

R Y T E C

# Spiral<sup>®</sup> VP<sup>™</sup> Direct Drive (SVP-D)

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## Owner's Manual



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## Spiral® VP™ 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® VP Door Series** ("Product") sold to the Buyer will be free of defects in materials and workmanship (ordinary wear and tear excepted) for the time periods set forth below:

**Mechanical** components for a period of **Five (5) Years** from the date of shipment of the Product from the Seller's plant ("Shipment"). Note: **Motor assembly** is considered a mechanical component.

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

**Hinge rollers, hinges and door track** for a period of **Twenty (20) Years** from Shipment.

**Standard door panel 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, energy chain and cable, wireless mobile unit battery**, are considered wear items and are not covered under this Limited Warranty.

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

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

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

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

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

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

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

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

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

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

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



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**INTRODUCTION**

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

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

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

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

The wiring connections and schematics in this manual are for general information purposes only. A wiring schematic is provided with each individual door specifically covering the control panel and electrical components of that door. That schematic was shipped inside the cover of the System 4 control panel.

**HOW TO USE MANUAL**

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



**WARNING**

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



**CAUTION**

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

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

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

**DOOR SERIAL NUMBER(S)**

To obtain your DOOR SERIAL NUMBER, there are four universal locations that this information can be attained. These are on the left side column and right side column assemblies (at approximately eye level), on the motor-gear drive assembly, and inside the door of the System 4 control panel. (See Figure 1)



**CAUTION**

**When installing multiple doors of the same model, verify & match the serial numbers of all the components for each door (i.e. control panel, side columns, drive assembly, etc.).**

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

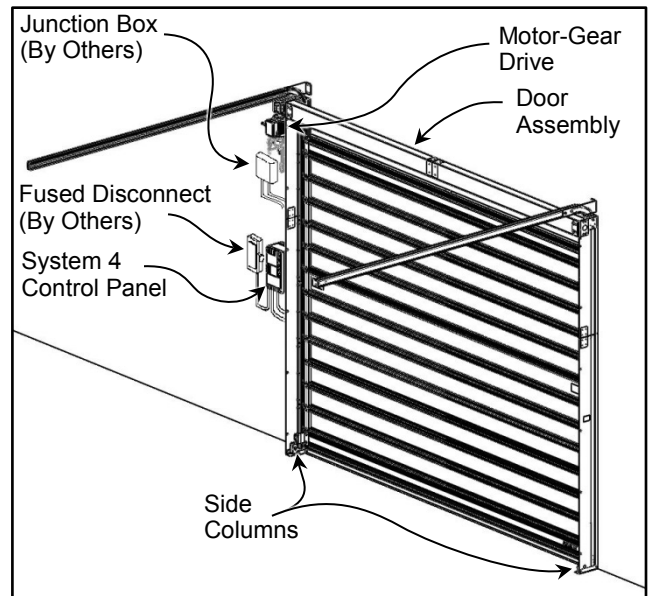


Figure 1

**GENERAL ARRANGEMENT OF DOOR COMPONENTS**

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

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

## OPERATION-OPERATING CONTROL SYSTEM

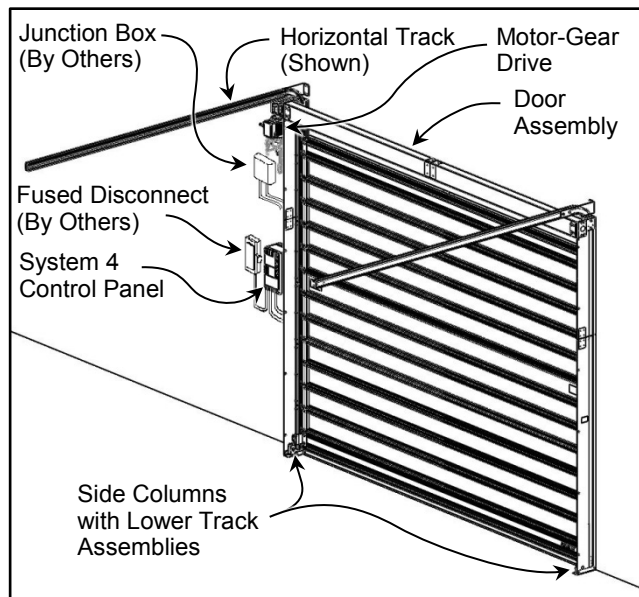


Figure 2

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

## OPERATION

### OPERATING CONTROL SYSTEM

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

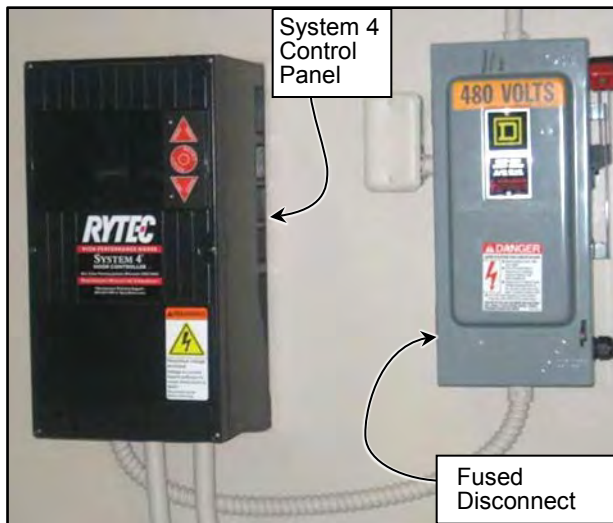


Figure 3

## MODES OF OPERATION

The door may be operated in 1 way: Manually.

### Manual Mode of Operation

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

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

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

NOTE: The System 4 control has separate inputs programmed with or without the use of timers. Any input utilizing a timer can be turned OFF by simply reducing the time to 0 seconds. (See the System 4 Drive & Control" manual)

### OPEN AND CLOSE DOOR LIMIT POSITIONS

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

#### Close Limit Position

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



**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.

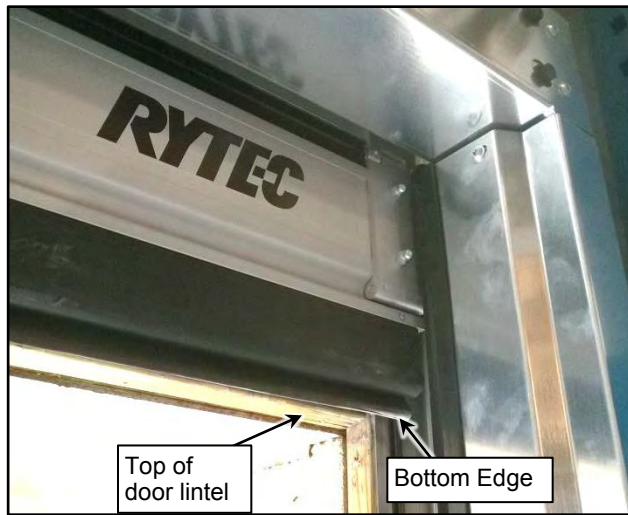


Figure 5

**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 one set of photo eyes that monitor the opening of the door. The purpose of these photo eyes is to hold the door open or, if the door is closing, reverse the direction of the door if a person or object crosses the path of the photo eye beam. After the obstruction breaking the photo eye beam is removed:

- If the door was originally opened by an automatic activator, the door will not close automatically & the door will remain open until it is closed by the non-automatic activator. This is the standard setup from the factory.
- 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.

One photo eye set is included with the Spiral VP Direct Drive Door as a standard. The photo eyes serve as a safety device. They prevent the door from closing if an object is in the path of the photo eye set light beam. The photo eyes are not meant to be used as activators to open or close the door.

The set of photo eyes consists of an emitter module and a receiver module. The set of customer field-installed eyes are mounted in the side columns. (See Figure 6)

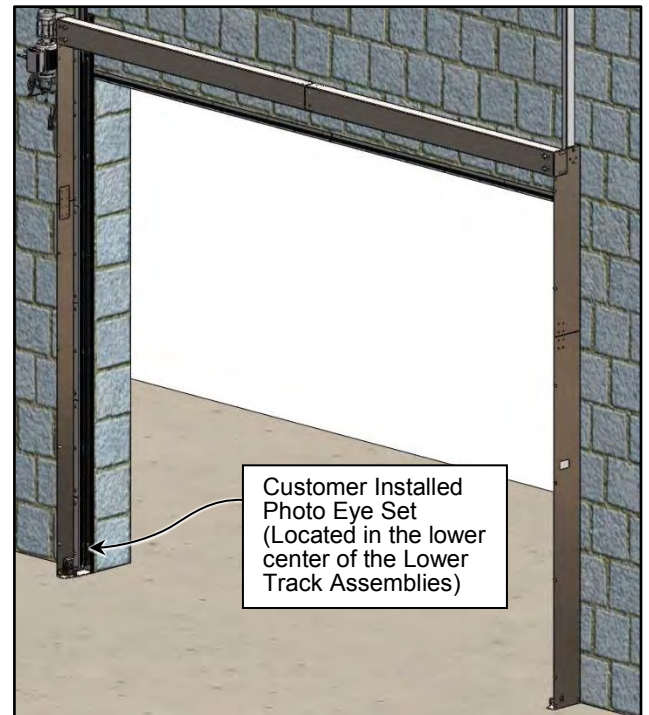


Figure 6

The transmitter and receiver can be identified in two ways. The transmitter is designated SMT 3000 on the white label or by a single green light that comes on at the clear end of the transmitter. Additionally, the back is covered with a red coating. (See Figure 7)

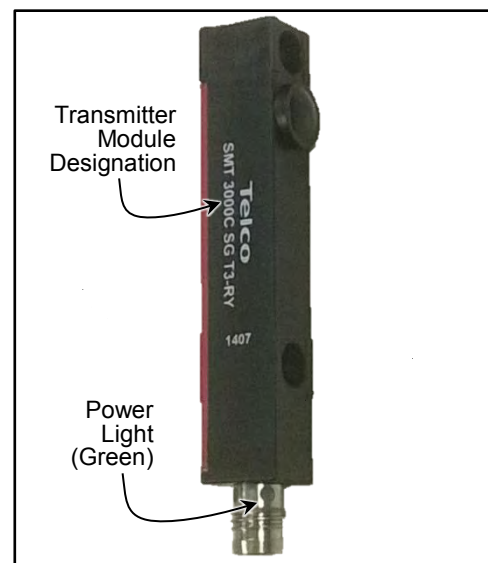


Figure 7

The receiver is designated SMR 3215 on the white label or by a yellow light that illuminates only when it is in proper alignment with the transmitter. Additionally, the back is covered with a yellow coating. (See Figure 8)



## OPERATION-DOOR PANEL BOTTOM EDGE

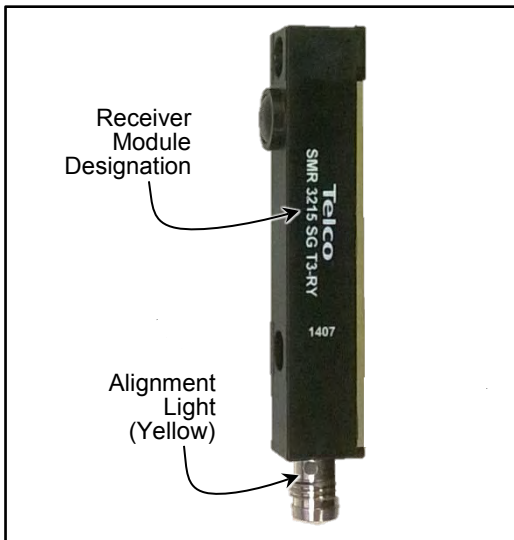


Figure 8

*NOTE: When the cable is connected to the photo eye, there is only a 1/4-inch window to see the green or yellow LED light.*

### System Reset — Photo Eyes

If the set of photo eyes detects an object has entered the door opening while the door is closing, the door will immediately reverse direction and move to the fully open position. The door will remain parked in this position until the object has been removed from within the opening. If the front set of photo eyes detects the interruption, the display will read "Photoeye – Fr 222".

The door will remain parked in the fully open position for as long as the object(s) is in the path of the door opening. Once the object causing the photo eyes to trip are removed from the door opening:

- If the timer is off, which is standard, the door close (▼) button must be pressed to close the door.
- If the timer is set, the door will close when the timer clocks out.

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

### DOOR PANEL BOTTOM EDGE

A door panel bottom edge is mounted along the bottom of the door panel. It is designed to provide a seal between the door panel and the floor. (See Figure 9)

## **WARNING**

The door panel's bottom edge is not a functioning reversing edge! Anything it comes in contact with will not stop it unless the door's photo eye beam is interrupted. Failure to stay clear of it may cause damage or personal injury!

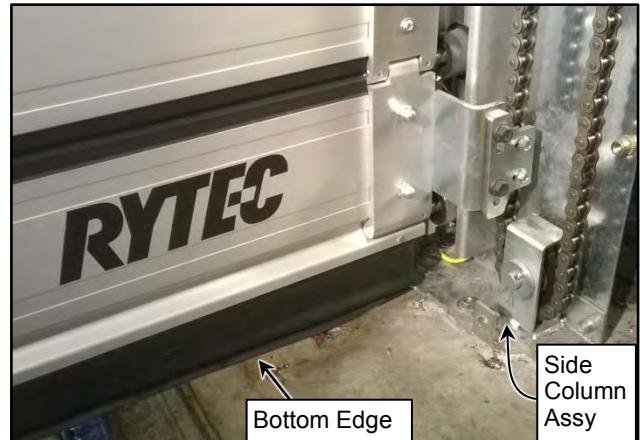


Figure 9

### POWER DRIVE SYSTEM

The Spiral VP Direct Drive Door power drive system consists of an electric motor/brake assembly, reduction gear assembly, and encoder. The power motor-gear drive system is mounted directly to the drive shaft and side column/head assembly as shown. It can be mounted on either the right or left side of the door. (See Figure 10)

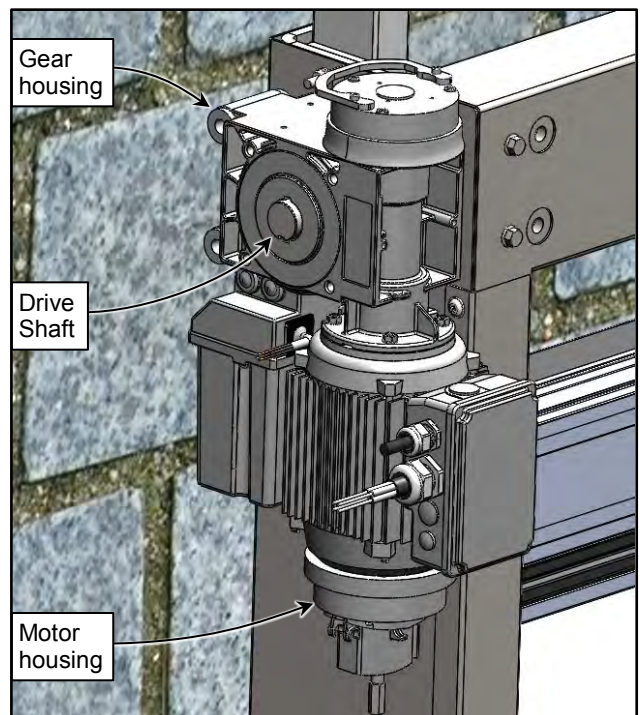
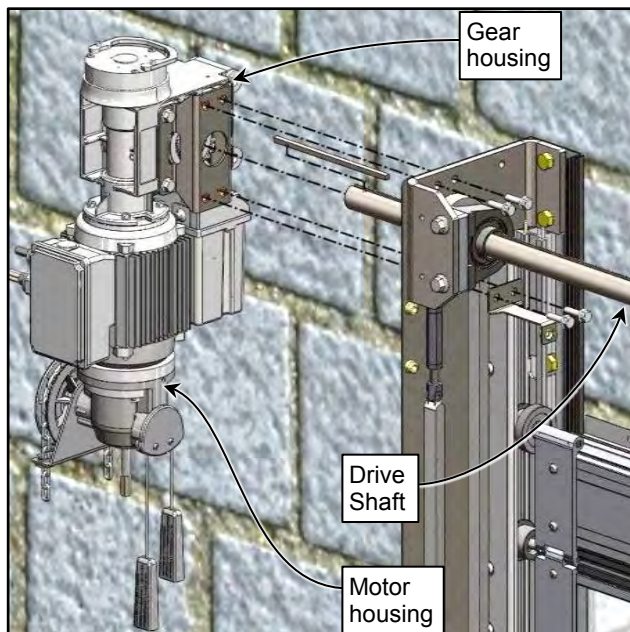


Figure 10

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

An encoder, mounted to the bottom of the gearbox, generates signals as the door panel moves. These signals are used by the control system to monitor the position of the door. Once the door and control system are synchronized, they will remain synchronized.

The drive motor is directly connected to the drive shaft by way of the motor's gear drive. The power drive system is mounted and held in position to the side column on its mounting bracket. (See Figure 11)



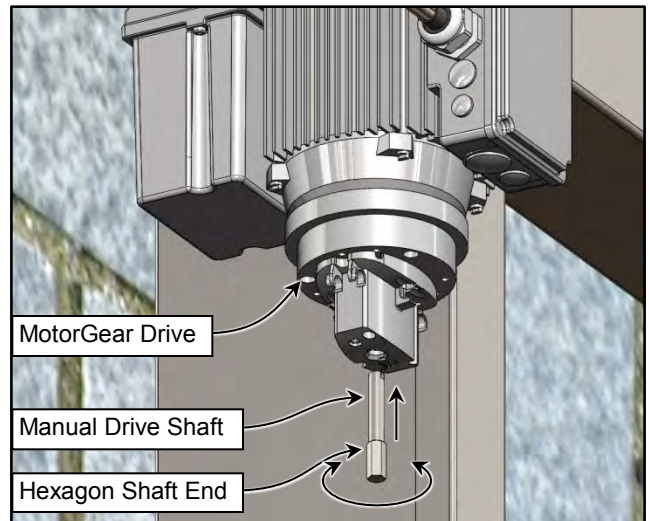
**Figure 11**

**MANUAL DRIVE SYSTEM**

This Ryttec door is equipped with an electric motor brake system that stops the motor and doesn't allow it to freely travel when not running. It may be operated manually to be opened or closed in the event of an emergency or power outage.

**Standard Manual Drive System**

As a standard, the motor contains a shaft driver which may be inserted into the motor end as shown and turned w/ a wrench to move the door. Simply lock the drive into place in the motor and turn in the desired direction. (See Figure 12)



**Figure 12**

**Chain Hoist Manual Drive System**

Optionally, it may instead be equipped with a chain hoist. A release system on the motor assembly controls the operation of the chain hoist, located on the bottom end of the drive motor, which is mounted on the drive side of the drive shaft & side column.

The drive motor has a red & green handle hanging from the bottom as shown. When the green handle is pulled or in the lowest position, the drive motor is engaged to run on electrical power. When the red handle is pulled or in the lowest position, electrical power has been disengaged and manual door operation is required using the chain. Also, when the red handle is pulled, a sensor is engaged and will not allow electrical power to the door.

Electrical power can be shut off anytime to operate the electric motor in manual mode. Control panel limit settings will not be affected when switching the power off and back on. The door will return to a normal operating mode. (See Figure 13)



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

**The door panel's bottom edge is not a functioning reversing edge! Anything it comes in contact with will not stop it unless the door's photo eye beam is interrupted or an operator button is pushed.**

**DO NOT stand under the door when moving the door! Failure to stay clear of it may cause damage or personal injury!**



## OPERATION-DOOR LIFT SYSTEM

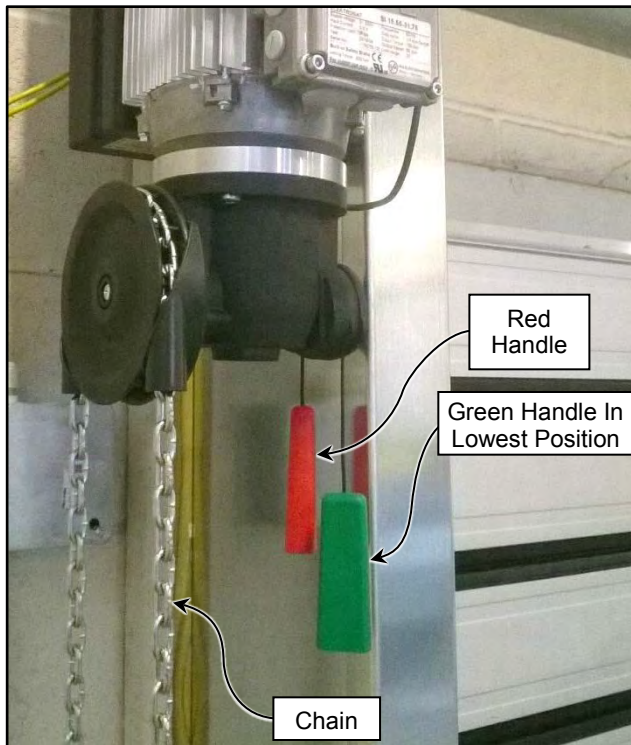


Figure 13

### DOOR LIFT SYSTEM

#### Chain Drive Assembly

Near each end of the drive shaft is a chain drive sprocket just outside either end of the door panel. Installed on each sprocket is a drive chain. (See Figure 14)

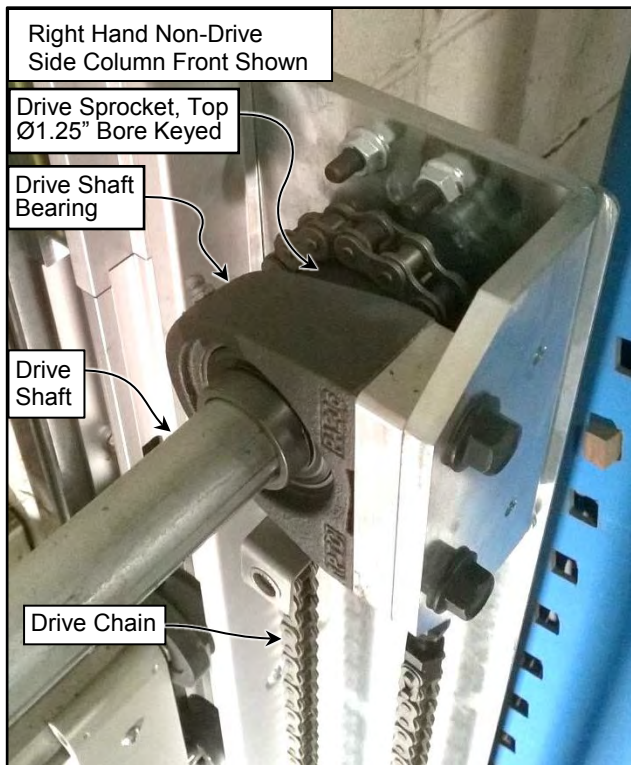


Figure 14

Each drive chain runs down through its respective side column to a return guide sprocket mounted in the base of each column. Each drive sprocket is aligned to the bottom return sprocket and locked in place along the drive shaft with set screws. (See Figure 15, & Figure 16)

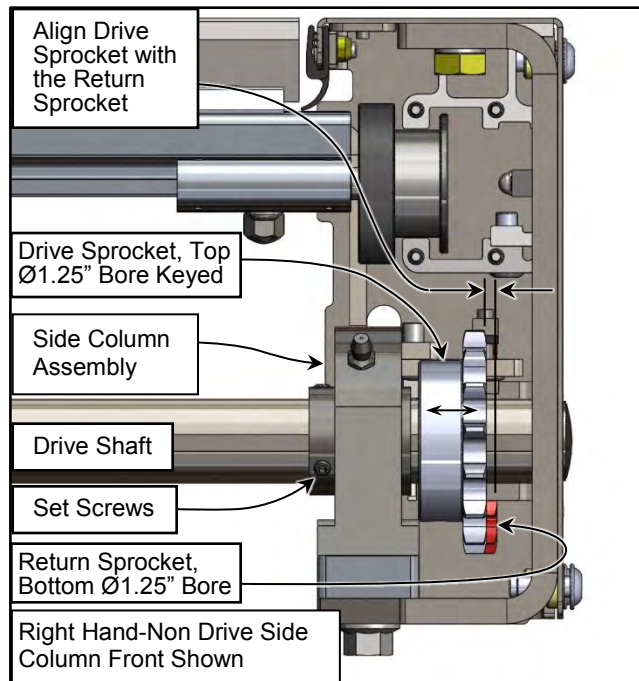


Figure 15

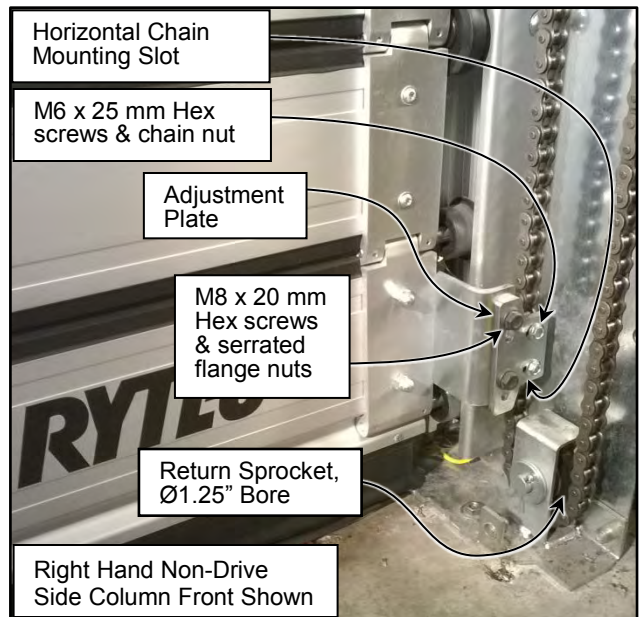
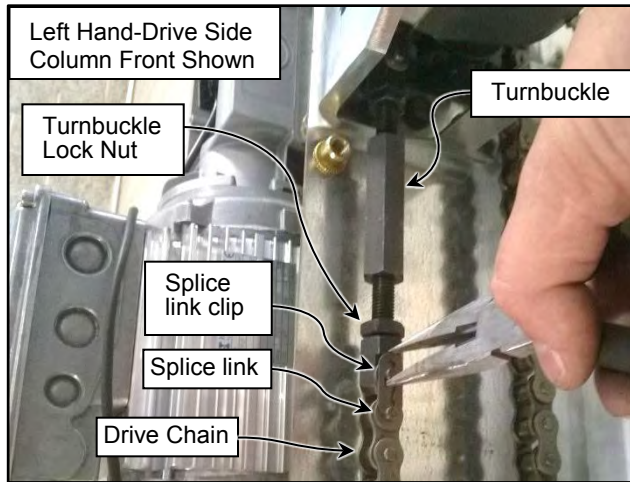


Figure 16

End brackets in the bottom corners of the door connect the door to the chain drive assembly. A clamp on the end of each bracket locks the chain to the door. Depending on the direction the drive system turns the drive shaft, the drive chain will rotate up or down to raise or lower the door. (See Figure 16)


Tension of the drive chains are controlled & adjusted by turning on the Turnbuckle connected to each drive chain. (See Figure 17)



**Figure 17**

**SAMPLE OBJECT LIST**

Included with every door shipped is an Object List as shown in Figure 18 which is a sample version. This list contains key information specific to the door such as the model, serial number, door Production Size specifications, etc. Locate this document (it will be with the small parts for the door) as you will need information on it which will be key for proper installation, operation, and maintenance. Keep this document along with the manuals in a safe place for future reference.

		<b>Object list</b>		Material number	
		Duplicate		714	
Material description		Order number		Order quantity	
SPIRAL VPD-FV		2399127		1 EA	
MRP controller	Production scheduler	Order type	Start	Finish	
500 B5 ZMAT	T8 Tier 8	ZP02 RYTEC MTO	07/14/2016	07/15/2016	
Status		Plant	Reservation number	Creation Date	
REL MSPT PRT PRC SETC		1000 Rytec Corporation	0001035474	06/22/2016	
Serial number					
D0032387-090					
Configuration					
Door Serial Number D0032387-090					
DOOR MODEL NAME Spiral VP Direct Drive -FV					
Door Width (Inches) 168.110					
Door Height (Inches) 144.094					
Head Lift Type Standard Lift					
motor mount side Left Hand Motor					
Line Voltage 208V					
Line Phase Single Phase Power					
Manual Chain Hoist No Chain hoist					
Number of Slats 17					
Number of solid slats 0					
Number of windows 15					
Number of vent slats 0					
Top Seal Height from floor -in 146.102					
Track to Track dimension (in) 170.610					
Information on routing					
DOOR ASSEMBLY, SPIRAL VPD-FV					

**Figure 18**

# GENERAL CLEANING-RECOMMENDED INSPECTION SCHEDULE

## GENERAL CLEANING

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

## PLANNED MAINTENANCE

### RECOMMENDED INSPECTION SCHEDULE

Action Items	Daily	Quarterly
Visual Damage Inspection		
Door Operation Inspection		
Bottom Bar Edge Seal Inspection		
Photo Eye Inspection		
Electrical/Control Panel Inspection		
Electrical Connection Inspection		
Hardware Inspection		
Door Panel Inspection		
Bottom Bar Inspection		
Weather Seal Inspection		
Mounting Anchor Inspection		
Door Limit Inspection		
Chain Drive Inspection		
Motor Brake Inspection		
Lubrication		
Top Track Inspection		
Cleaning Vision Panels		

**IMPORTANT:** The design of this door is such that it requires little lubrication.

**DO NOT lubricate any parts, components, or assemblies of this door other than the drive chain & drive shaft bearings. This includes the door panel rollers, guides, & track. Lubricants will attract dust & 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(s), dented side column(s), torn or damaged reversing edge, damaged or broken photo eyes, etc. (See Figure 19)

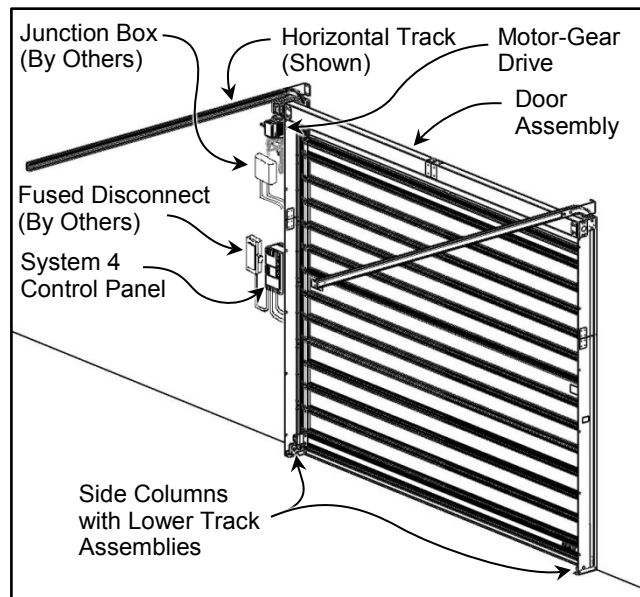


Figure 19

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

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

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

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

**Wiring, Chords, and Drive Chains:** Inspect for damage & wear that may prevent the door from operating properly.

### Door Operation Inspection

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

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



**Bottom Edge Seal Inspection**

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

**⚠ WARNING**

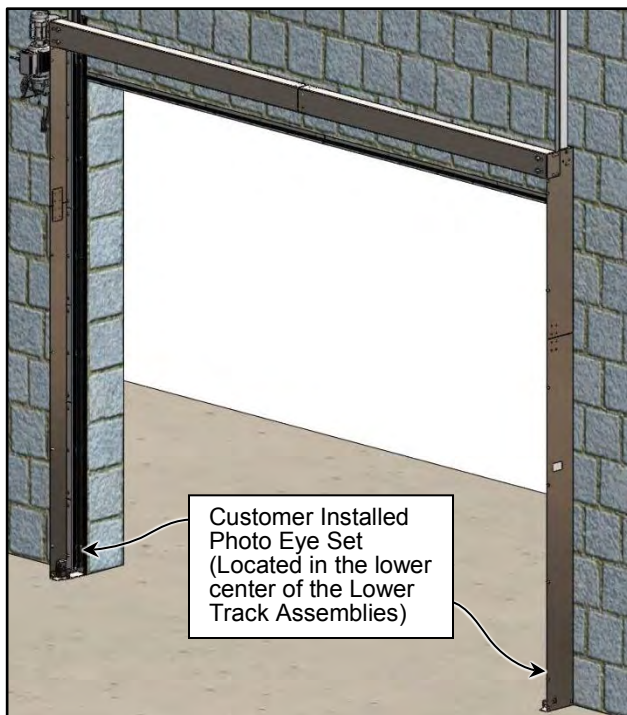
The door panel's bottom edge is not a functioning reversing edge! Anything it comes in contact with will not stop it unless the door's photo eye beam is interrupted or an operator button is pushed.

**DO NOT stand under the door when performing this test! Failure to stay clear of it may cause damage or personal injury!**

**Photo Eye Inspection**

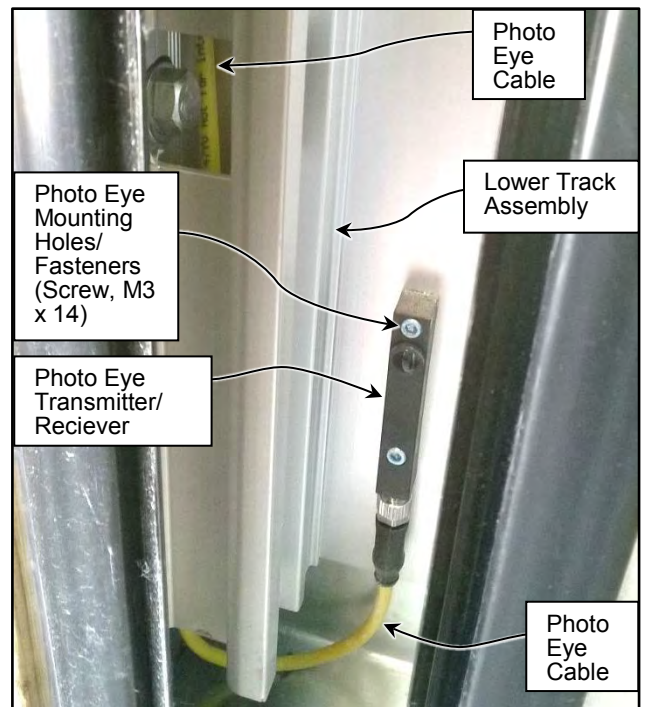
Inspect the lens of each photo eye for damage or dirt that may prevent the photo eyes from working properly — clean or replace as required.

The emitter and receiver modules are mounted in the lower center of the doors lower track assemblies. They are mounted in the field during the door's installation. (See Figure 20, & Figure 21)



**Figure 20**

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



**Figure 21**

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 the 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) and the door close (▼) button is pushed.

The photo eye modules that make up the set of eyes each have one indicator light. The eyes are receiving power and are aligned when the indicator on the emitter/transmitter module (left eye) is green and the indicator on the receiver module (right eye) is yellow. If both module indicators are not lit up, the eyes are either not aligned, broken, dirty/obstructed, or wired properly. (See Figure 7 & Figure 8)

When the eyes are aligned & operating properly, and the beam of light between them is interrupted, the receiver module indicator will switch from yellow to off. Restoring the beam of light will cause the indicator to switch back to yellow.

Test the door's photo eyes by doing the following:

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 set of photo eyes to interrupt the beam of light between the photo eyes.
3. Press the door close (▼) button. The door should not operate.

## PLANNED MAINTENANCE-QUARTERLY INSPECTION

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. Check that each photo eye is properly lit up & aligned.
5. Retest the set of eyes. If cleaning does not resolve the problem, realign or replace the photo eyes as required.

To align the photo eyes, see “PHOTO EYE ADJUSTMENT” on page 18 for adjustment procedures. To replace the eyes, see “PHOTO EYE REPLACEMENT” on page 23.

### Cleaning Photo Eyes

#### **⚠ WARNING**

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

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

### QUARTERLY INSPECTION

#### **⚠ WARNING**

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

### Electrical/Control Panel Inspection

#### CONTROL PANEL

1. Remove power to the control panel by placing the fused disconnect in the OFF position.
2. Open the door to the control panel. (See Figure 22)



Figure 22

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 23)



Figure 23

### Electrical Connection Inspection

1. Turn off power to the door.



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

2. Inspect all electrical connections to the power drive system. All connections must be secure and tight.
3. Inspect the electrical connections in the junction boxes located in the head assembly. All connections must be secure and tight.
4. For the proper control panel electrical connection inspection procedure, see the Rytec System 4 Drive

### Hardware Inspection

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

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

### Door Panel Inspection

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



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

3. Remove the side covers from the side columns. Each cover is held in place with 20-mm- long, TORX® head screws.
4. Inspect the entire door panel assembly. Check for damaged or missing hardware. Replace as needed. Also check for loose hardware. Tighten as required.
5. Check for any damaged door panels. Replace as necessary. To replace a door panel, see “DOOR PANEL REPLACEMENT” section on page 19.

### ROLLER & GUIDE WHEEL INSPECTION

6. Position clamps along both edges of the door above and below the Lower Track Assembly track cover to be removed to prevent unexpected door movement as shown. (See Figure 24)
7. Individually remove the Lower Track Assembly track covers 1 at a time to inspect the roller & guide wheels. Reinstall each cover before inspecting the next set of rollers/guides. The covers are held in place with TORX® head screws.

Inspect the rollers and guides for damage or wear. Replace as needed. To replace a roller or guide, see “DOOR ROLLER REPLACEMENT” section on page 22. (See Figure 25)



## PLANNED MAINTENANCE-QUARTERLY INSPECTION

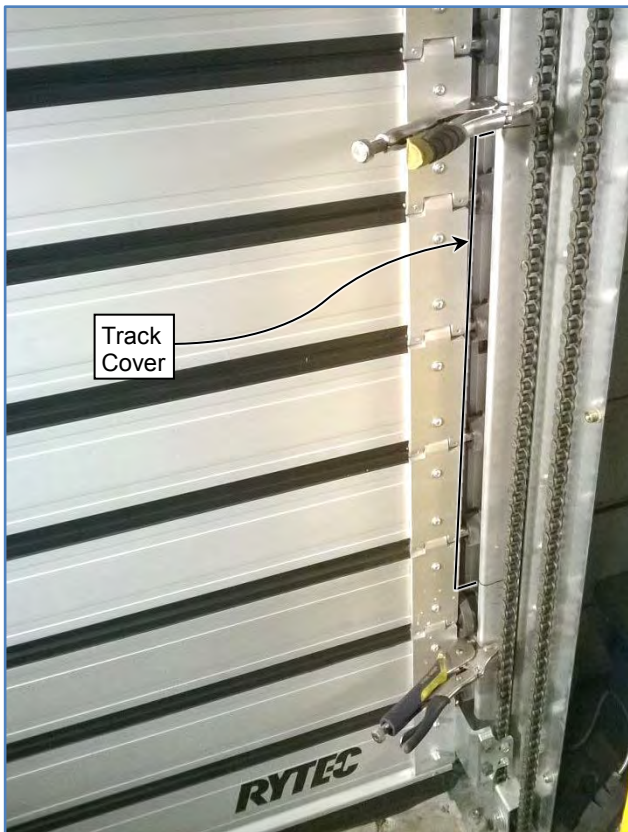


Figure 24

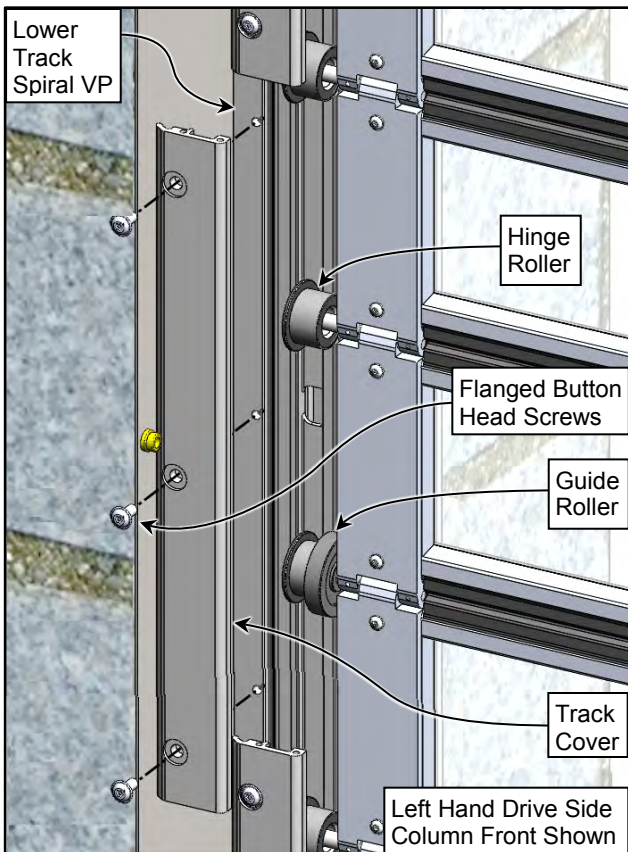


Figure 25

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

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

A door panel up to 16 feet in width is considered level when the ends of the bottom edge are within  $\frac{1}{4}$  inch of each other. A door panel 16 to 28 feet in width is considered level when the ends are within  $\frac{3}{8}$  inch of each other. To level the door panel, see "DOOR PANEL ADJUSTMENT" section on page 17.

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

### Bottom Bar Inspection

Inspect the bottom seal along the bottom bar assembly for wear, tears, and/or abrasion. Replace any worn or damaged parts as required. (See Figure 26)

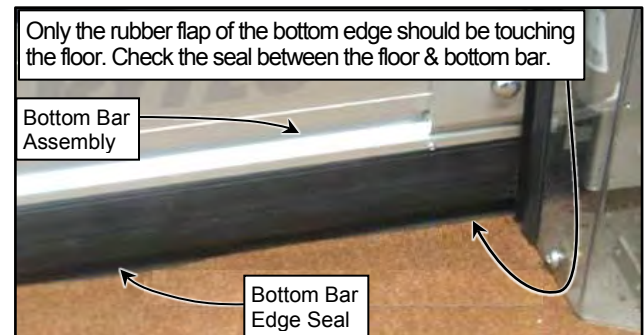


Figure 26

### Weather Seal Inspection

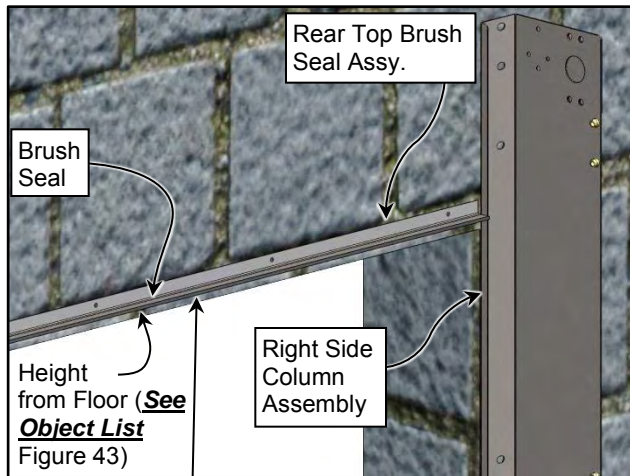
There are weather seals on the front & rear side of the door panel in the side columns as well as a brush seal between the door and the wall along the door's top lintel. (See Figure 27 & Figure 29)

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

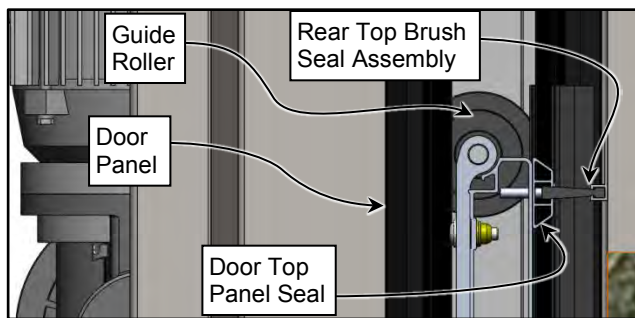
**⚠ WARNING**

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

3. Inspect the entire length of the brush weather seal along the door's top lentil for wear and damage. The Rear Top Brush Seal Assembly should seal up against the door's Top Panel Seal as shown. (See Figure 27 & Figure 28)



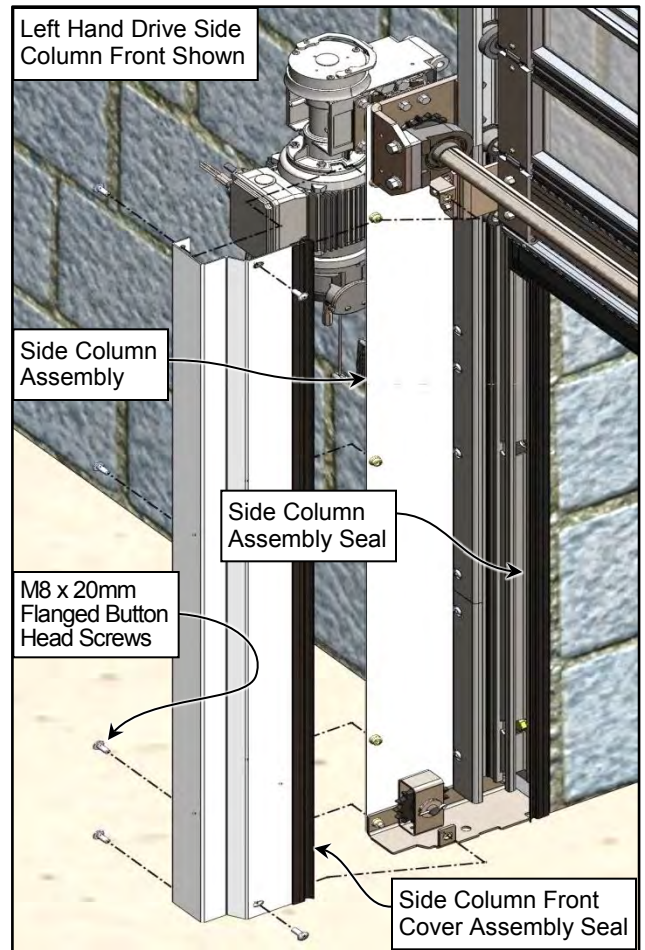
**Figure 27**



**Figure 28**

4. Inspect the weather seals in both side columns. Check for wear and tear, and check for a good, tight fit between the door panel and the seal. (See Figure 29)

Inspect all weather seals to confirm they are properly positioned.



**Figure 29**

**Mounting Anchor Inspection**

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



**WARNING**

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

3. Gain access to the door's mounting anchors by removing the Side Column & Track Covers. To remove the Track Covers, see "Door Panel Inspection" section, steps 6 - 7 on page 11. (See Figure 30)
4. Inspect for loose or worn mounting anchors.
5. Tighten, repair, or replace the mounting anchor(s) as needed.
6. Remove the door from service if any repairs are needed. All repairs must be done in accordance with building codes.



## PLANNED MAINTENANCE-QUARTERLY INSPECTION

7. After all inspections/repairs are complete, reattach all covers.
8. Turn on power to the door.
9. Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
10. Turn off power to the door.

### **⚠ WARNING**

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

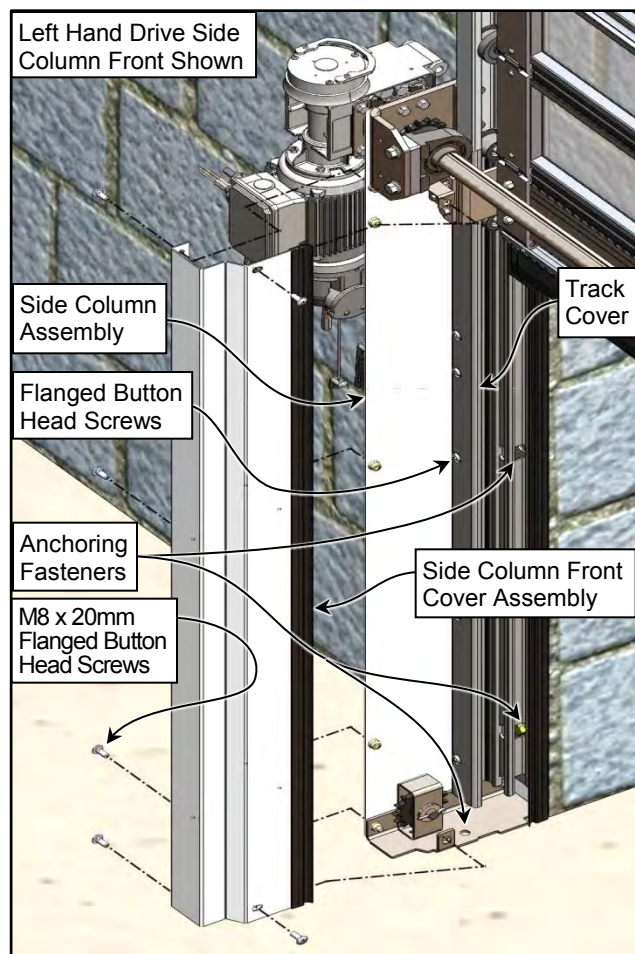


Figure 30

11. Inspect for loose or worn mounting anchors on the Head Assembly. (See Figure 31)

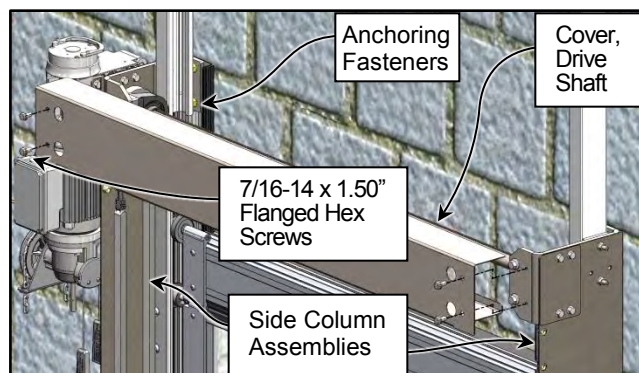


Figure 31

12. Tighten, repair, or replace the mounting anchor(s) as needed.
13. Remove the door from service if any repairs are needed. All repairs must be done in accordance with building codes.
14. After all inspections/repairs are complete, turn on power to the door.

### Door Limit Inspection

See the Rytec System 4 Drive & Control Installation & Owner's Manual for the proper procedure for setting the open and close door limits. The open- and close-limit door positions are detailed in the "ADJUSTMENT – DOOR LIMITS" section of this manual, page 17.

### Chain Drive Inspection

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

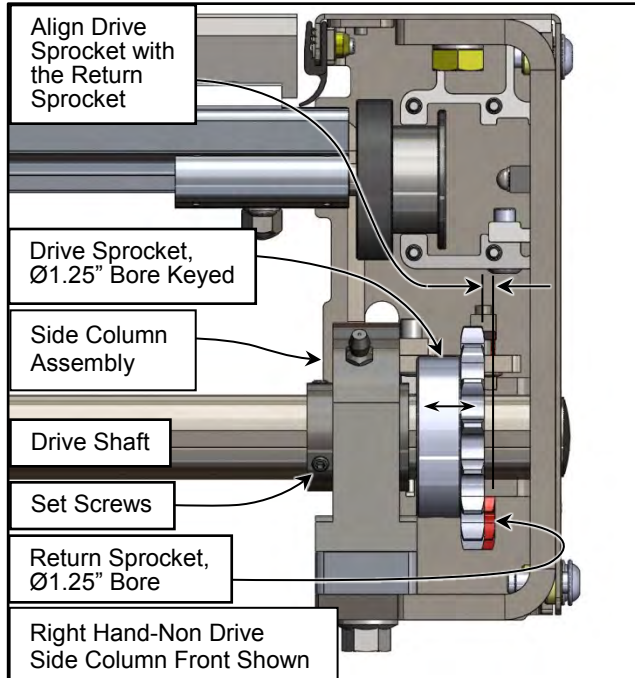
### **⚠ WARNING**

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

3. Inspect the drive chains. The chain & gears should not be worn, cracked, or damaged. Also check for any damaged or missing teeth on the gears. Replace the drive chain(s) or gear(s) if necessary.
4. Check that the top/drive shaft gear is properly aligned with the lower/return gear in the side column base plate assembly. Confirm that it is properly locked in place. Adjust if necessary. (See Figure 32)

To replace the chain, see "DRIVE CHAIN REPLACEMENT" section on page 18.

5. Check that the bearing set screws properly lock down the drive shaft & hold it in place. (See Figure 32)
6. Check that all keys are in place, drive shaft is positioned properly, and all fasteners securely tightened.



**Figure 32**

7. Check the tension setting of the drive chain. A properly tensioned chain should maintain constant contact w/ the gears & be taught enough so as to not come off, jump a gear tooth, or contact anything else. It should also be loose enough so that it does not cause any deflection of the drive shaft or undue stress.

To adjust the drive chain see "DRIVE CHAIN ADJUSTMENT" section on page 17.

**Motor Brake Inspection**

The power drive brake assembly is designed to act as a parking brake when electrical power is turned off to the motor. If the limit switches are set properly and the door drifts past the set limits, the brake should be replaced. (See "MOTOR BRAKE REPLACEMENT" section on page 21)

**MANUAL DOOR OPERATION**

With door power turned off, pull the red handle to the motor/gearbox to engage the manual drive shaft/ chain drive operation. Manually move the door panel up and down, making sure the operation is smooth and friction free. Pull the green handle to re-engage electrical operation. Restore power to the system and perform an operations check.

**Lubrication**

The Rytec Spiral VP Door is practically maintenance free when it comes to lubrication. A visual inspection however, should be performed to analyze any mechanical problems that have gone unnoticed. Operate the door and observe any unusual noises or erratic operation. If a sealed bearing has gone bad, it will have a tendency to make a grinding or growling noise. This is a good indication that the bearing needs to be replaced.

Depending on temperature and environment, lubrication recommendations for a clean environment and up to 122°F (50°C) grease every 12 months. A dirty environment would increase frequency intervals to every 6 months.

1. Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
2. Turn off power to the door.



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

3. **Drive Shaft Pillow Block Bearings:** The drive shaft & chain are supported by two pillow block bearings, which are located at both ends of the Head Assembly. The bearings each have a grease fitting. (See Figure 33)

The bearing should be lubricated quarterly using a lithium-based grease conforming to NLGI grade 2 standard. It should be a medium-viscosity, low-torque rated grease, with an approved operating temperature range of -30°F to 200°F.

4. **Drive Chain Return Bearing Assembly:** The Drive Chain Return Bearing is a sealed unit & does not require lubrication. Check it during regular operation to confirm whether or not it needs replacement.
5. **Drive Motor Assembly:** The motor assembly is a sealed unit and does not require any lubrication of oil or grease.

*NOTE: Do not lubricate the chain drive.*

## ADJUSTMENTS-DOOR LIMITS

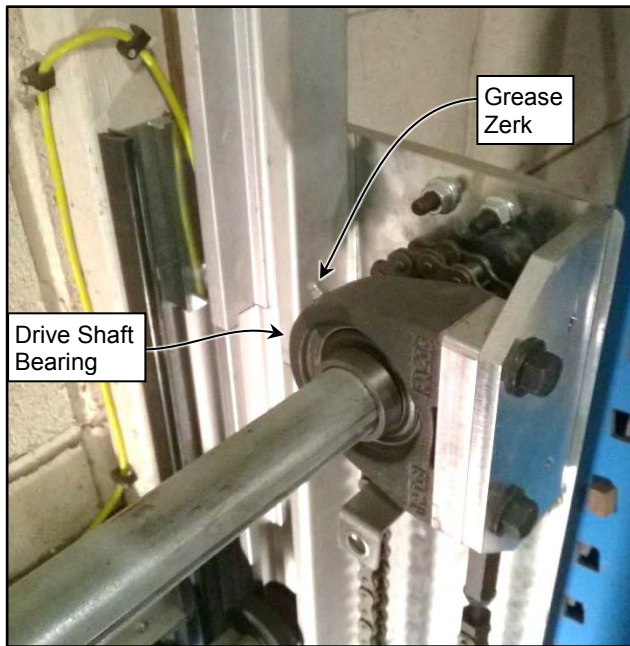


Figure 33

### Top Track Inspection

Confirm that the top track is securely mounted, all fasteners are in place & tightened, tracks are properly positioned & aligned (check track to track distance @ start & end against the object list). Also check that there is no damage, wear, or degradation to any part of the assembly that would indicate any other problems exist or may necessitate replacement. (See Figure 34)

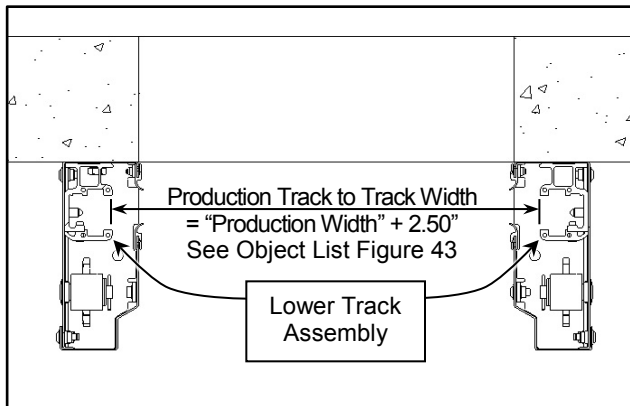


Figure 34

### Cleaning Vision Panels

#### ROUTINE CLEANING

1. Rinse with flowing water.
2. Clean with warm water and small amount of mild non-abrasive soap (dish soap).
3. Lightly rinse vision panels using a water spray.
4. Remove excess water using a clean and dry microfiber or lint free cloth.

5. Use a small squeegee to completely dry all panels.
6. Wipe any additional moisture with dry microfiber or lint free cloth.

#### OCCASIONAL HEAVY CLEANING AND FINE SCRATCH REMOVAL

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

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

## ADJUSTMENTS

### DOOR LIMITS

#### Setting Limits

See the System 4 Drive & Control RY-WI System Installation and Owner's Manual for setting door limits.

#### CLOSE LIMIT

With the door in the closed position, check the black edge seal on the bottom bar. It should be in the position shown in Figure 35.



**Damage to the rubber reversing edge or other bottom bar parts can occur if the door seal is allowed to seal too tightly against the floor. (See Figure 35)**



Only the rubber flap of the bottom edge should be touching the floor. DO NOT drive bottom edge into the floor.



Figure 35

If the reversing edge does not seal properly against the floor, see the Rytec System 4 Drive & Control Installation & Owner's Manual for proper adjustment procedure.

### OPEN LIMIT

The open limit switch should be adjusted so that the door travel allows the bottom bar assembly to stop with approximately half of the breakaway end tab into the yellow channel guide and the edge seal level with the door lintel. (See Figure 36)



Figure 36

### DRIVE CHAIN

The chain drive system utilized to supply power to the door is a #50 roller chain with turnbuckle tensioner.

1. Move the door to the fully closed position by pressing the door close (▼) button located on the control panel.
2. Turn off power to the door.

## ⚠ WARNING

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

3. Remove the side column cover from the side column containing the drive chain to be adjusted. The cover is held in place with TORX® head screws.
4. Loosen the locknuts on the turnbuckle. (See Figure 37)
5. Adjust the turnbuckle as necessary. Finish by tightening up the turnbuckle by hand, then another approximate 1-1/2 turns (with a wrench) until the chain is just tight enough to prevent coming loose or jumping off the sprockets. (See Figure 37)

## ⚠ CAUTION

Do not over tighten the drive chain turnbuckle. Damage to the drive shaft, bearings, other components, or premature wear may occur.

6. Lock the turnbuckle in place with its jam nuts. (See Figure 37)

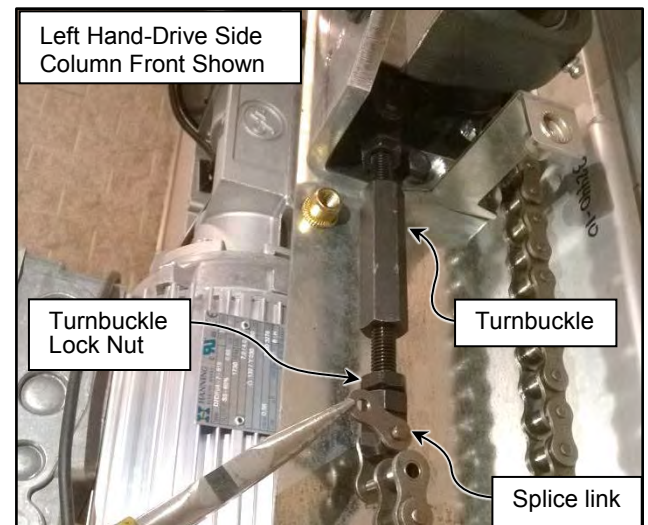


Figure 37

### DOOR PANEL

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

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

## REPLACEMENT PROCEDURES-PHOTO EYE ALIGNMENT

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

### **⚠ WARNING**

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

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

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

- Place a level on the first slat. If the panel needs leveling the panel must be adjusted from the high side.
- Block or support the door panel as necessary. Adjust the door panel by loosening the M8 fasteners in the adjustment plate on the bottom bar assembly end plate as shown. Adjust the door until it is level. (See Figure 38)

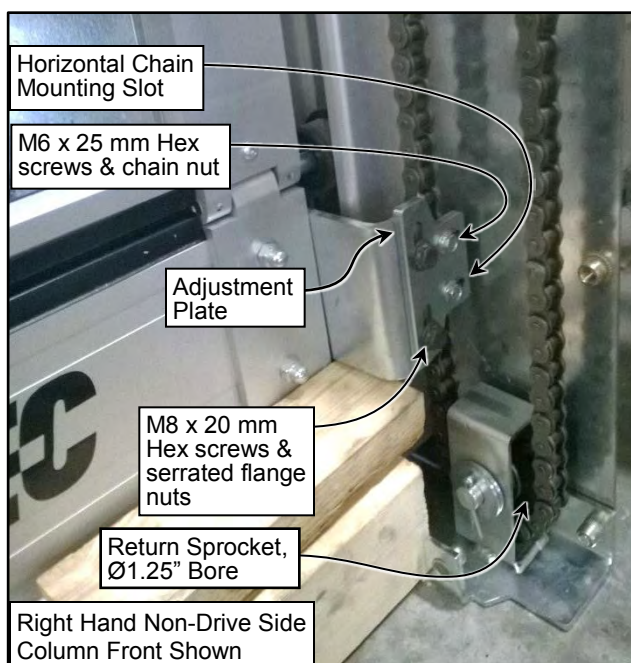


Figure 38

- Tighten all hardware.
- Restore power to the control panel. Operate the door 20 cycles.
- Remove power to the control panel by placing the fused disconnect in the OFF position.

### **⚠ WARNING**

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

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

## PHOTO EYE ALIGNMENT

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

### **⚠ WARNING**

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

- To align a photo eye, reposition the photo eye where mounted as required.

To determine when the photo eyes are properly aligned, see "Photo Eye Inspection" on page 9. If photo eye replacement is necessary, see "PHOTO EYE REPLACEMENT" section on page 23.

- After all adjustments are complete, restore power to the control panel and reset open & close door limits as necessary.

## REPLACEMENT PROCEDURES

### DRIVE CHAIN

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

### **⚠ WARNING**

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

## REPLACEMENT PROCEDURES-DOOR PANEL

- Remove the side column cover from the side column assembly containing the drive chain to be replaced. The cover is held in place with TORX® head screws.
- Block up the door panel so it is fully supported in the closed position as shown. (See Figure 39)

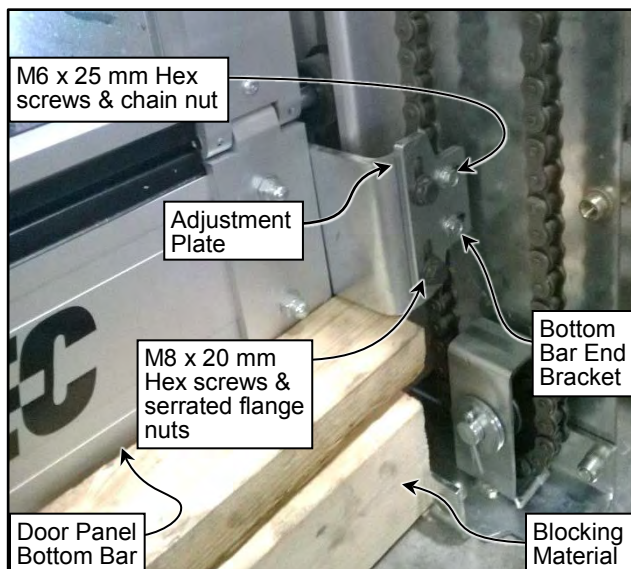


Figure 39

- Loosen the chain's turnbuckle.
- Disconnect the chain from the bottom bar end bracket by removing the M6 screws & chain locknut. Remove the drive chain by taking out the splice link. (See Figure 39, Figure 40, & Figure 41)

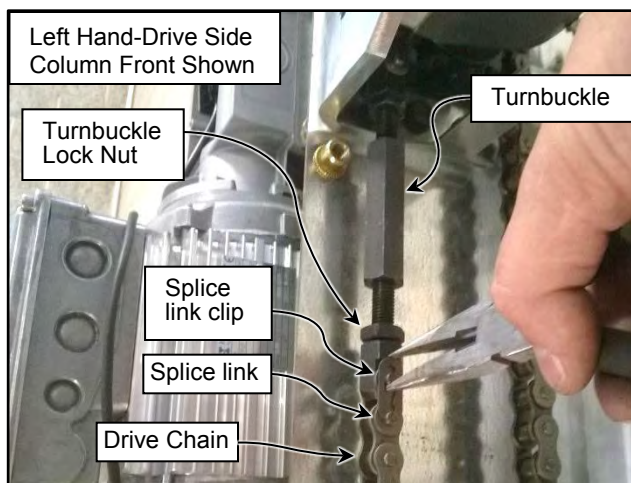


Figure 40

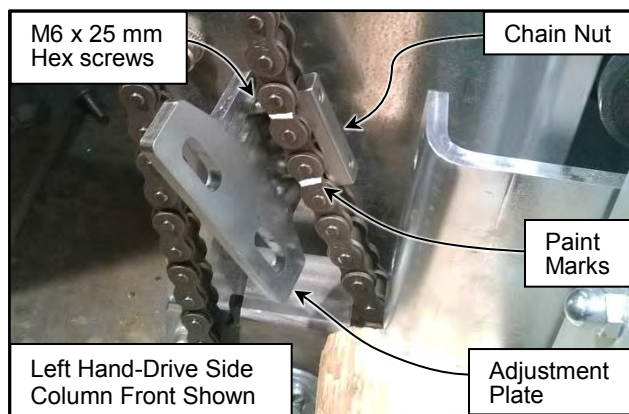


Figure 41

- Install the new drive chain just like the chain that was removed. Tighten the chain as detailed in the "DRIVE CHAIN ADJUSTMENT" section on page 17.
- Restore power to the control panel.
- Operate the door several times to verify that the door panel and spring packs function normally. Adjust & repeat this procedure as necessary.

### DOOR PANEL

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

### **⚠ WARNING**

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

- Remove the cover from each side column.
- Position clamps along both edges of the door above and below the panel to be removed to prevent unexpected door movement. (See Figure 42)



## REPLACEMENT PROCEDURES-WEATHER SEAL REPLACEMENT

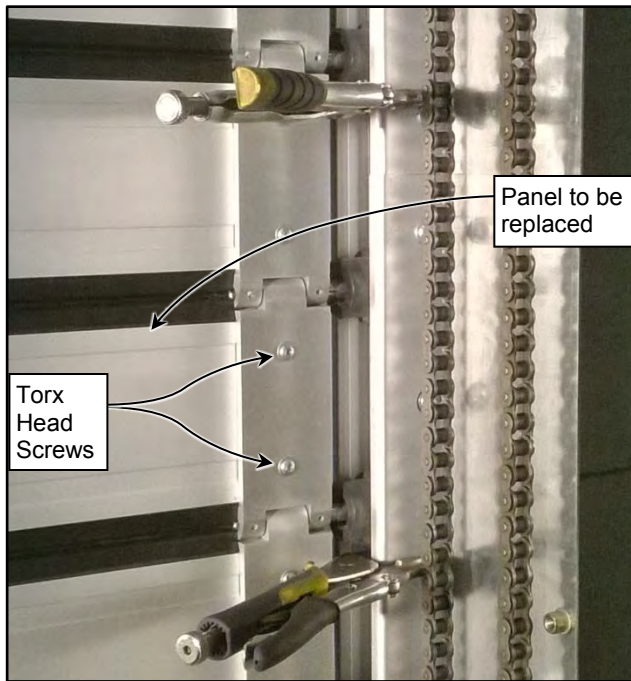


Figure 42

5. At the ends of the door panel to be replaced, remove the two TORX® head screws securing each hinge plate to the panel.
6. Carefully break free the rubber seal from between the adjoining panels.
7. Slip the panel to be removed out through the back side of the door opening. (Sliding the panel to the left or right will allow the panel to clear the track.)
8. Install the new door panel in the reverse order the old panel was removed.
9. After screwing the hinge plates to the new panel, reattach the rubber seals. Place a small amount of adhesive near the end of the rubber seal to prevent contraction of the seal. A screen roller will assist the installation of the rubber seal.
10. Remove clamps.
11. 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. Adjust & repeat this procedure as necessary.

### WEATHER SEAL REPLACEMENT

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

### **⚠ WARNING**

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

3. Remove the side column cover from the side column assembly containing the weather seal to be replaced. The cover is held in place with TORX® head screws.
4. There is a length of weather seal on both the side column cover and the side column. Each weather seal can be removed by pulling on either end of the seal, while working toward the opposite end. (See Figure 43)

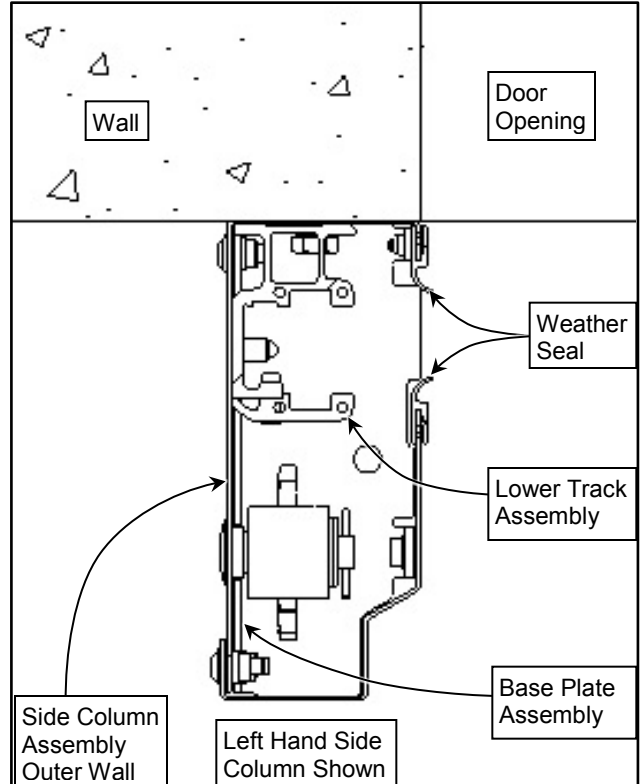


Figure 43

5. Attach the new weather seal in the same manner the old seal was attached. Make sure the seal is firmly seated along the edge. (See Figure 43)

6. Attach the side cover to the side column assembly.
7. Restore power to the control panel and confirm the new weather seal properly seals against the door panel. Adjust as necessary.

### BRUSH SEAL

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

### ⚠ WARNING

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

2. Replace the brush in the mounting track. (See Figure 44)
3. Reinstall the top seal assembly to the wall. (See Figure 44)
4. Restore power to the control panel.

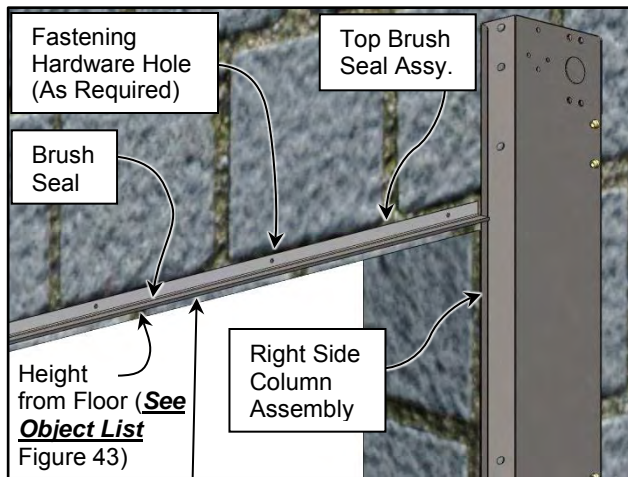


Figure 44

### MOTOR BRAKE REPLACEMENT

The motor brake may be replaced with a kit available from RYTEC.

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

### ⚠ WARNING

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

3. Remove the cover from the side columns. The cover is held in place with TORX® head screws.
4. Block up the door panel so it is fully supported in the closed position as shown. (See Figure 45)

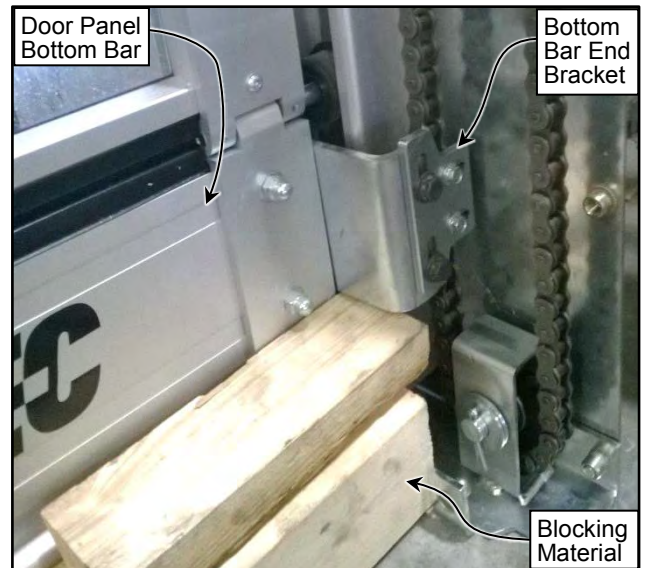


Figure 45

5. Remove the 3 bolts from the top of the motor assembly as shown. Release the motor brake by pulling the brake release lever up.
6. Disconnect the motor brake wires from the motor's junction box.
7. Replace the brake components that come as a kit from RYTEC exactly the same way they were removed. The bolts, plug, & seal may be reused. (See Figure 46)
8. Reassemble & rewire the motor brake to the drive motor.
9. Restore power to the control panel.
10. Operate the door several times to verify that the motor brake functions normally. Make any adjustments as necessary.

## REPLACEMENT PROCEDURES-DOOR ROLLER REPLACEMENT

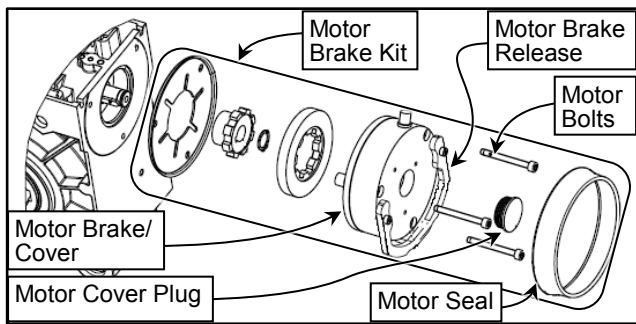


Figure 46

### DOOR ROLLER REPLACEMENT

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

### **WARNING**

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

3. Remove the side column cover from the side column assembly containing the weather seal to be replaced. The cover is held in place with TORX® head screws.
4. Position clamps along both edges of the door above and below the Lower Track Assembly track cover to be removed for roller wheel/guide wheel replacement to prevent unexpected door movement as shown. (See Figure 47)

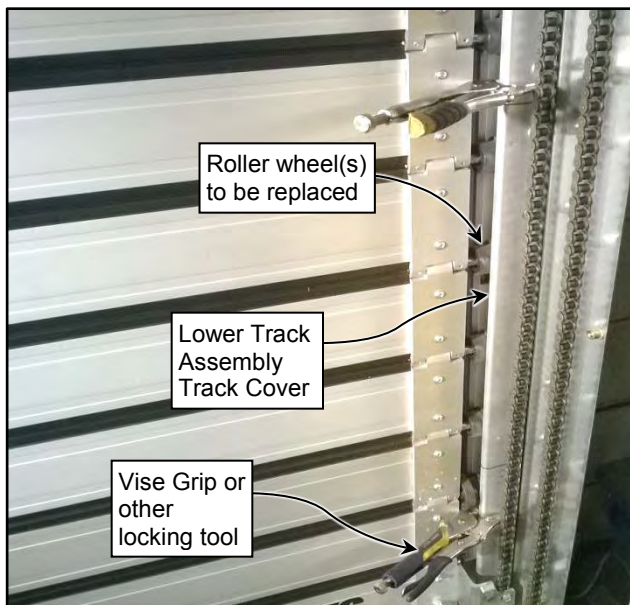


Figure 47

5. Individually remove the Lower Track Assembly track covers 1 at a time to replace the roller and/or guide wheels as necessary. The cover is held in place with TORX® head screws.
6. 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 48)

*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 48

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

### **CAUTION**

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

8. Release the motor 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.

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



**⚠ WARNING**

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

12. Make adjustments as needed & repeat testing.
13. When the door is operating properly, attach both side column covers.
14. Restore power to the control panel.

**PHOTO EYE REPLACEMENT**

When replacing the photo eyes, note that the emitter & receiver modules located in the side columns of the door need to be replaced with the same identical modules. So when replacing both modules it is best to replace one module at a time to avoid any errors.

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

**⚠ WARNING**

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

3. Remove the photo eye module from the side column assembly that needs to be replaced. Only replace one at a time.
4. Disconnect the module from the yellow wire & replace it with the new module.
5. Reinstall the new module into the side column assembly. Repeat this for the module in the opposite side column assembly as necessary.
6. Align the photo eyes per the "Photo Eye Alignment" section on page 18.
7. Restore power to the control panel.
8. Confirm that the photo eyes are operating properly. See "PHOTO EYE INSPECTION" section for this procedure on page 9. Repeat this process and adjust until the photo eyes are operating correctly.

**PARTS LIST****PARTS ORDERING INFORMATION****How to Order Parts**

1. Identify the parts required by referring to the following pages for part numbers and part descriptions.
2. To place an order, contact your local Rytec representative or the Rytec Technical Support Department at 800-628-1909 or 262-677-2058 (fax). Rytec Corporation also has an on-line store at [WWW.Rytecparts.com](http://WWW.Rytecparts.com) access to this on-line store requires an invitation from Rytec. The on-line store is open 24/7, 365 days. Some items are available to ship next day. Not all Rytec parts are carried in the on-line store.
3. To ensure the correct parts are shipped, please include the serial number of your door with the order. The serial number is located on the front of both the left and right side column covers @ about eye level, on the drive motor gearbox in the head assembly, or on the door of the System 4 Control Panel. All these serial numbers should match. (See Figure 49)

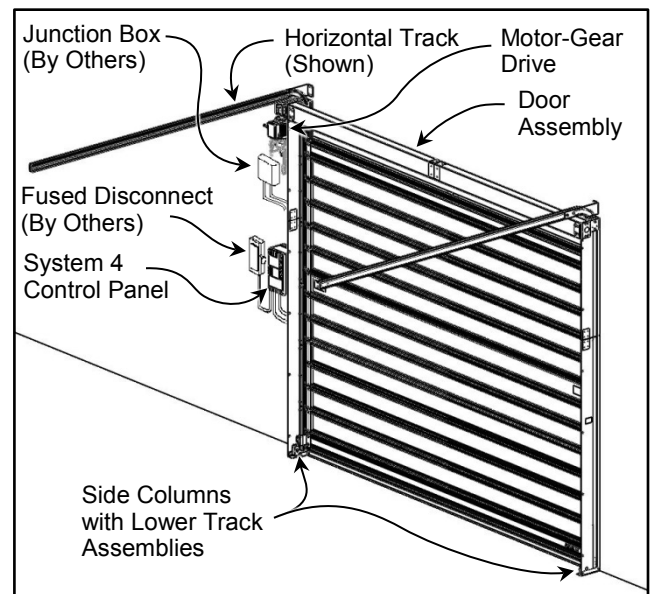


Figure 49

**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

## **PARTS LIST-RYTEC TECHNICAL KNOWLEDGE CENTER**

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they are accompanied by a Return Merchandise Authorization (RMA) form.

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

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

### **RYTEC TECHNICAL KNOWLEDGE CENTER**

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

### **RYTEC ON-LINE WEBSTORE**

Rytec Corporation in partnership with Amazon has 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](mailto: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 within 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; concerning these items.

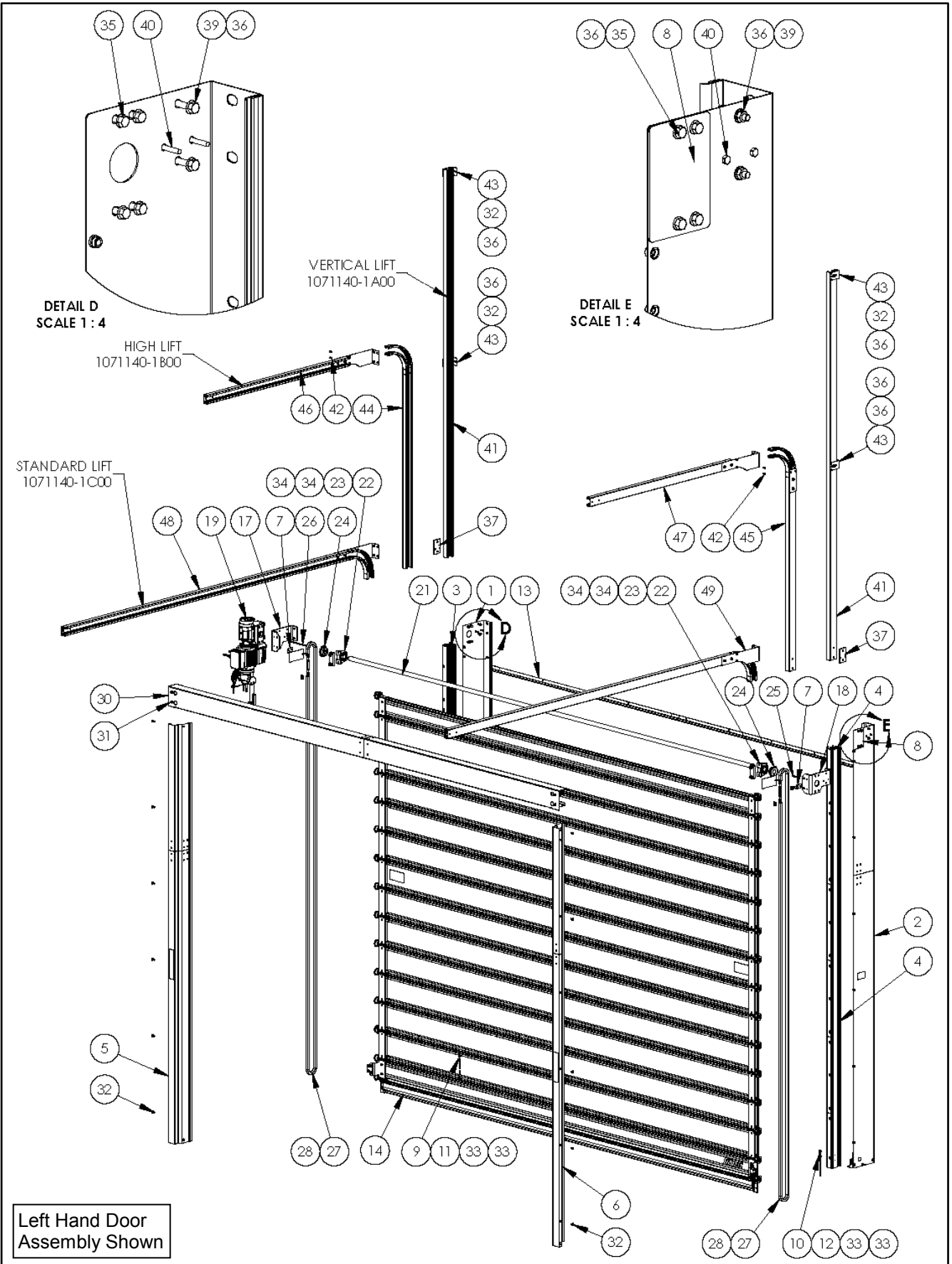
### **WEBSTORE ITEM RETURN INSTRUCTIONS:**

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 are subject to change.



DOOR ASSEMBLY-LAYOUT



## Parts List-DOOR ASSEMBLY-LAYOUT BOM

### DOOR ASSEMBLY-LAYOUT BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071140-1A00	Final Assembly, Spiral VP Direct Drive, Vertical Lift, LH
		R1071140-2A00	Final Assembly, Spiral VP Direct Drive, Vertical Lift, RH
		R1071140-1B00	Final Assembly, Spiral VP Direct Drive, High Lift, LH
		R1071140-2B00	Final Assembly, Spiral VP Direct Drive, High Lift, RH
		R1071140-1C00	Final Assembly, Spiral VP Direct Drive, Low Profile, LH
		R1071140-2C00	Final Assembly, Spiral VP Direct Drive, Low Profile, RH
1	1	R1071137-1	Assembly, Side Column, SVP-D, LH
2	1	R1071137-2	Assembly, Side Column, SVP-D, RH
3	1	R1071191-1X	Assembly, Lower Track & Covers, SVP-D, LH
4	1	R1071191-2X	Assembly, Lower Track & Covers, SVP-D, RH
5	1	R1071170-1	Cover Assembly, Side Column, SVP-D, LH
6	1	R1071170-2	Cover Assembly, Side Column, SVP-D, RH
7	2	R1071162-0	Assembly, Cover Clip, SVP-D
8	1	R1071156-0Z02	End Plate
9	1	R1160153-0	Photoeye Transmitter, TELCO SMT 3000C SG T3
10	1	R1160145-0	Photoeye Receiver, TELCO SMR 3215C SG T3-RY
11	1	R1160059-0A00	Photoeye Cable,for TELCO SG 10,10M
12	1	R1160059-0B00	Photoeye Cable,for TELCO SG 10,15M
13	1	R1071179-0	Assembly, Top Seal, SVP-D
14	1	R1071165-0B	Panel/Hinge Assembly, STVP-L-D, Direct
		R1071166-0B	Panel/Hinge Assembly, SSVLP-L-D, Direct
16	1	R1071222-0	Hinge Roll Pins, SVP
17	1	R1071148-1Z01	Top Bracket, SVP-D, LH
18	1	R1071148-2Z01	Top Bracket, SVP-D, RH
19	1	R1071154-1	Assembly, Motor/Gearbox, SVP-D Vertical Lift, LH
		R1071154-2	Assembly, Motor/Gearbox, SVP-D Vertical Lift, RH
21	1	R1071150-0	Drive Shaft, SVP-D
22	2	R1071157-0	Bearing, Tapped Base, Ø1.25 Bore
23	2	R1071158-0	Spacer
24	2	R1071151-0	Sprocket, #50, Ø1.25 Bore
25	1	R1210564-0Z01	Key, ¼x ¼ x 1.75 Square Ends
26	1	R5550280-0Z01	Key, 1/4x1/4 x 7.64
27	2	R1071159-0	Assembly, Drive Chain, Spiral Vertical Lift, Direct Drive
28	2	R4002	Master Link #50 Chain
30	1	R1071183-0Z02	Cover, Drive Shaft, SVP-D
		R1071178-0	Assembly, Spliced Cover, Drive Shaft, SVP-D
31	CF	R5550283-0Z01	HFSMS, M8-1.25 x 16
32	A/R	R1900820	BSCSF, M8-1.25 x 20, T40, ZN

CF = Consult Factory

A/R = As Required

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

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

**DOOR ASSEMBLY-LAYOUT BOM**

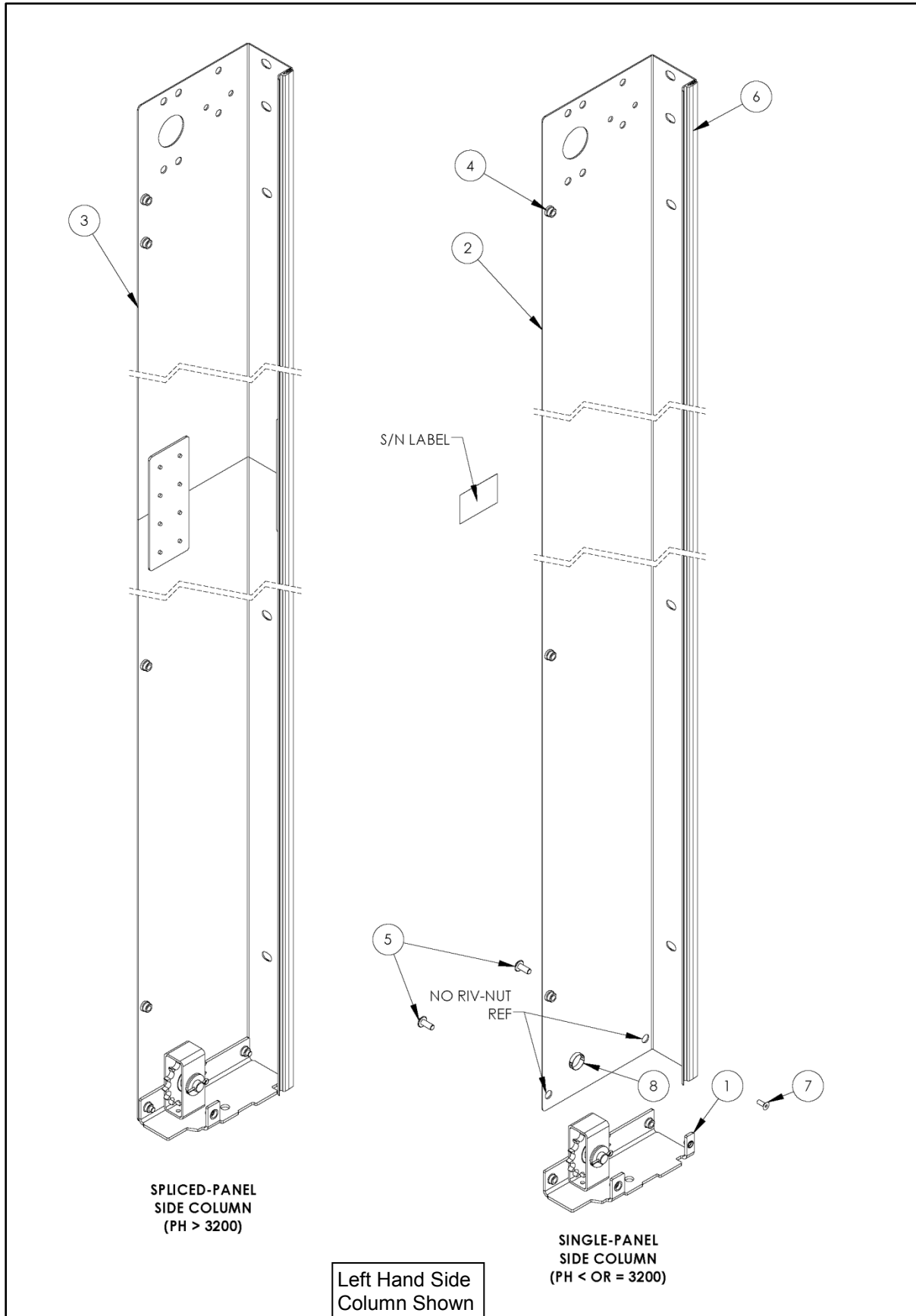
ITEM	QTY.	PART #	DESCRIPTION
33	4	R5550284-0Z01	SHCS, M3-0.5X14 ZN
34	4	R5550277-0Z01	HFSMS, 7/16-14X1.50 GR5 ZN
35	8	R5550279-0Z01	HFSMS, M8-1.25X30 CL10.9 ZN
36	CF	R1901508	Nut, M8 Flanged
37	2	R1071171-0	Spacer
39	4	R5550288-0Z01	HFSMS, M8-1.25X40 CL8.8 ZN
40	CF	R1260180	HHCS,M6X30,DIN 933-8.8 ZN
41	CF	R1071235-0	Upper Track, Vertical, Vertical Lift, SVP-D
42	CF	R1260110	HHCS,M6X14,DIN 933-8.8 ZN
43	CF	R1071239-0	Wall Bracket, Upper Track, Vertical Lift, SVP-D
44	CF	R1071232-1	Assembly, Upper Tracks, High Lift, Vertical, SVP-D, LH
45	CF	R1071232-2	Assembly, Upper Tracks, High Lift, Vertical, SVP-D, RH
46	CF	R1071233-1	Assembly, Upper Tracks, High Lift, SVP-D, LH
47	CF	R1071233-2	Assembly, Upper Tracks, High Lift, SVP-D, RH
48	CF	R1071234-1	Assembly, Upper Tracks, Standard Lift, SVP-D, LH
49	CF	R1071234-2	Assembly, Upper Tracks, Standard Lift, SVP-D, LH
50	1	R1210566-0	Spiral Slat Seal Roller Tool (Not Shown)

CF = Consult Factory  
A/R = As Required

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

# Parts List-SIDE COLUMN ASSEMBLY

## SIDE COLUMN ASSEMBLY



**SIDE COLUMN ASSEMBLY BOM**

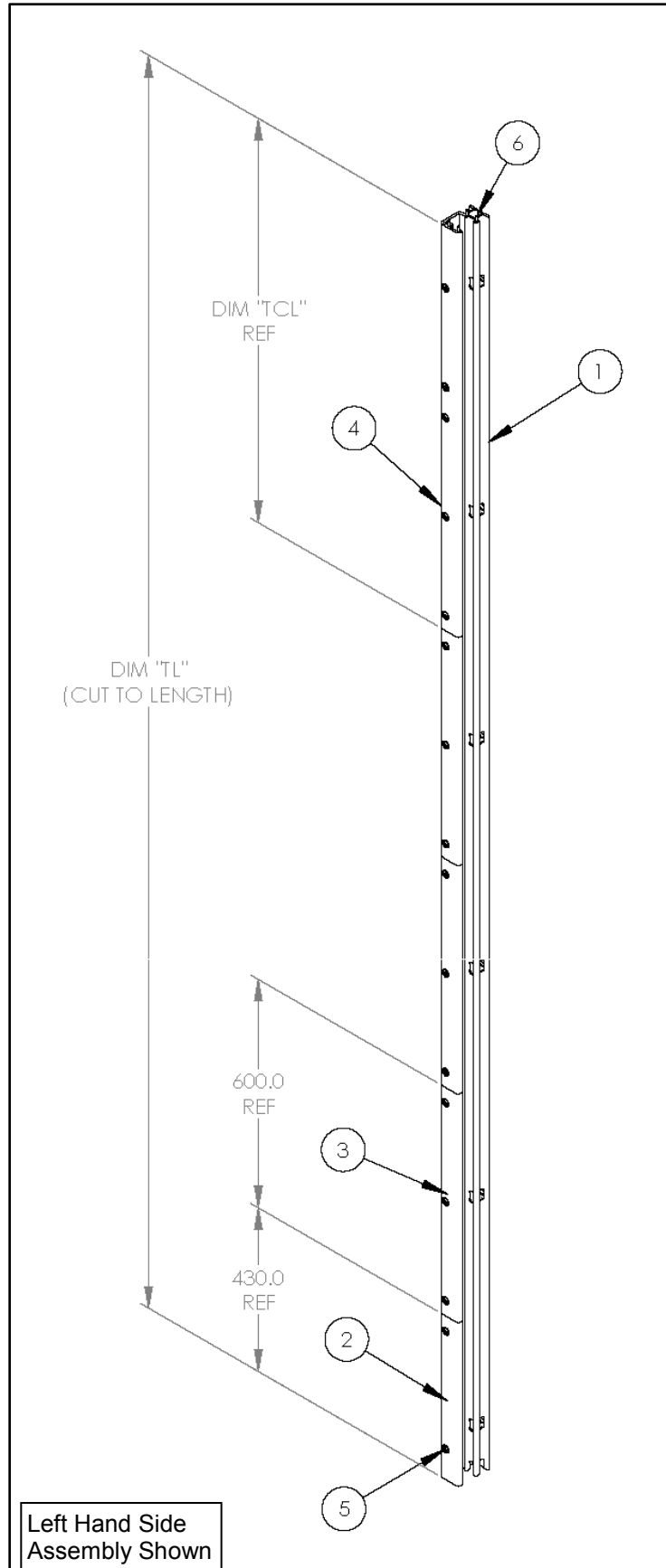
ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071137-1	Assembly, Side Column, SVP-D, LH
		R1071137-2	Assembly, Side Column, SVP-D, RH
1	1	R1071141-1	Assembly, Base Plate, SVP-D, LH
		R1071141-2	Assembly, Base Plate, SVP-D, RH
2	1	R1071138-1Z02	Side Column, SVP-D, LH
		R1071138-2Z02	Side Column, SVP-D, RH
		R1071197-1	Assembly, Side Column, Splice, SVP-D, LH
		R1071197-2	Assembly, Side Column, Splice, SVP-D, RH
4	A/R	R01901530	RIV-NUT M8, AKS4 - 8125 - 3.80
5	2	R01900820	BSCSF,M8-1.25 X 20,T40,ZN
6	1	R1071184-1	Seal, Side Column, SVP-D, LH
		R1071184-2	Seal, Side Column, SVP-D, RH
7	1	R01750080	FHSCS,M6X16,DIN 7991 8.8
8	1	R 1060164-0	Dome Plug, Ø25mm, .125" Max Wall

CF = Consult Factory  
A/R = As Required

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

# Parts List-LOWER TRACK & COVER ASSEMBLY

## LOWER TRACK & COVER ASSEMBLY



**Parts List-LOWER TRACK & COVER ASSEMBLY BOM**

**LOWER TRACK & COVER ASSEMBLY BOM**

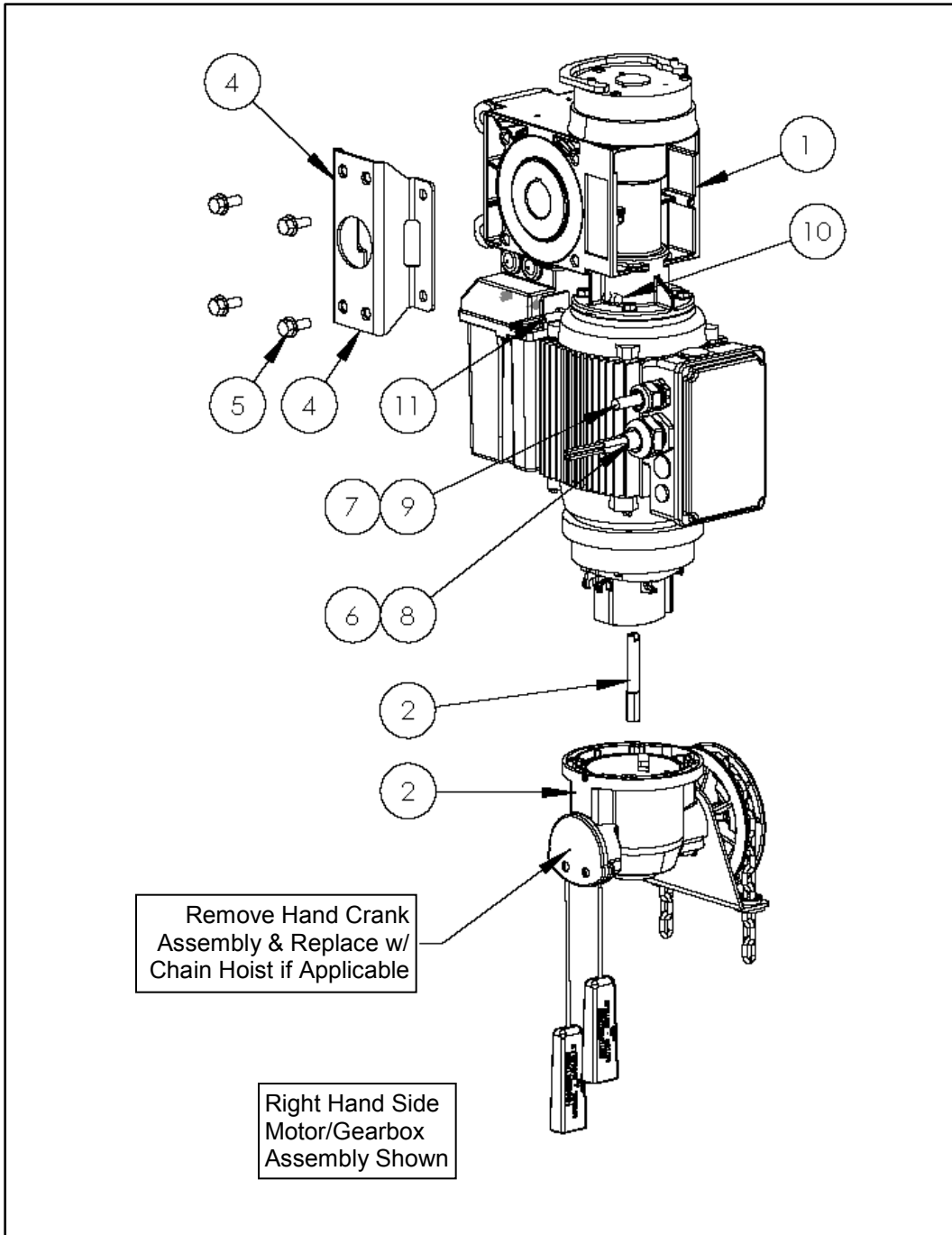
ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071191-1A	Assembly, Lower Track & Covers, 151mm Slats, SVP-D, LH
		R1071191-1B	Assembly, Lower Track & Covers, 225mm Slats, SVP-D, LH
		R1071191-2A	Assembly, Lower Track & Covers, 151mm Slats, SVP-D, RH
		R1071191-2B	Assembly, Lower Track & Covers, 225mm Slats, SVP-D, RH
1	1	R1071187-1X	Lower Track, Stocked, 151mm Slats, SVP-D, LH
		R1071188-1X	Lower Track, Stocked, 225mm Slats, SVP-D, LH
		R1071187-2X	Lower Track, Stocked, 151mm Slats, SVP-D, RH
		R1071188-2X	Lower Track, Stocked, 225mm Slats, SVP-D, RH
2	1	R1071193-1A	Cover, Lower Track, Bottom, 151mm Slats, SVP-D, LH
		R1071193-1B	Cover, Lower Track, Bottom, 225mm Slats, SVP-D, LH
		R1071193-2A	Cover, Lower Track, Bottom, 151mm Slats, SVP-D, RH
		R1071193-2B	Cover, Lower Track, Bottom, 225mm Slats, SVP-D, RH
3	CF	R1071194-0A	Cover, Lower Track, Middle, 151mm Slats, SVP-D
		R1071194-0B	Cover, Lower Track, Middle, 225mm Slats, SVP-D
4	1	R1071195-0A	Cover, Lower Track, Upper, 151mm Slats, SVP-D
		R1071195-0B	Cover, Lower Track, Upper, 225mm Slats, SVP-D
5	A/R	R01900816	BSCSF,M8-1.25 X 16,T40,ZN
6	4	R217507Z1	Pin, Track, Side Column Locating

CF = Consult Factory  
A/R = As Required

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

**Parts List-ASSEMBLY, MOTOR/GEARBOX, SVP-D**

**ASSEMBLY, MOTOR/GEARBOX, SVP-D**





**Parts List-ASSEMBLY, MOTOR/GEARBOX, SVP-D BOM**

**ASSEMBLY, MOTOR/GEARBOX, SVP-D BOM**

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071154-1	Assembly, Motor/Gearbox, SVP-D, w/o Chain Hoist, LH
			Assembly, Motor/Gearbox, SVP-D, w/ Chain Hoist, LH
		R1071154-2	Assembly, Motor/Gearbox, SVP-D, w/o Chain Hoist, RH
			Assembly, Motor/Gearbox, SVP-D, w/ Chain Hoist, RH
1	1	R1071153-0	Motor/Gearbox, SVP-D
2	1	R1210556-0Z01	Shaft, Motor Ratchet Crank, GFA Motors, CS
		R1210553-0	Assembly/Kit, Hand Chain Operator / Chain Hoist Mechanism & Adapter Plate, for GFA Motors w/ Hand Crank
4	1	R1071208-0	Weldment, Motor Bracket, M8-1.25, SVP-D
5	4	R5550278-0Z01	HFSMS, M8-1.25X20 CL10.9 ZN
6	1	R1210342-0	Cord Grip, M25 x 1.5 (Sealcon #CD25MR-GY)
7	1	R00112060	Cord Grip, M20 x 1.5 (Sealcon #CD25MR-GY)
8	1	R00142018	Cable, Motor, Shielded, 4 Conductor, Shielded, Seoow Type 14 AWG
9	1	R00142017	Cable, 18 Ga. 2 Conductor Non-Shielded, Type Seoow, 600V, 90Cx12"
10	1	R00142017	Cable, 18 Ga. 2 Conductor Non-Shielded, Type Seoow, 600V, 90Cx22ft
11	1	R00142123	Digital Limit Cable Assembly 6 Conductor 20 Gauge, 5m Long Encoder - Spiral VP
		R00142125	Digital Limit Cable Assembly 6 Conductor 20 Gauge, 15m Long Encoder - Spiral VP

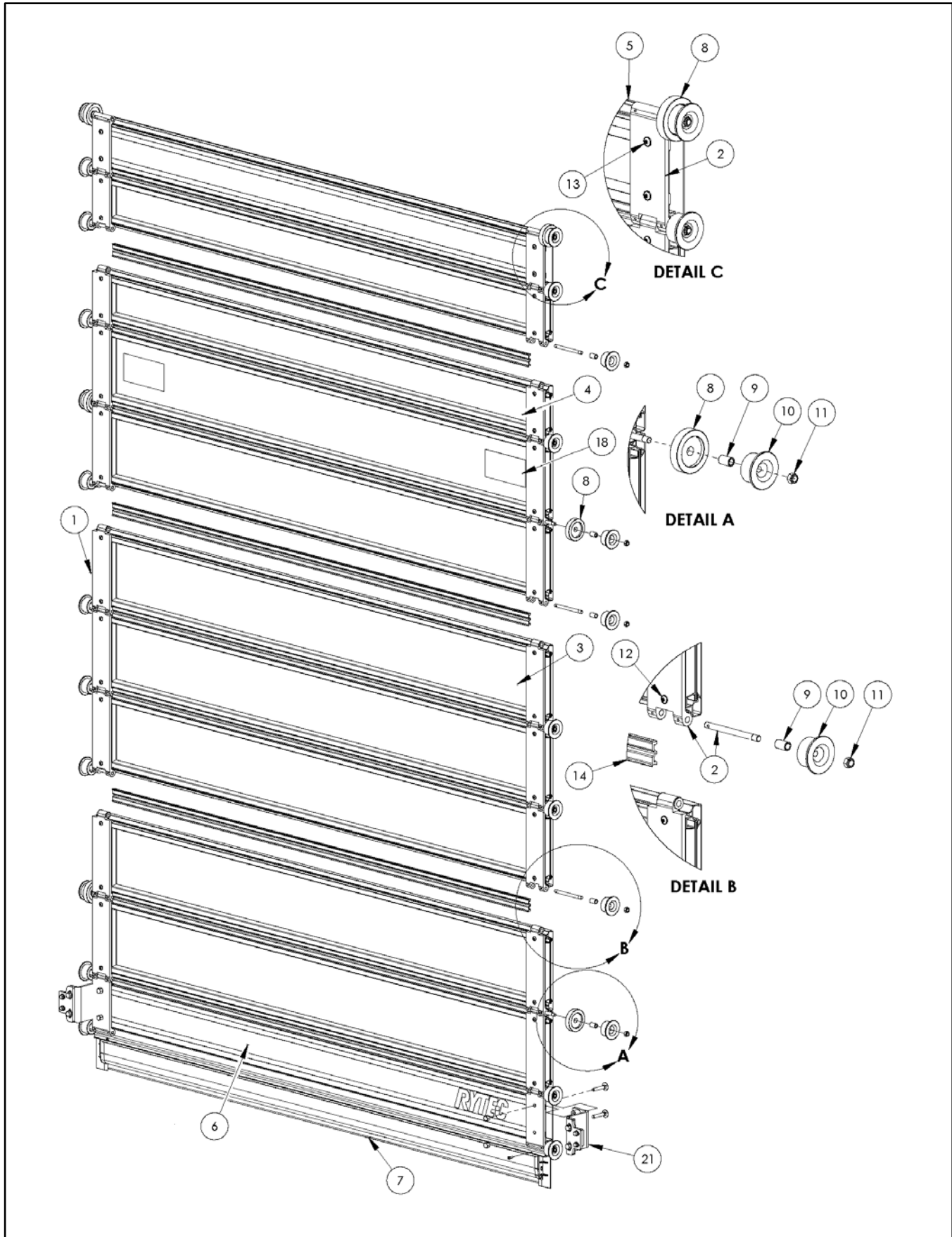
CF = Consult Factory  
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**ALWAYS INCLUDE SERIAL NUMBER OF DOOR WHEN PLACING ORDER**

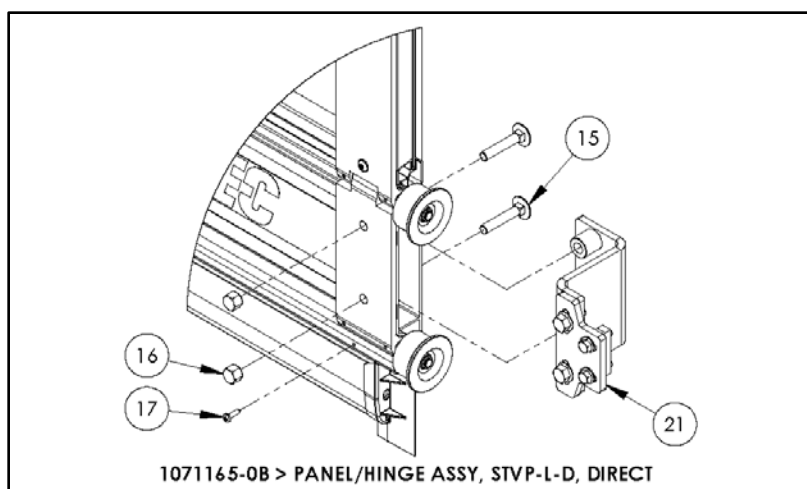
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

**Parts List-PANEL/HINGE ASSEMBLY, STVP-L-D**

**PANEL/HINGE ASSEMBLY, STVP-L-D**



## Parts List-PANEL/HINGE ASSEMBLY, STVP-L-D BOM



### PANEL/HINGE ASSEMBLY, STVP-L-D BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071165-0B	Panel/Hinge Assembly, STVP-L-D, Direct
1	1	R1071167-1	Hinge Chain Assembly, SVP, 225 x 65, LH
2	1	R1071167-2	Hinge Chain Assembly, SVP, 225 x 65, RH
3	CF	R231848	Window Assembly, 30mm x 225mm
		R1071285-0	Vent Assembly, w/ Spacers, 30mm x 225mm, STT-L
		R1070841-0	Window Assembly, HPG, 30mm x 225mm Complete
		R1070973-0	Window Assembly, 30mm x 225mm, PC-H
		R1070991-0X	Window Assembly, Pressed Lexan, STT-L, 30mm x 225mm
4	CF	R231843	Window Assembly, 30mm x 151mm, STT-L
		R1071283-0	Vent Assembly, w/ Spacers, SVP-D30mm x 151mm, STT-L
		R1071022-0X	Final Assembly, Pressed Window, w/ Seals, 30mm x 151mm, STT-L, Clear-112
5	1	R1071253-0A	Top Panel Assembly, 30mm, SVP, Upper Seal
6	1	R 1070667-0C	Bottom Panel Assembly, 30mm, STT-L
7	1	R 1071263-0	Assembly, Reversing Edge, SVP
8	6	R 237602	Guide Roller
9	CF	R217505Z1	Spacer, Hinge Roller
10	CF	R205625	Roller, Hinge
11	CF	R01335008	Nut, M8, Nylock
12	CF	R01900705	BSCSF,M5X20,T25,ZN,Precote 80-8
13	4	R01900720	BSCSF,M6X20,T25,ZN,Precote 80-8
14	CF	R04010085-04	Seal, Panel Hinge, L=100M
15	4	R01160515	Carriage Bolt, M8 x 45, DIN 603MU
16	4	R01230008	Nut, M8, Hex, Cap, DIN 917 ZN
17	2	R01700100	Tap Screw, 3.9 X 16, DIN 7981HC ZN
18	2	R0915015	Label, Window Wipe Down Caution, Spiral
21	2	R1071185-0	Assembly, Bottom Bar End Bracket, SVP-D

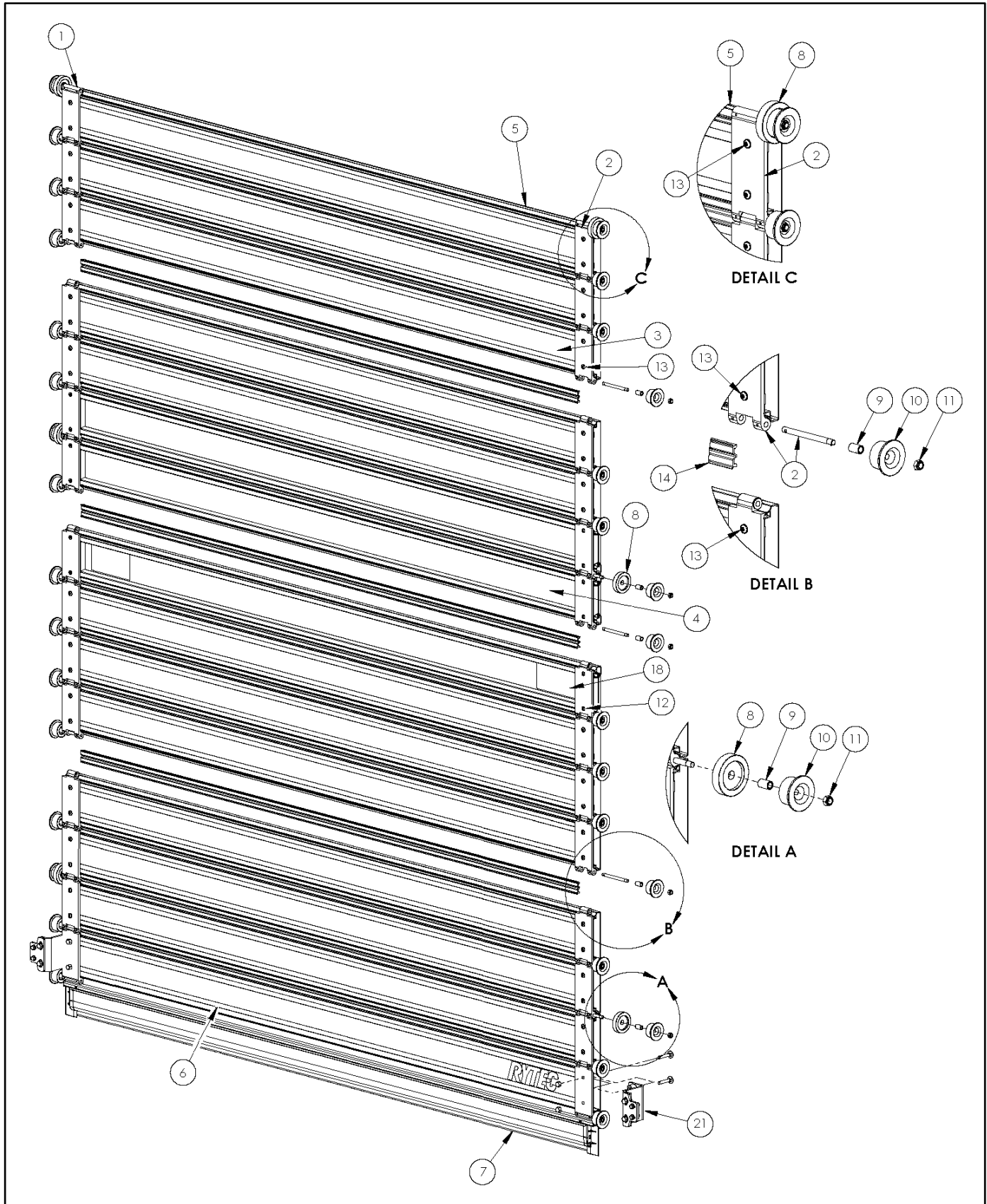
CF = Consult Factory

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

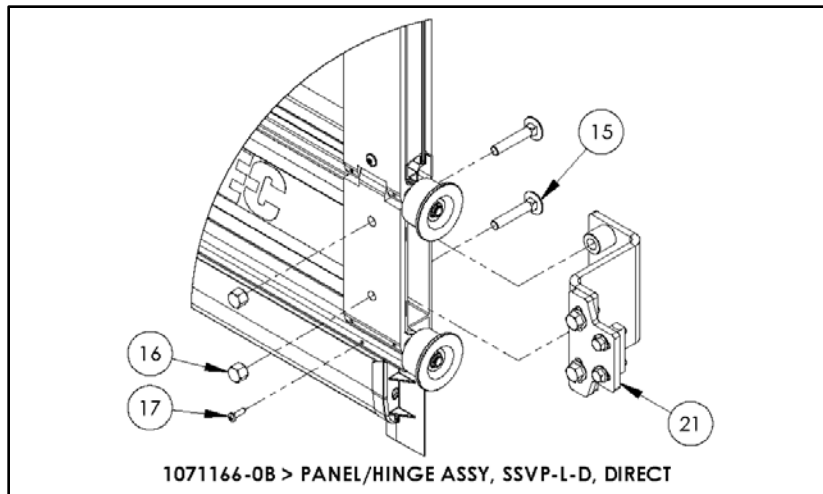
Due to product enhancement, the actual parts on your door may be different from those shown in this manual.

# Parts List-PANEL/HINGE ASSEMBLY, SSVP-L-D

## PANEL/HINGE ASSEMBLY, SSVP-L-D



## Parts List-PANEL/HINGE ASSEMBLY, SSV-P-L-D BOM



### PANEL/HINGE ASSEMBLY, SSV-P-L-D BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071166-0B	Panel/Hinge Assembly, SSV-P-L-D, Direct
1	1	R1071168-1	Hinge Chain Assembly, SVP, 151 x 65, LH
2	1	R1071168-2	Hinge Chain Assembly, SVP, 151 x 65, RH
3	CF	R231852	Top Panel Subassembly, 30mm, STT-L
4	CF	R231843	Window Assembly, 30mm x 151mm, STT-L
		R1071283-0	Vent Assembly, w/ Spacers, SVP-D30mm x 151mm, STT-L
		R1071022-0X	Final Assembly, Pressed Window, w/ Seals, 30mm x 151mm, STT-L, Clear-112
5	1	R1071253-0A	Top Panel Assembly, 30mm, SVP, Upper Seal
6	1	R 1070667-0C	Bottom Panel Assembly, 30mm, STT-L
7	1	R 1071263-0	Assembly, Reversing Edge, SVP
8	6	R 237602	Guide Roller
9	CF	R217505Z1	Spacer, Hinge Roller
10	CF	R205625	Roller, Hinge
11	CF	R01335008	Nut, M8, Nylock
12	CF	R01900705	BSCSF, M5X20, T25, ZN, Precote 80-8
13	4	R01900720	BSCSF, M6X20, T25, ZN, Precote 80-8
14	CF	R04010085-04	Seal, Panel Hinge, L=100M
15	4	R01160515	Carriage Bolt, M8 x 45, DIN 603MU
16	4	R01230008	Nut, M8, Hex, Cap, DIN 917 ZN
17	2	R01700100	Tap Screw, 3.9 X 16, DIN 7981HC ZN
18	2	R0915015	Label, Window Wipe Down Caution, Spiral
21	2	R1071185-0	Assembly, Bottom Bar End Bracket, SVP-D

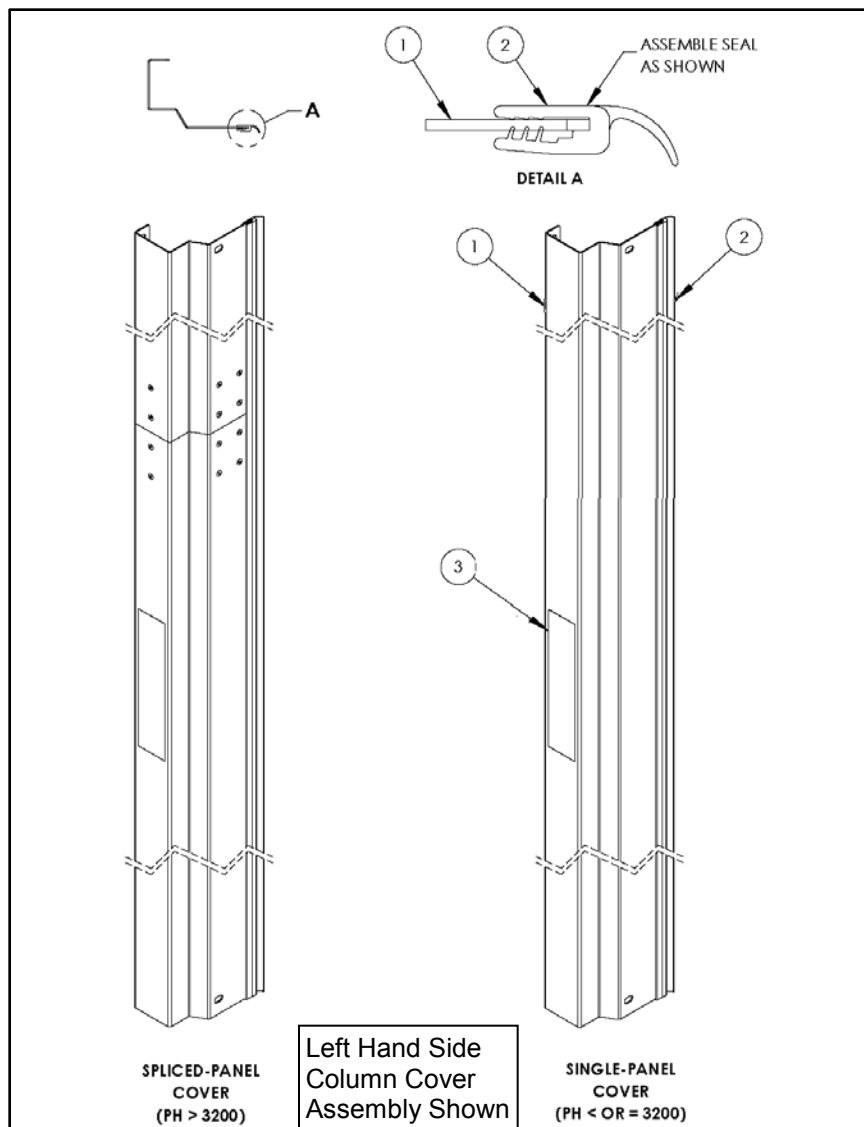
CF = Consult Factory

#### 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-ASSEMBLY, SIDE COLUMN COVER, SVP-D

### ASSEMBLY, SIDE COLUMN COVER, SVP-D



### ASSEMBLY, SIDE COLUMN COVER, SVP-D BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071170-1	Assembly, Side Column Cover, SVP-D, LH
		R1071170-2	Assembly, Side Column Cover, SVP-D, RH
1	1	R1071139-1Z02	Cover, Side Column, SVP-D, LH
		R1071139-2Z02	Cover, Side Column, SVP-D, RH
		R1071198-1	Assembly, Side Column Cover, Splice, SVP-D, LH
		R1071198-2	Assembly, Side Column Cover, Splice, SVP-D, RH
2	1	R1071184-0	Seal, Side Column Cover, SVP-D
3	1	R1210080-0	Label, DASMA Hi-Performance

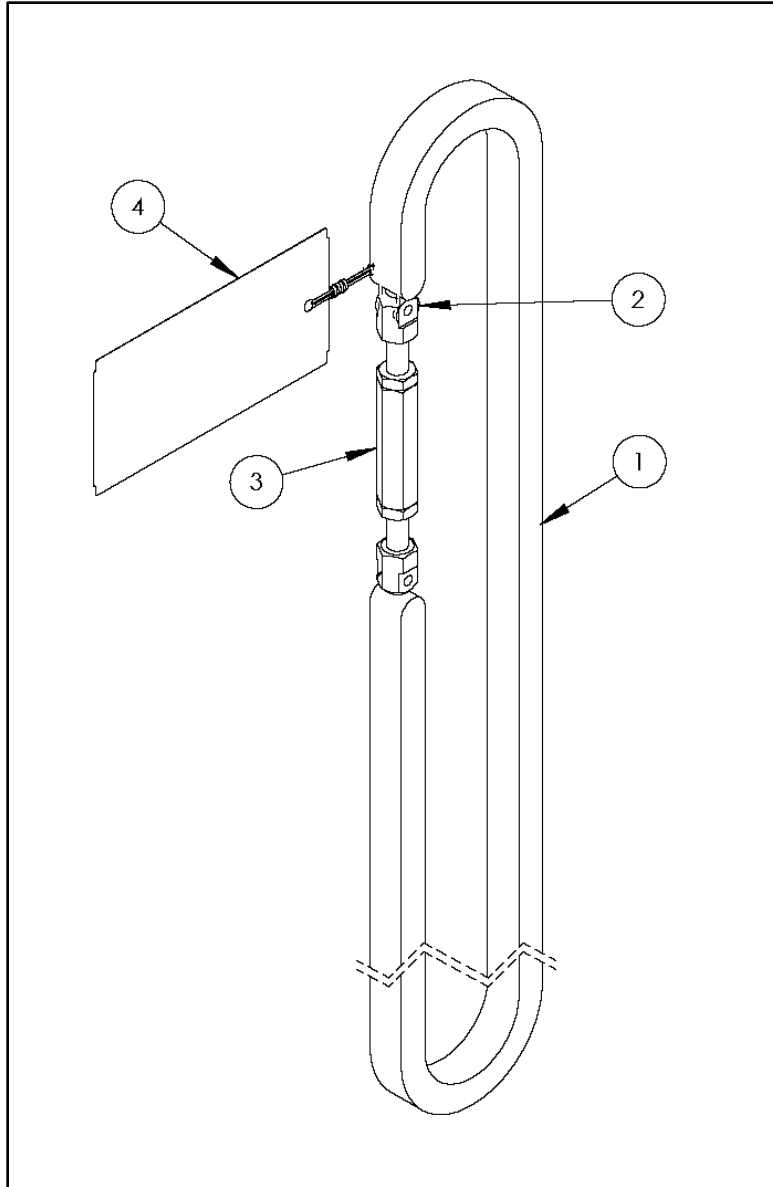
CF = Consult Factory

A/R = As Required

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

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ASSEMBLY, DRIVE CHAIN, SVP-D



ASSEMBLY, DRIVE CHAIN, SVP-D BOM

ITEM	QTY.	PART #	DESCRIPTION
-	1	R1071159-0	Assembly, Drive Chain, Direct Drive, SVP-D
1	1	R1071160-0	Roller Chain, #50
2	1	R0004022	Master Link, #50 Chain
3	1	R1071161-0	Tensioner, #50 Chain
4	1	R1071173-0	Tag, Drive Chain Tensioning Warning

CF = Consult Factory  
A/R = As Required

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

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





