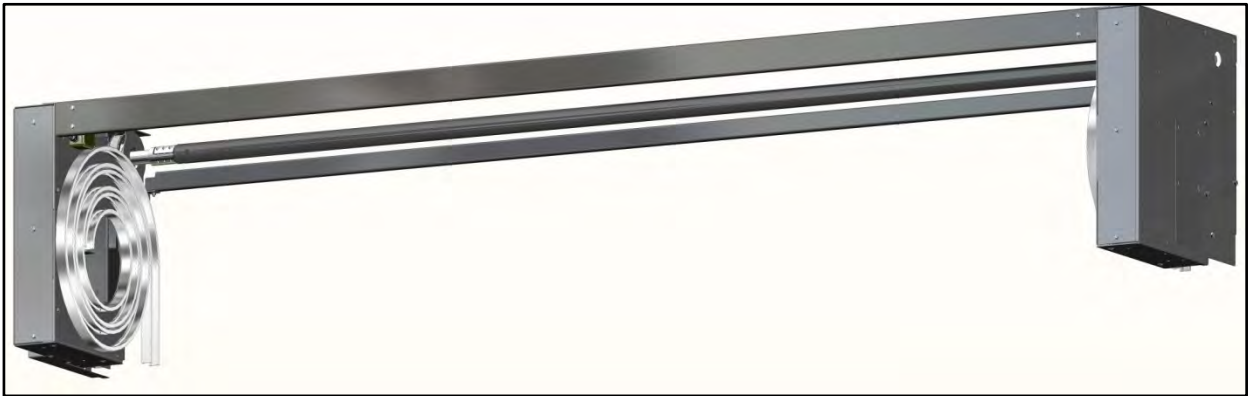
PULLEYS, SPIRAL (SST-L&L/R, S&S/R)



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

HEAD ASSEMBLY SST-L & L/R



Console Assembly, SST-L & L/R
Left Head Console
Left Hand Motor Mount
Part #R231814-1BZ1

Console Assembly, SST-L & L/R
Left Head Console
Right Hand Motor Mount
Part #R231814-1BRZ1



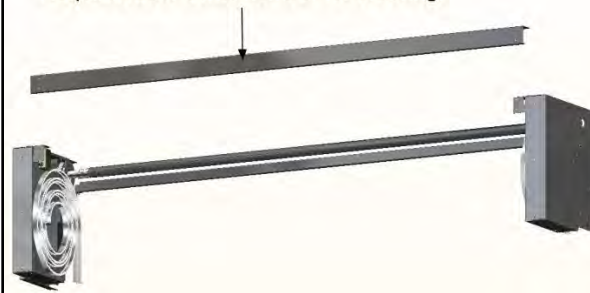
Console Assembly, SST-L & L/R
Right Head Console
Left Hand Motor Mount
Part #R231814-2B1

Console Assembly, SST-L & L/R
Right Head Console
Right Hand Motor
Part #R231814-2BRZ1



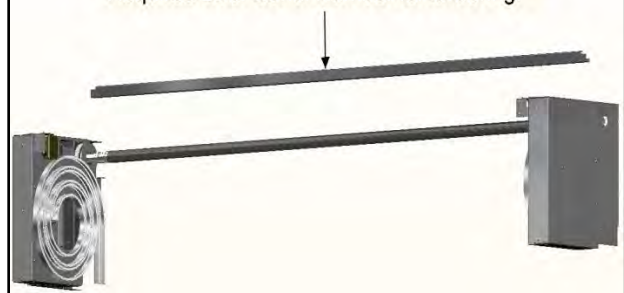
Front Spreader Assembly, SST - L& L/R
Reference Part #R1070523-0Z01

Requires door serial number for ordering.



Rear Spreader Assembly, SST - L/R, STT - L
Reference Part #R1070524-0Z01

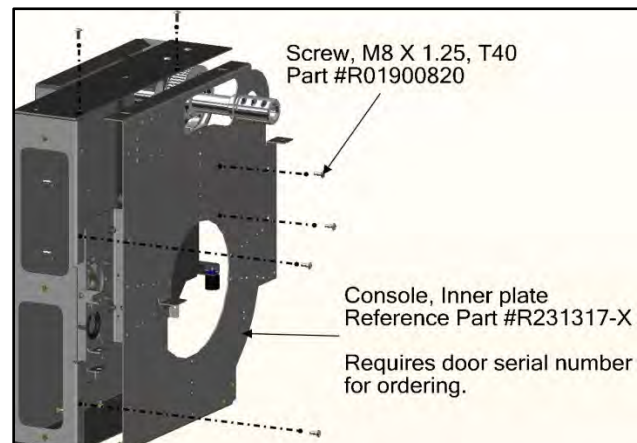
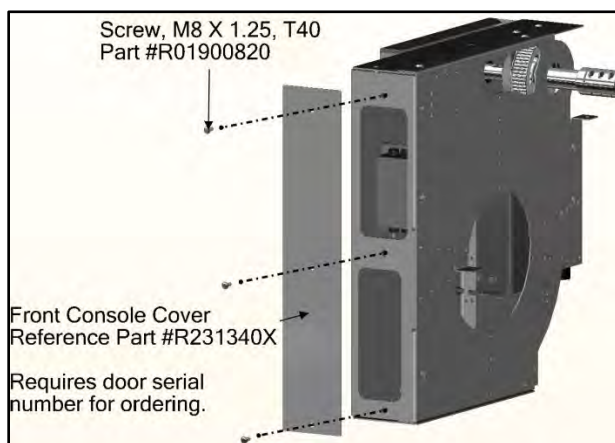
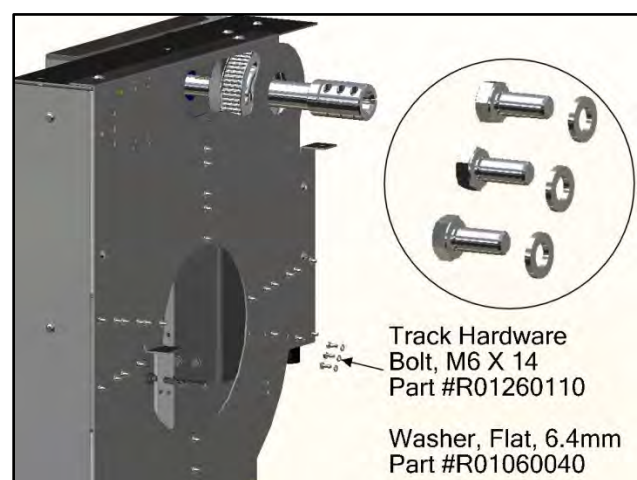
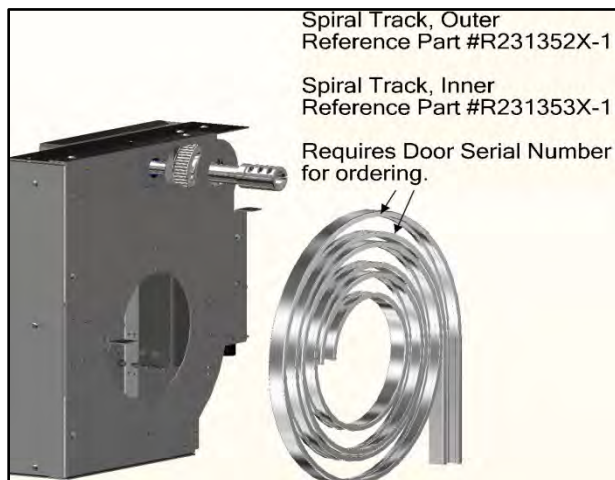
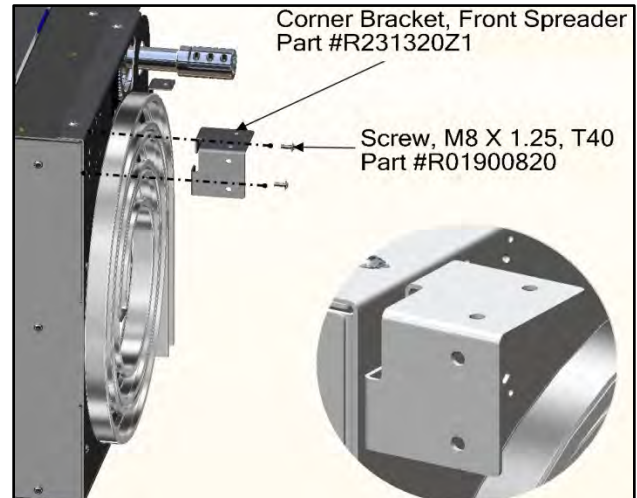
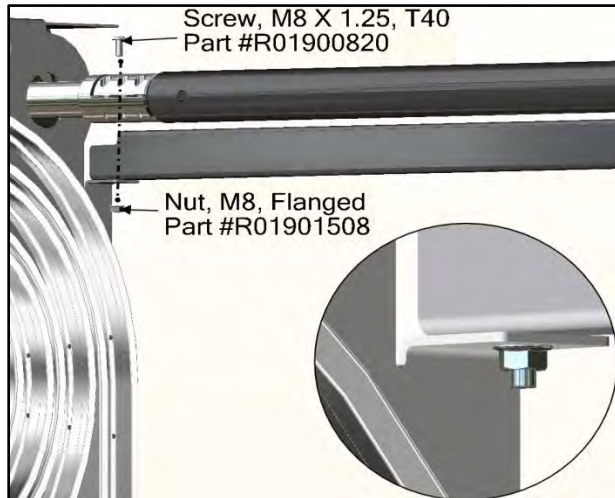
Requires Door Serial Number for Ordering.



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

HEAD ASSEMBLY SST – L & L/R

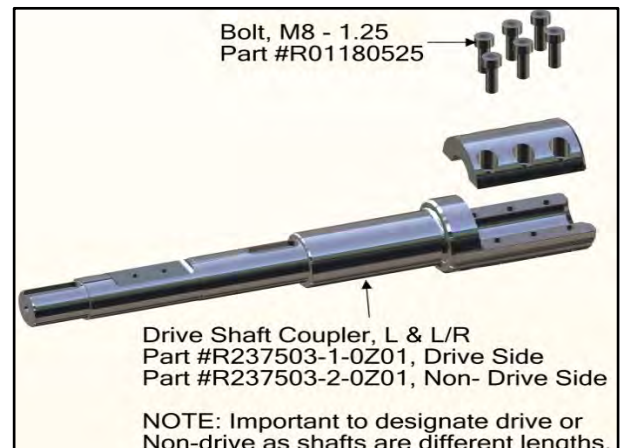
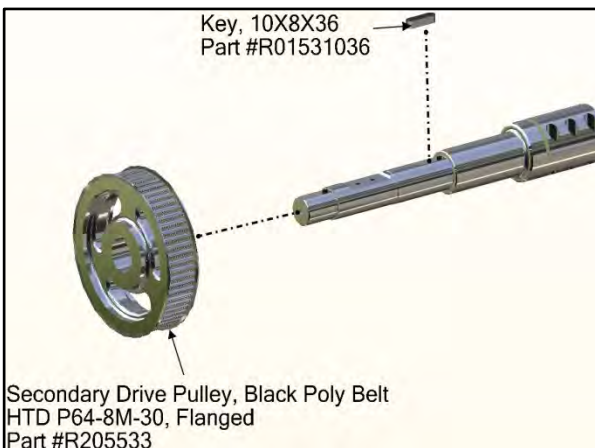
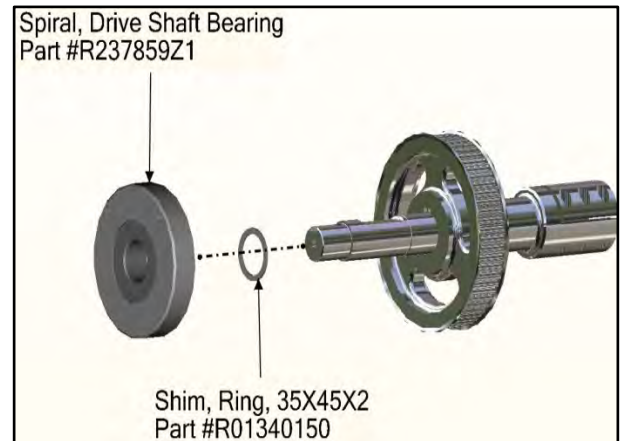
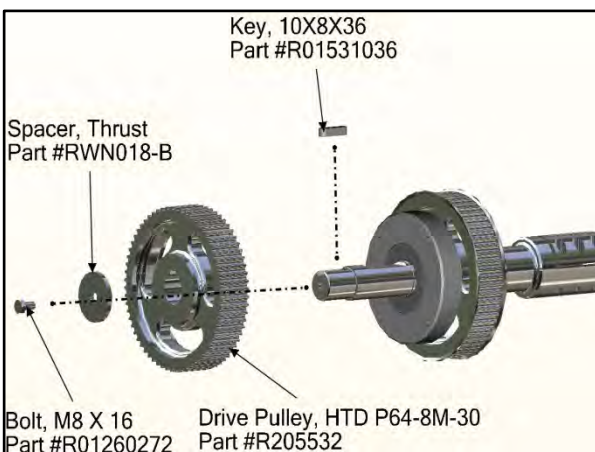
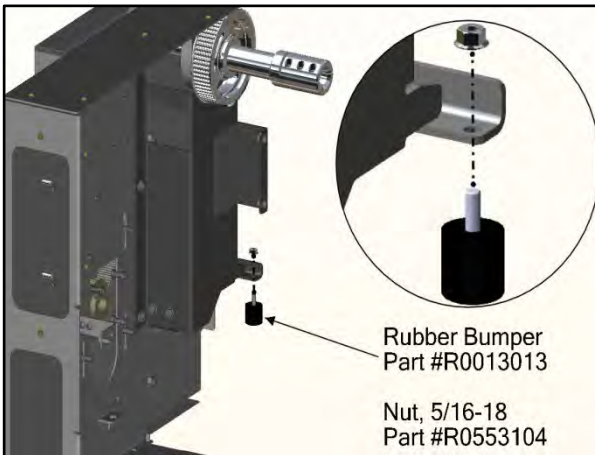


ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

PARTS LIST—HEAD ASSEMBLY (SST-L & L/R)

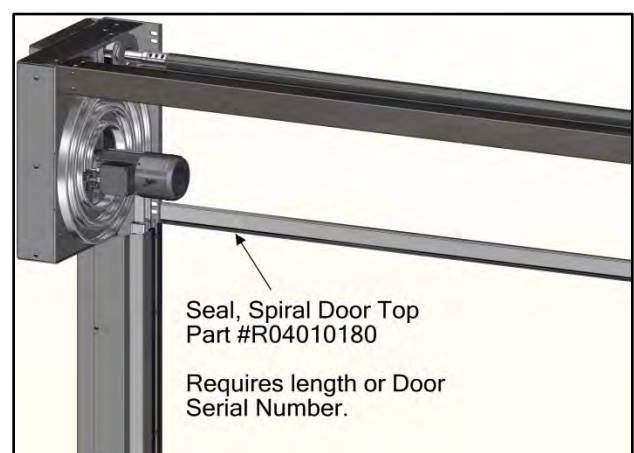
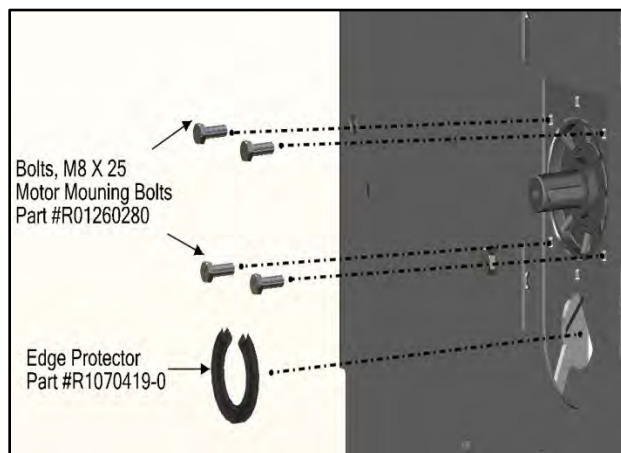
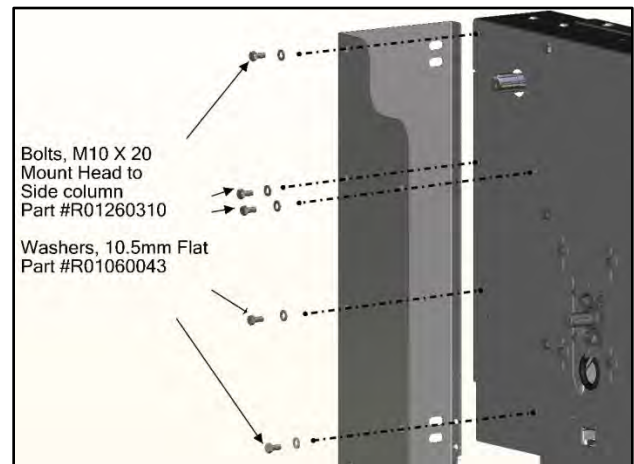
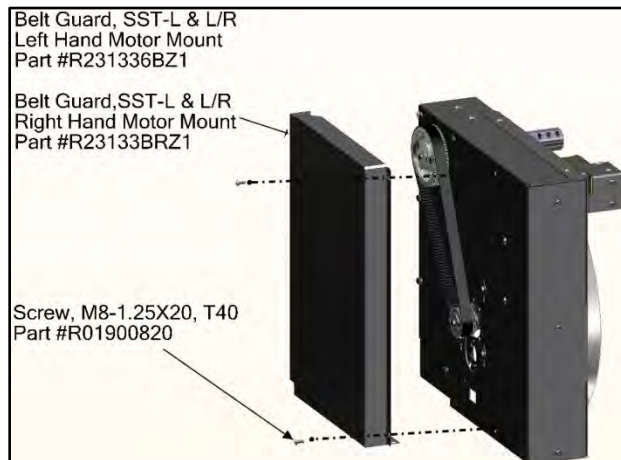
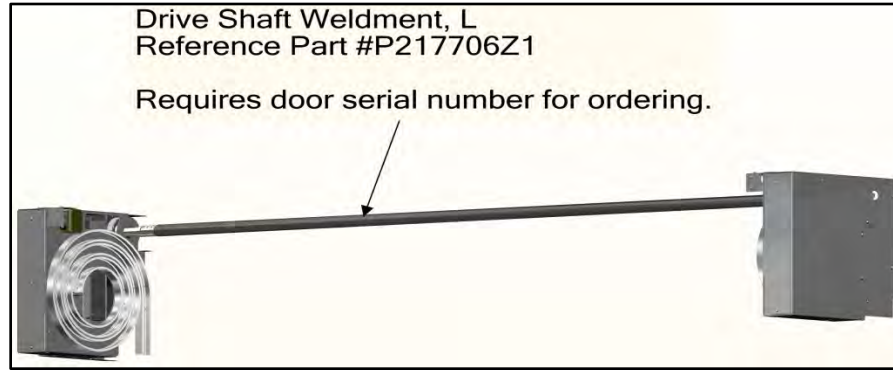
HEAD ASSEMBLY SST-L & L/R



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

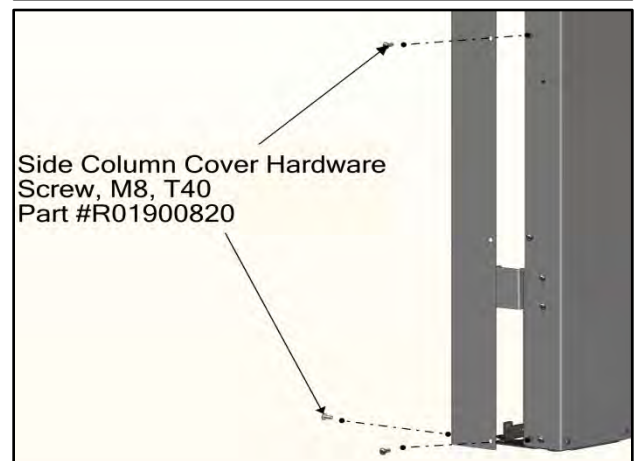
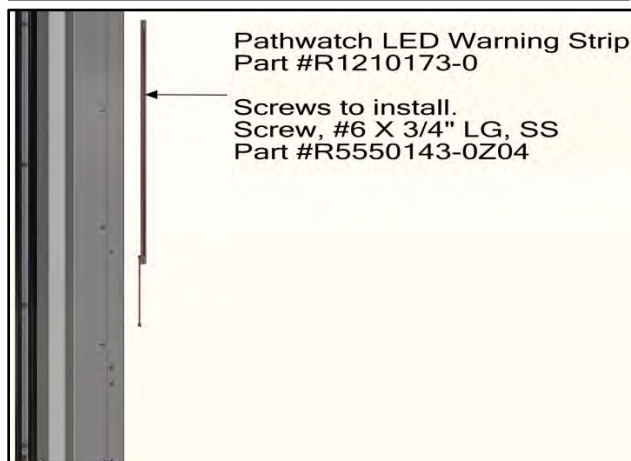
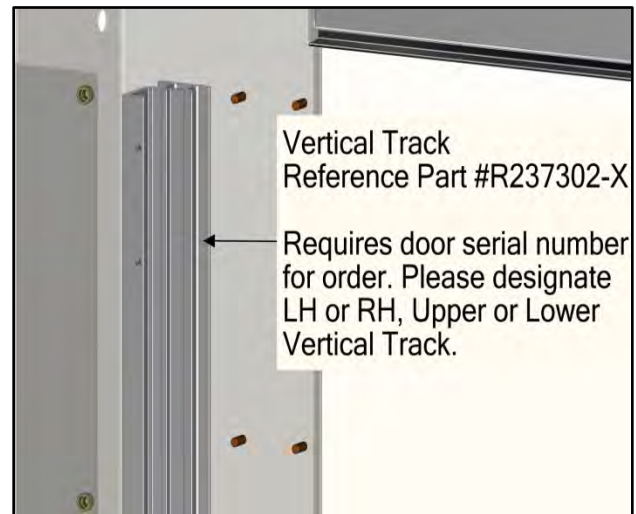
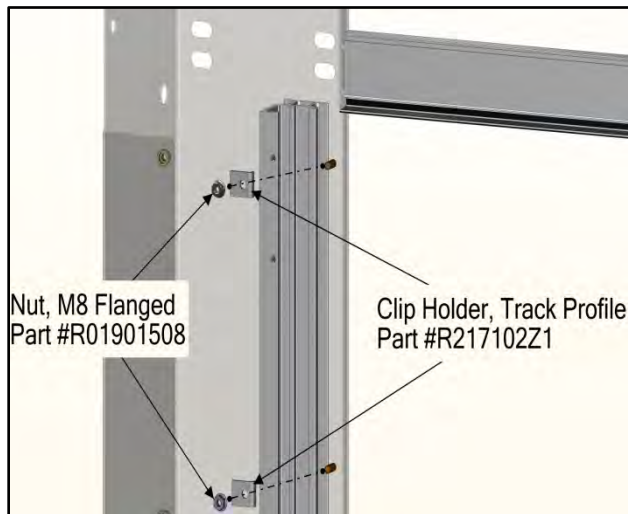
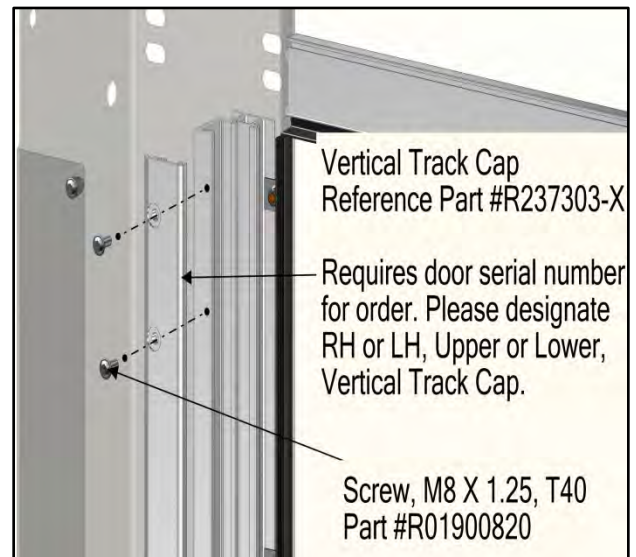
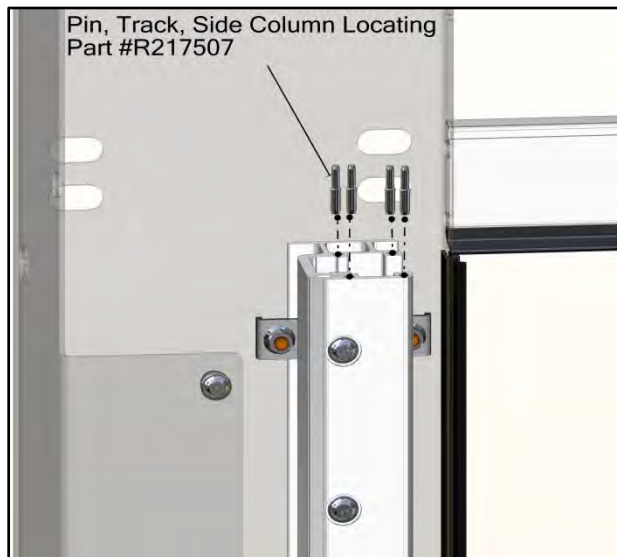
HEAD ASSEMBLY SST – L & L/R



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.

TRACK & HARDWARE (SST-L & L/R)



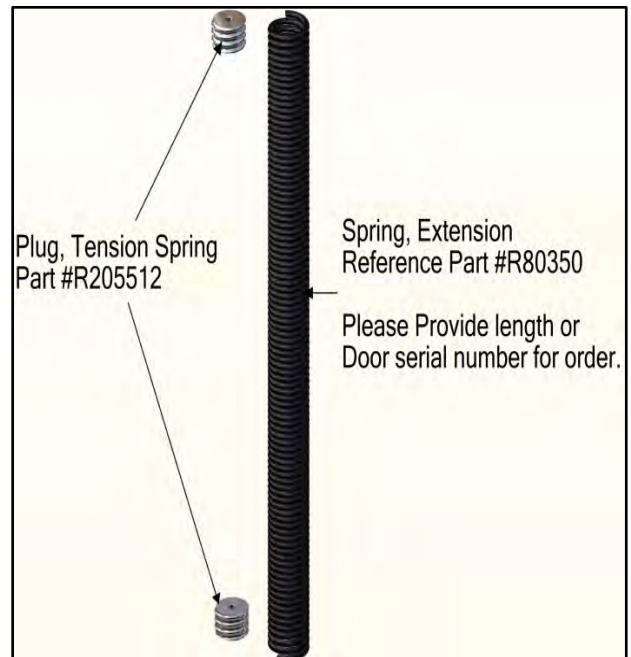
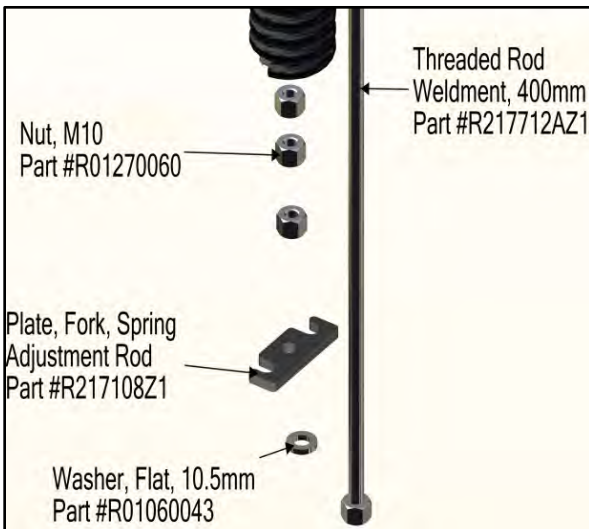
ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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

SPRING PACK SINGLE

Spring Pack
Assembly, Outer, 1
Reference
Part #R27871B-02Z1

Requires length or door
serial # for order.



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—SPRING PACKS

SPRING PACK DUAL

SPRING PACK ASSEMBLY,
OUTER, 2
REFERENCE
PART #R217871A-03Z1

Requires door
serial # for order.



Spring Pack Assembly
Inner 2 pack
Part #R217871DZ1



Bolt, M10 - 1.5 X 30mm
Part #R0021670

Clevis, Spring Pack, Top
Part #R207070Z1

Washer, Flat, 13mm
Part #R01060044

Nut, Shoulder
Part #R609270BZ1

Bolt, M12 X 1.75 X 20 LG
Part #R01260400

Guide, Outer
Spring Pack
Part #R217604

Bar, 2 Spring Pack
Part #R205084Z1

Guide Bracket Assembly,
Outer 2 Spring
Part #R217902Z1



Guide Tube, Spring Pack
Part #R217605



Bolt, M10 - 1.5 X 30mm
Part #R0021670

Washer, Flat, 13mm
Part #R01060044

Clevis, Spring Pack Top
Part #R207070Z1

Bolt, M12 X 1.75 X 20 LG
Part #R01260400

Bar, 2 Spring Pack
Part #R205084Z1

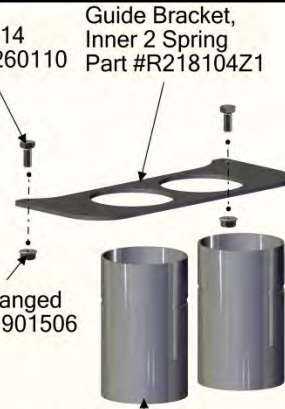
Nut, Shoulder
Part #R609270BZ1

Bolt, M6 X 14
Part #R01260110

Guide Bracket,
Inner 2 Spring
Part #R218104Z1

Nut, M6, Flanged
Parts #R01901506

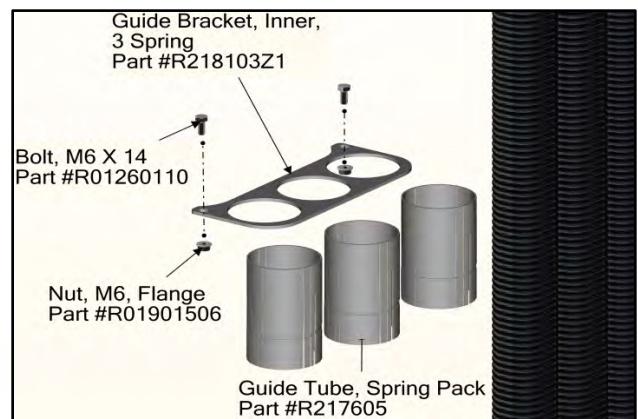
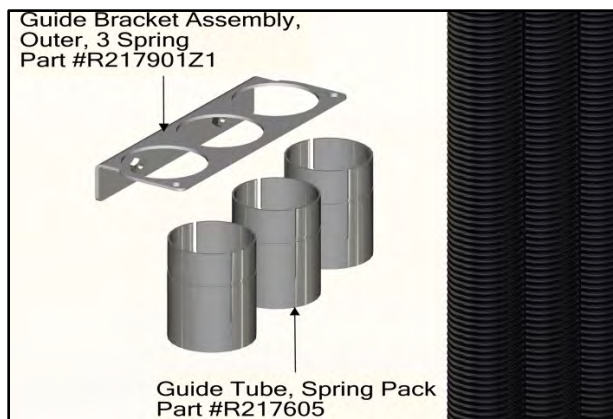
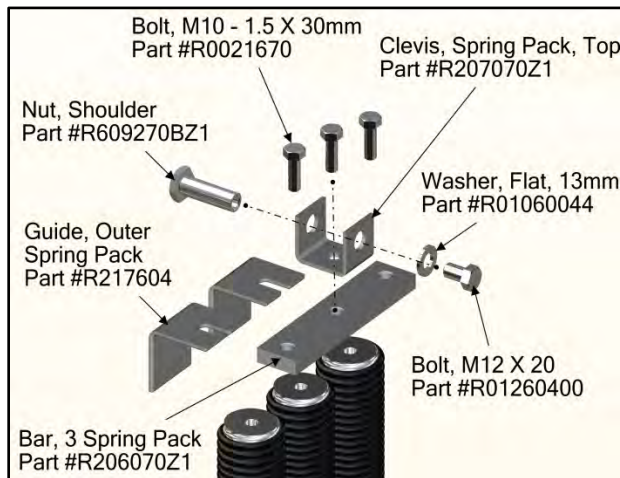
Guide Tube, Spring Pack
Part #R217605



ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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SPRING PACK – 3 SPRING PACK

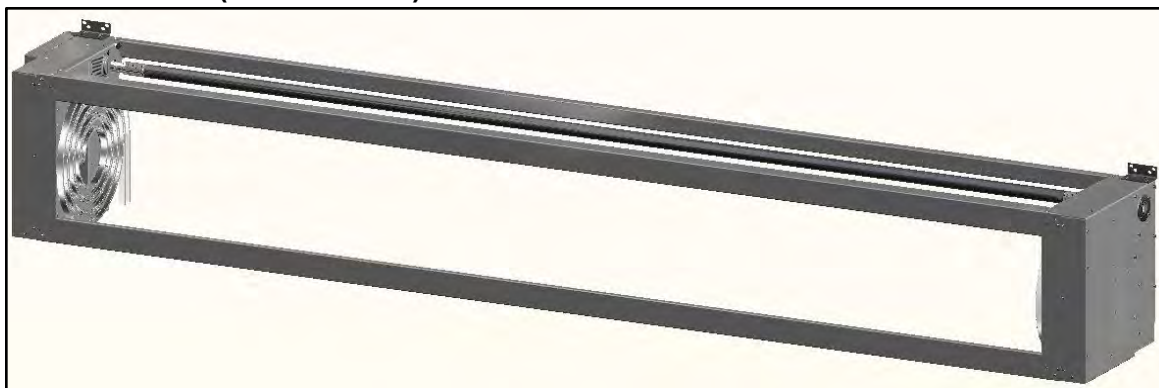


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PARTS LIST—HEAD ASSEMBLY (SST-S & S/R)

HEAD ASSEMBLY (SST-S & S/R)



Console Assembly,
SST S & S/R, LH
Part #R238901-1X-01Z1

Requires door serial
number for order.



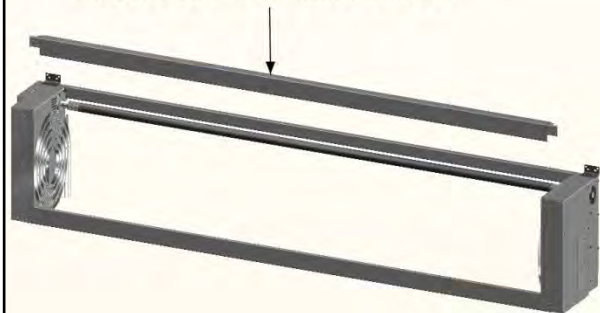
Console Assembly,
SST S & S/R, RH
Part #R238901-2X-01Z1

Requires door serial
number for order.



Front Spreader Assembly
SST-S & S/R, STT-S
Reference Part #R1070710-0Z01

Requires door serial number for order.



Rear Spreader Assembly
SST-S & S/R, STT-S
Reference Part #R1070713-0Z01

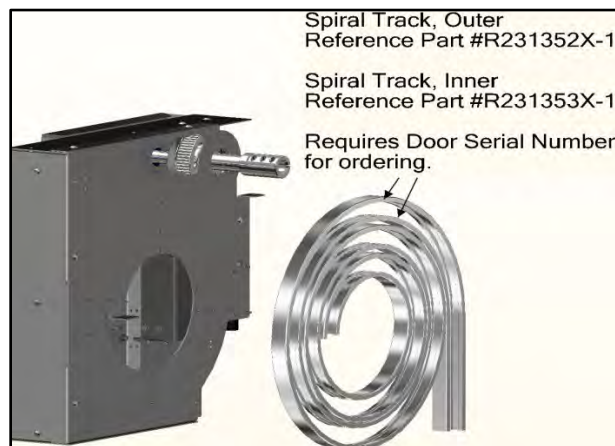
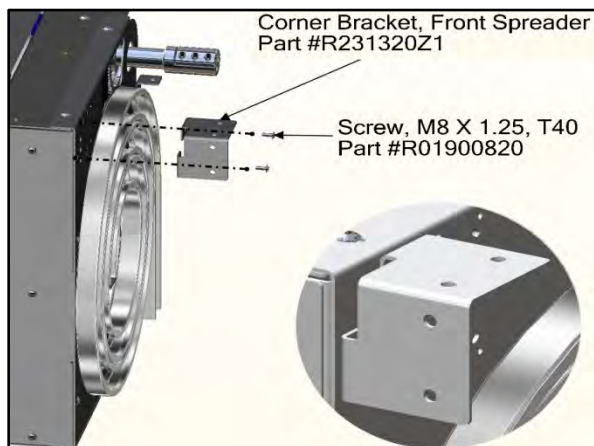
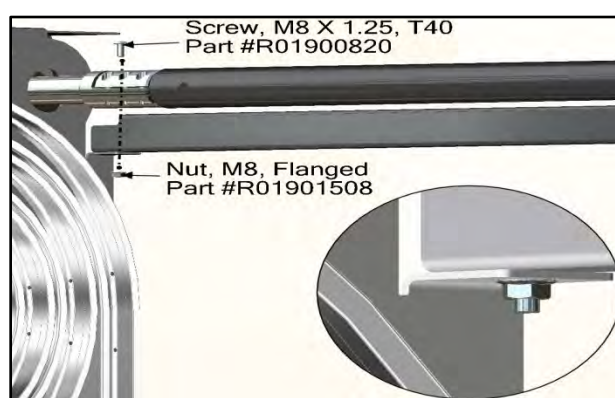
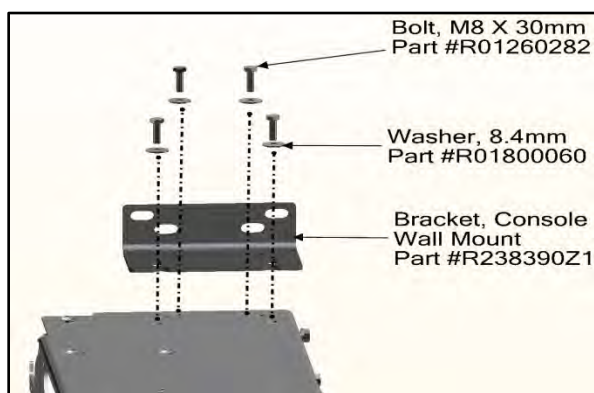
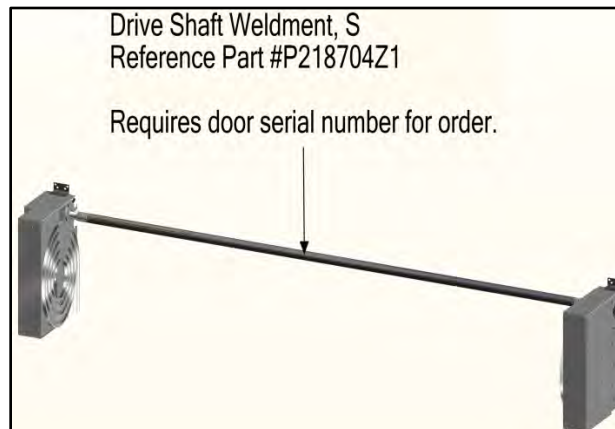
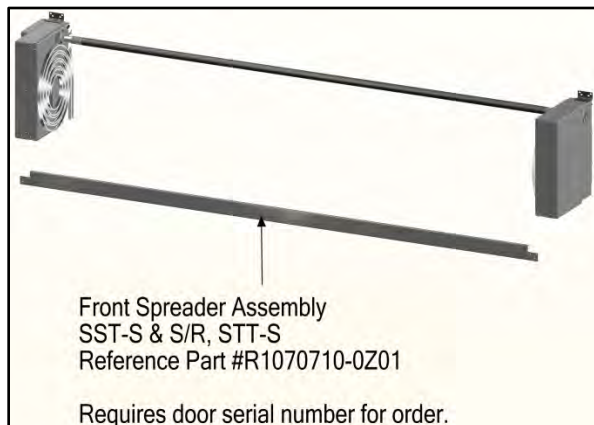
Requires door serial number for order.



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HEAD ASSEMBLY (SST-S & S/R)

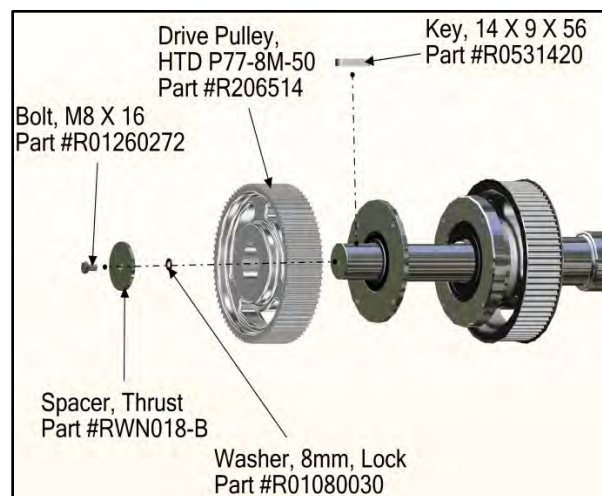
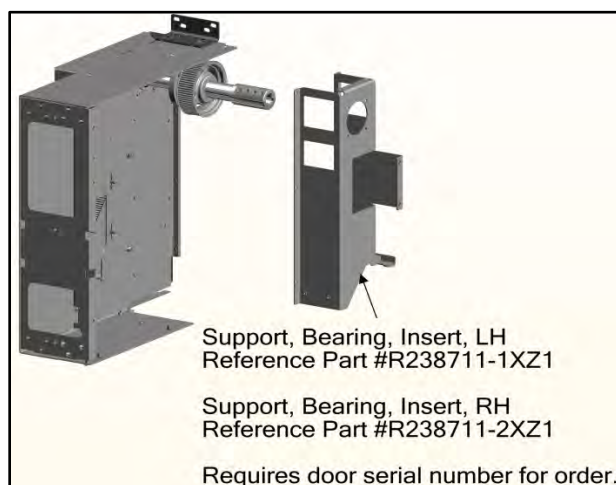
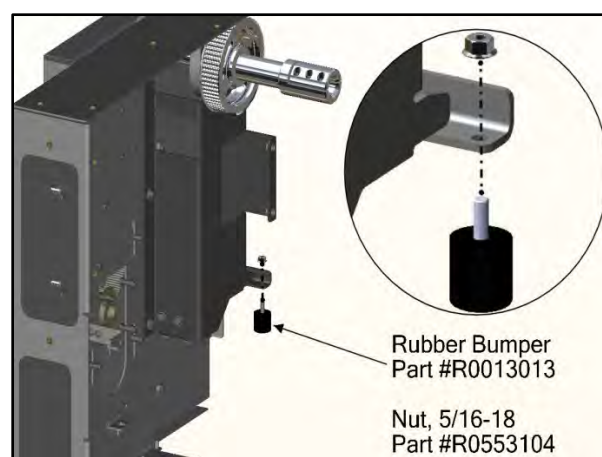
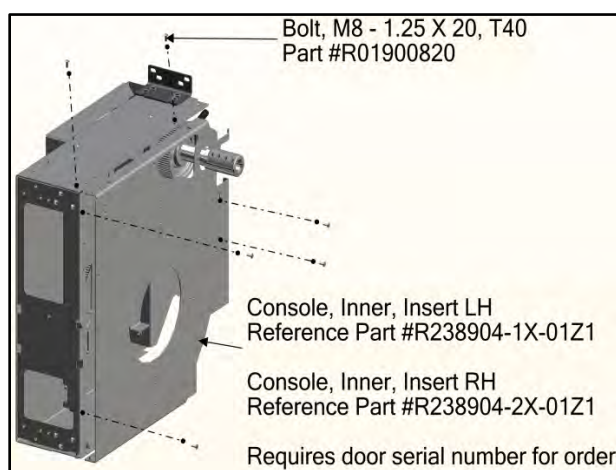
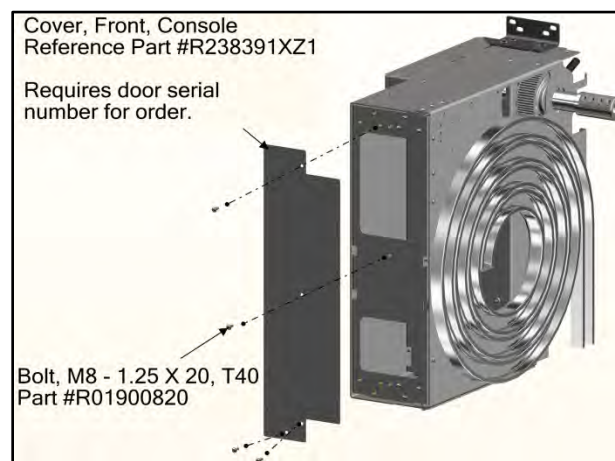
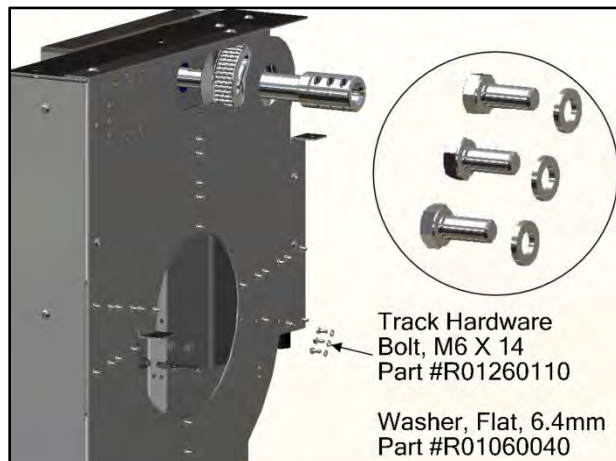


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PARTS LIST—HEAD ASSEMBLY (SST-S & S/R)

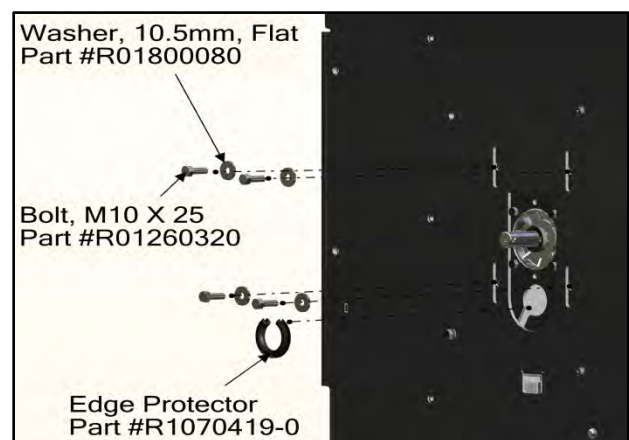
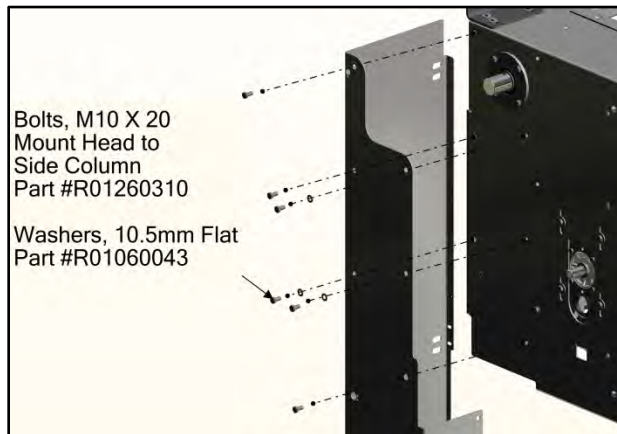
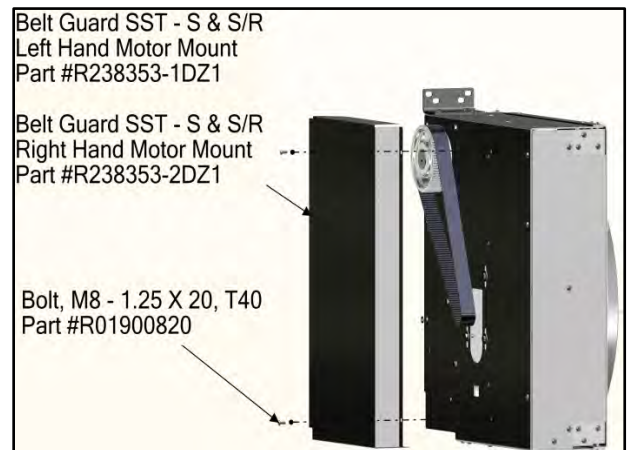
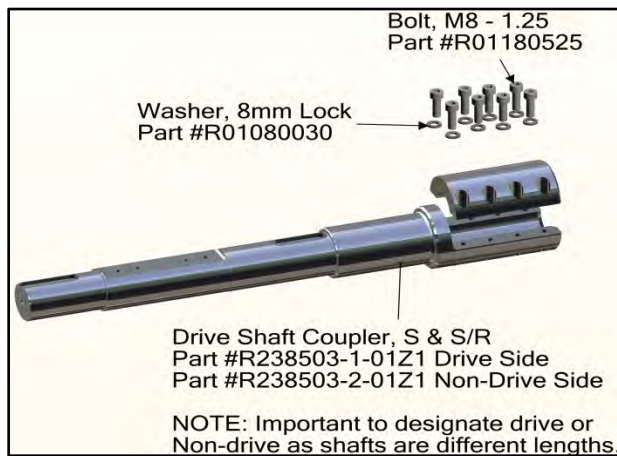
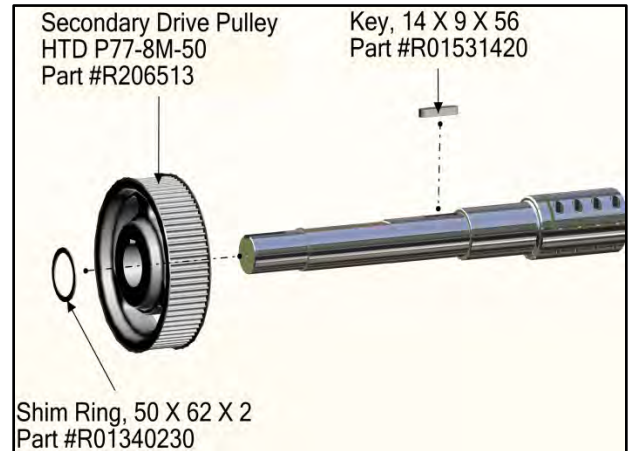
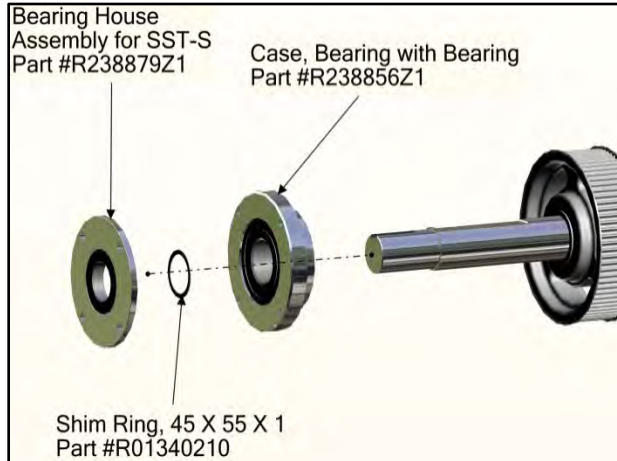
HEAD ASSEMBLY (SST –S & S/R)



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HEAD ASSEMBLY (STT-S & S/R)

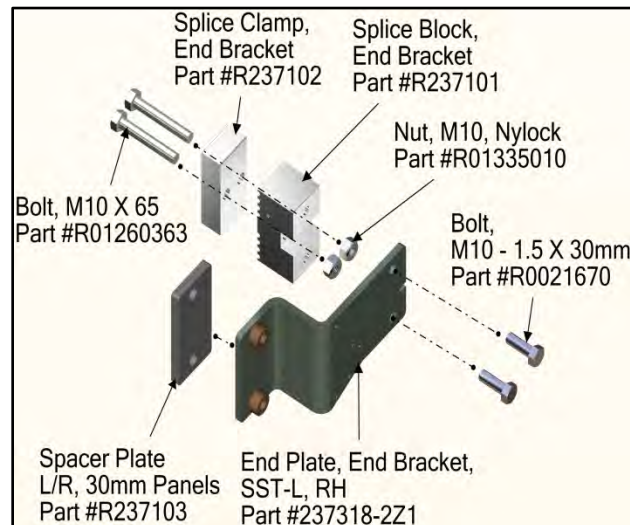
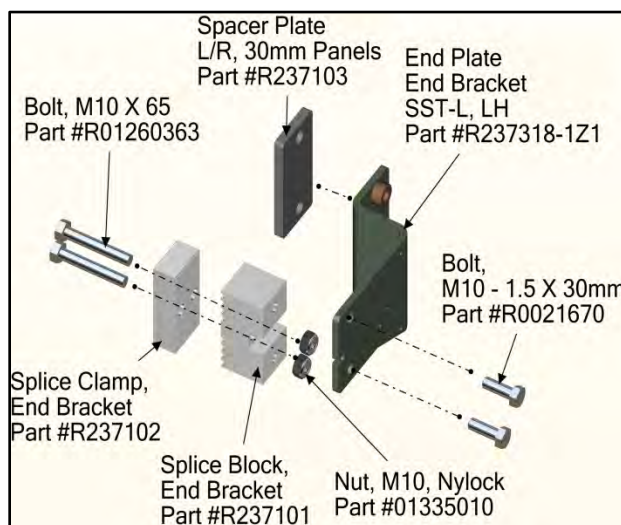
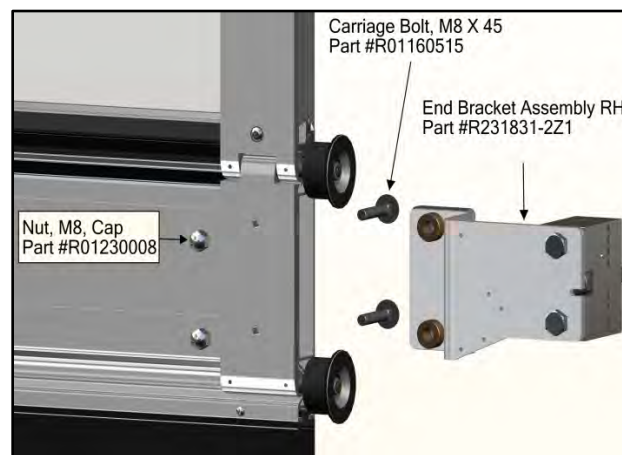
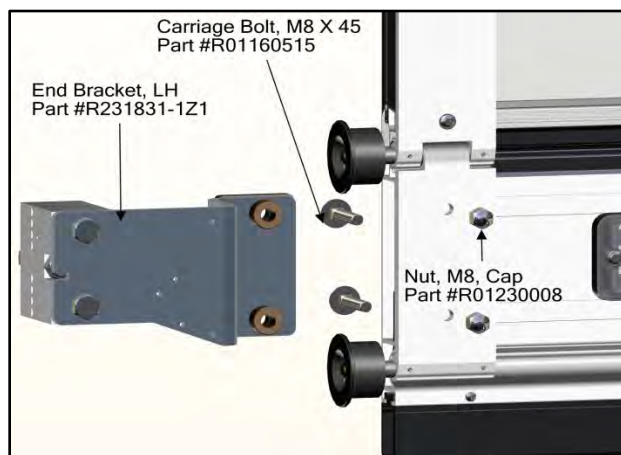


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END BRACKETS (SST – L & L/R)

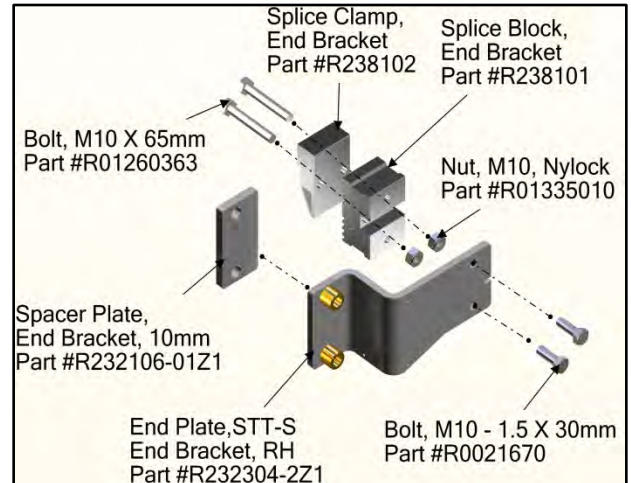
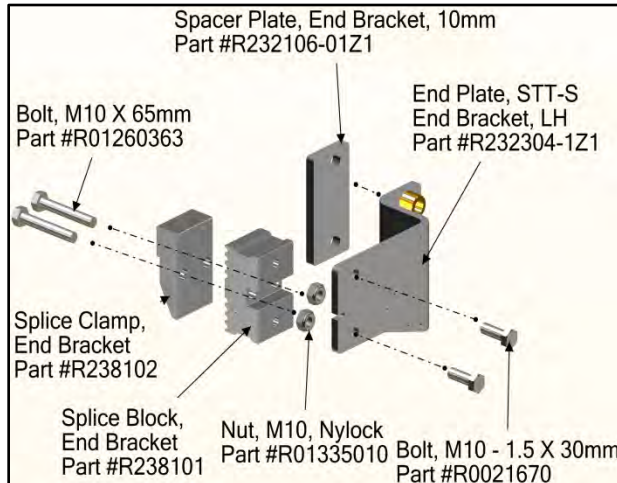
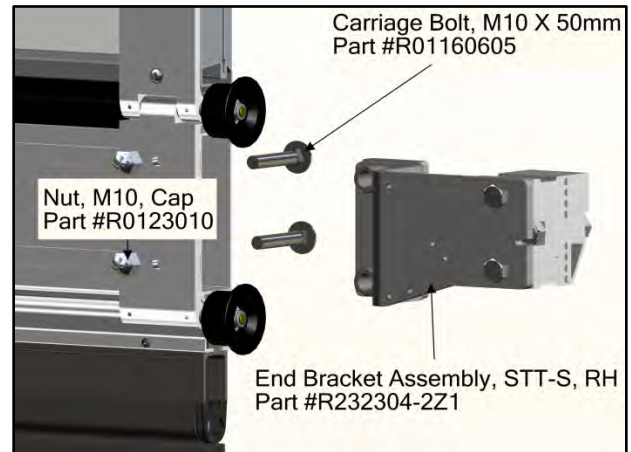
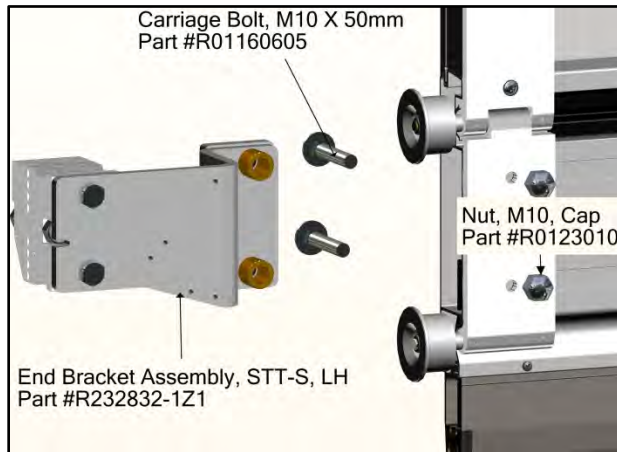
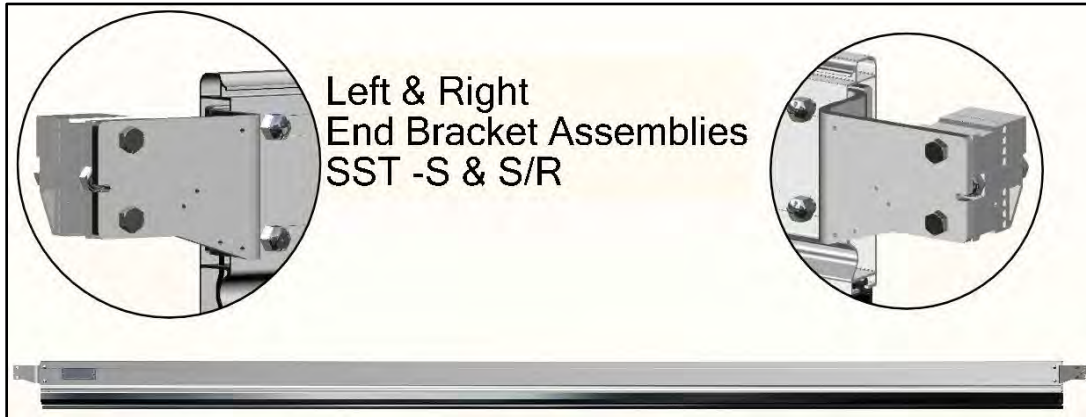
END BRACKETS (SST – L & L/R)



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END BRACKETS (SST – S & S/R)

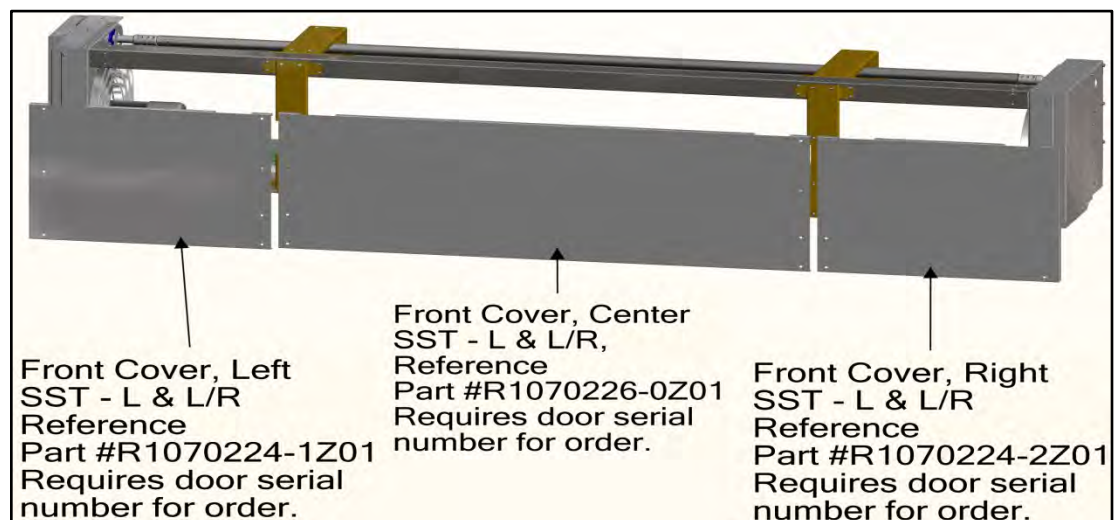
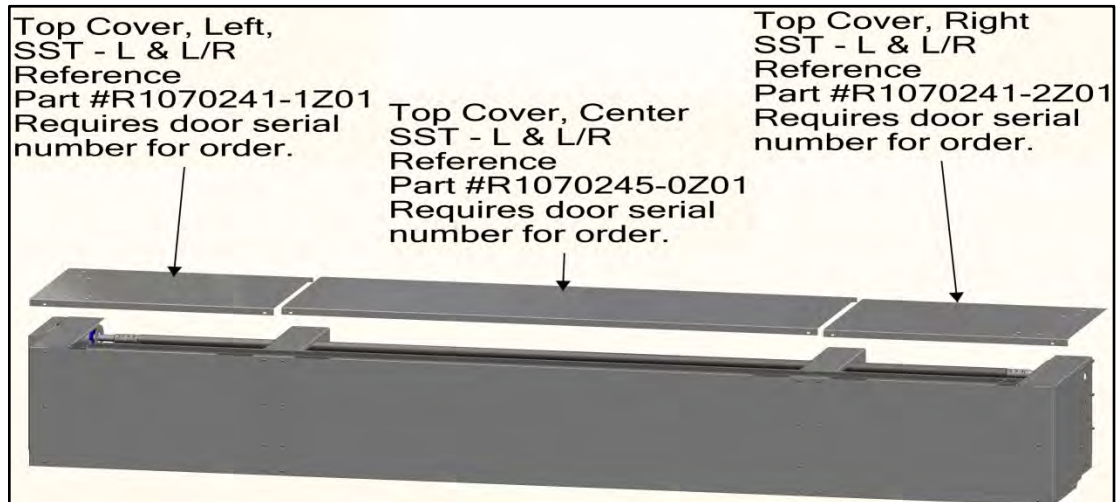
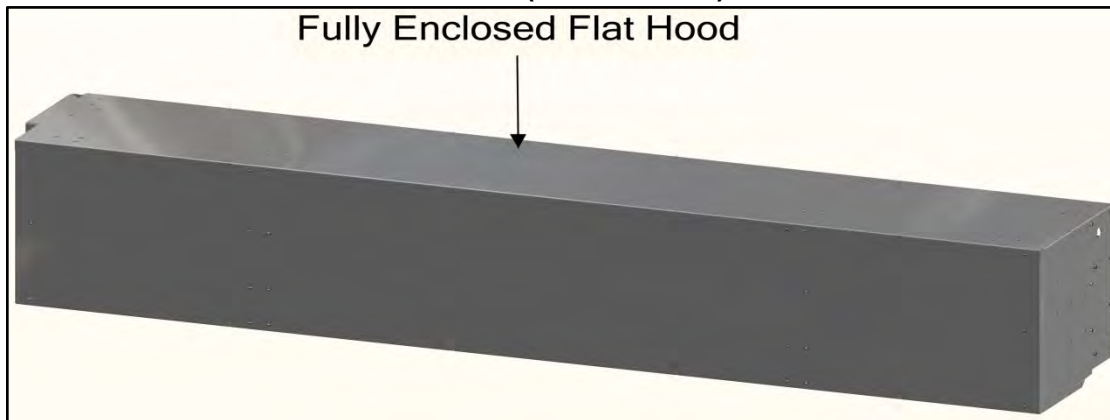


ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER

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PARTS LIST - COVERS

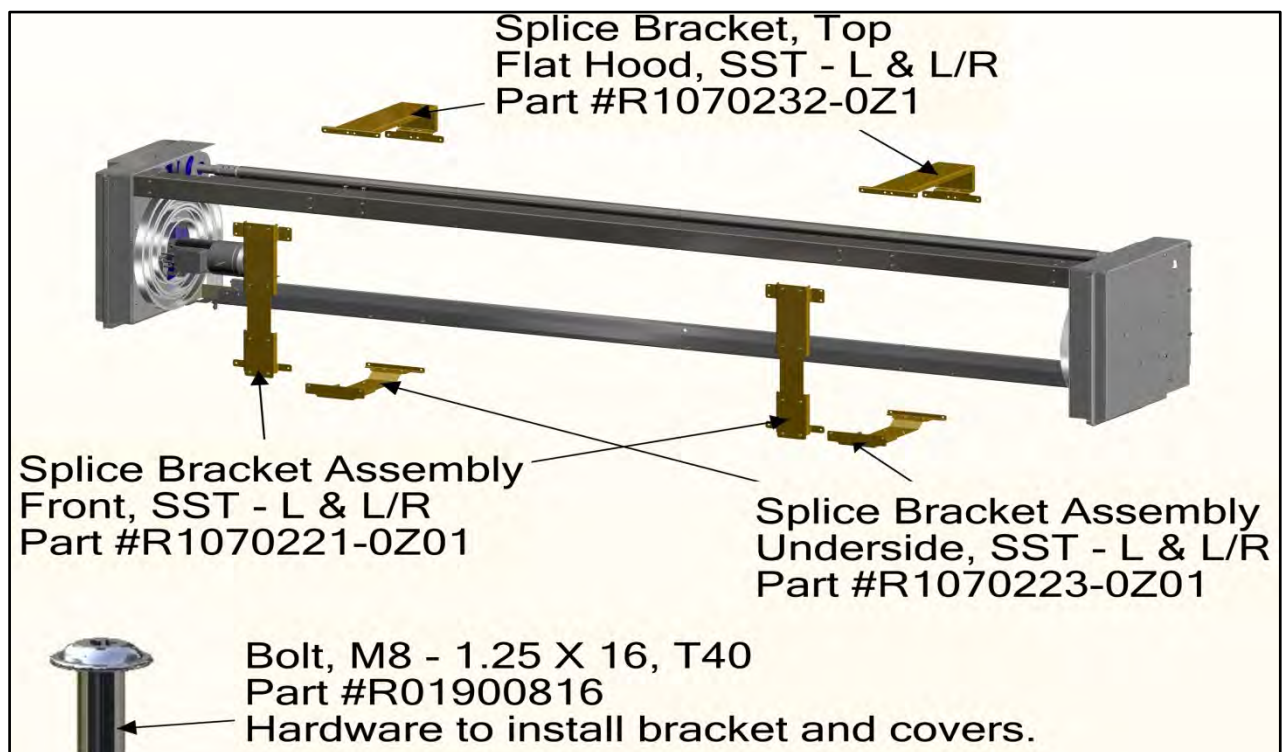
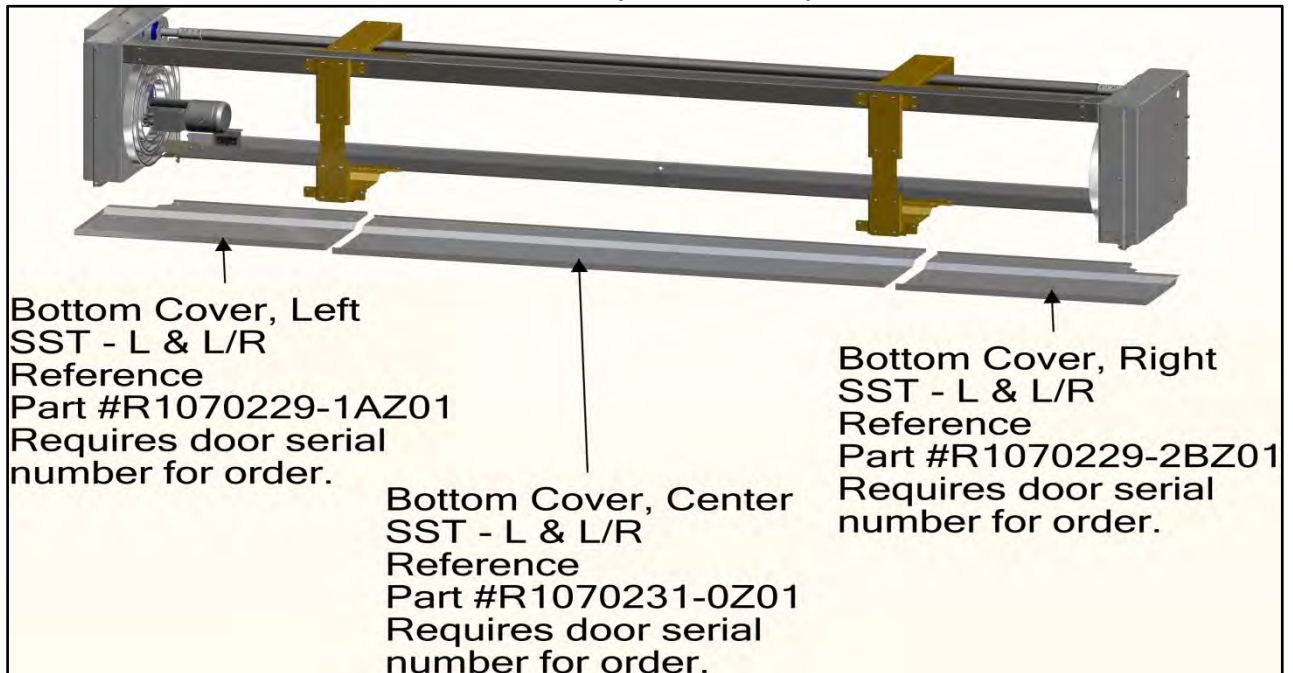
COVERS FULLY ENCLOSED FLAT HOOD (SST-L & L/R)



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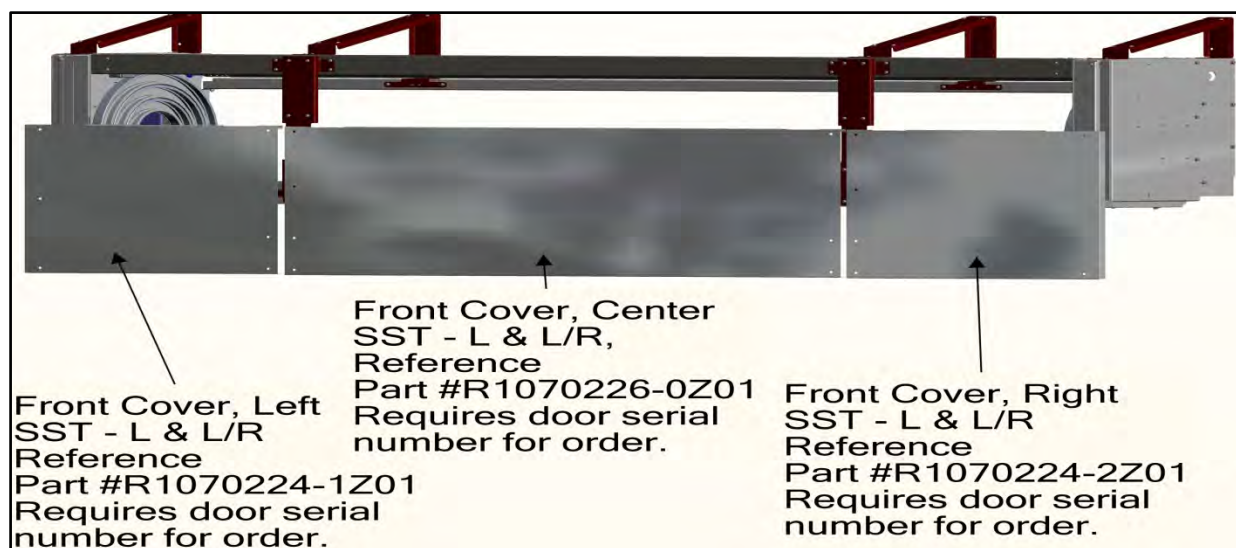
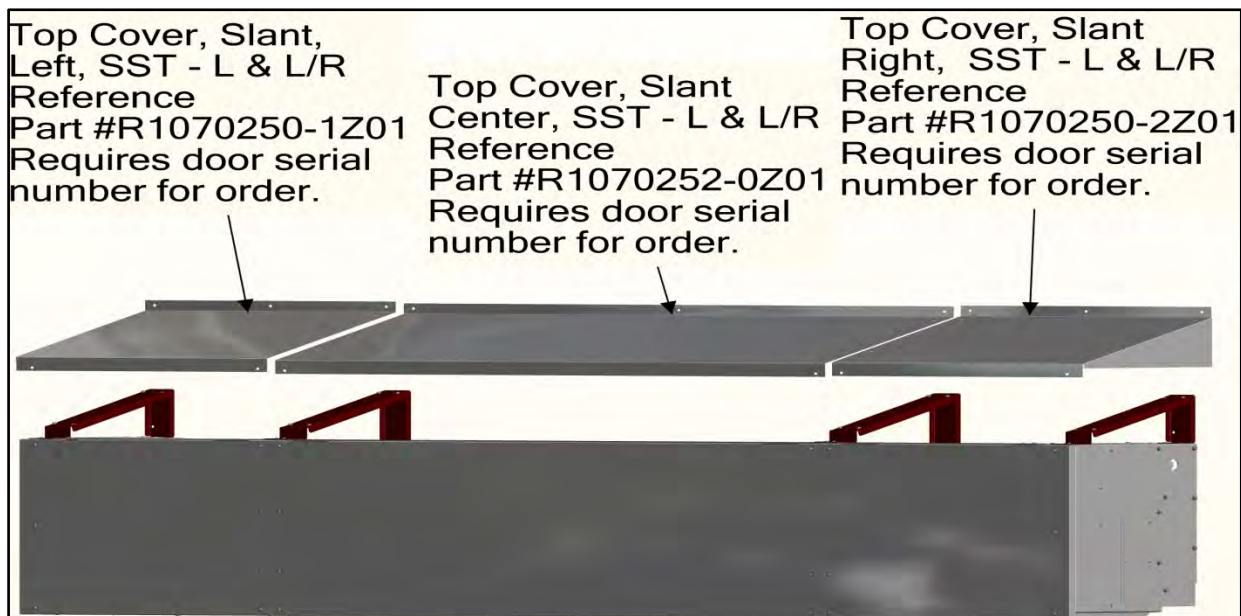
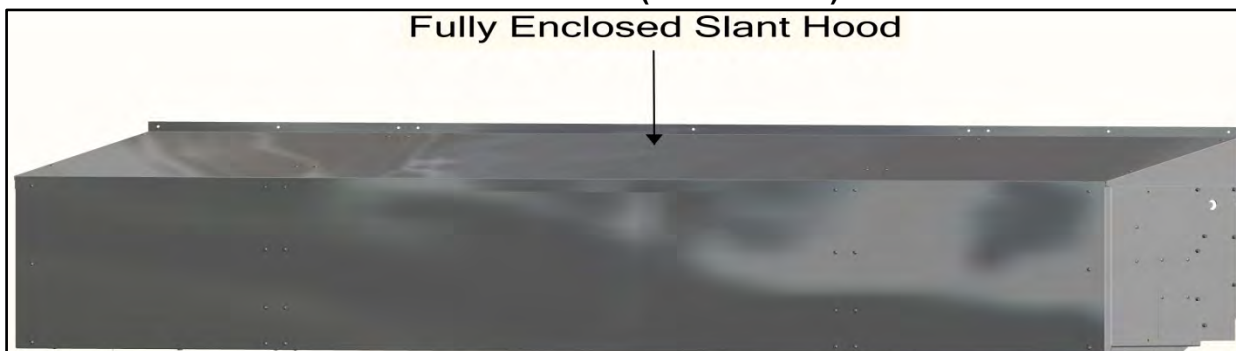
COVERS FULLY ENCLOSED FLAT HOOD (SST-L & L/R)

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

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COVERS FULLY ENCLOSED SLANT HOOD (SST-L & L/R)

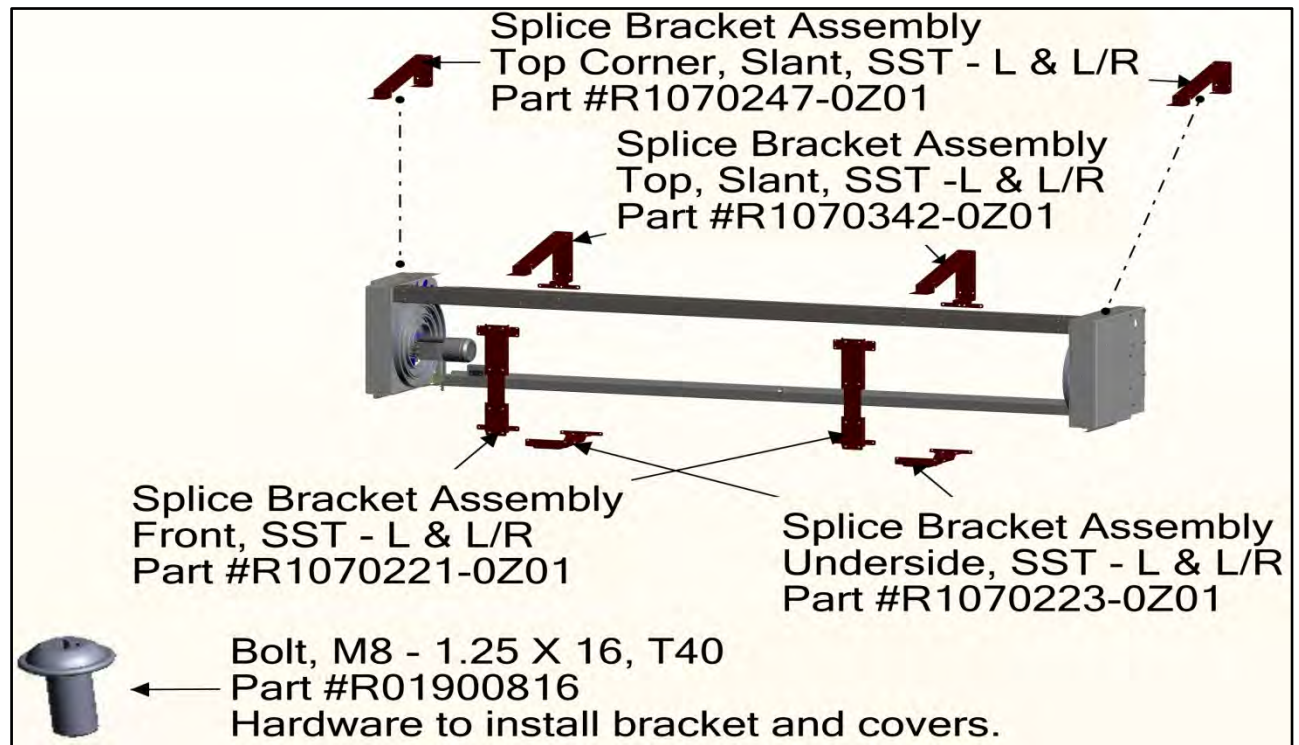
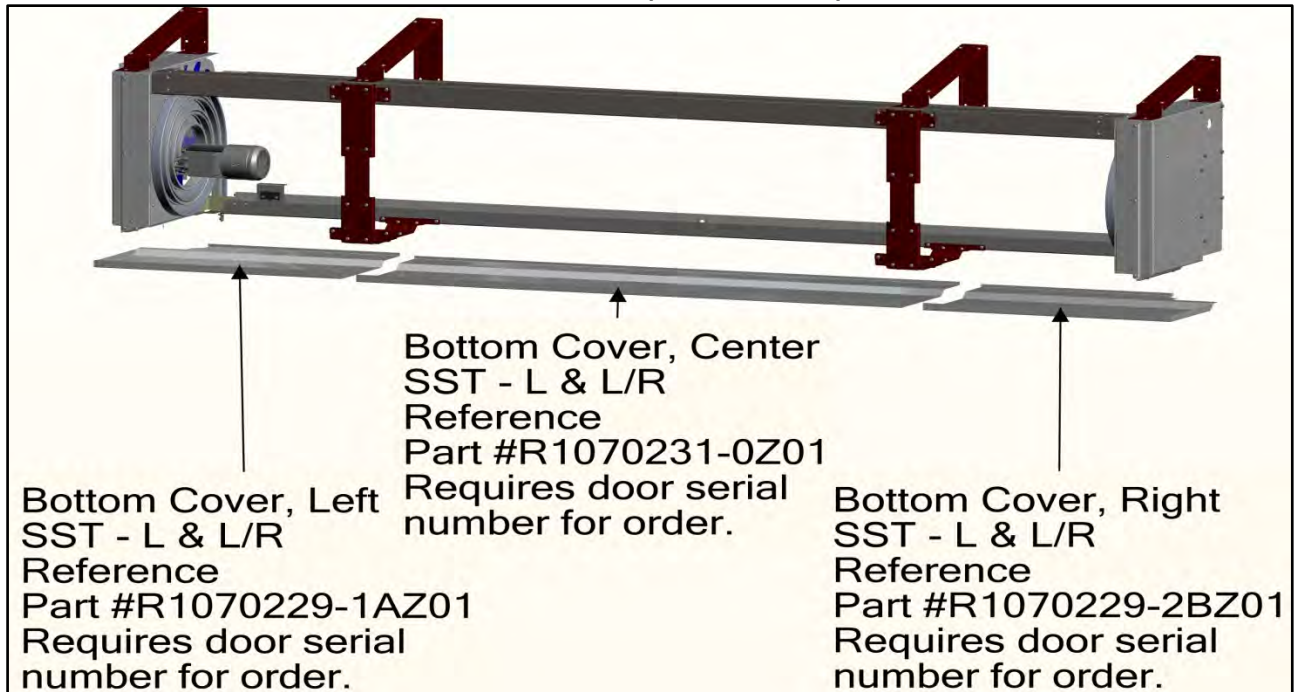
COVERS FULLY ENCLOSED SLANT HOOD (SST-L & L/R)



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COVERS FULLY ENCLOSED SLANT HOOD (SST-L & L/R)

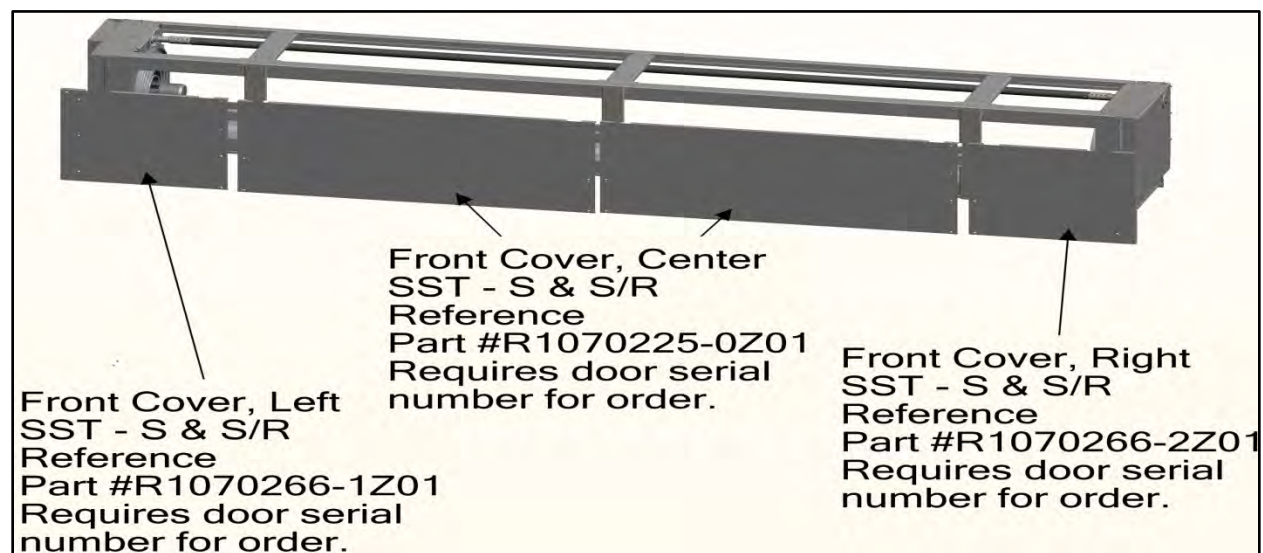
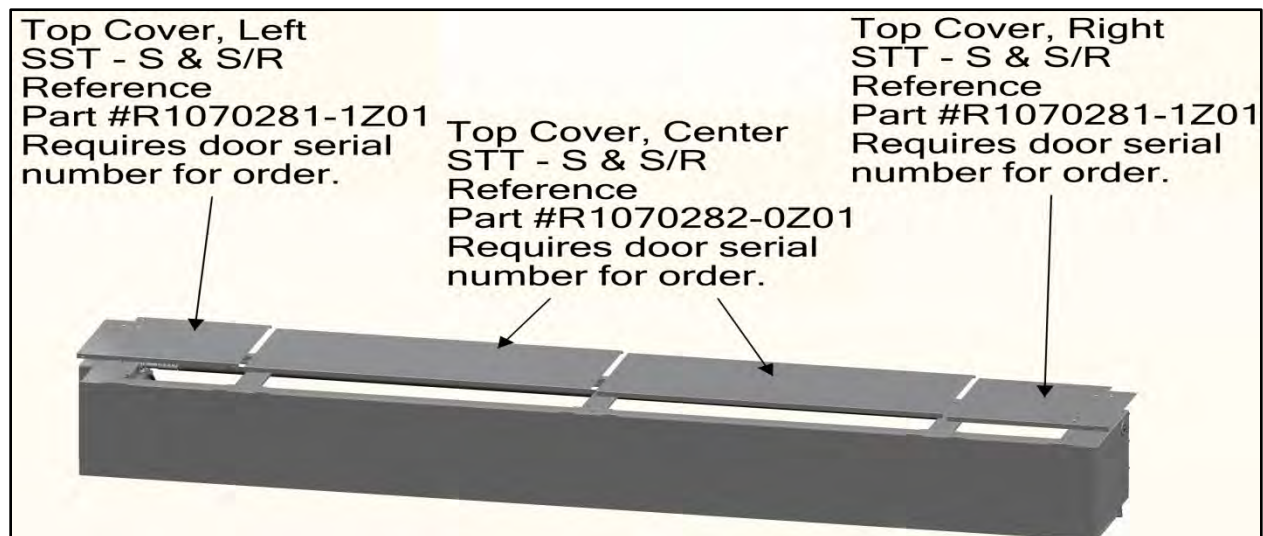
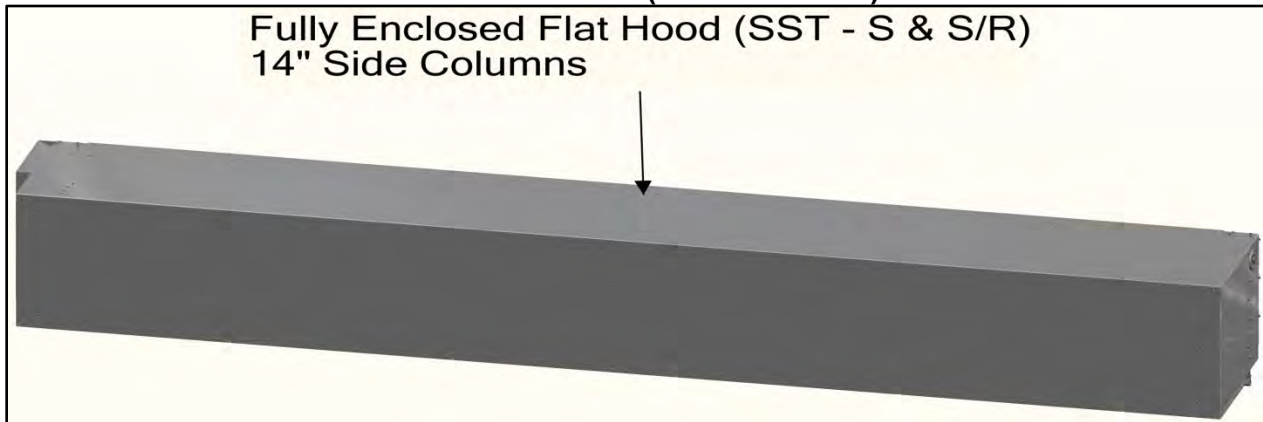


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COVERS - FULLY ENCLOSED FLAT HOOD (SST - S & S/R)

COVERS - FULLY ENCLOSED FLAT HOOD (SST - S & S/R)

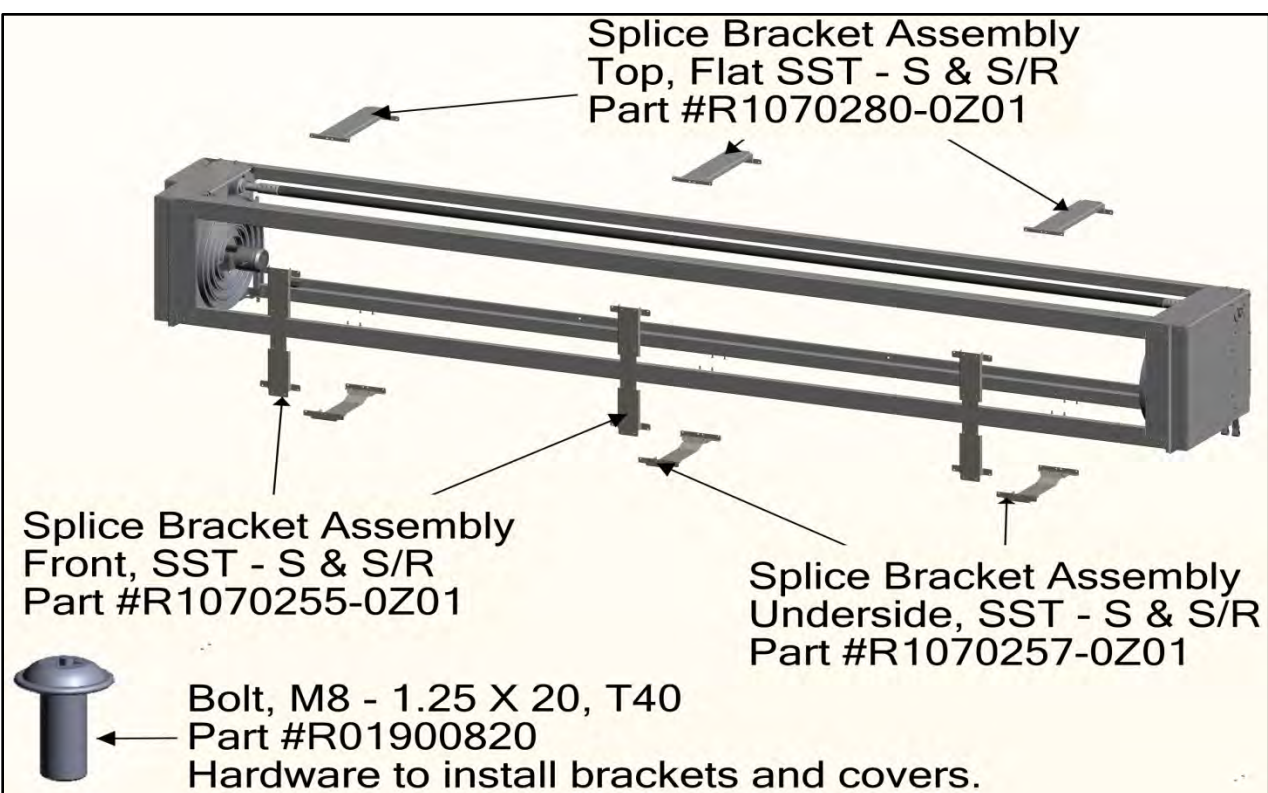
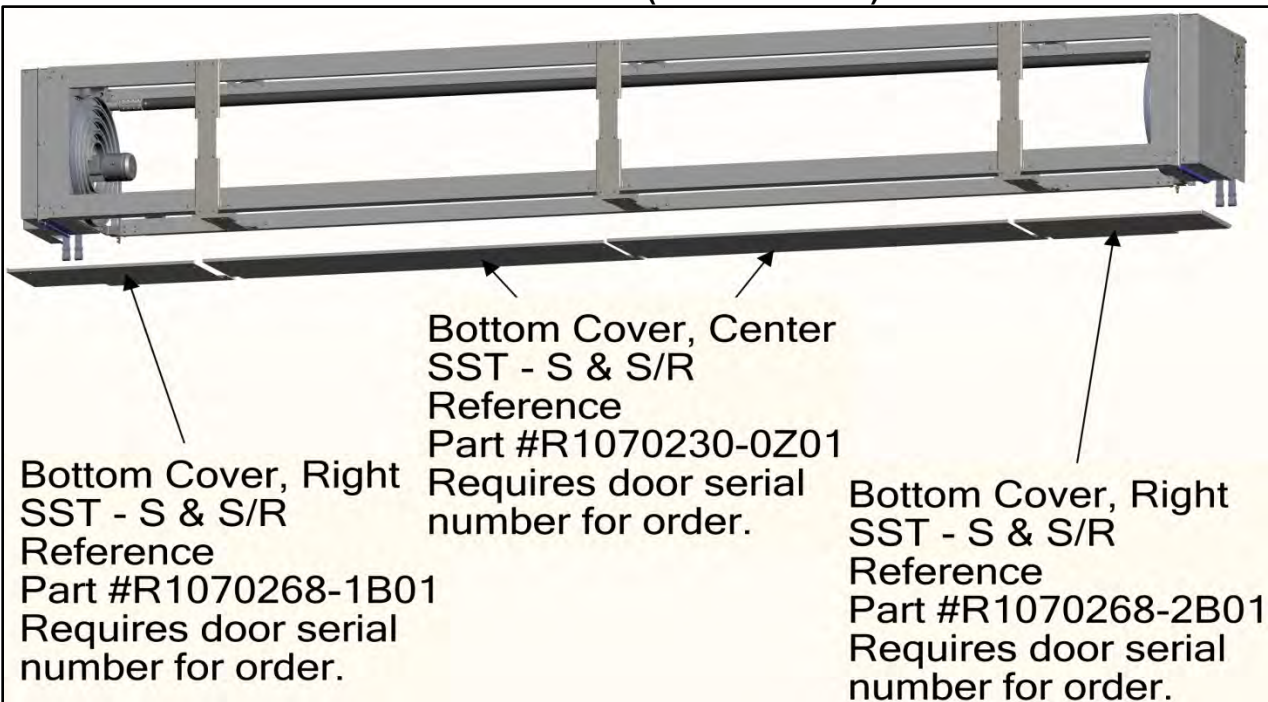


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COVERS - FULLY ENCLOSED FLAT HOOD (SST - S & S/R)

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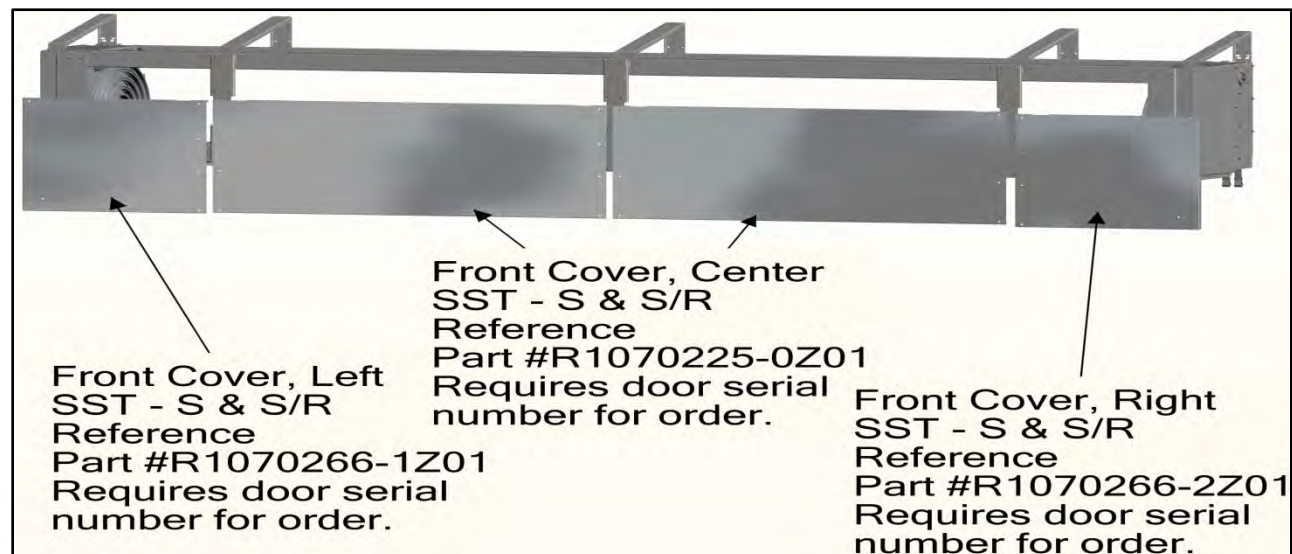
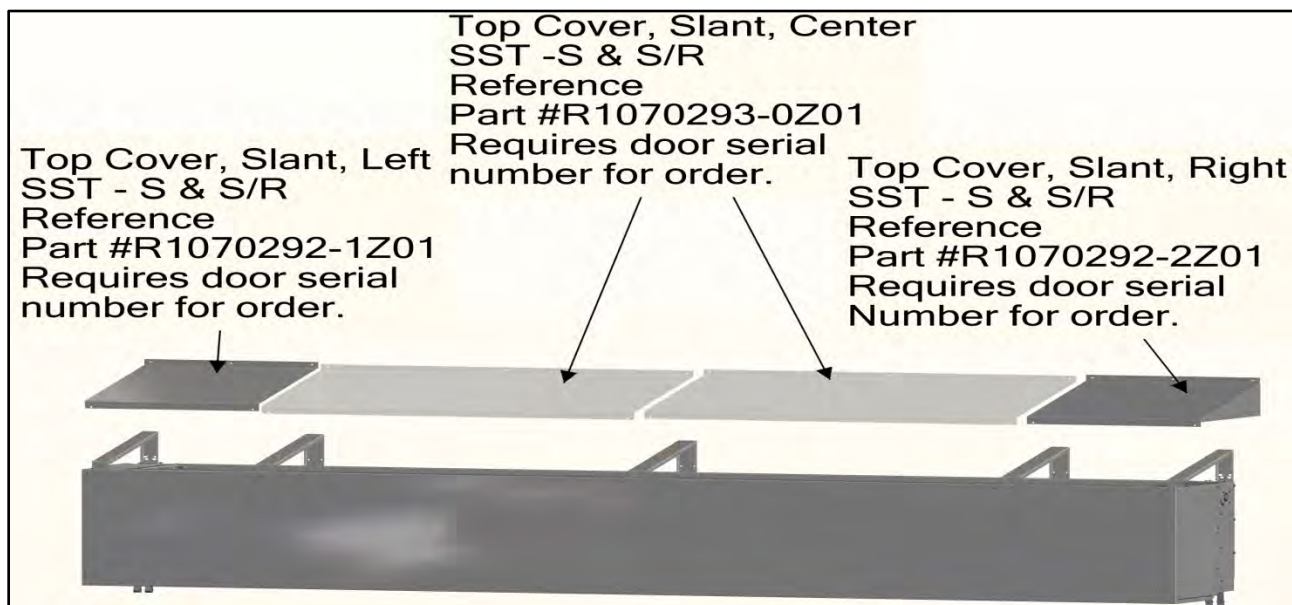
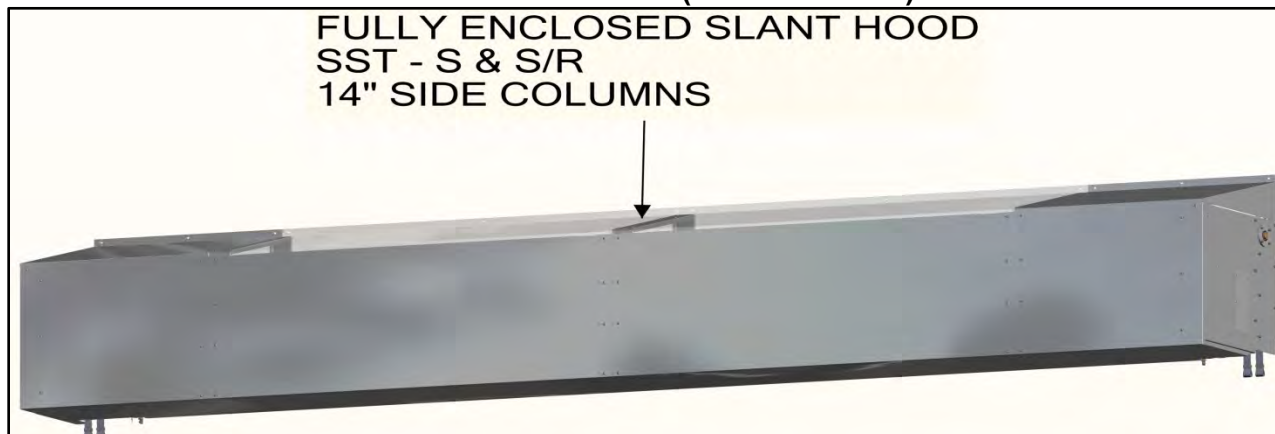


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COVERS - FULLY ENCLOSED SLANT HOOD (SST - S & S/R)

COVERS - FULLY ENCLOSED SLANT HOOD (SST - S & S/R)

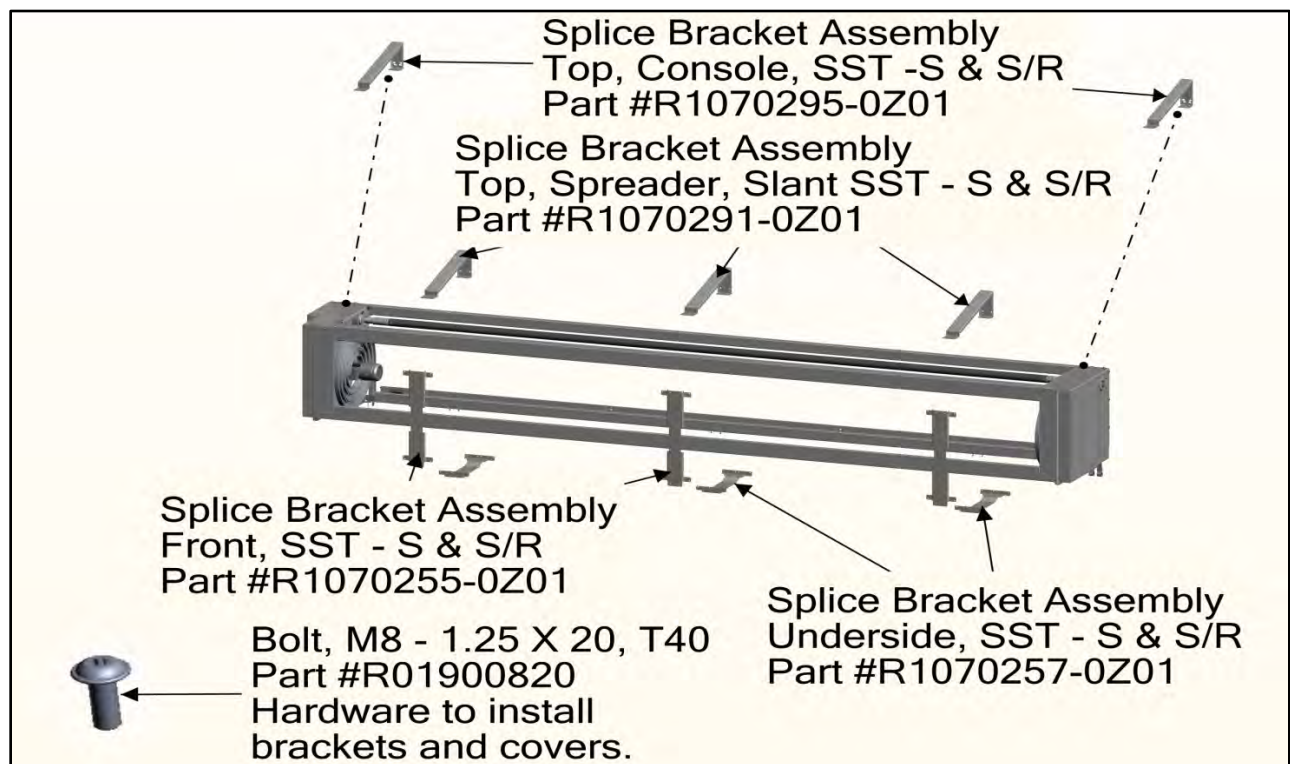
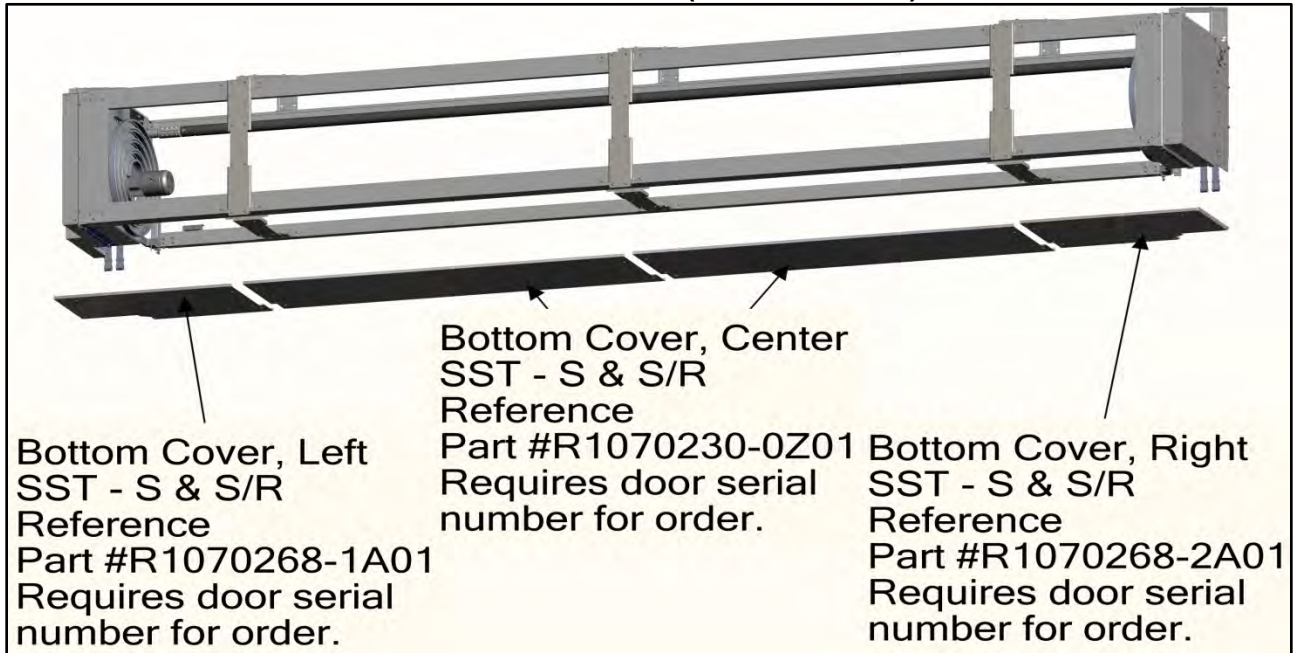


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COVERS - FULLY ENCLOSED SLANT HOOD (SST - S & S/R)

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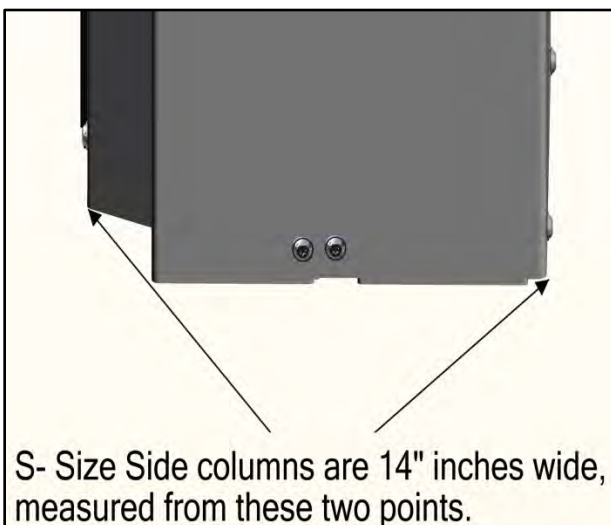
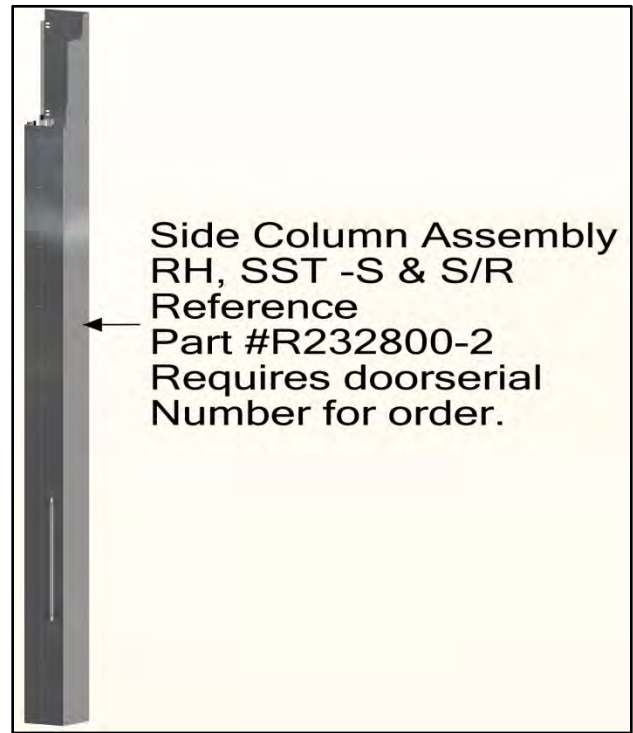


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SIDE COLUMNS (SST - S & S/R)

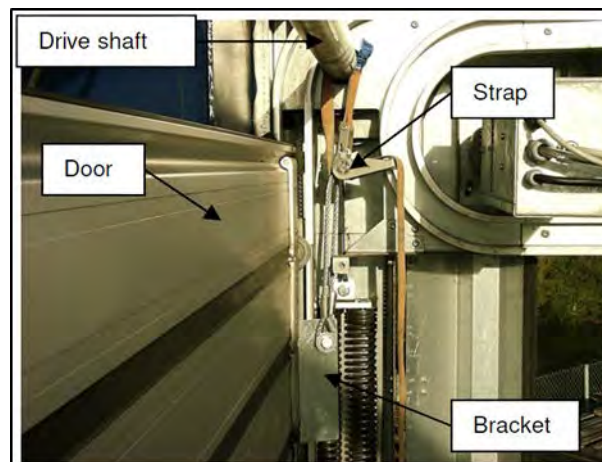
SIDE COLUMNS (SST - S & S/R)



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SPIRAL PANEL LIFTING BRACKET



Part #R1070360-0Z1 Plate, Door Panel Service, one bracket per side.

PARTS LIST

PARTS LIST – Common Spare Part & Older Model Spiral Door Parts

Common Misc. Parts

R00111193 Battery Wireless
R0012242 Falcon Motion Detector
R0012867 IS40 Motion/Presence Detector
R0012145 BEA Universal Remote
R0012210 Pull Cord/Wall Switch
R00121002 Pushbutton, Black Mushroom
R00141087 Photo Eye, Telco3000, Transmitter, rear remote photo eye
R00141088 Photo Eye, Telco 3215, Receiver rear remote photo eye
R0012738 Photo eye cable 65' Long, for Telco or P&F photo eyes
R00141120 Encoder wireless Extended range, 60" antenna cable
R0222320851 Photo Eye Transmitter Efaflex, mounted in side column, front transmitter, MUST be purchased as set.
R0222320852 Photo Eye Receiver Efaflex mounted in side column front receiver, Must be purchased as set.
R02222784 Photo Eye cable for Efaflex photo eyes, 8 meters long, drive side
R02222786 Photo Eye cable for Efaflex photo eyes, 15 meters long, non-drive side
R205625Z6 Roller, Hinge, wheel
R00142057 Mobile Unit, Extended Range
R1210173-0 Pathwatch™ LED warning strip
R217605 Guide Tube, Spring Pack, plastic Gray PVC tubes for spring packs.
R217872 Blue Spring belt - requires length or door serial number for order.
R00122000 Loop Module, System 4
R1070360-0Z1 Plate, Door Panel Assembly Service – panel lifting bracket for service & installation.

Older Model Spiral Door Parts

R08120607 Energy Chain, Black Plastic, requires length (inches) or door serial number for order.
R00141054 Energy Chain cable requires length (inches) or door serial number for order.
R0012220 Loop Module, Dual Channel System 3

