

Owner's Manual

Turbo-Slide® Doors

1220006-0

Rev 1 12/23
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⚠ WARNING

Read and understand all operation, warning and safety instructions in this manual before operating or servicing the door.

When instructed to do so, follow lockout/tagout procedure before servicing the door.

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TURBO-SLIDE® LIMITED WARRANTY 95

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

Any unauthorized changes to these procedures, or failure to follow the steps as outlined, will automatically void the warranty. Any changes to the working parts, assemblies, or specifications as written, which 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.

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.

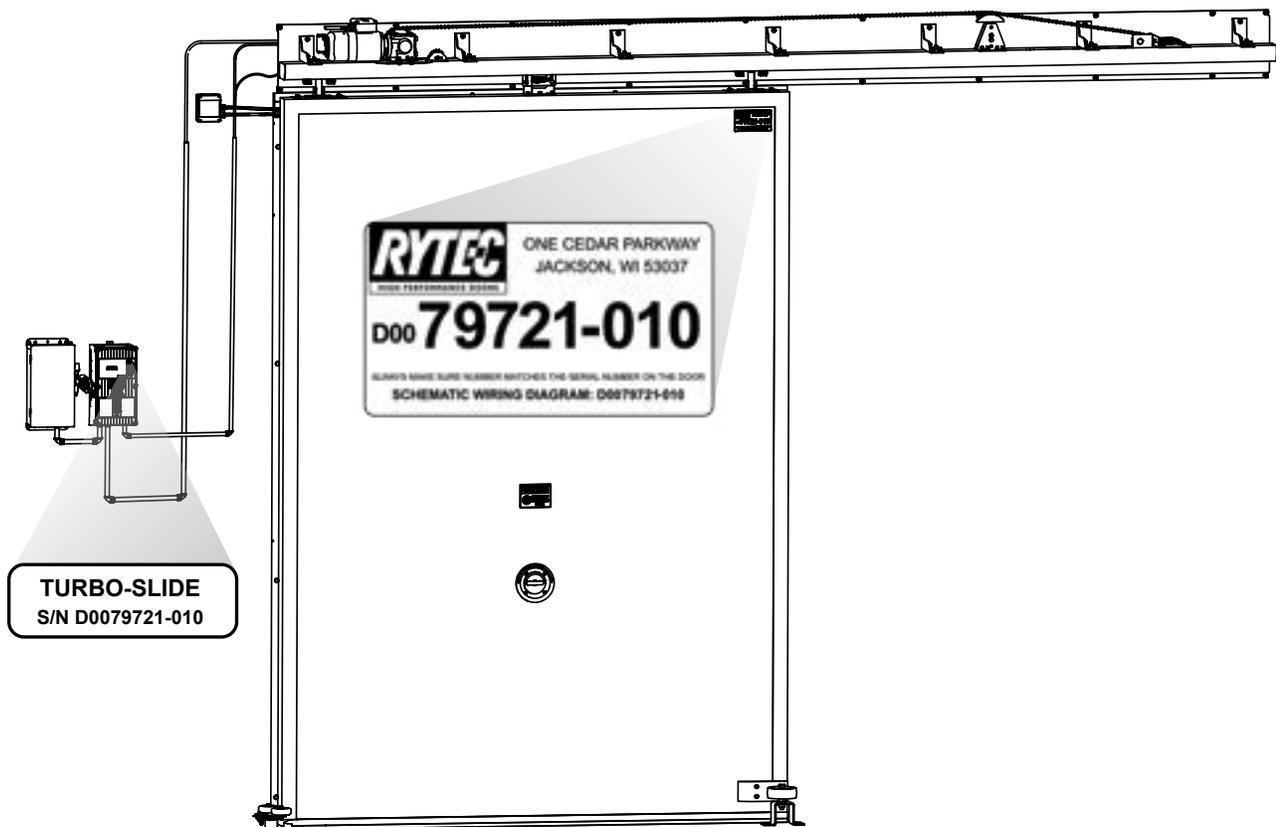
A set of wiring schematics is provided with each individual door specifically covering the control panel and electrical components of that door. The schematics for a door are shipped inside the box that holds the System 4® controller.

How to find the serial number

IMPORTANT

You will need to know the serial number of your door any time you call Rytec Technical Support.

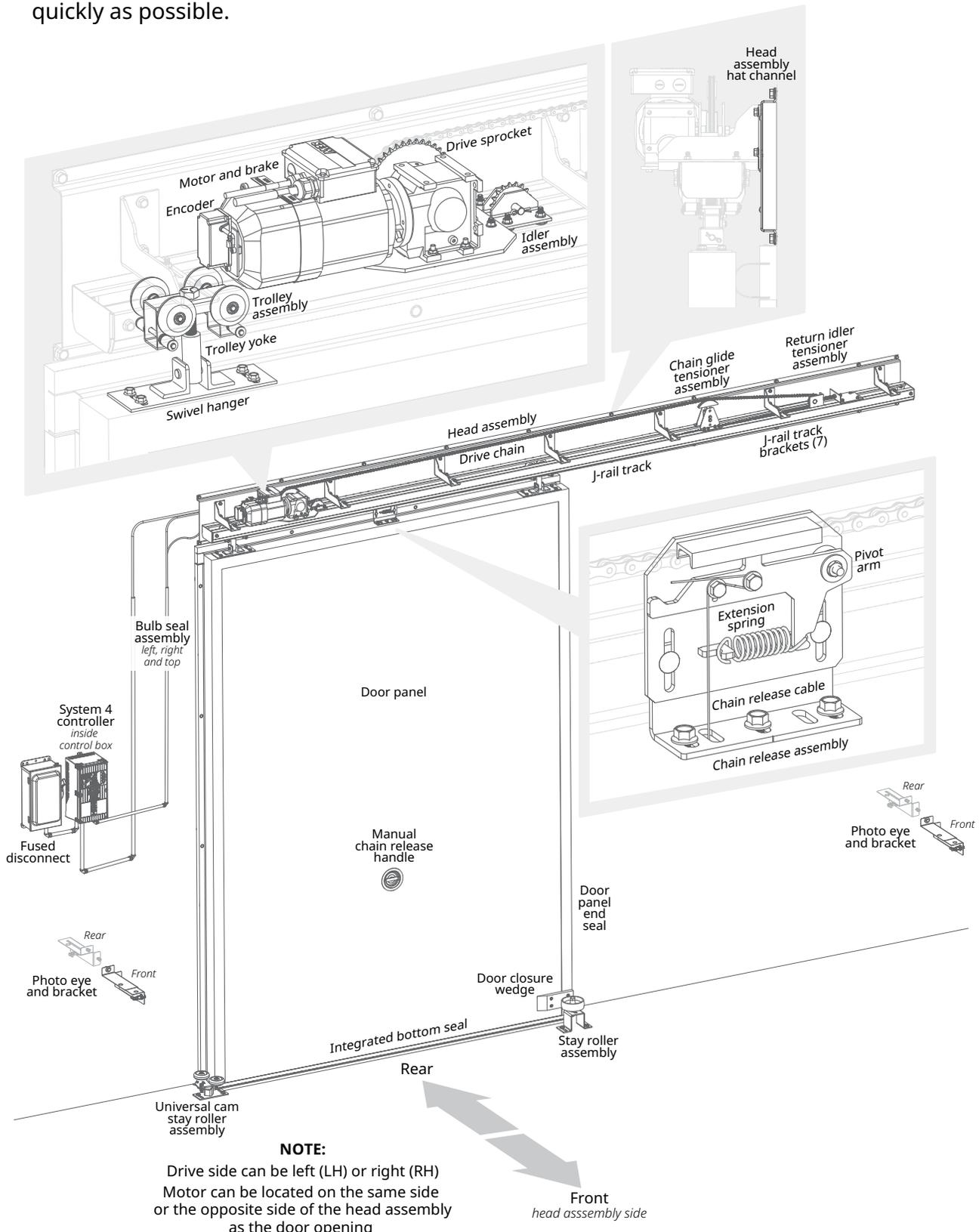
On Turbo-Slide doors, the serial number is located at the top of the trailing edge of the door panel or panels, and at the bottom of the display on the controller. If you can access the head assembly, it is also listed on the motor.



INTRODUCTION

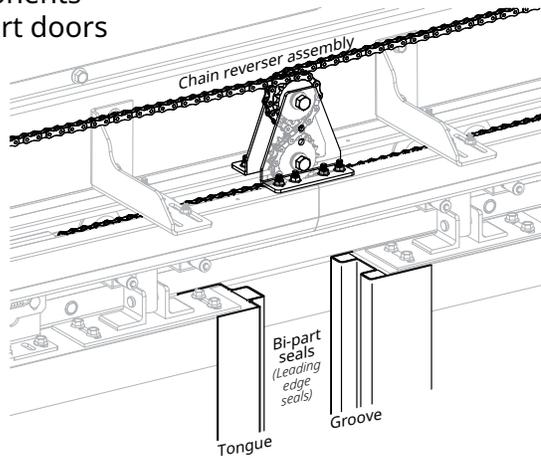
Rytec naming conventions

The illustration below shows the terms used by Rytec technical support to refer to the major components of your door. Using these terms helps technical support to provide assistance as quickly as possible.

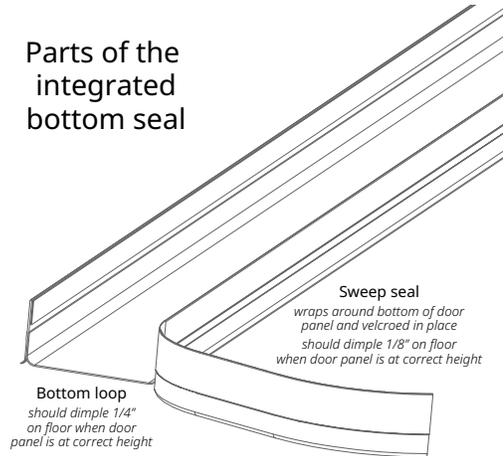


Additional terms and part variations

Additional components for bi-part doors



Parts of the integrated bottom seal

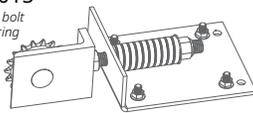


Part variations based on year of door

Return idler tensioner assembly

Up to 2015

Adjustment bolt held by spring tension



After 2015

Adjustment bolt secured at both ends

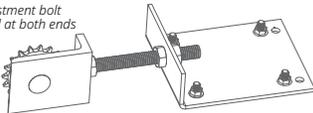
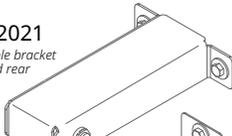


Photo eye bracket

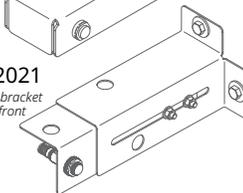
Up to 2021

Non-adjustable bracket front and rear



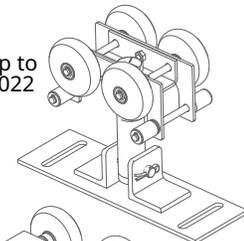
After 2021

Adjustable bracket used in front

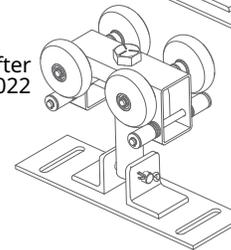


Trolley assembly

Up to 2022



After 2022



Bulb seal assemblies

Up to 2017

Bulb seal backing

HDPE composite and open cell foam layers
Secured by caulk and sheet metal screws into angle brackets

Outer angle bracket

Inner angle bracket

Bulb seal

Nitrile
Held in place by 22ga 3/8" x 1/2" crown staples
Side seals are curved at tops to mate with top seal

After 2017

Heat trace (heat tape)

Secured at bottom with single screw; slots into t-groove in bulb seal backing
Non-drive side heat trace is routed through side and top seals

Bulb seal

Nitrile
Secured by wood screws on both sides
Side seals are trimmed at tops to mate with top seal

EPDM flap

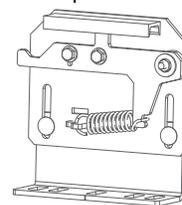
Side bulb seals only
Provides additional seal on sides

Bulb seal backing

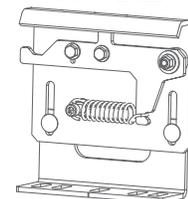
HDPE composite
Secured by caulk and wall anchors

Chain release assembly

Up to 2022



After 2022



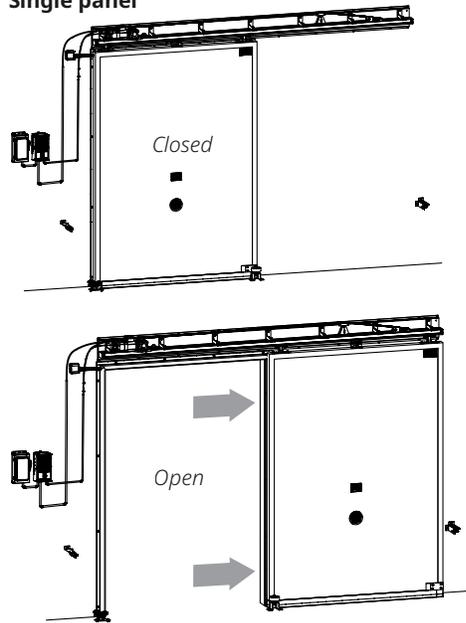
Configurations of the door

The Turbo-Slide can have a single door panel (single panel door), or two door panels (bi-part door). The single panel opens to one side of the door opening, and the bi-part panels open outward from the center of the door opening.

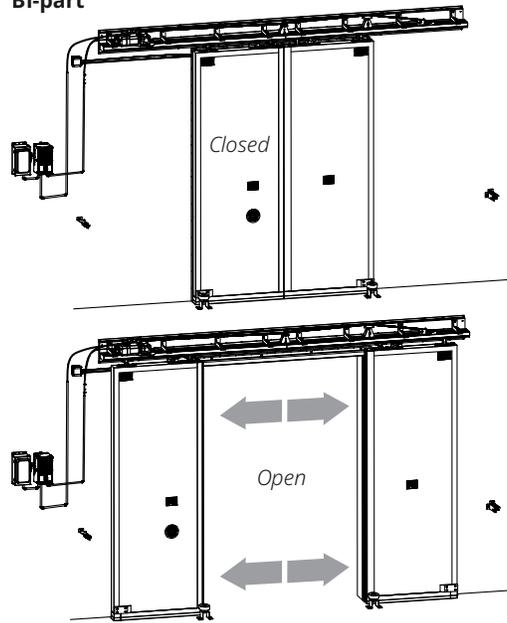
The single panel can be configured so that the door track extends to the right or left of the door opening.

All configurations allow for the motor to be on the left side (LH) or right side (RH).

Single panel

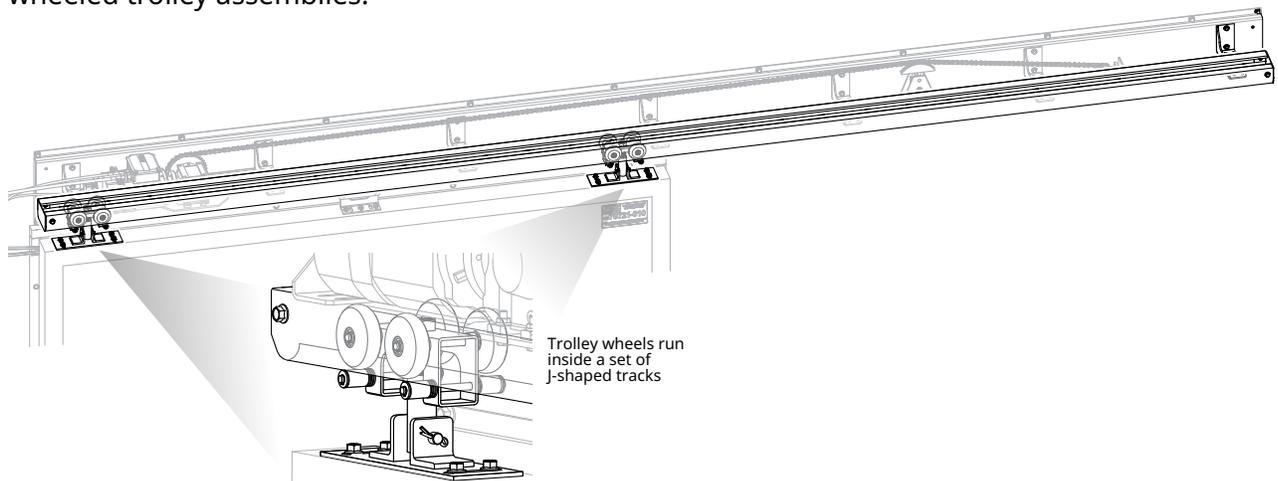


Bi-part



The door track

Turbo-Slide doors run inside a set of J-shaped tracks, connected by two wheeled trolley assemblies.

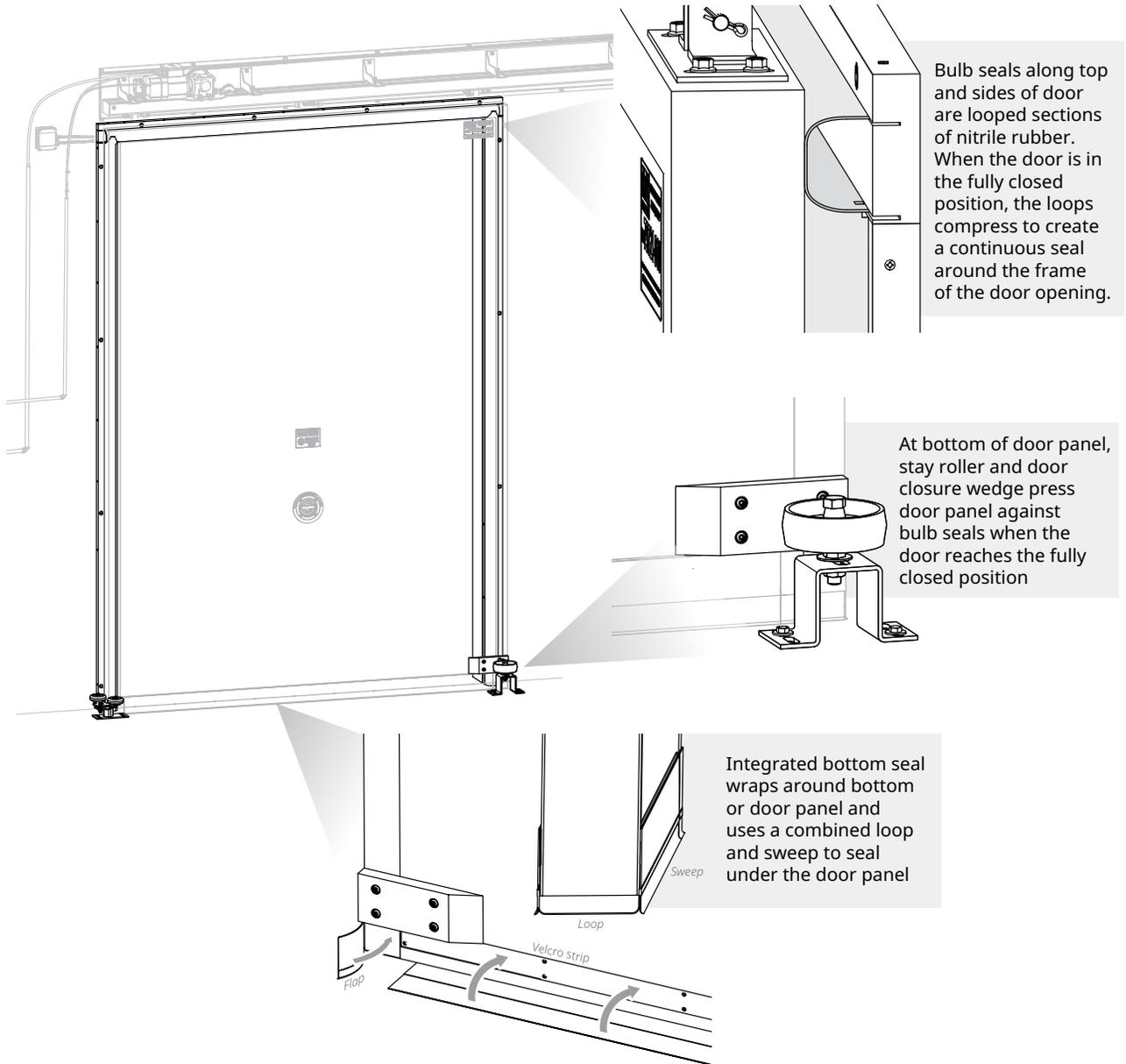


The seals

Since Turbo-Slide is most commonly used for freezer applications, there is an integrated system to create a tight seal around the door opening when the door is closed.

This includes bulb seals around the top and sides of the door opening, which are compressed when the door closes, and a combined loop and sweep seal attached to the bottom of the door panel to seal the door panel against the floor.

Seals should be checked for damage or misalignment as part of the daily inspection.

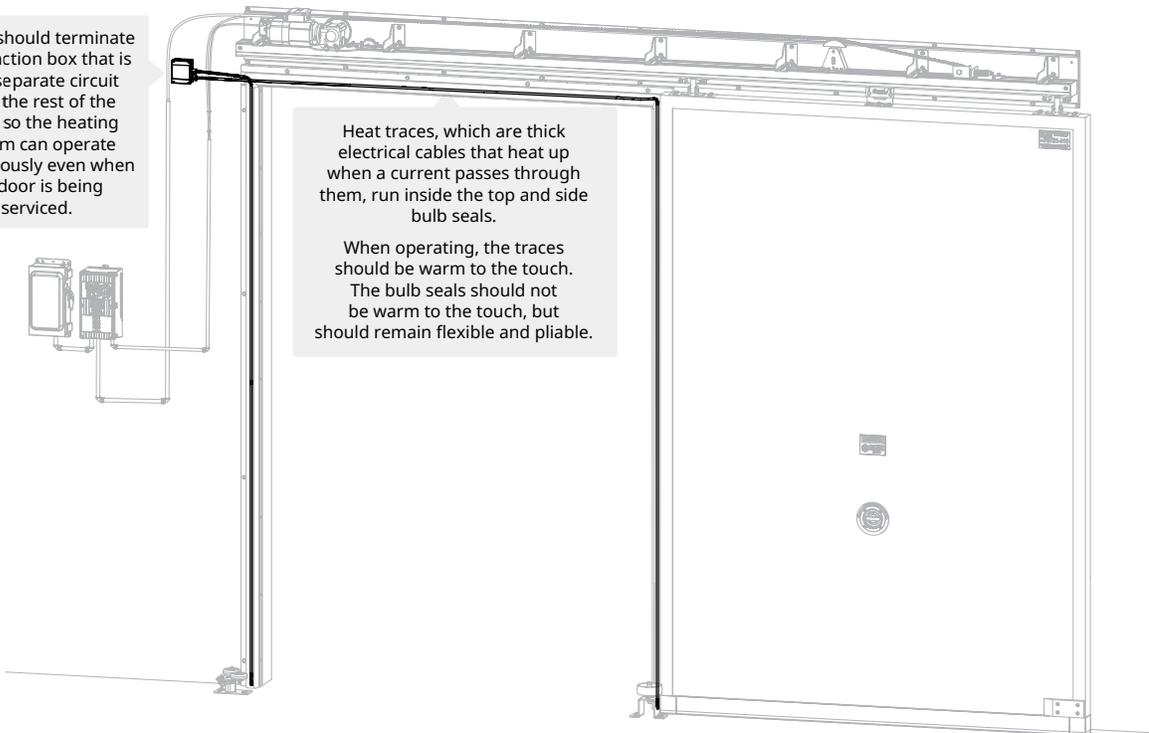


The warming system

In freezer applications, the bulb seals must be continuously warmed to keep the rubber from becoming brittle and the door from freezing shut.

Seals should be checked for signs of freezing as part of the daily inspection.

Traces should terminate at a junction box that is on a separate circuit from the rest of the door, so the heating system can operate continuously even when the door is being serviced.



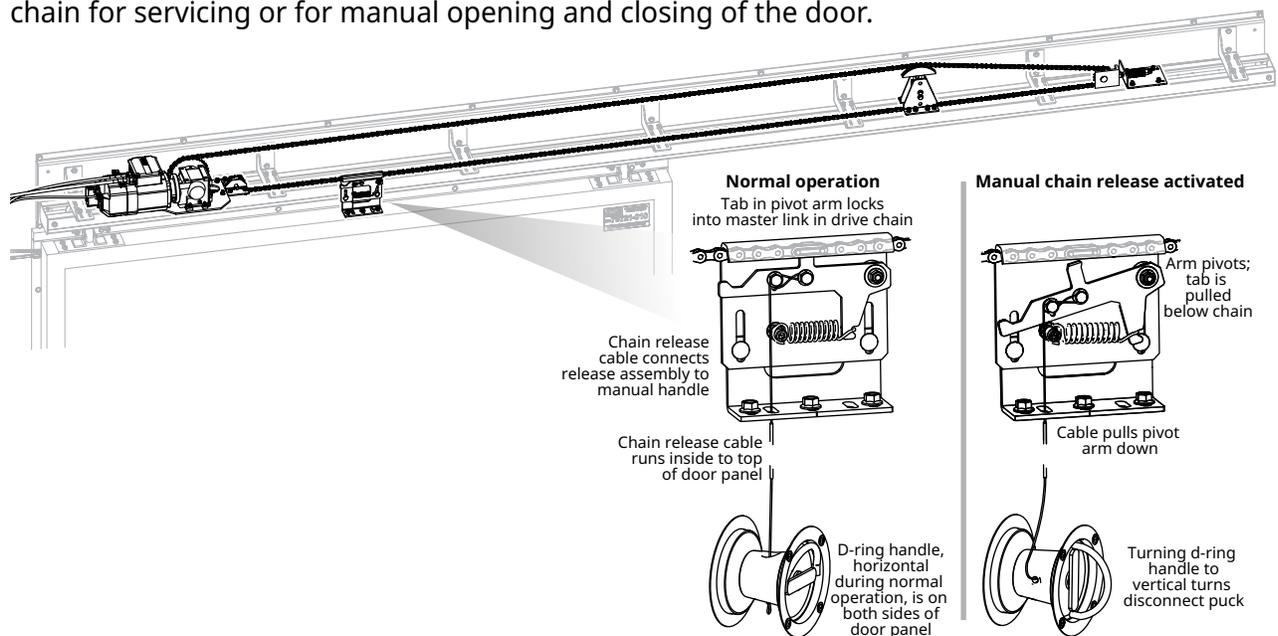
Heat traces, which are thick electrical cables that heat up when a current passes through them, run inside the top and side bulb seals.

When operating, the traces should be warm to the touch. The bulb seals should not be warm to the touch, but should remain flexible and pliable.

The drive system

The drive system on Turbo-Slide doors is an indirect chain drive. The motor connects to a drive chain, which loops through idlers and tensioners on both ends of the track and connects to the door through the chain release assembly.

The manual chain release in the door panel allows you to disconnect the door from the drive chain for servicing or for manual opening and closing of the door.



The open and close limits

The positions where the door stops while opening and closing, called the **open and close limits** of the door, are set through a programming sequence at the controller.

The limits should be checked periodically and adjusted if necessary.

The **close limit** should be set so that the door panel is evenly aligned with the bulb seals on both sides of the door opening and fully compresses both seals.

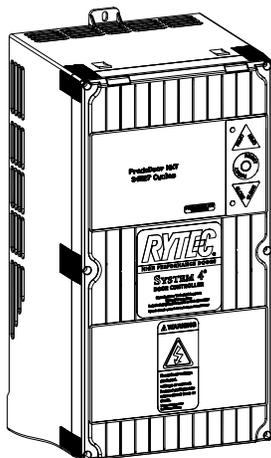
The **open limit** should be set so that the trailing edge (edges in bi-part doors) aligns with the edge of the door opening and does not obstruct the opening.

The System 4® controller

The Turbo-Slide is controlled by a solid-state, microprocessor-based control system designed exclusively to operate Rytec doors.

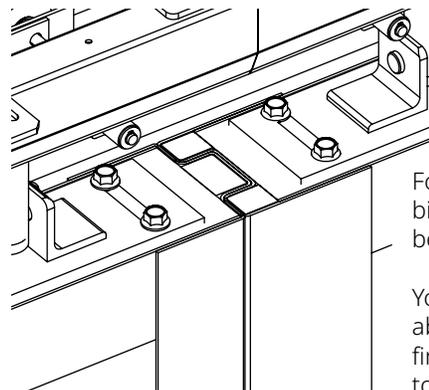
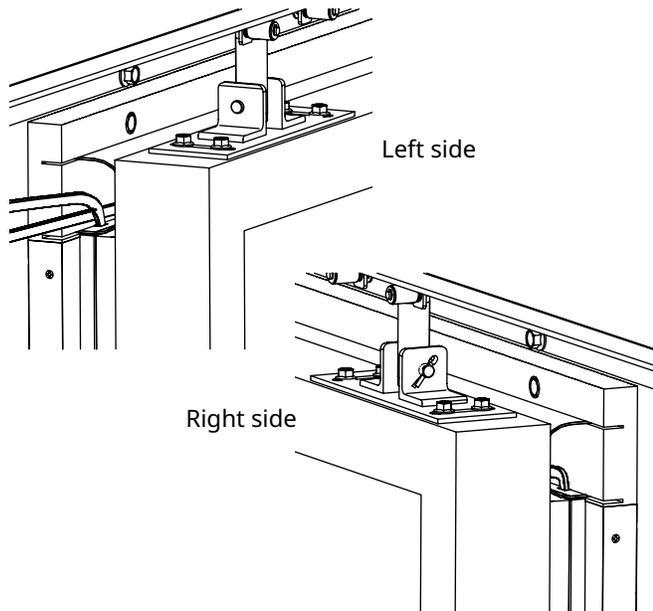
This is a robust and highly customizable system that allows for both precise control of all door functions and coordinated control of multiple optional accessories such as activators, detection systems, alert systems, and even multiple doors.

Door performance can be customized to meet the needs of any installation.



Close limit

Door panel should be evenly aligned with bulb seal assemblies on left and right and fully compress both seals.

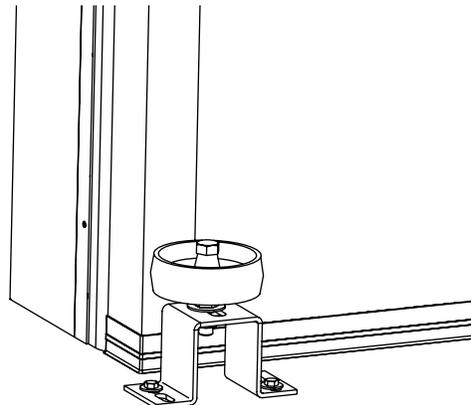


For bi-part doors, bi-part seal should be fully engaged.

You should not be able to press a finger between tongue and groove without effort.

Open limit

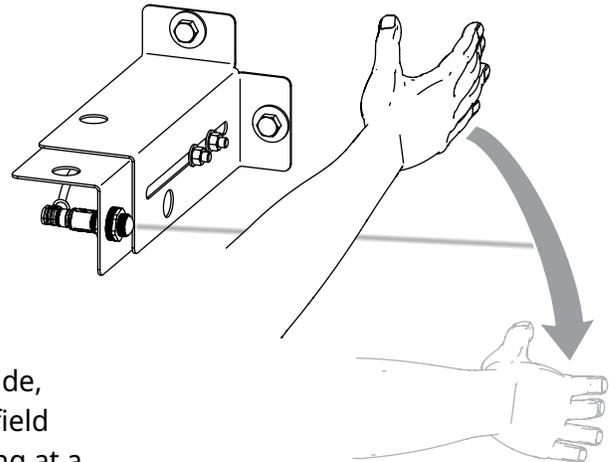
Trailing side of door should align with edge of door opening.



The obstruction detection systems

The standard Turbo-Slide installation includes two obstruction detection systems which stop, then reverse the door if they are activated.

The **photo eyes** stop, then reverse the door when a potential obstruction crosses the beam in front of, or to the rear of, the door opening. They then hold the door open until the obstruction is removed.



The front photo eyes should be field installed into the wall within a foot of the door track on either side, two feet above the floor. The rear photo eyes are field installed into the rear wall around the door opening at a slightly lower height.

The **collision detection system** is based on parameter settings in the controller and responds to unexpected changes in the door's closing speed. There is no detection device in the door panel.

If the leading edge of the door hits an obstruction, this activates the system to stop, then reverse the door. The door then cycles normally and closes.

Your installation may also include other optional detection or alert devices.

Safety information and the meaning of signal words

Summary



Technical content produced by Rytec includes safety information which must be read, understood and obeyed to reduce the risk of death, personal injury, or equipment damage. This information is boxed to set it apart from other text. The boxed text identifies the nature of the hazard and appropriate steps to avoid it.

The safety alert symbol identifies a situation that can result in personal injury. The accompanying signal word indicates the likelihood and potential severity of the injury. The meaning of the signal words are as follows:

	⚠ WARNING
	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	⚠ CAUTION
	Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Safety icons used in this manual

The safety icons used throughout this manual indicate the hazards listed in the boxed text shown here.

 WARNING	
	<p>CRUSH HAZARD FROM MOVING DOOR BEFORE WORKING ON THE DOOR:</p> <ul style="list-style-type: none"> ▪ Make sure the high voltage fused disconnect has been set it to the OFF position and a lockout/tagout has been performed. <p>WHEN WORKING ON THE DOOR:</p> <ul style="list-style-type: none"> ▪ Make sure the door panel is secured at all times, proper procedures and safety measures are followed, and tools meet recommended specs. <p>FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY</p>



 WARNING	
	<p>FALLING HAZARD</p> <ul style="list-style-type: none"> ▪ Make sure ladders and scissor lifts have the correct load rating and are of sufficient height to safely access the door head assembly. ▪ Follow all safety instructions. <p>FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY</p>

 CAUTION	
	<p>CRUSH HAZARD</p> <p>KEEP HANDS CLEAR OF PINCH POINTS</p> <ul style="list-style-type: none"> ▪ Be aware of potential hazards if you place your hands in places where you cannot see them. ▪ Make sure all proper procedures and safety instructions are followed. <p>FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY</p>

 WARNING	
	<p>CUT AND BLADE HAZARD</p> <p>KEEP HANDS CLEAR OF ALL BLADES AND SHARP EDGES</p> <ul style="list-style-type: none"> ▪ Be aware of potential hazards if you place your hands in places where you cannot see them. ▪ Make sure all proper procedures and safety instructions are followed when operating power tools. <p>FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY</p>

Additional safety icons used in this manual



General hazard



Shock hazard



Perform lockout/tagout

Operational and maintenance safety

- Operational precautions** Observe these precautions while using the door.
- Make sure that all individuals who use the door have been informed about the correct use of the door and all activating devices, and that they understand all safety devices for the door.
 - Make sure that only individuals who are trained, qualified and authorized can access the control system, system software and control parameters.
 - Do not run through the door opening or attempt to cross the threshold before you are able to do so while walking fully upright.
 - Do not drive a vehicle through the door until the door is completely open and has stopped moving.
 - Do not climb on or hang on the door.
 - Do not touch any part of the door or door frame while the door is opening or closing.
 - Only operate the door at the approved supply voltage.
 - If the door is to be kept open for a sustained period of time, use the control system to put the door in jog mode, and jog to the desired height. For servicing, set the door to the open position, then set the power disconnect to the OFF position and perform a lockout/tagout. Make sure all personnel are informed that the door is not operational during this time.
 - Safety devices must not be modified or put out of services. Do not use the door if there is any indication that a safety device is not operating correctly.

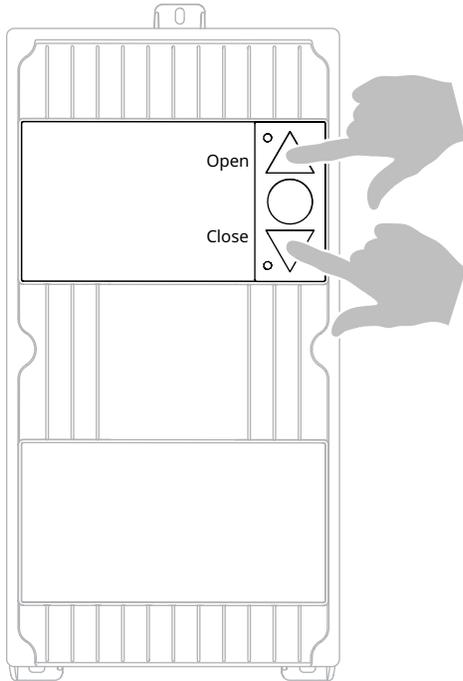
- Maintenance precautions** Observe these precautions while performing maintenance on the door.
- Maintenance of the door and the control system is to be done by trained, qualified and authorized individuals only.
 - Make sure all routine maintenance is performed as scheduled in the instructions for the door.
 - Make sure the power disconnect is set to the OFF position and a correct lockout/tagout procedure has been performed before servicing any component of the door that is powered by the control system.
 - The control system includes components that remain charged after the power has been disconnected. Do not open the control box until at least 5 (five) minutes have elapsed after power is disconnected.
 - Do not pass through or stand in the door panel pathway while the door is being serviced.
 - Make sure you have and use all required Personal Protective Equipment.
 - Make sure that you are aware of the location of all power lines, piping and HVAC systems within the work site.
 - Make sure all components and hardware used to service the door are approved by the manufacturer.

Other icons used in this manual

	<p>Indicates instructions which, if not followed, could result in damage to the door or voiding of the warranty.</p>		<p>Indicates best practice. This is how Ryttec Technical Support does the job.</p>
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How to open and close the door using the System 4 controller

The System 4 controller should be installed within sight of the Turbo-Slide door.



- **Press the UP arrow** to manually open the door.
- **Press the DOWN arrow** to manually close the door. Under normal operating conditions, the door should always close automatically.

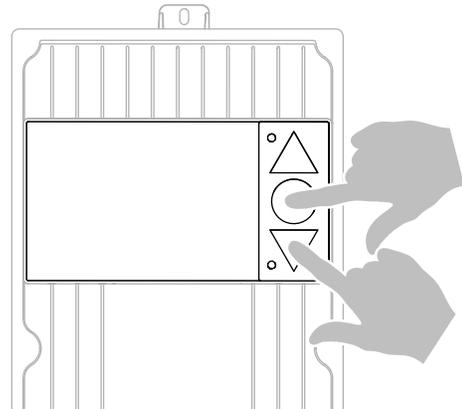
Under normal operating conditions, it should not be necessary to use the System 4 controller. Rytec offers a wide range of automatic and manual activators designed to fit the specific requirements of the installation. Call Rytec Technical support at **800-628-1909** if you have questions about the activators for your door.

How to hold the door open - normal use

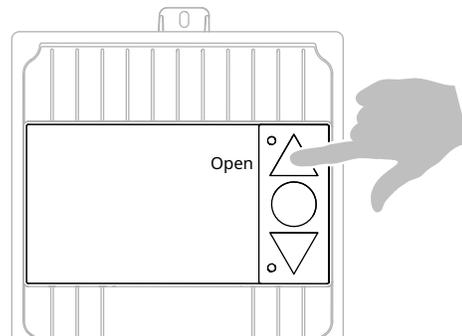
IMPORTANT

Do not use a detection system or activator, such as a photo eye or motion detector, to hold the door open.

- 1 Press and hold the DOWN arrow and RESET buttons** until the display changes to show jog mode.



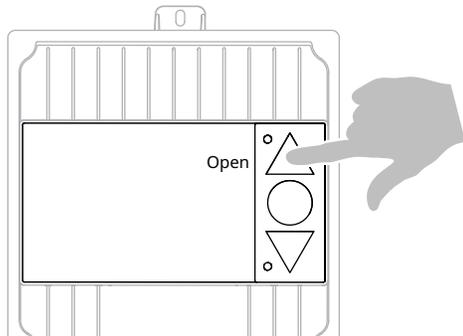
- 2 Press the UP arrow** to set the door to the desired height.



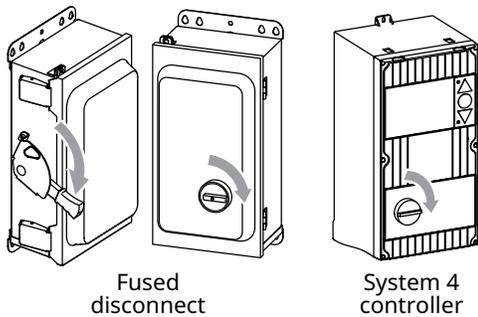
OPERATION

How to hold the door open to service

1 Press the **UP arrow** to open the door.



2 Turn the **disconnect switch** to the OFF position. The switch may be located on the System 4 controller or on an external disconnect.



3 Perform a **lockout/tagout**.



	<p>CAUTION</p>
	<p>Make sure all users of the door are informed when the door is out of service, and when it is put back into service.</p>

How to open and close the door manually



WARNING

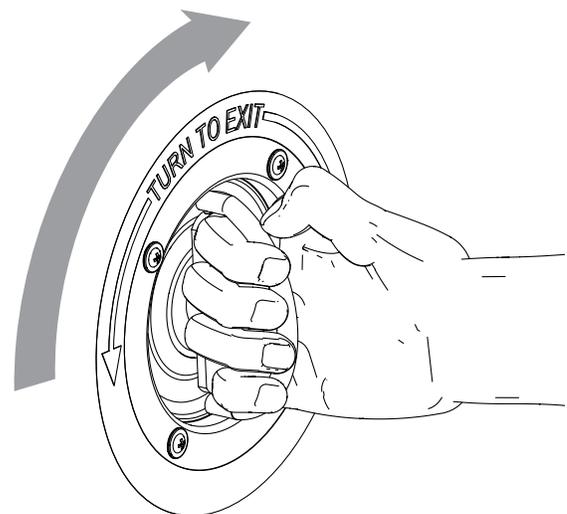
Disconnect power to the door and perform a **lockout/tagout** before manually opening or closing the door.



IMPORTANT

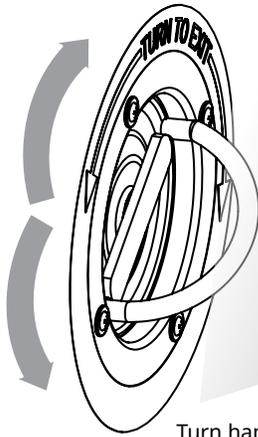
The **manual chain release system** is not designed to be used as an emergency exit system.

1 Turn the manual chain release handle a half-turn in either direction, so the handle moves from a horizontal position to a vertical position.

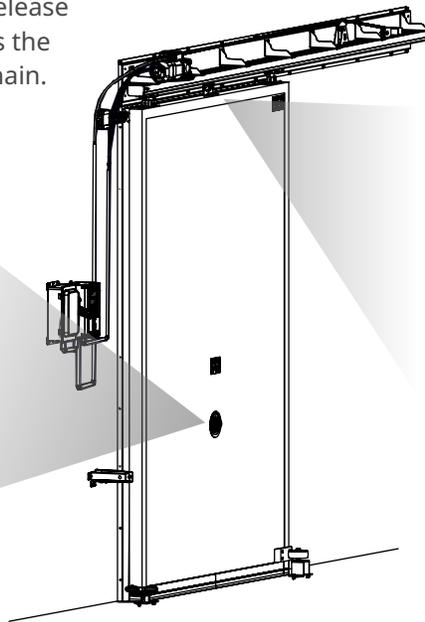


NOTE: depending on the tension set on the chain release cable, the handle may not turn a complete half-turn.

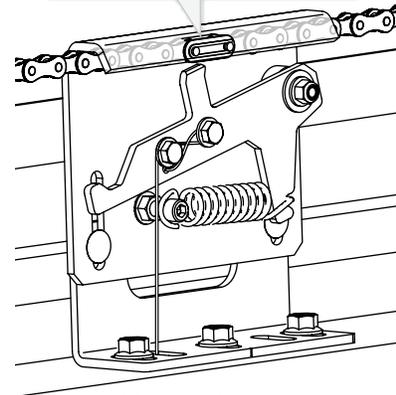
2 Turning the handle pulls down the pivot arm on the cable release assembly, which disconnects the door panel from the drive chain.



Turn handle 90° in either direction

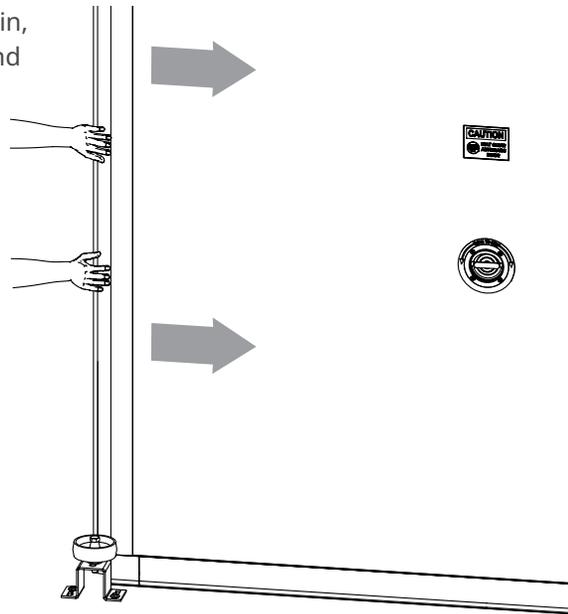


Master link is only link in chain large enough to secure tab.



Cable pulls down pivot arm, releases tab from master link of drive chain.

3 With the door panel disconnected from the chain, you can **manually push** the door panel back and forth on the track.

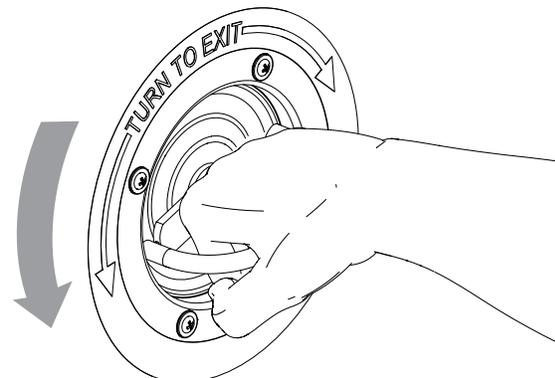


4 To reconnect the door and the chain, **turn** the handle back to the horizontal position.

IMPORTANT

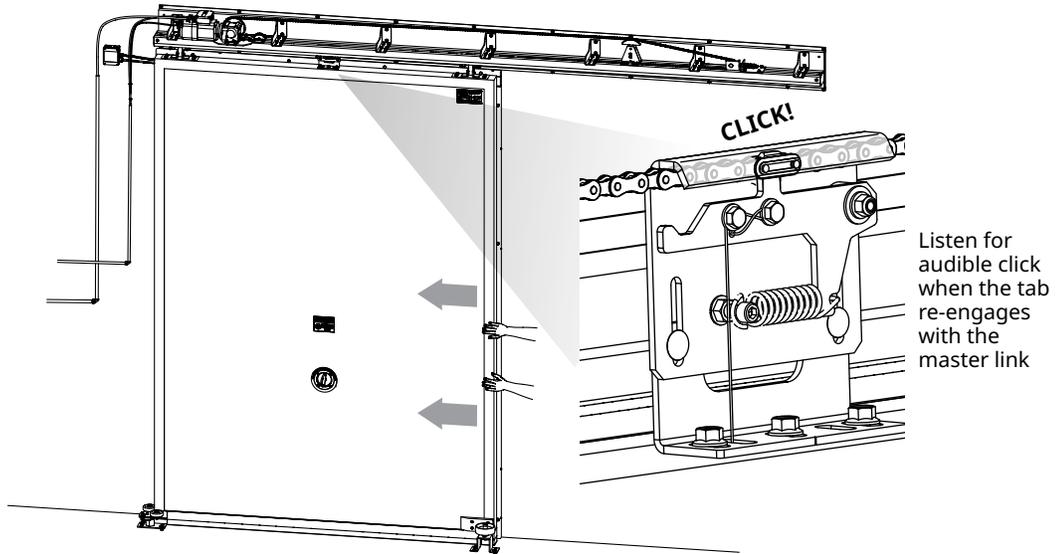
Make sure you return the handle to the fully horizontal position, and all tension has been removed from the chain release cable.

This allows the tab to **fully engage** with the master link.

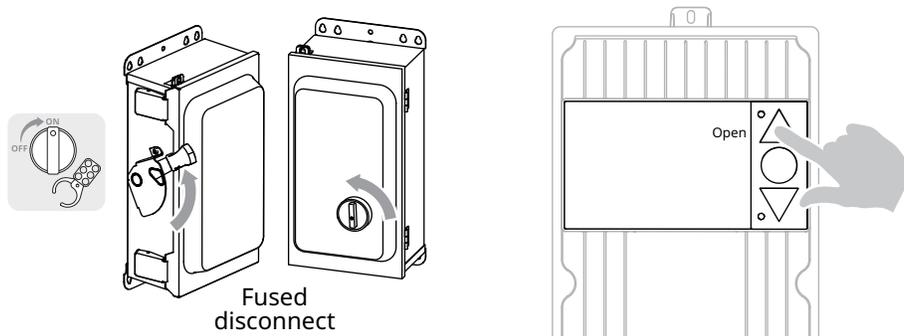


5 **Push** the door panel back to its original position until you hear an audible **CLICK** as the tab in the pivot arm re-engages with the master link.

Rock the door panel back and forth to make sure it is fully engaged with the drive chain.



6 **Restore** power to the door, then **press** the OPEN button and run through a cycle of opening and closing to make sure the door panel is fully engaged with the drive chain.



Recommended inspection and maintenance schedule

Daily inspection - to be done once per day

Action	Daily	Quarterly
Inspect visually for damage: door panel, head assembly, bulb seals, head assembly, stay rollers, heat trace, cables and conduit		
Test door operation		
Check spacing between bulb seals and door panel, and that there is a secure seal on all sides of the door panel when the door is closed		
Check that bulb seals are being warmed by heat traces		
Test photo eyes; clean if necessary		
If necessary, clean the door panel and bulb seals		

Quarterly inspection - to be done four times per year



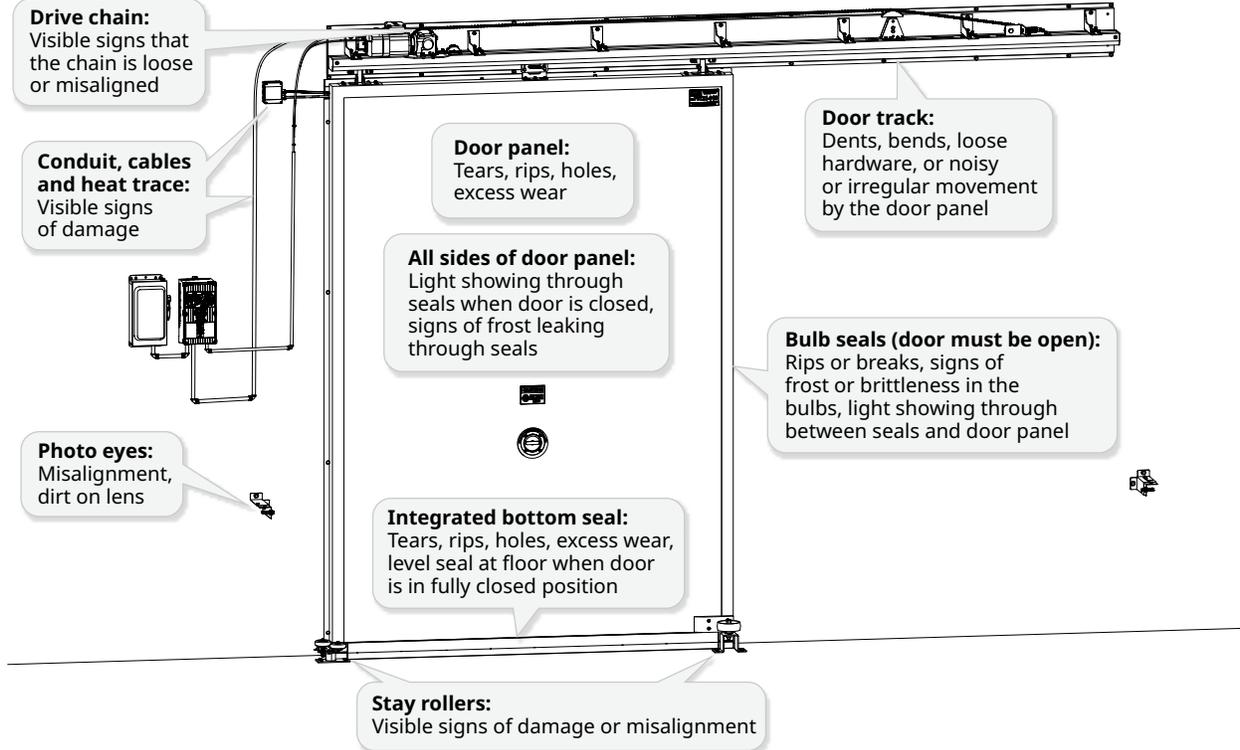
If door use does not allow for a full inspection to be done at the same time, the tasks can be broken up into four separate schedules (A,B,C,D), each done once per year. For optimal door performance, perform the combined inspection each quarter.

Action	Daily	Quarterly
Check open and close limit; adjust if necessary		A,B,C,D
Check condition of safety labels		A,B,C,D
Visually inspect hardware; tighten where necessary		A
Visually inspect anchoring; tighten where necessary		A
Visually inspect the controller, cabling and conduit		B
Check the position of the door panel and visually inspect the panel and seals		B
Clean the door panel and bulb seals		B
Visually inspect the drive chain, idlers, release assembly and tensioners		C
Visually inspect and test the chain release system		C
Visually inspect the door track and trolley assemblies; tighten hardware where necessary		C
Lubricate		D
Inspect the electromagnetic brake		D
Inspect the warming system		D
Perform or schedule routine and required maintenance	<i>As needed</i>	

MAINTENANCE

Daily maintenance - perform daily

Daily visual inspection: where to look and what to look for



⚠ CAUTION

Immediately take the door out of service and perform a lockout/tagout if any of the door systems are not working properly.

1 **Inspect** the bulb seal assemblies and head assembly for signs of damage or excessive wear.

2 **Inspect** the door panels for signs of damage or excessive wear.
NOTE: if minor damage is found on the door panel, order a **repair kit** from Rytec.
See page 94 for part numbers.

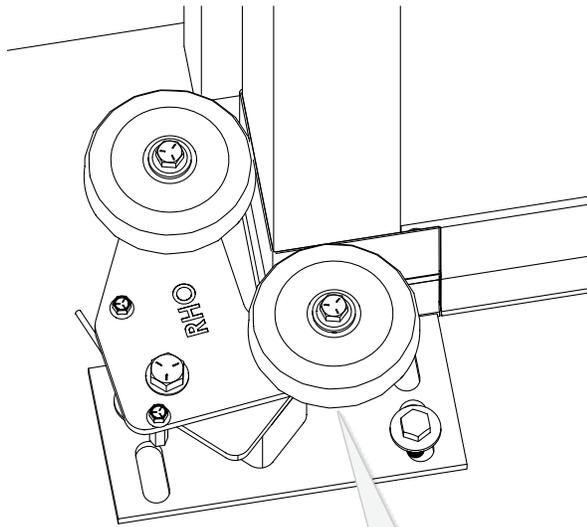
3 **Activate** the door using each activating system. **Run** the door through at least three cycles for each system.

- **Make sure** the door panel opens to the fully open position, remains in place for the standard time, and then closes to the fully closed position.
- **Repeat** for each activating device.

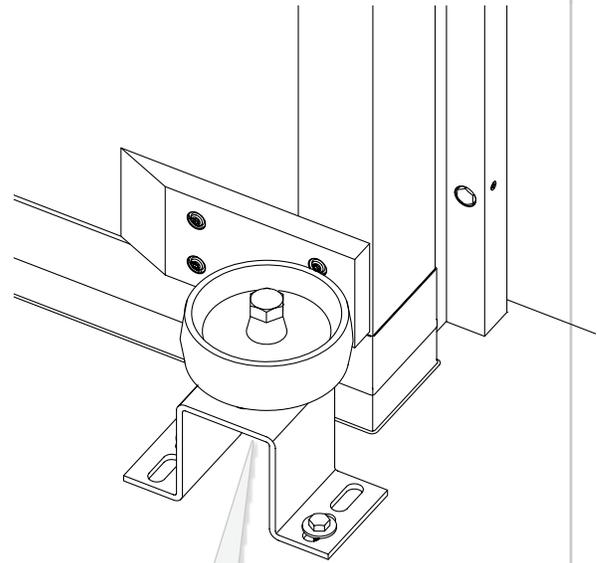
4 While the door cycles, **look and listen** for:

- **Unusual noises** such as grinding, whining or excessive motor noise.
- **Unexpected movement** by the trolley assemblies or signs of obstructions in the track.
- **Changes in door speed** from one cycle to the next. **NOTE:** The door motion should accelerate, then decelerate, during a normal run up or down.
- **Excess movement** by the motor, drive chain or door panels.
- **Unexpected delay** in activation or unusually long time period before automatically closing.

5 With the door in the fully closed position, **check** that the stay rollers are correctly positioned against the door panel.



Universal cam stay roller:
With door in fully closed position, should be pressing against both the front of the door panel, so that it compresses the bulb seal, and the leading edge of door panel.



Single stay roller:
With door in fully closed position, should be pressing against door closure wedge so that door panel compresses the bulb seal.

Roller wheel should be roughly centered vertically on wedge.

6 With the door in the fully closed position, **check** the distance between the door panel and the backing board for the bulb seals on both sides of the door.

- **Correct distance** is 2-1/4".
- There should also be a **1/4" compression** on the bulb seal.

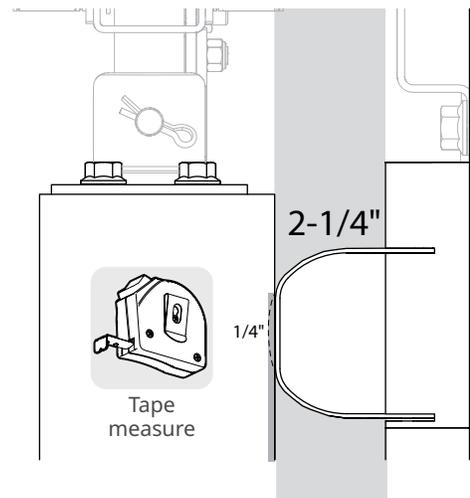
Check towards the middle and near the bottom of the door panel.

IMPORTANT

If the door panel is too close, this causes unnecessary pressure and wear, and can cause parts to break down prematurely.

If the door panel is not close enough, cold air is most likely leaking through the seal.

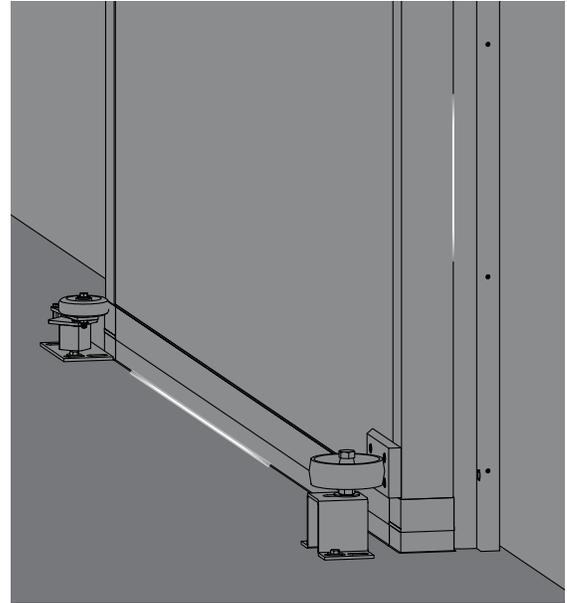
Either condition requires the door panel to be repositioned.
See *How to realign the door panel so all seals are secure* starting on page 57.



7 **Check around the door panel**, and on the door panel itself, for any sign of frost.
Run your hands along the bulb seal and bottom seal: they should not be cold to the touch.

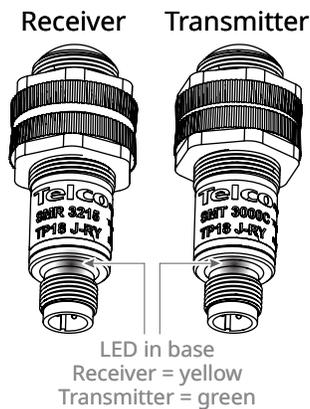
8 Check along the side bulb seals and the bottom of the door for light leaks.

- **Light leaks** indicate that the seal is not fully in place.
- **It is easier** detect light leaks if you can dim the lights around the front of the door.



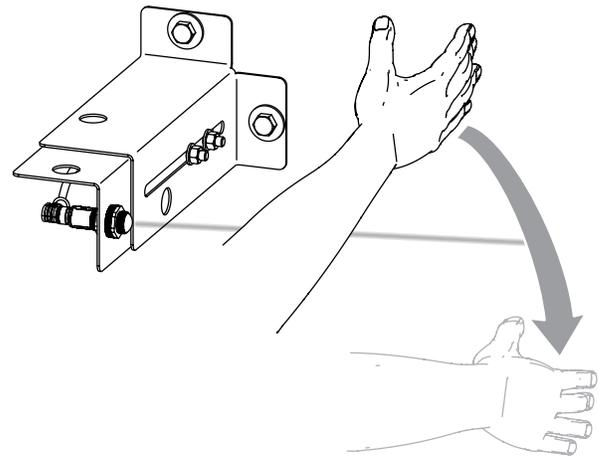
9 Check the LED lights in the front and rear transmitters and receivers.

- **Transmitter:** green light indicates it is operational.
- **Receiver:** yellow light indicates it is correctly aligned with the transmitter.



10 While the door is closing, **break the beam** on each set of photo eyes.

- **Door should stop, reverse,** and stay open as long as the obstruction remains in place.
- **Door should only close** when the obstruction is removed.



Daily cleaning - if required

How to clean the photo eyes

- 1 If a photo eye is dirty, Use a clean, soft cloth and household window cleaner to clean the lens.

How to clean the door panels and bulb seals

- 1 Before you begin, **make sure** you have an approved cleaner available.

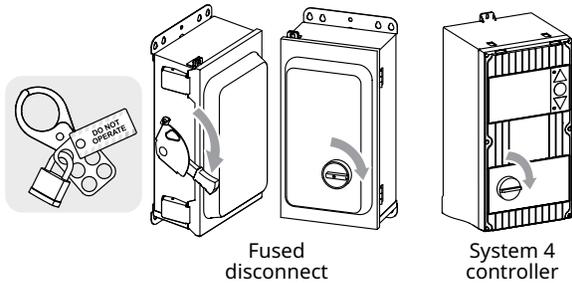
Cleaner	Single panel door	Bi-part door
Isopropyl alcohol	OK	OK
Borax	OK	OK
Household Bleach	OK	OK
Prosat® alcohol saturated wipes 18889-002	OK	OK
Prosat® alcohol saturated wipes 89138-004	OK	OK
Simple Green®	OK	OK
Sodium Bicarbonate	OK	OK
Sodium Carbonate	OK	OK
Sodium Hydroxide (20%)	OK	DO NOT USE*
Sodium Hypochlorite (<20%) ("bleach")	OK	OK

* The bi-part tongue and groove seal on bi-part doors uses closed cell foam inserts that may be damaged by this cleaner.

- 2 If necessary, **get a forklift or ladders** to access the top of the door panels and the top bulb seal



- 3 Turn off power to the door until the cleaning is complete by setting the disconnect to the OFF position and performing a lockout/tagout.

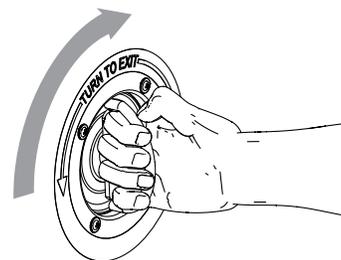


- 4 Wipe down the door panel with the cleaner using a soft, clean cloth. Rinse thoroughly when done. Repeat until the door panel is fully clean.

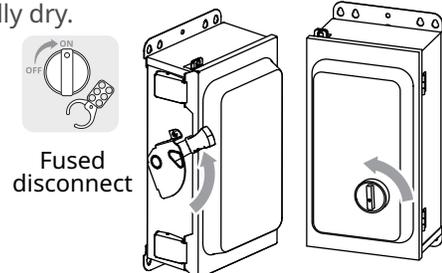
- 5 If the bulb seals require cleaning, follow the steps in *How to open and close the door manually* on page 16 to **move the door panel** and access the bulb seals.

Follow the same steps to clean the bulb seals.

Move the door panel back to the fully closed position when the cleaning is complete. Make sure the door panel has fully re-engaged with the drive chain.



- 6 Restore power to the door when it is fully dry.



Quarterly maintenance

Contact Rytec Technical Support at **800-628-1909** or e-mail helpdesk@rytecdors.com

IMPORTANT if you have any questions at any time during service of the door. **See page 6** for a list of Rytec terms.

If you find, during inspection and testing, **that parts need to be replaced**, you will find instructions for the most common maintenance procedures later in this manual.

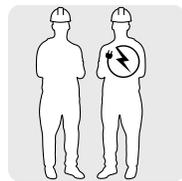
Safety

Read the Safety section beginning on page 12 before performing any service on the door.

Requirements – Site Conditions

- Service techs must have unrestricted access to the door opening at all times during the service.
- Make sure there is no pedestrian or vehicular traffic within the service area for the duration of the service.

Requirements – Staffing

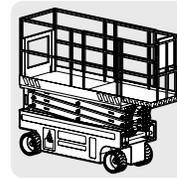


- A licensed electrician is recommended for making any changes to the electrical connections for the door.
- Refer to the *Rytec System 4® Drive & Control Installation & Owner's Manual* for a complete list of the electrician's responsibilities.

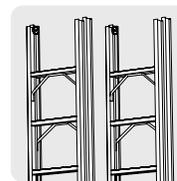
	⚠ WARNING
	<p>Electrical work must meet all applicable local, state and national codes.</p> <p>Failure to wire the door correctly can cause shock, burns or death to the people who install, use or service the door.</p> <p>Failure to comply also voids the warranty for the door.</p>

Requirements – Lifts

	⚠ WARNING
	<p>Follow all safety instructions on all lifts and ladders used for this installation.</p>



- **Scissor lift** that meets the following specifications:
 - Can hold all service techs
 - Minimum height ability: door height



- **Alternatively, ladder(s)** of sufficient height to safely access the door head assembly

Required tools and supplies

Additional tools may be required to perform maintenance after inspections and tests have been done. They will be called out as they are needed.

<p>3/8" 7/16" 11/16" 15/16"</p> <p>Socket or open wrench</p>	<p>#2 #3</p> <p>Phillips screwdriver</p>	<p>Precision screwdriver</p>
<p>1/2" 9/16" 3/4" 1-1/8"</p> <p>(2) Sockets or wrenches needed</p>	<p>T40</p> <p>Torx wrench</p>	
<p>5/32" 1/4" 5mm 6mm</p> <p>Hex wrench</p>	<p>Tape measure</p>	<p>Laser level</p>
	<p>Oil dispenser (like Mobile SHC 630)</p>	<p>Chain lubricant</p>

Quarterly maintenance - how to set limits

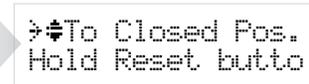
First: set the controller to Parameter mode and access Service level parameters

Do This	Result	Do This	Result
<p>1  Turbo-Slide [xxx] Cycles</p> <p>The door starts in run mode.</p>	<p>4  1X to move cursor to the right (edit value)</p> <p> P: Password 0 999= 0000v#</p> <p>You can now change the value of parameter P:999.</p>		
<p>2  until the parameter screen displays</p> <p> P: Password 0 001= [xxx] Cyc</p> <p>You are in Parameter mode. Go to parameter 999.</p>	<p>5  16X to set value to hexadecimal 10</p> <p> P: Password 0 999= 0010?#</p> <p>Set the value to 10 (Service level password).</p>		
<p>3  2X to reach parameter P:999</p> <p> P: Password 0 999= 0000 #</p> <p>The Password parameter P:999 screen displays.</p>	<p>6  until question mark changes to checkmark (value saved)</p> <p> P: Password S 999= 0010v#</p> <p>The Service level password is saved.</p>		

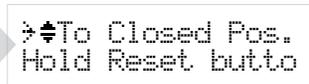
Next: navigate to parameter P:210 and set the closed and open position values

Do This	Result	Do This	Result
<p>1  until 210 displays</p> <p> P: New Limits S 210= 0 #</p> <p>The Limits parameter (210) screen displays.</p>	<p>4  5 sec.</p> <p> P: New Limits S 210= 5v#</p> <p>The New Limits value is saved.</p> <ul style="list-style-type: none"> You must press and hold the Reset button for five (5) seconds to save edits that you make to a parameter. 		
<p>2  The cursor moves to the right side.</p> <p> P: New Limits S 210= 0v#</p>	<p>5  The cursor moves to the left side.</p> <p> P: New Limits S 210= 5 #</p>		
<p>3  5X</p> <p> P: New Limits S 210= 5v#</p> <p>Set the New Limits value to 5.</p> <ul style="list-style-type: none"> This setting allows you to edit both the closed position limit and the open position limit. 	<p>6  5 sec.</p> <p> ! Set Limits ! Press Reset butt</p> <p>The sequence to set the closed and open position limits begins.</p>		

Do This *Result*

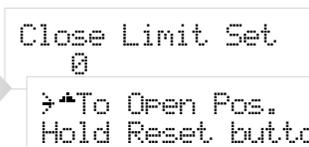
7  

You can now set the value for the closed position limit.

8  until closed position is correct 

Set the closed position limit value.

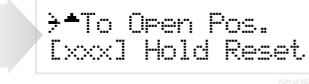
- Press the **UP arrow or DOWN** arrow to move the door to the correct position.
- **Each press moves the door** by a small increment. Press and hold to move the door more quickly.

9  5 sec. 

The closed position limit is saved.

- **You must press and hold** the Reset button for five (5) seconds to save edits that you make to a parameter.

You can now set the value for the open position limit.

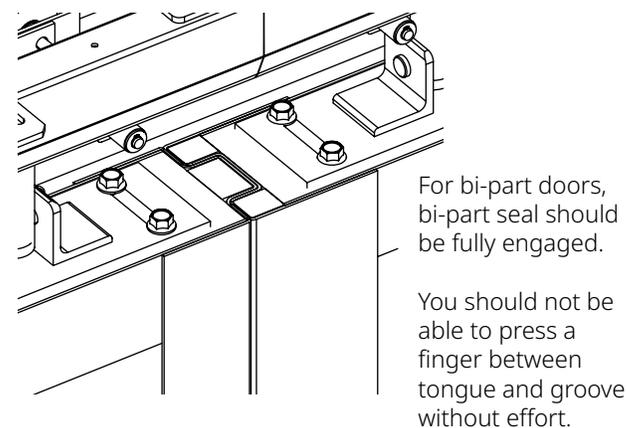
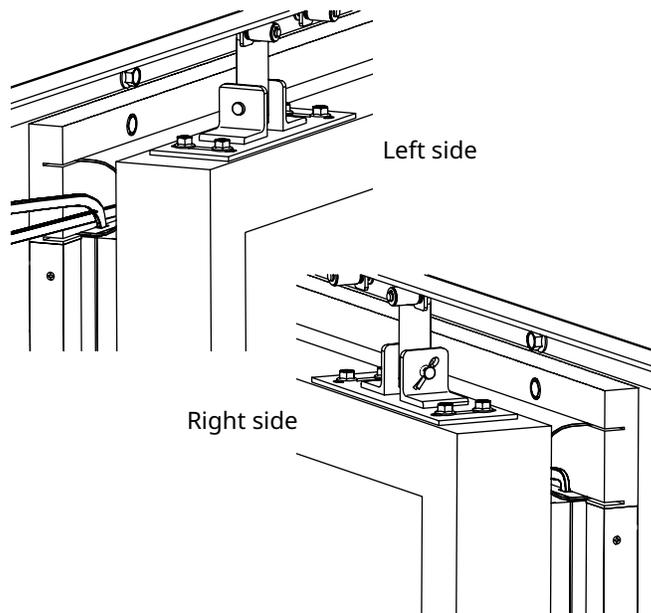
10  until open height is correct 

Set the open position limit value.

- **Press and hold** the UP arrow to move the door to the correct position.
- **Each press moves the door** by a small increment. Press and hold to move the door more quickly.

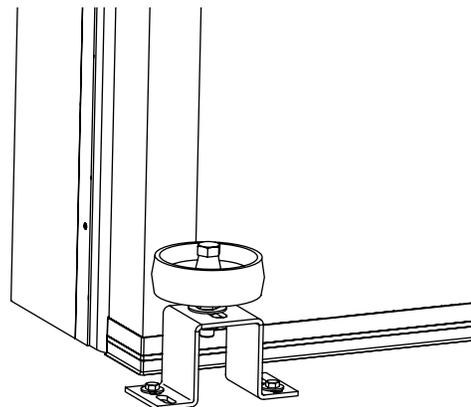
Close limit

Door panel should be evenly aligned with bulb seal assemblies on left and right and fully compress both seals.



Open limit

Trailing side of door should align with edge of door opening.



Do This

Result

11



Open Limit Set
0
! Auto Calibrate!
Press Close butto

The open position limit is saved.

- You must press and hold the Reset button for five (5) seconds to save edits that you make to a parameter.

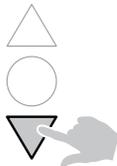
CAUTION



Make sure that the area around the door is clear of obstructions, and that people and vehicles do not pass through the open doorway, until the automatic calibration is complete.

The door can open or close unexpectedly, resulting in injury

12



Turbo-Slide
1555 Calib.Run

The automatic calibration sequence starts.

- The door runs through several cycles of opening and closing.
- Initial cycles may not match the limits that you set. The final cycle should match your saved values for the closed and open position limits.
- The controller returns to Run mode when calibration is complete.

13



Test for these conditions while the door opens and closes:

- Door panel moves smoothly
- Door is not unusually noisy
- Bracket stays tight to motor and head assembly
- Door limits are correct
- Safety systems work correctly

How to manually adjust the open or close limit (optional)

This procedure is for making **small adjustments** (up to one inch) to the open or close limits. Reset limits using parameter P:210 for larger adjustments.

Navigate to parameter P:221 (Adjust Close Position) or P:231 (Adjust Open Position) and change the value

Parameter P:221 is used in this example;
Parameter P:231 follows the same procedure.

Do This

Result

1



until parameter displays

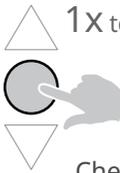
P: Adj Cls Pos S
221= 0 Inc

IMPORTANT

Default value is 0 Inc

- Inc (increment) is roughly 1/10 inch.

2



1X to move cursor to the right (edit value)

P: Adj Cls Pos S
221 @Inc

Checkmark indicates current value.

3



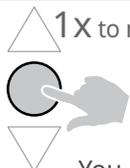
until new value displays

P: Adj Cls Pos S
221= [X]?Inc

IMPORTANT

Do not change the value by **more than 5 Inc** before testing the door. Overcorrection of the limit may damage door.

- Press the UP ARROW to **increase** Inc.
- Press the DOWN ARROW to **decrease** Inc.
- The question mark indicates the value is **changed but not yet saved.**

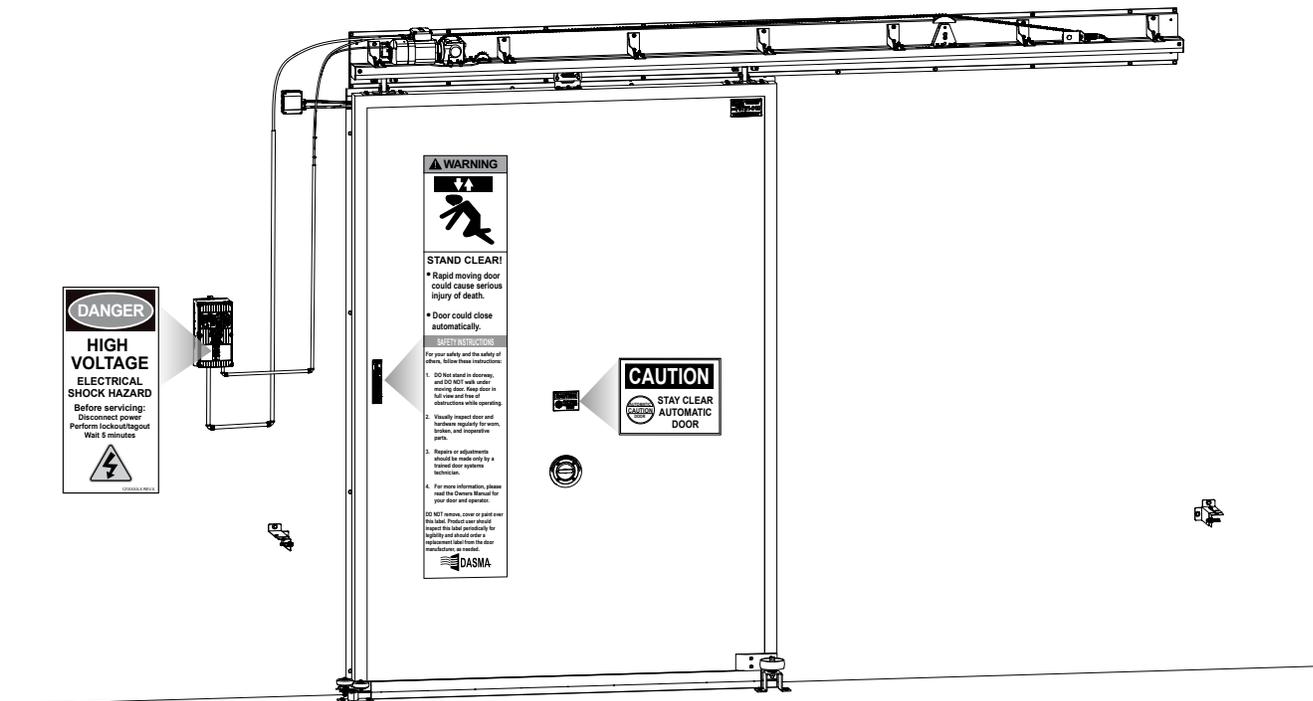
Do This	Result
<p>4</p> 	<p>until question mark changes to checkmark (value saved)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>P: Adj Cls Pos S 221= [X]Inc</p> </div> <p>The new value is saved.</p>
<p>5</p> 	<p>1X to move cursor to the left (parameters)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>P: Adj Cls Pos S 221= [X] Inc</p> </div> <p>You can now exit parameters.</p>

Do This	Result
<p>6</p> 	<p>until door returns to run mode</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Turbo-Slide [xxx] Cycles</p> </div>

Where to find the safety labels

Check the condition of the safety labels: the DASMA label on the door panel, inside the frame, and the shock warning on the front of the System 4 control box. Older doors may also have a CAUTION label above the manual chain release handle. **Make sure** both labels have no rips or tears, that they can be clearly seen, and that all text is readable.

Call the Rytec parts department at **800-628-1909** if any of the labels need to be replaced.



Quarterly maintenance - Schedule A

Tighten hardware and anchors

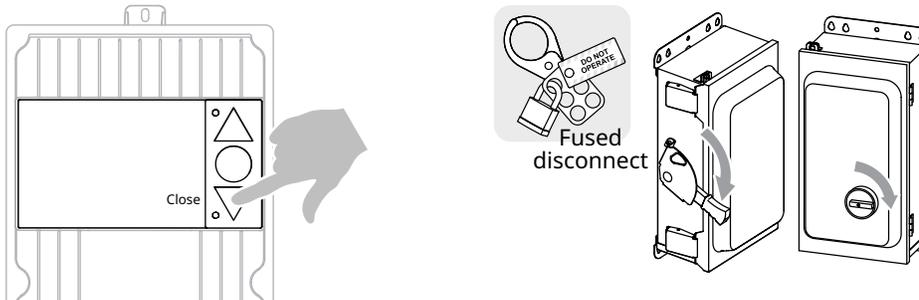
Before you start: rules of thumb for tightening hardware on Rytec doors

- Do not tighten hardware **unless you can feel that it is loose**, and you can rotate it by hand.
- **Do not overtighten:** tighten only until hardware cannot be rotated with your fingers.
- **Power tools** can be used to loosen hardware, such as the tek screws in the metal hood cover, but **should not be used to tighten.**
 - Some bolts connect to riveted nuts, which can be pulled loose by power tools.

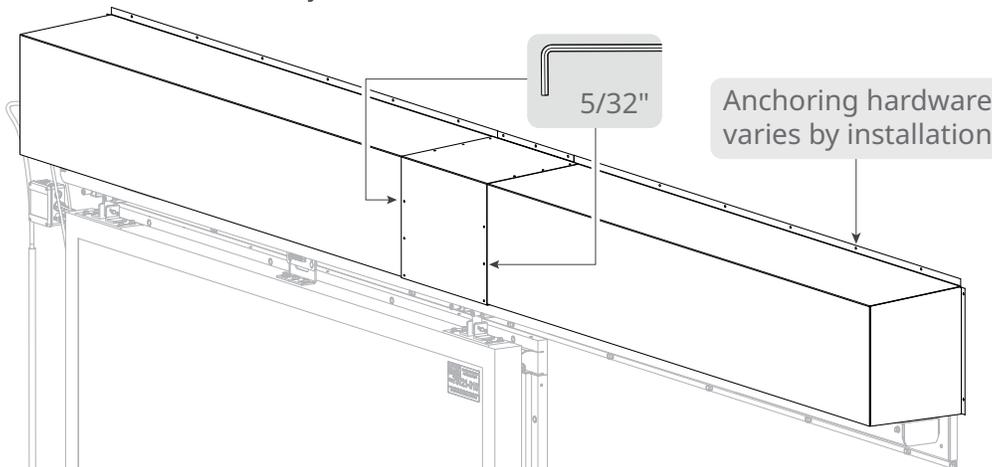


- 1 **Perform** all steps of the daily inspection.
Check the limits, **reset** if necessary, and **inspect** the safety labels.
Perform any required cleaning.

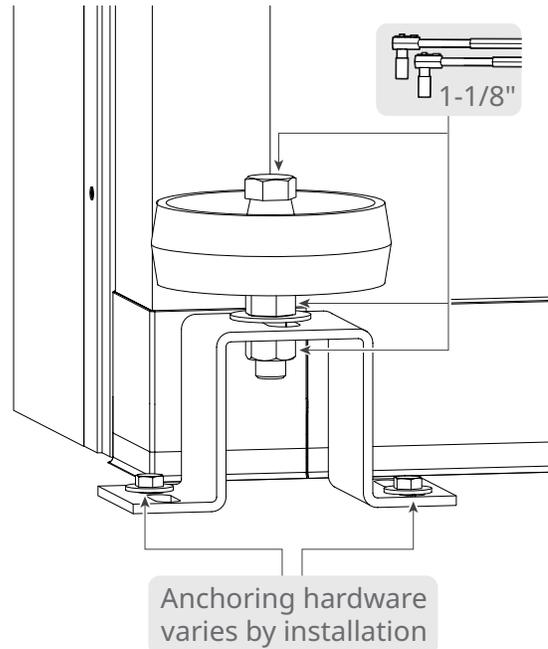
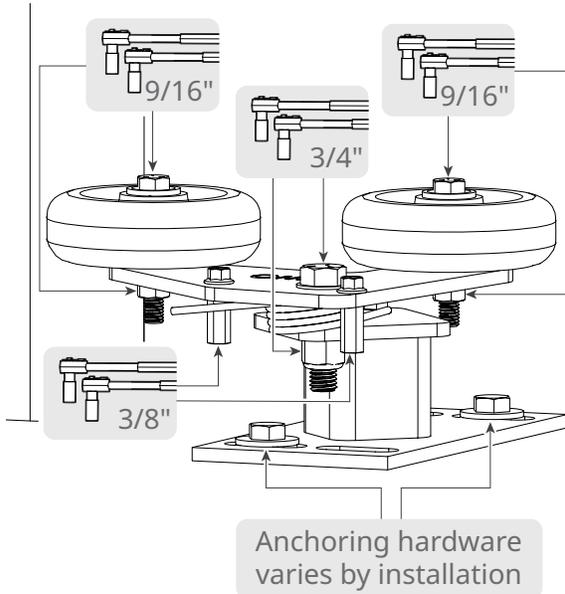
- 2 **Set** the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.



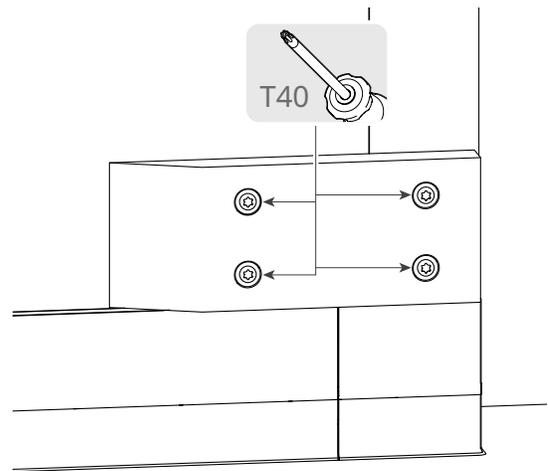
- 1 For doors with hood covers, it will be necessary to first **remove** the hood cover to access the hardware in the head assembly.



2 **Inspect** and, if necessary, **tighten** the screws on the stay rollers.
Floor anchoring hardware will vary by installation.



3 **Inspect** and, if necessary, **tighten** the screws on the door closure wedge.

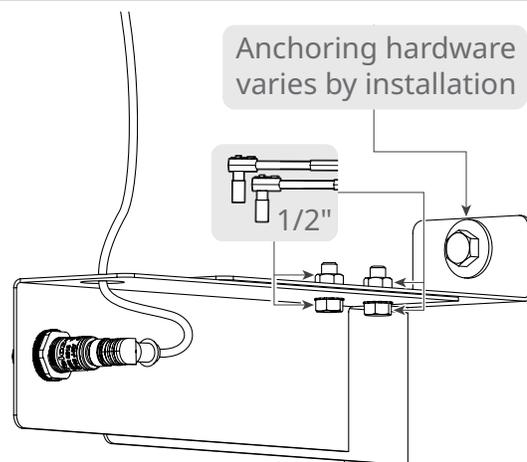


4 **Check** the hardware on the photo eyes on both sides of the door.

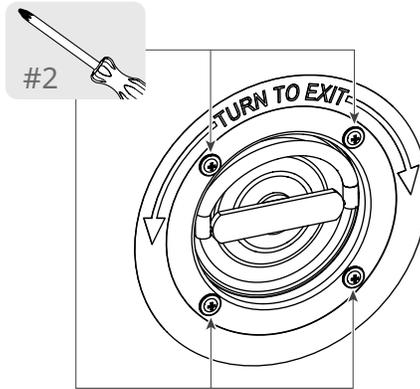
Also **check** that the photo eyes are tight in their brackets.

Check that the cord grip is tight.

Photo eye anchoring hardware will vary by installation.



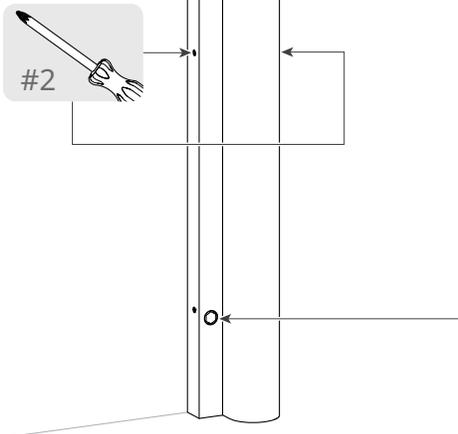
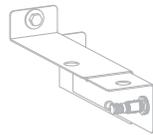
5 **Inspect** and, if necessary, **tighten** the screws on the manual chain release handle.



6 **Inspect** and, if necessary, **tighten** the wood screws on both sides of the backing board of the bulb seal assemblies that secure the bulb seal.

Do the same for all mounting hardware.

Do this for the top, and both side, bulb seals, as access becomes available.



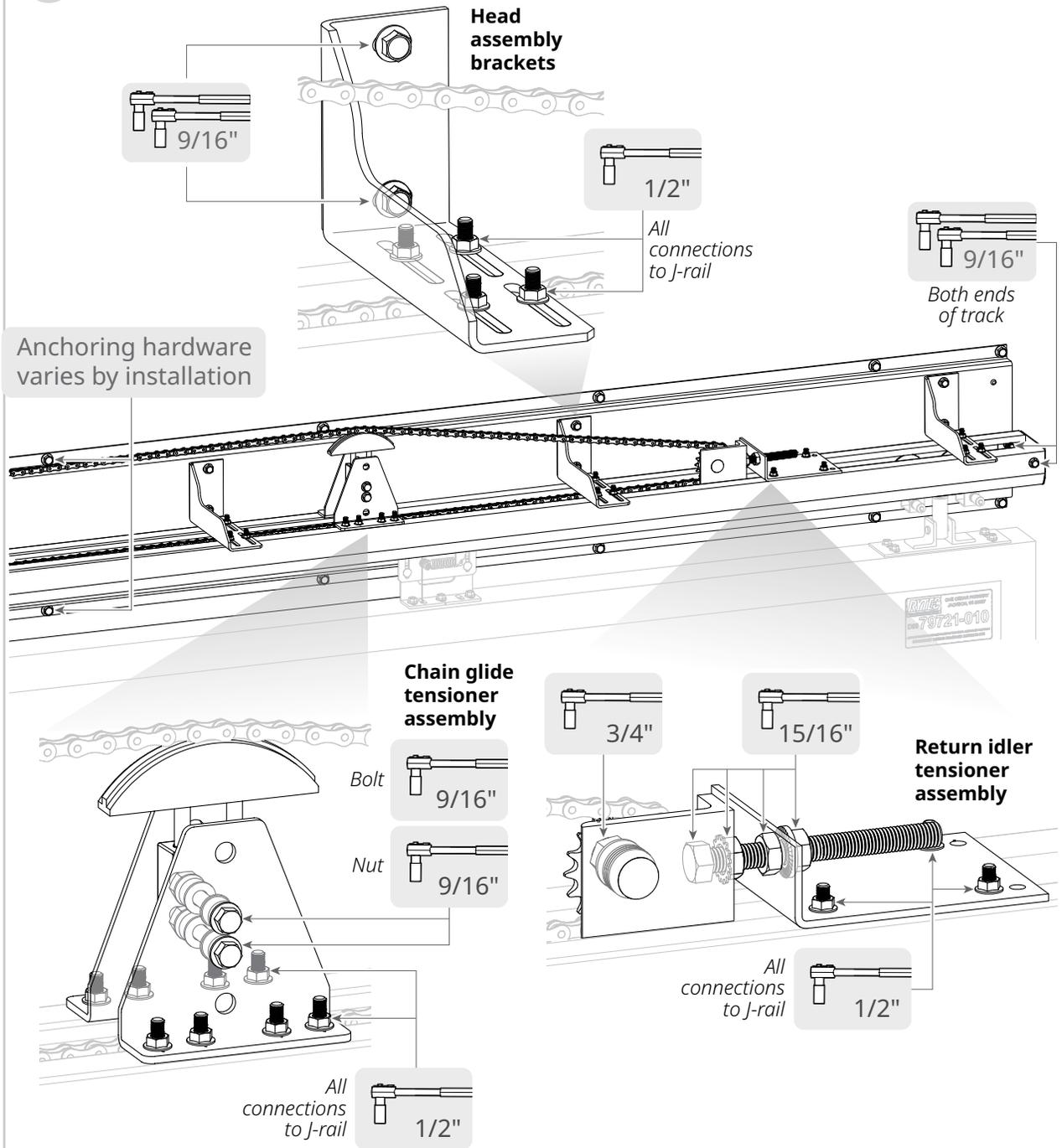
7 **Go up** to the head assembly.



Ladder
or
Scissor lift



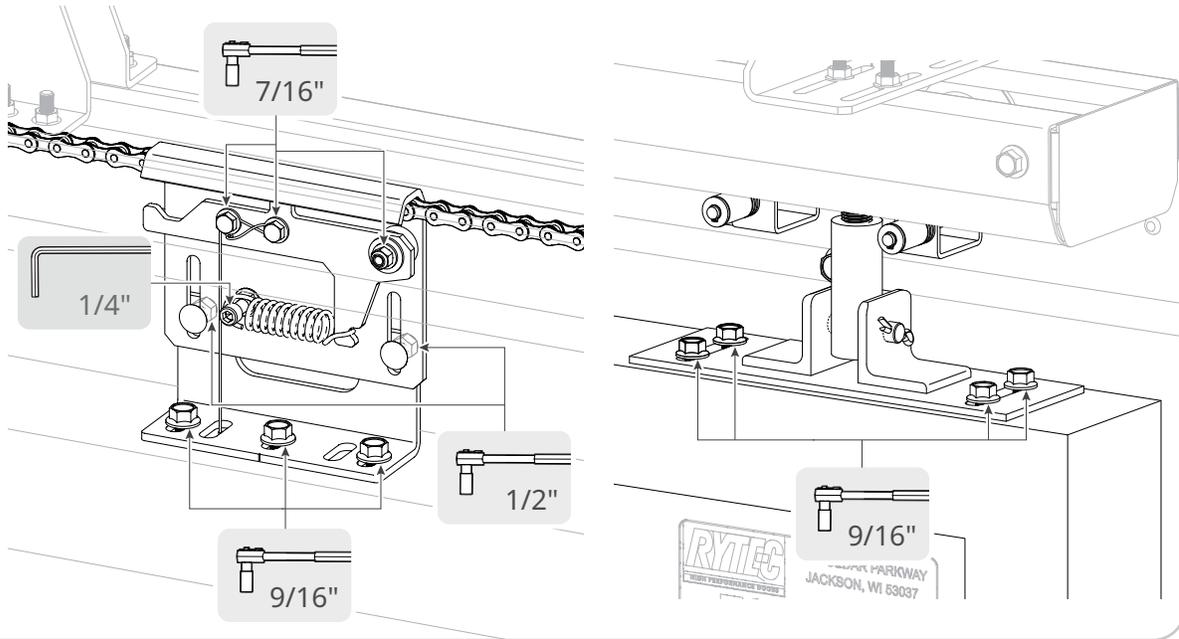
8 **Inspect** and, if necessary, **tighten** hardware on all parts connected to the door track.



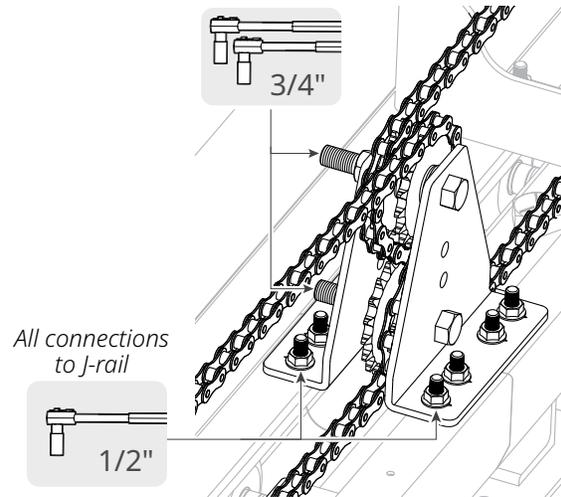
9 At the top of the door panel, **inspect** and, if necessary, **tighten** hardware on the chain release assembly and swivel hangers.

IMPORTANT

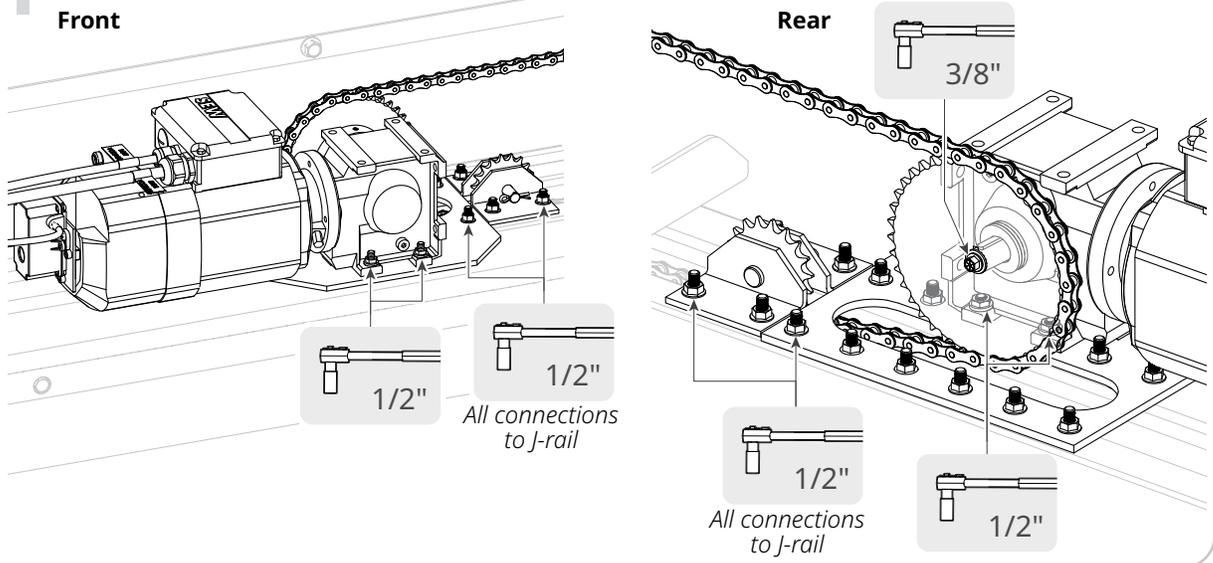
If the door was installed following the Rytec install manual, bolts securing the hanger brackets and chain release assembly have had **Loc-Tite™** applied to them. If these are adjusted, Loc-Tite™ should be **reapplied** when they are reinstalled.



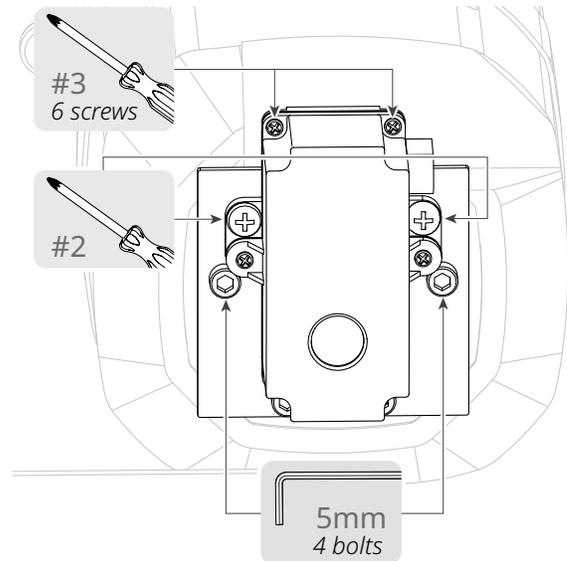
10 On bi-part doors, **inspect** and, if necessary, **tighten** hardware on the chain reverser.



11 Inspect and, if necessary, **tighten** hardware around the motor.

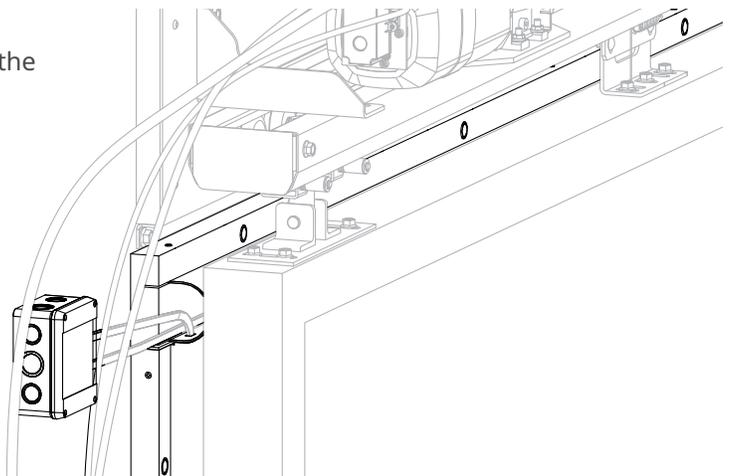


12 Inspect and, if necessary, **tighten** hardware around the encoder.



13 Inspect and, if necessary, **tighten** the wood screws on both sides of the backing board of the top bulb seal assembly.

Do the same for all mounting hardware.

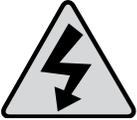


Quarterly maintenance - Schedule B

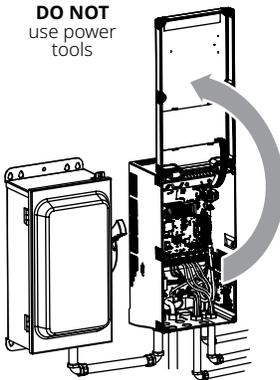
Check cabling, check position of door panel and seals, clean door panel and bulb seals

- 1 **Perform** all steps of the daily inspection.
Check the limits, **reset** if necessary, and **inspect** the safety labels.

How to inspect the controller, conduit and cabling

 	<p>⚠ WARNING</p> <p>Set the disconnect switch to the OFF position and perform a lockout/tagout of the high-voltage disconnect before opening the controller. This MUST be done at the fused disconnect, even if there is a disconnect switch on the controller.</p> <p>Then wait 5 minutes after doing the lockout/tagout before opening the controller.</p> <p>Do not set the disconnect switch to the ON position until the controller has been closed and the cover secured.</p> <p>Failure to comply could result in shock, burns or death.</p>
--	--

- 2 **Loosen** the six capture screws, **open** the front cover and **inspect** the inside of the controller.



Precision screwdriver for terminal connections

Wires:

Tug lightly at terminal connections to make sure they are securely set.
 Check for pinches, cracks or breaks in the wiring insulation.

Labels:

Check that door serial number matches number on door

Encoder cable:

Check that the P-clip makes a secure connection to cable and drain wire.

Cables:

Check for loops, kinks or excess length of cabling

High voltage cables:

Check that ferrite filters are correctly installed, as shown here.

Check that wires are securely set in terminals and grounding bar.

Check that the P-clip makes a secure connection to the motor cable, copper sheath and drain wire.

Floor of controller:

Make sure it is free of rust, corrosion or water

Conduit:

Check that fittings are tight and conduit is secure against wall

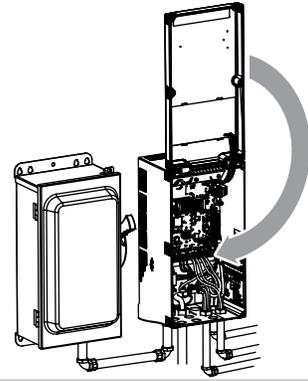
3 Close and secure the cover of the controller when you are done.



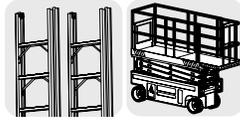
#2



DO NOT
use power
tools



4 Go up to the head assembly.

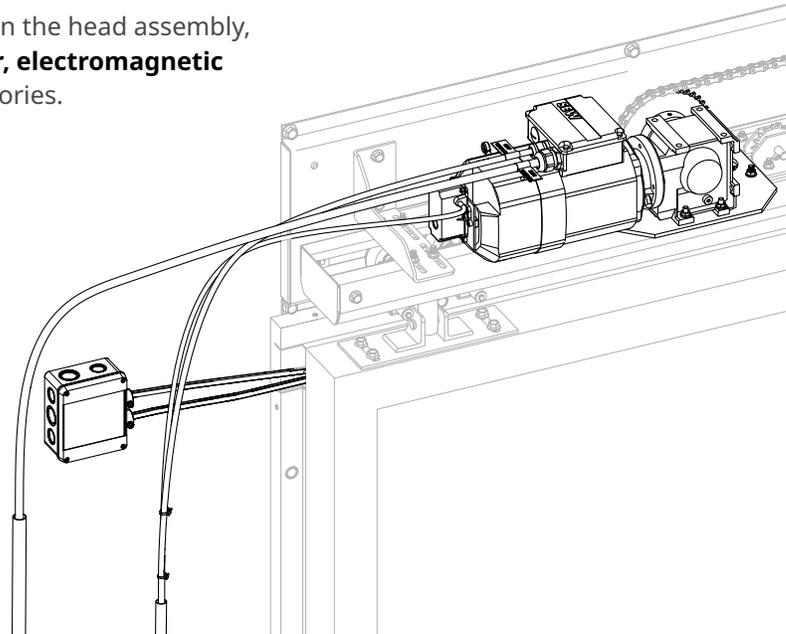


Ladder
or
Scissor lift



5 **Inspect** all cabling and conduit in the head assembly, including cables from the **motor, electromagnetic brake, encoder, and any accessories.**

Make sure all cabling runs in appropriate conduit, that there is separation between the **high voltage and low voltage cables**, and that exposed cables are **undamaged**, free of kinks and loops, spaced apart from moving parts of the door, and properly secured.



How to check the position of the door panel and inspect the seals

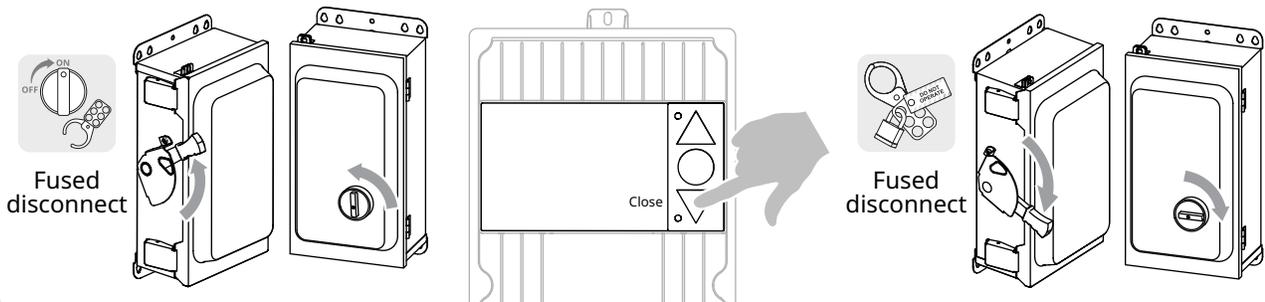
While both door panels and bulb seals should be inspected daily for signs of frost, damage and excessive wear, a **more thorough quarterly inspection** should also be done.

- **A properly maintained door panel**, barring direct damage, should last into perpetuity.
- **Bulb seals** should last 36–48 months so long as the door panel is properly aligned, applying proper pressure to the seals when closed.
- **The integrated bottom seal** should last up to 24 months, barring direct damage.
- **Bi-part tongue and groove seals** are wear items and should be replaced when they show signs of excessive wear or damage.

Frost buildup at the bulb seals, which results from damage or improper positioning of the door panel, can cause the door to operate erratically, damage mechanical systems, allow air infiltration, and increase energy use.

If **minor damage** is found on the door panel, order a **repair kit** from Rytec. **See page 94** for part numbers.

6 If necessary, **set** the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.



7 Go up to the head assembly.



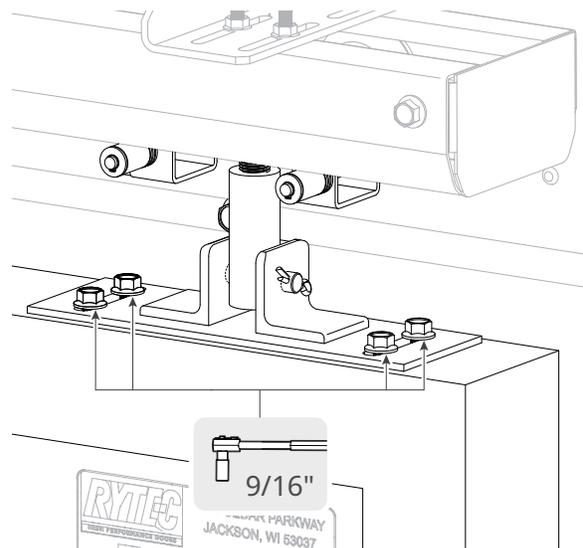
Ladder or Scissor lift

8 At the top of the door panel, **Inspect** and, if necessary, **tighten** hardware on the swivel hangers.

IMPORTANT

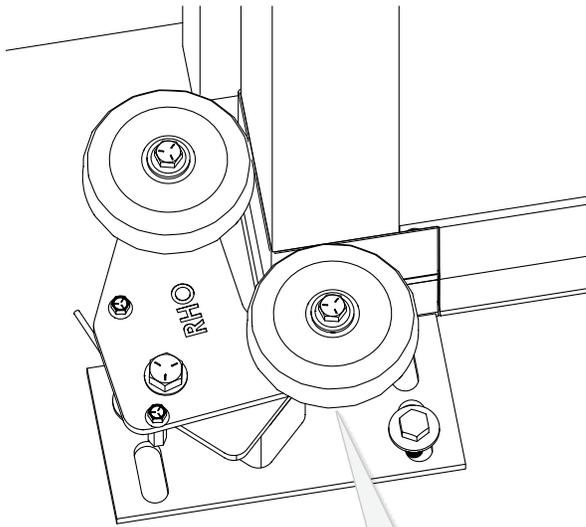
If the door was installed following the Rytec install manual, bolts securing the hanger brackets and chain release assembly have had **Loc-Tite™** applied to them.

If these are adjusted, Loc-Tite™ should be **reapplied** when they are reinstalled.

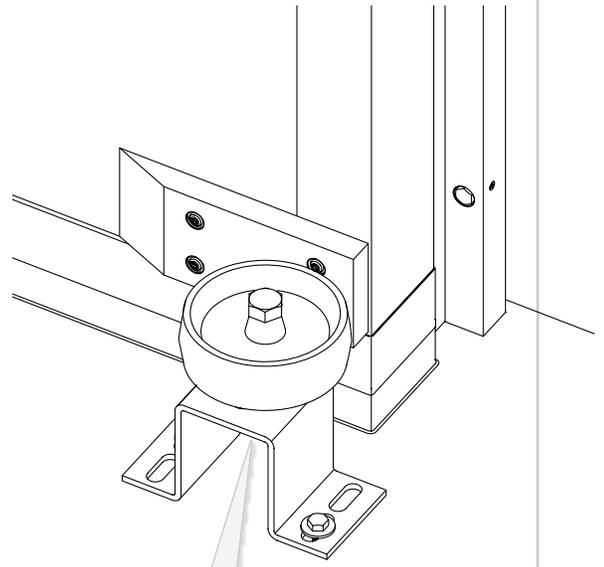


9

Check that the stay rollers are correctly positioned against the door panel.



Universal cam stay roller:
With door in fully closed position, should be pressing against both the front of the door panel, so that it compresses the bulb seal, and the leading edge of door panel.



Single stay roller:
With door in fully closed position, should be pressing against door closure wedge so that door panel compresses the bulb seal.

Roller wheel should be roughly centered vertically on wedge.

10

Check the distance between the door panel and the backing board for the bulb seals on both sides of the door.

- **Correct distance** is 2-1/4".
- There should also be a **1/4" compression** on the bulb seal.

Check towards the middle and near the bottom of the door panel.

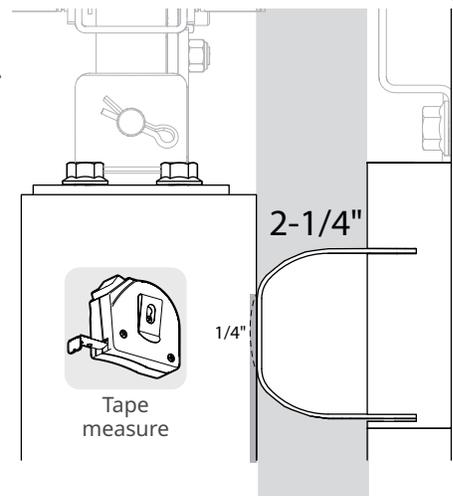
IMPORTANT

If the door panel is too close, this causes unnecessary pressure and wear, and can cause parts to break down prematurely.

If the door panel is not close enough, cold air is most likely leaking through the seal.

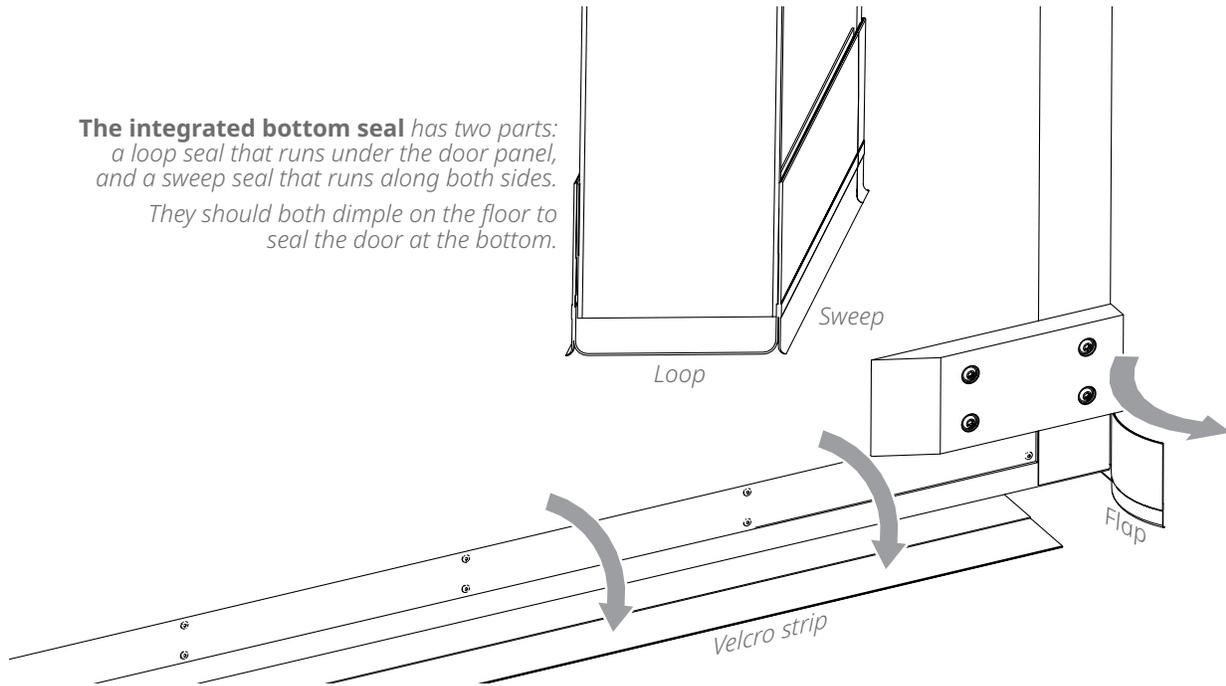
Either condition requires the door panel to be repositioned.

See *How to realign the door panel so all seals are secure* starting on page 57.

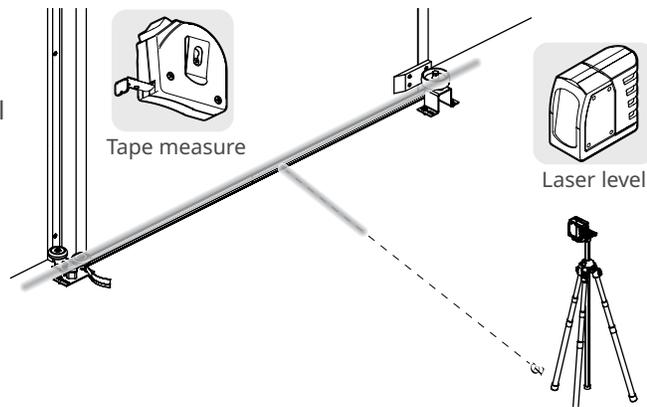


- 11** **Inspect** the integrated bottom seal for visible signs of damage, then by running your hand under the length of the door, and making contact with both the sweep and the loop seal across the entire length of the door panel.
- Then detach the seal from the front of the door panel to inspect the loop part for damage, and access the bottom of the door panel so you can check from level.
- **Unwrap** the flap that curves around the panel from the front.
 - **Peel** the seal from the Velcro strips that attach it to the panel on both sides and set it aside.

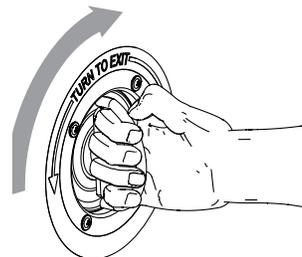
The integrated bottom seal has two parts: a loop seal that runs under the door panel, and a sweep seal that runs along both sides. They should both dimple on the floor to seal the door at the bottom.



- 12** **Set** a laser level along bottom of door panel to check level.
- Make sure** the bottom of the door panel is level, and is 3/4" above the floor.
- Reattach** the seal when you are done.
- See *How to realign the door panel so all seals are secure* starting on page 57 if the seal needs to be replaced.

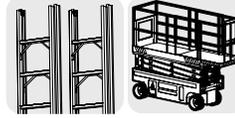


- 13** Follow the steps in *How to open and close the door manually* on page 16 to **move the door panel** and access the bulb seals.

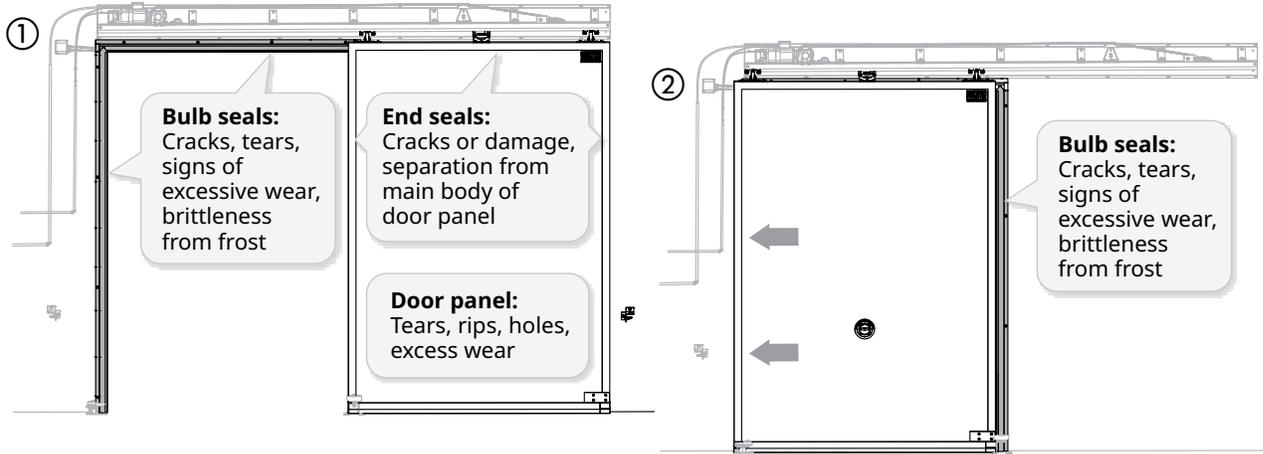


14 **Inspect** the door panel and the bulb seals at the top and sides of the door thoroughly.

Positions ① and ② allow you to access all bulb seals on a **single panel door**.

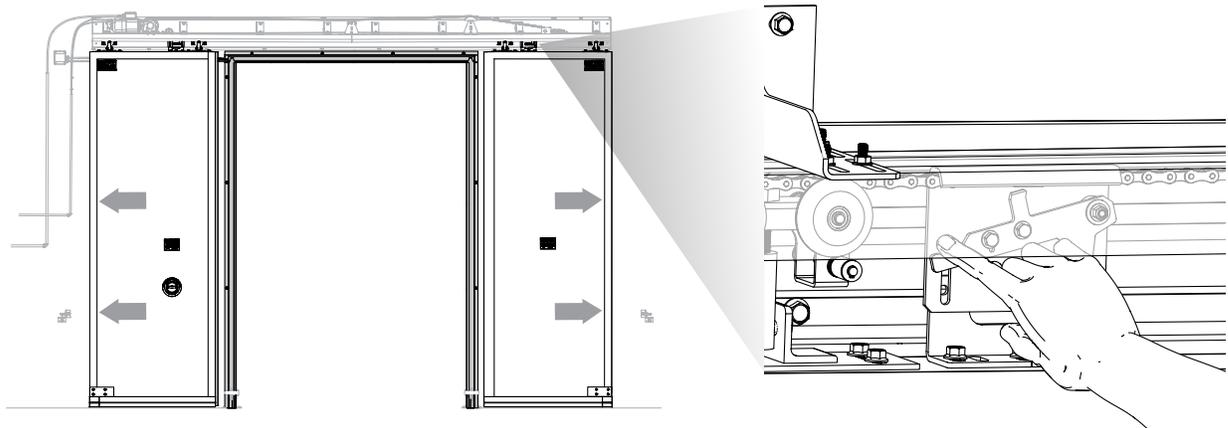


Ladder
or
Scissor lift



IMPORTANT

On most bi-part doors, **only one door panel has a manual chain release handle**. On these doors, you will need to go up into the head assembly and **push down the pivot arm manually**.

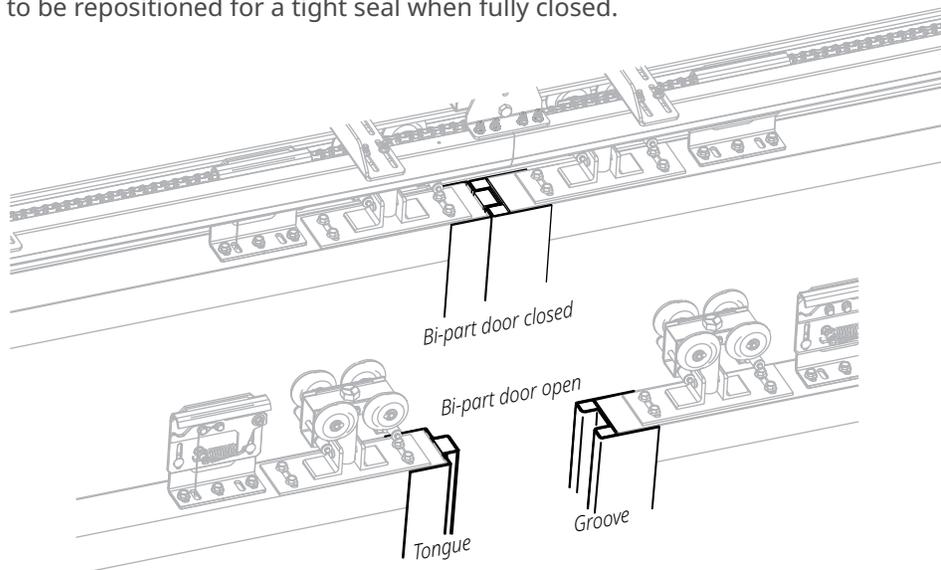


15 For bi-part doors, inspect the tongue and groove sections of the bi-part center seal. Make sure:

- The seals are securely velcroed to the door panels.
- There are no visible signs of excessive wear or damage.
- The seals are properly aligned and will meet securely.

Then **push** the two door panels back to the fully closed position and **make sure** they seal tightly with no gaps. You should not be able to press a finger between them without meeting resistance.

- See *Step 5: bi-part doors only: "toe in" the two door panels* on page 63 if the door panels need to be repositioned for a tight seal when fully closed.



Cleaning - if required

How to clean the photo eyes

- 1 **If a photo eye is dirty,** Use a clean, soft cloth and household window cleaner to clean the lens.

How to clean the door panels and bulb seals

- 1 Before you begin, **make sure** you have an approved cleaner available.

Cleaner	Single panel door	Bi-part door
Isopropyl alcohol	OK	OK
Borax	OK	OK
Household Bleach	OK	OK
Prosat® alcohol saturated wipes 18889-002	OK	OK
Prosat® alcohol saturated wipes 89138-004	OK	OK
Simple Green®	OK	OK
Sodium Bicarbonate	OK	OK
Sodium Carbonate	OK	OK
Sodium Hydroxide (20%)	OK	DO NOT USE*
Sodium Hypochlorite (<20%) ("bleach")	OK	OK

* The bi-part tongue and groove seal on bi-part doors uses closed cell foam inserts that may be damaged by this cleaner.

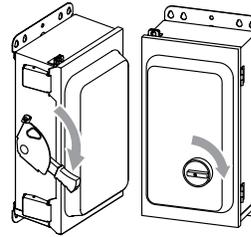
- 2 If necessary, **get a forklift or ladders** to access the top of the door panels and the top bulb seal



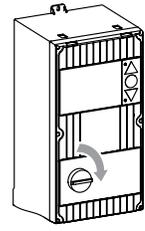
Ladder or Scissor lift



- 3 **Turn off power to the door** until the cleaning is complete by setting the disconnect to the OFF position and performing a lockout/tagout.



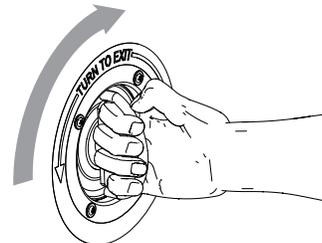
Fused disconnect



System 4 controller

- 4 **Wipe down** the door panel with the cleaner using a soft, clean cloth. **Rinse** thoroughly when done. **Repeat** until the door panel is fully clean.

- 5 If the bulb seals require cleaning, follow the steps in *How to open and close the door manually* on page 16 to **move the door panel** and access the bulb seals.



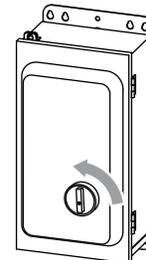
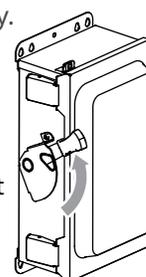
Follow the same steps to clean the bulb seals.

Move the door panel back to the fully closed position when the cleaning is complete. Make sure the door panel has fully re-engaged with the drive chain.

- 6 **Restore power to the door** when it is fully dry.



Fused disconnect



Quarterly maintenance - Schedule C

Inspect and test the drive chain, trolley assembly and chain release system

Before you start: about the drive chain

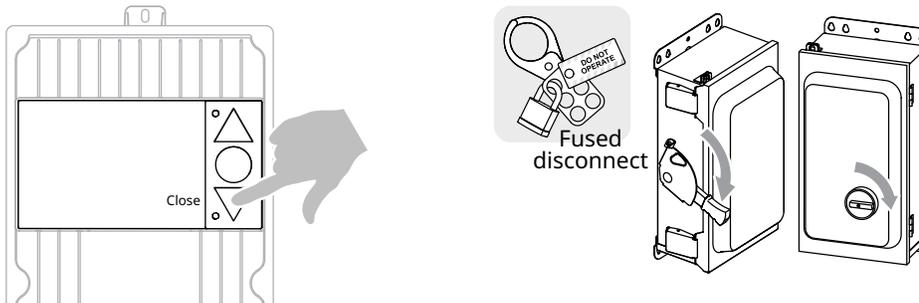
IMPORTANT

Drive chain tension is controlled by the position of the return idler tensioner. It typically needs adjustment every 250,000 cycles, some doors require more frequent adjustments.

- **A chain that is slack** can jump a tooth or fall off the drive sprocket. It can also cause accelerated chain wear and damage to the door.
- **A chain that is too tight** can also cause accelerated chain wear and damage to the door.

- 1 Perform** all steps of the daily inspection.
Check the limits, **reset** if necessary, and **inspect** the safety labels.
Perform any required cleaning.

- 2 Set** the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.



- 3 Go up** to the head assembly.



How to inspect the drive chain

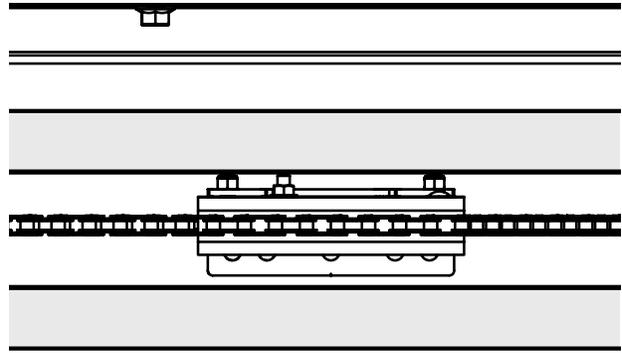
- 4 Inspect** the chain for cracks, wear, or damage to the links.

- 5 Inspect** and, if necessary, **tighten** the mounting hardware on all components that are part of the drive chain.
See the steps starting on page 32 for all components to check.

6 **Make sure** the chain is centered in the space between the J-rails for its entire length.

Make sure the chain release assembly/ assemblies are also centered and do not pull the chain towards the front or the rear.

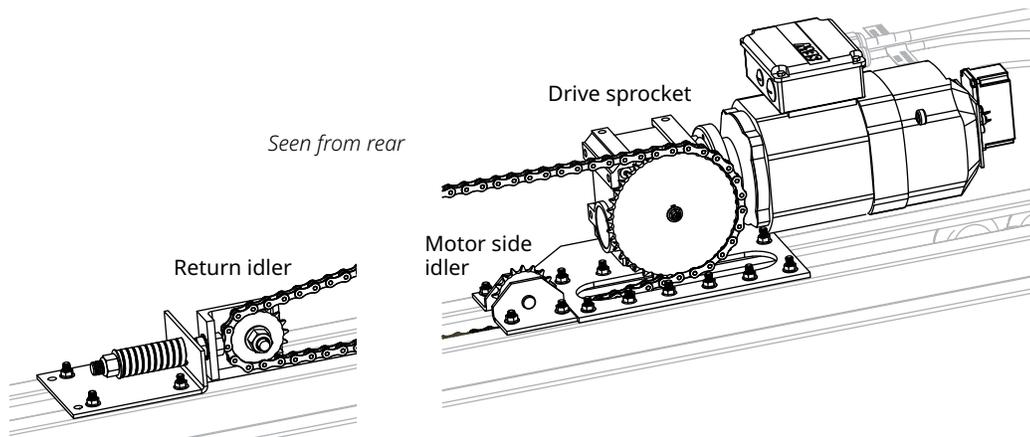
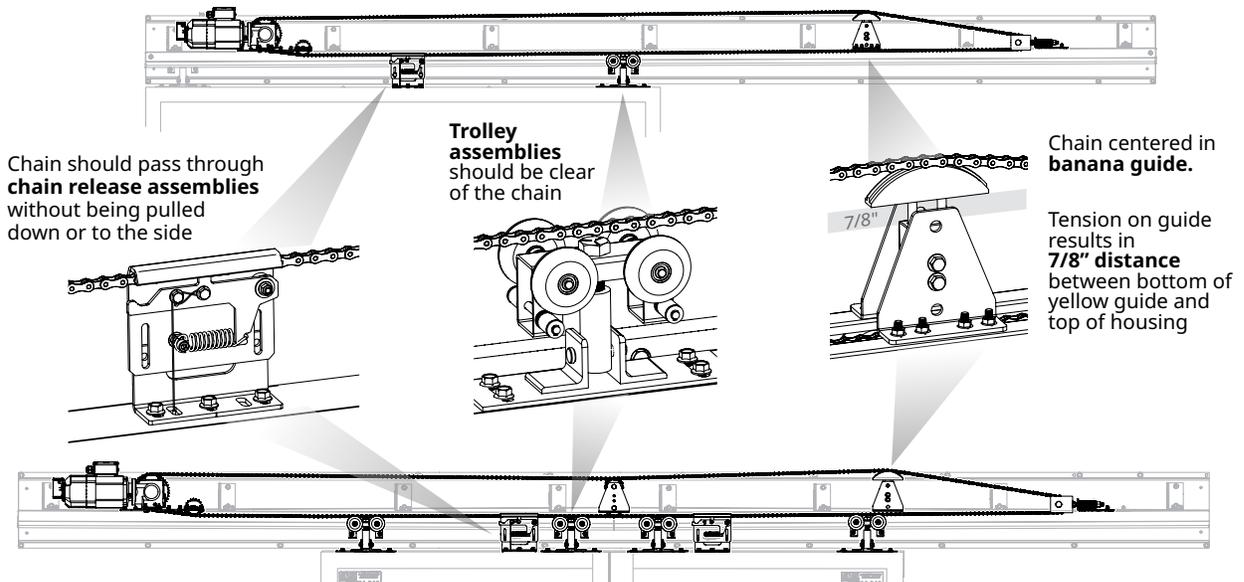
If necessary, see *Step 3: check that the chain release assembly is correctly aligned; adjust if necessary* on page 61.



7 **Inspect** the full length of the drive chain. **Make sure** it is fully seated in all gear teeth, that all components are correctly positioned, and that the chain is tight.

Check the height of the two shafts that separate the yellow banana-shaped head of the banana guide from its housing. **The correct height is 7/8"**. That indicates the tension is correct.

- **A height that is higher or lower** indicates that you must adjust the tension
- See *How to adjust the tension on the drive chain* starting on page 64 if the tension needs to be adjusted.



How to inspect the manual chain release system

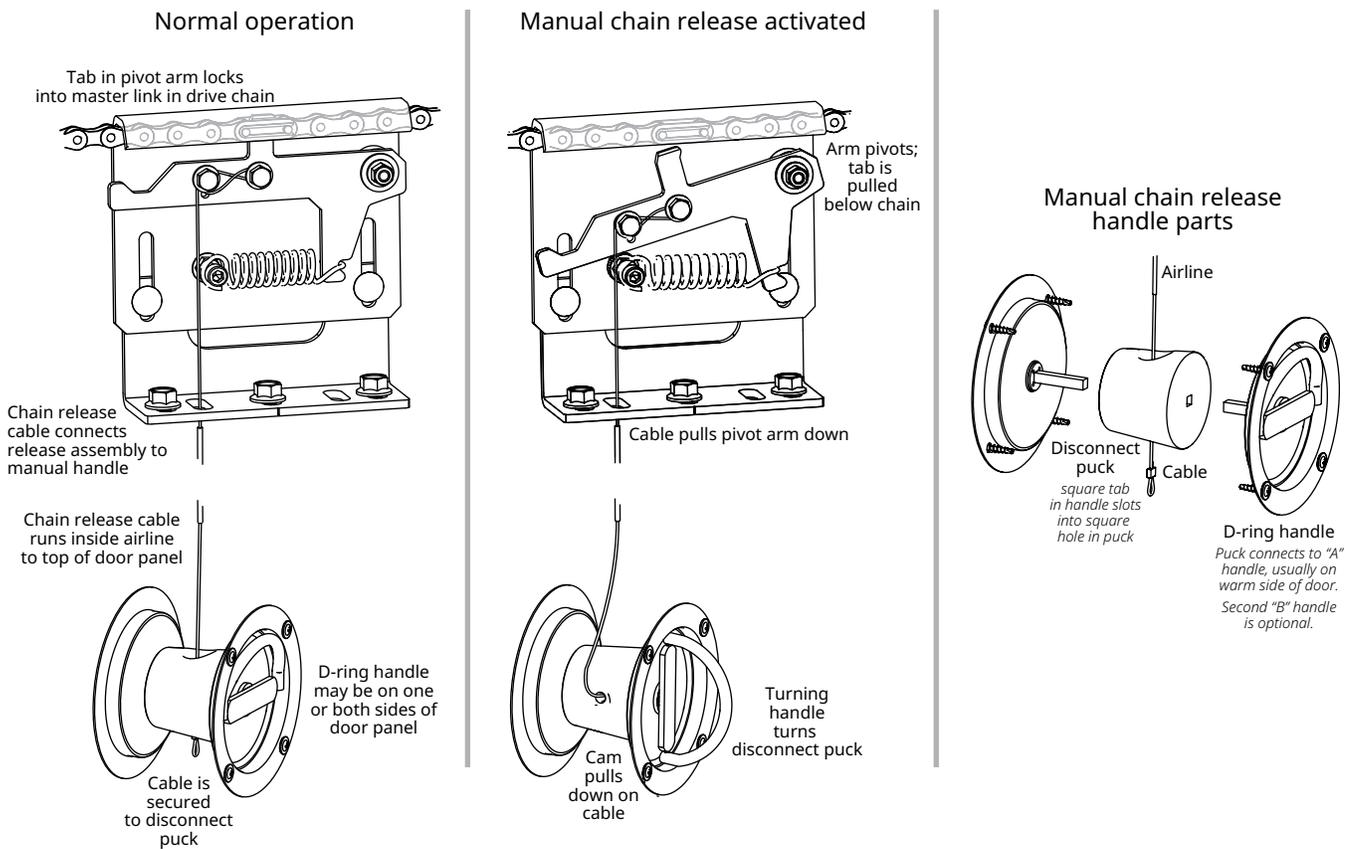
The Turbo-Slide door includes a manual chain release system to allow the door panels to be opened manually in the event of a power failure or for maintenance.

There are two parts, connected by a cable: the **chain release assembly**, which connects the door panel to the drive train in the head assembly, and the **manual chain release handle**, centered in the door panel.

- The **chain release assembly** must be checked periodically to make sure it is properly aligned with the chain. Misalignment can cause unnecessary wear on the chain and cause the door to operate erratically.
- The **manual chain release handle** must be tested to make sure it fully disengages and re-engages the tab in the pivot arm of the chain release assembly.

IMPORTANT

This system is not designed as an emergency egress system.



8

Go up to the head assembly.



Ladder or Scissor lift

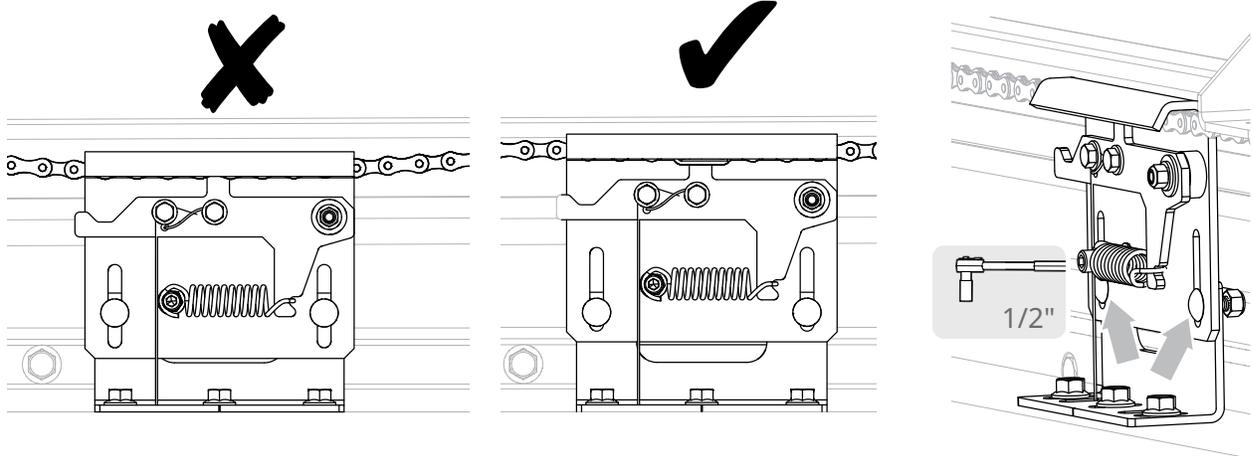


9 You checked the **lateral position** of the chain release assembly while inspecting the drive chain, to verify it was not pulling the chain to the front or rear.

Check the height of the assembly.

- The chain should **remain level** while running through it and not be deflected up or down.

If necessary, **adjust** the height by **loosening** the nuts on the two retaining bolts (gray arrows), sliding the top section to the correct height, then **tightening** the nuts.



10 **Test** the manual chain release handle.

- **Turn** the handle to the vertical position, or as close as it will allow.

Make sure it remains in this position. Then **try to manually move** the door.

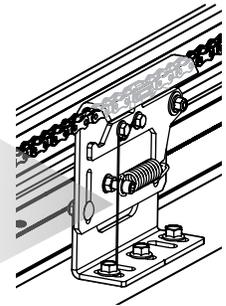
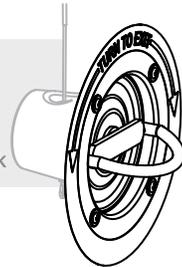
It should **slide without resistance** or chain nose.

- **Turn** the handle back to the horizontal position. Then **slide** the door back to the fully closed position.

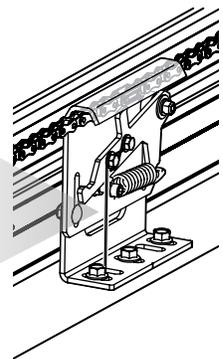
You should hear the tab on the pivot arm as it ripples along the chain, then an audible **CLICK** when it re-engages with the master link.

See *How to replace the manual chain release cable* starting on page 73 if the cable needs to be tightened or replaced

With handle in closed position, cable is relaxed, pivot arm is up, and tab is engaged in master link



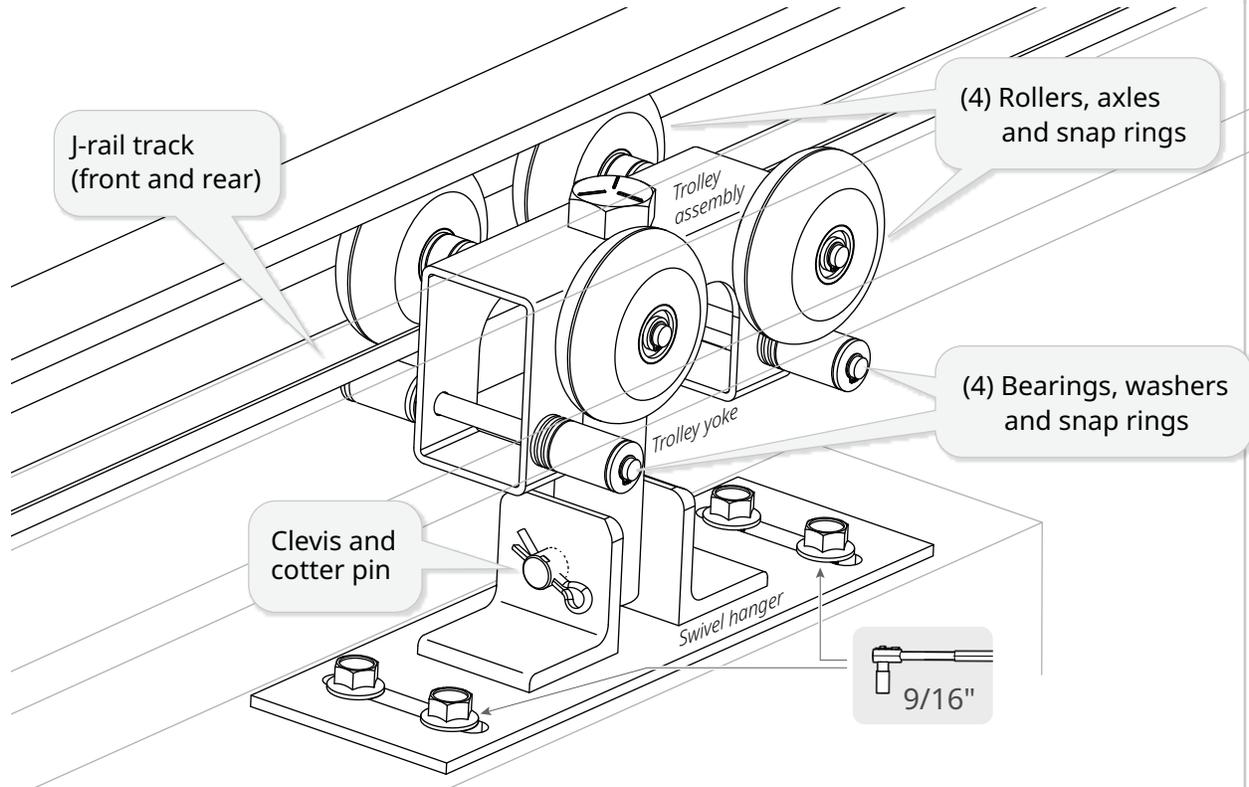
With handle in open position, cable pulls down on pivot arm, and tab is released from master link



How to inspect the trolley assemblies and swivel hangers

11 **Inspect** all trolley assemblies and swivel hangers.

- **Look** for signs of wear, looseness or damage to the rollers
- **Look** for signs of binding or damage to the bearings
- **Make sure** the clevis and cotter pin, and all snap rings, are in place
- If necessary, **tighten** hardware in the swivel hanger



12 **Run your fingers** along the length of the inside of both j-rails to check for debris, grime or dirt that might have fallen into the tracks.

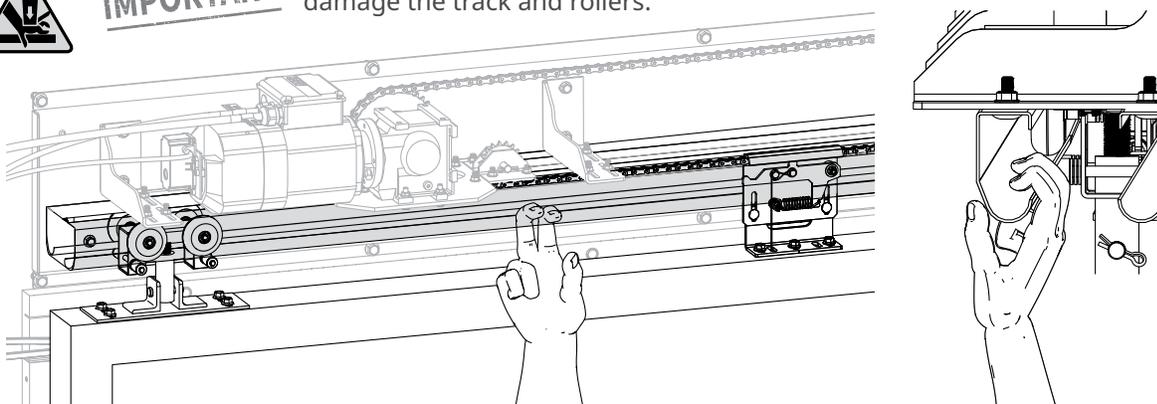


Clear away anything you find manually, or **wipe down** the tracks with a clean, soft cloth and household cleaner.



IMPORTANT

DO NOT use **petroleum-based solvents** or **abrasive cleaners**, which can damage the track and rollers.

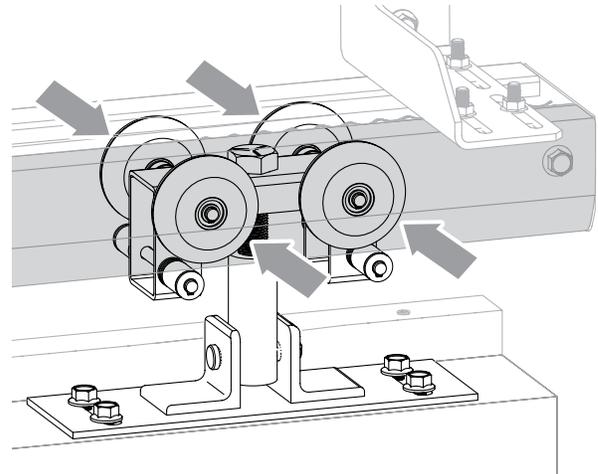


13 Also clean all dirt and grit from the surface and sides of each track roller to ensure they travel smoothly.

There are **four roller wheels** on each trolley assembly (gray arrows).

IMPORTANT

When cleaning the track and rollers, it may be necessary for you to **reposition** the door to gain access to the entire surface of the track and all sides of each roller.



14 Follow the steps in *How to open and close the door manually* on page 16 to move the door panel manually.

Slide the door panel back and forth manually

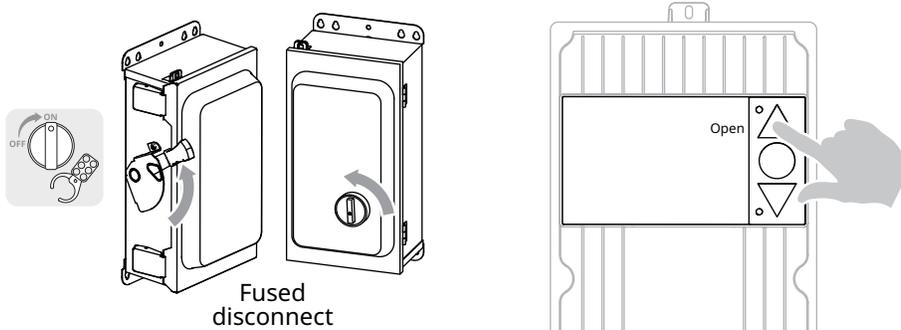
While the door panel moves, **watch and listen** for:

- **Unusual noises** from the rollers, such as grinding or whining.
- **Resistance** by the trolley assemblies to free movement, or signs of obstructions in the track.

15 Move the door panel back to the fully closed position when the check is complete. Make sure the door panel has fully re-engaged with the drive chain.

16 If there is an issue with one or more of the trolley assemblies, see *How to replace the trolley assemblies* starting on page 66.

17 Restore power to the door, then **press** the OPEN button and run through five cycles of opening and closing to make sure the door panel is fully engaged with the drive chain.



Quarterly maintenance - Schedule D

Lubricate the motor, inspect the electromagnetic brake and warming system

How to lubricate the motor

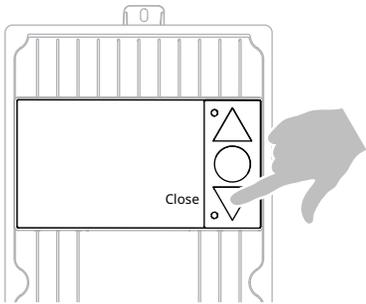
The gearbox of the motor on the Turbo-Slide door is filled with a synthetic oil that does **not require changing** but should be **checked periodically** for level and, if necessary, refilled to the optimal level.

Rytec recommends using **Mobil SHC 630 Synthetic Gear Oil**.

	⚠ WARNING
<p>Make sure the motor is warm, not hot before checking the oil level of the motor. If necessary, wait until the motor has cooled down.</p> <p>Hot oil can spill when the check plug is removed, could result in serious burns.</p>	

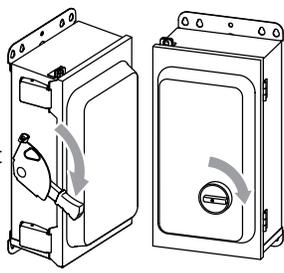
1 **Perform** all steps of the daily inspection.
Check the limits, **reset** if necessary, and **inspect** the safety labels.
Perform any required cleaning.

2 **Set** the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.





Fused disconnect



3 **Go up** to the head assembly.




Ladder
or
Scissor lift



4 Each motor has **two plugs**, 6mm hex screws that secure ports in the gearbox, for oil:

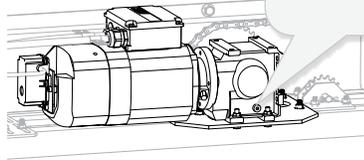
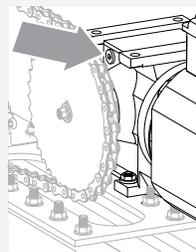
- A **drain plug**, located near the bottom of the motor
- A **check plug**, located near the top.

Locate the **check plug** for the motor of your door.

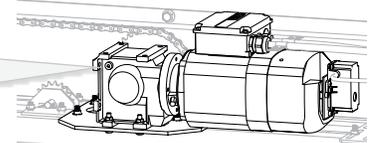
IMPORTANT

On LH doors, front plug is the **drain plug**, not the **check plug**.

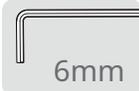
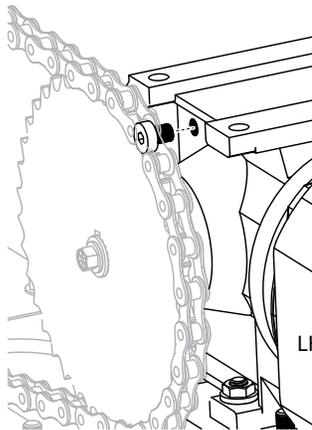
DO NOT remove this plug.
Locate test plug at rear of motor.



On RH doors, **check plug** is at front of motor.

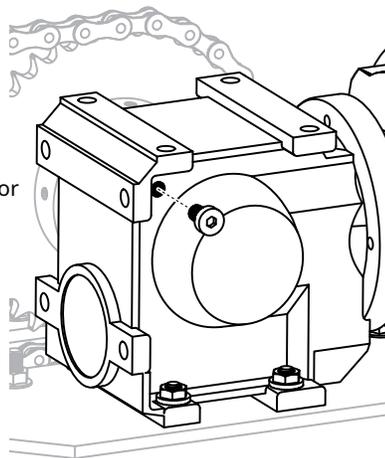


5 **Remove** the check plug. If oil leaks out while you are removing the plug, the current level is good.



RH door

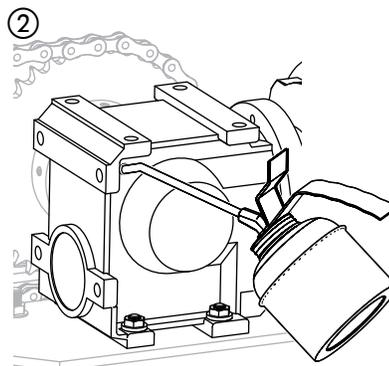
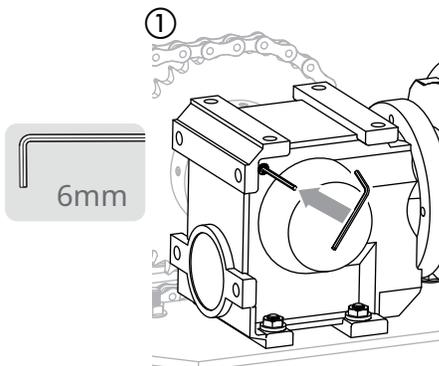
LH door



6 **Use** the same hex wrench to check the oil level ①.

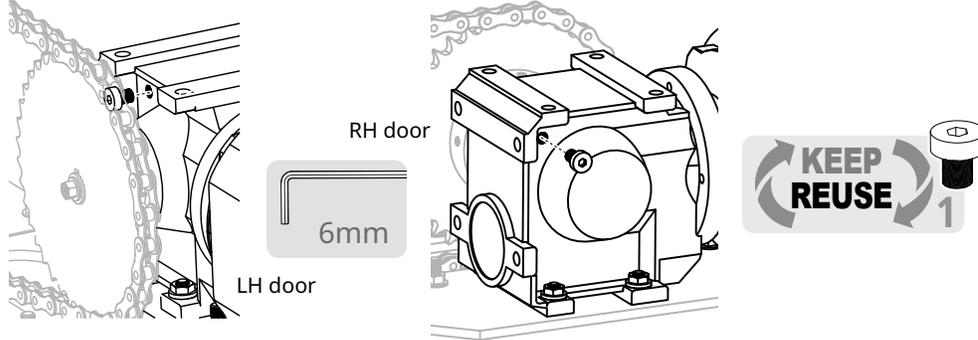
The correct oil level is within 1/4" of the bottom of the access port.

If the level is lower, add oil until the correct level is reached ②.



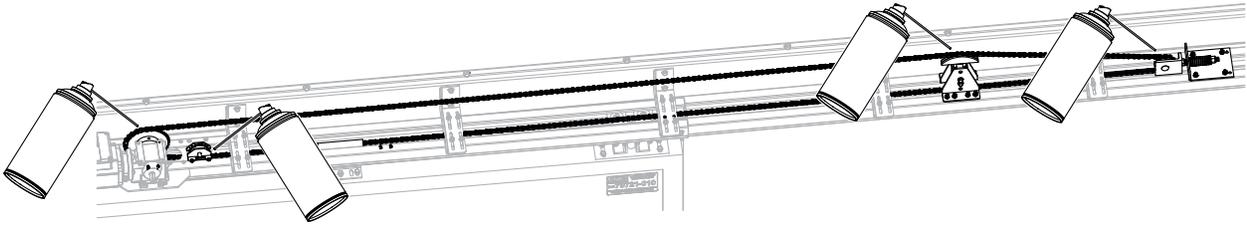
Oil dispenser
(like Mobile
SHC 630)

7 Reinstall the check plug. **Make sure** it is securely set.



8 **Lubricate** the drive chain gear, idler gears, and sprockets with high quality heavy lubricating chain oil.

- **Apply sparingly** so oil does not drip onto the door panel.
- **Wipe lightly** with a clear, lint-free cloth when done to remove excess oil.



How to inspect the electromagnetic brake

9 **Observe** the door at the ends of its run to the open and close limit. The door should **come to a full stop** at precisely the locations set by the limit parameters.

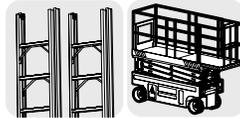
- You should **hear the brake engage** with a loud clang when the door stops.
- **You should not be able to move** the door manually when it is stopped.

If the door drifts past the open or close limits, or the door isn't held securely when the door is stopped, **the brake should be reset**. See *How to manually reset the electromagnetic brake on page 70*.

How to inspect the warming system

 	<p>⚠ WARNING</p> <p>The warming system operates on a separate 120V circuit from the circuit that powers the door. Make sure you locate the fused disconnect for this system. The fused disconnect that connects to the System 4 controller is NOT the shutoff for this system.</p> <p>Set the warming system disconnect switch to the OFF position and perform a lockout/tagout before opening the junction box.</p> <p>Do not set the disconnect switch to the ON position until the cover to the box has been secured.</p> <p>Failure to comply could result in shock, burns or death.</p>
--	--

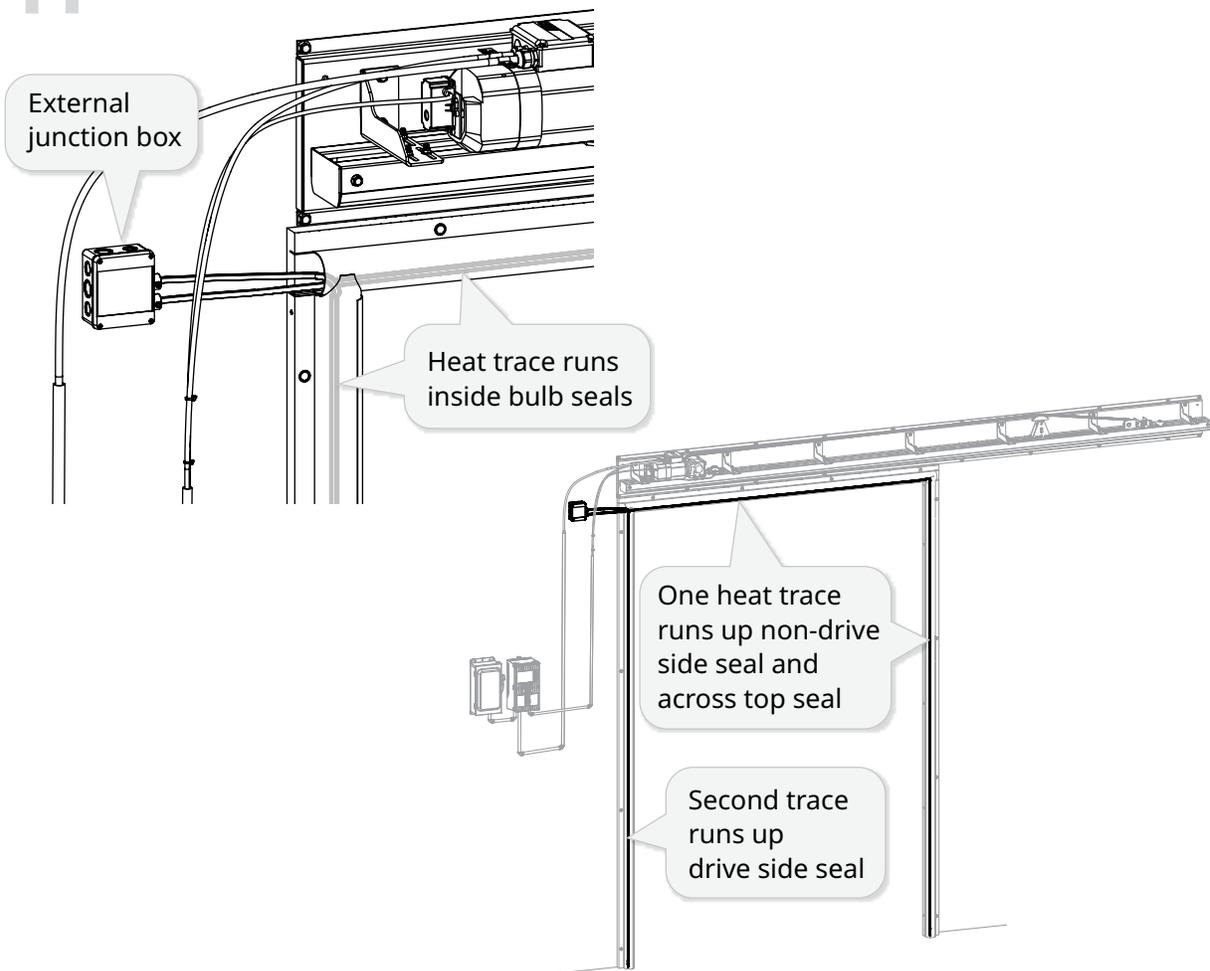
10 Go up to the head assembly.



Ladder
or
Scissor lift



11 Follow the heat tape to the junction box for the warming system and **open** the box.



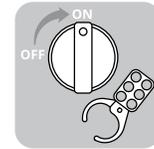
12 Make sure that the wires inside the box are not crimped, looped or damaged, and are correctly seated in their terminals.

Make sure the cables have been shrink wrapped as described in *How to prep the heat trace wires* at the junction box on page 81.

13 Visually inspect as much of the heat trace as you can see between the bulb seals and the junction box.

Make sure it is not pinched, looped or crimped, and that there are no visible signs of damage.

14 Restore power to the warming system.



15 Verify that the heat trace cables are warm, but not hot, to the touch.
The bulb seals themselves will **NOT be warm to the touch.**

Standard repairs and replacements

This section shows the procedures to perform standard repairs and replacements that may be required to fix issues found during daily or quarterly maintenance inspections.

Requirements

See the **Requirements** section of the Quarterly Inspection beginning on page 24 for a complete list of requirements, including site conditions and staffing.

Safety

Read the Safety section beginning on page 12 before performing any service on the door.

Tools

This is a complete list of the tools used in all procedures. Tools will be called out in each procedure as they are needed.

Tools you need

- Power drill with #2 Phillips head
- Pliers
- Cutting pliers
- Putty knife or paint scraper
- #2 Phillips screwdriver
- Socket or open wrench
 - 7/16"
 - 1/2"
 - 8mm
 - 10mm
 - 23mm
- (2) Sockets or wrenches needed
 - 9/16"
 - 3/4"
 - 15/16"
 - 1-1/8"

You also provide

- Laser level
- Measuring tape
- Rubber mallet
- (2) shims angled from 1/2" to 1"
- Hardware
- Loc-Tite™ Blue
- Caulk
- Heat shrink

First steps for any service call to a Rytec door

Set the controller to Parameter mode and access Service level parameters

Do This	Result
1 	Turbo-Slide [xxx] Cycles
The door starts in run mode.	
2   	until the parameter screen displays P: Password 0 001= [xxx] Cyc
You are in Parameter mode. Go to parameter 999.	
3  	2X to reach parameter P:999 P: Password 0 999= 0000 #
The Password parameter P:999 screen displays.	
4 	1X to move cursor to the right (edit value) P: Password 0 999= 0000_#
You can now change the value of parameter P:999.	
5 	16X to set value to hexadecimal 10 P: Password 0 999= 0010_#
Set the value to 10 (Service level password).	
6   	until question mark changes to checkmark (value saved) P: Password S 999= 0010_#
The Service level password is saved.	
7 	1X to return to parameter side P: Password S 999= 0010_#

Navigate to parameter P:920 and check the error history of the door

This parameter stores the last ten error codes generated by the controller, as well as date and time. **This can alert you to issues** the door owner may not have told you about.

Do This	Result
1  	until parameter displays P: Err History S 920#Err1=F060 6:
2 	1X to move cursor to the right (value side) P: Err History S 920#Err1=F060 6:
3  	Let the value scroll to see date and time P: Err History S 920#26:00 PM 10/1
Make a note of the information.	
4  	Press UP or DOWN ARROW to scroll through errors P: Err History S 920#Err2=F060 5:
Note if any errors are recent and should be taken into account when testing components.	
5 	1X to return to parameter side P: Err History S 920#Err2=F060 5:

Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously

Do This	Result
<p>1 until parameter displays</p> <p>The default value is 0.</p>	
<p>2 1X to move cursor to the right (edit value)</p> <p>You can now change the value.</p>	
<p>3 4X to change the value to 4</p>	
<p>4 until question mark changes to checkmark (value saved)</p> <p>The new value is saved.</p>	
<p>5 until door returns to run mode</p>	
<p>6 press either arrow to start cycling</p>	

Observe the door while it cycles

1 Watch the door as it cycles.

- **Make sure** the door panel moves to the fully open position, remains in place for the standard time, then closes to the fully closed position.
- **Make sure** the fully open and fully closed positions remain at the set limits.
- **Make sure** the door panel is level when the door is fully closed.

IMPORTANT Let the **ACL timer** hold the door open through each cycle. Shortening the timer while the door is cycling can cause the motor to overheat.

2 While the door cycles, **look and listen** for:

- **Unusual noises** such as grinding, whining or excessive motor noise.
- **Unexpected movement** by the trolley assemblies or signs of obstructions in the track.
- **Changes in door speed** from one cycle to the next. **NOTE:** The door motion should accelerate, then decelerate, during a normal run up or down.
- **Excess movement** by the motor, drive chain or door panels.
- **Unexpected delay** in activation or unusually long time period before automatically closing.

3 IMPORTANT

Set the controller to parameter mode.
Set Parameter 980 back to 0 to take the door out of continuous cycle.
Return to run mode.

4 Activate the door using each activating system at least three times per system.

How to reset the open and close limit on the door

- 1 Follow the steps in *Quarterly maintenance - how to set limits* on page 25.

How to realign the door panel so all seals are secure



For optimal performance and proper compression of all seals when the door is closed, the door panel must be positioned to meet these specifications:

- **Level** at 3/4" above the floor, with the sweep seal level and dimpling at the floor by 1/8".
- **Plumb** at 2-1/4" from the backing board for the full length of the top and side bulb seals.
- For bi-part doors, both panels **toed in** so the trailing edge is 1/4" lower than the leading edge.

Periodic checks and adjustments of the trolley, chain release and stay roller assemblies help maintain these specs.



If the door was installed following the Rytec install manual, bolts securing the hangar brackets and chain release assembly have had **Loc-Tite™** applied to them.

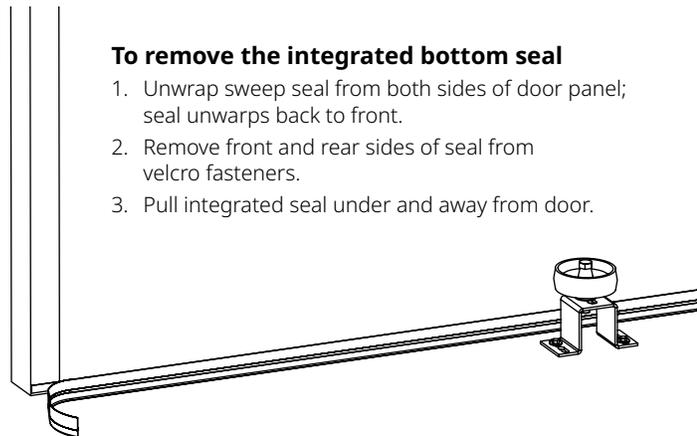
If these are adjusted, Loc-Tite™ should be **reapplied** when they are reinstalled.

Before you start

- 1 **Jog the door** so you can access the sides of the door panel, then **remove** the integrated bottom seal so you can clearly see the bottom edge of the door panel.

To remove the integrated bottom seal

1. Unwrap sweep seal from both sides of door panel; seal unwarps back to front.
2. Remove front and rear sides of seal from velcro fasteners.
3. Pull integrated seal under and away from door.

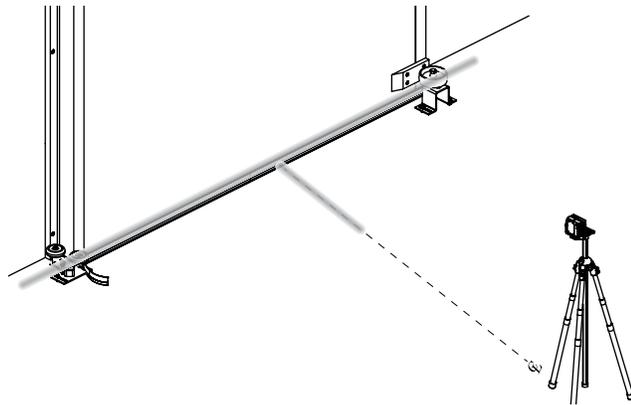


Step 1: check that the door panel is level; adjust if necessary

- 2** Jog door back to closed position.
Set a laser level along bottom of door panel to check level



Laser level



- 3** Insert 1/2" to 1" angled shims spaced 6" from the leading and trailing edge of each door panel.

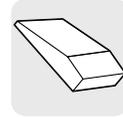
Tap in shims until they are securely set at the current door level.

Check whether door is level and at the correct distance from the floor.

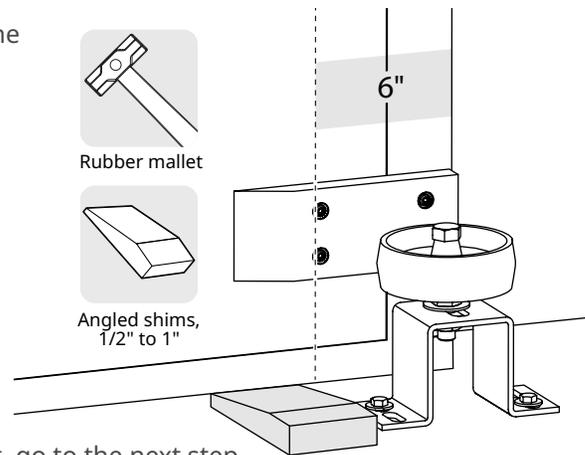
- **If door is level** and bottom of door panel is at a height of 3/4" from the floor (sweep seal is level and dimples 1/8"), move on to check the position of the door against the bulb seals as explained starting on page 60.
- **If door is NOT level** or the height is not correct, go to the next step.



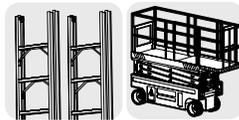
Rubber mallet



Angled shims, 1/2" to 1"



- 4** Go up to the head assembly.



Ladder or Scissor lift

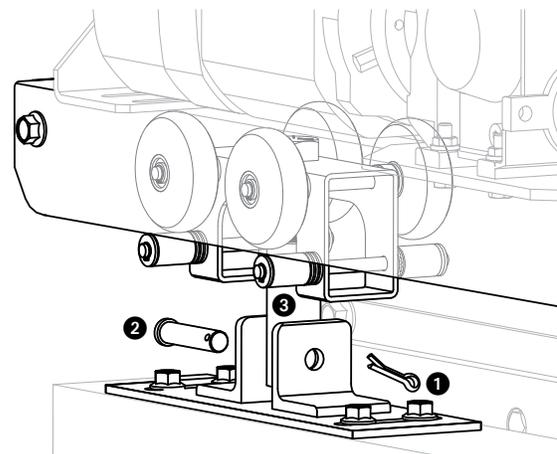


- 5** Inspect both trolley assemblies in the head assembly and set them up to be adjusted.

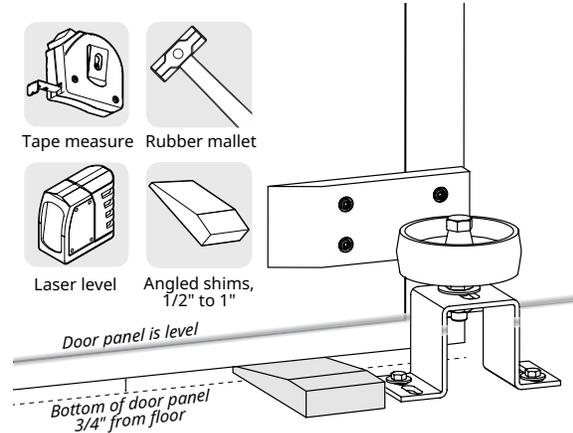
- **Remove** the cotter pin ① and slide out the clevis pin ②.
- This **frees** the trolley yoke ③.



Ladder or Scissor lift



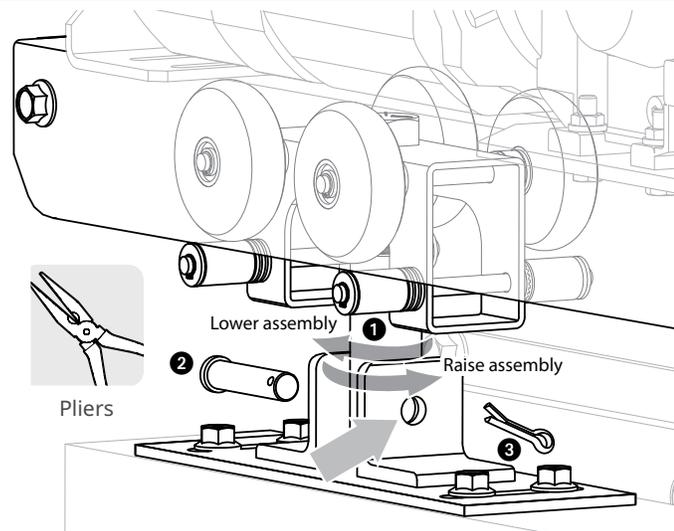
6 At bottom of door, **tap in or add to shims** on either side of door panel until door panel is level and at the correct height.



7 In the head assembly, **rotate** the trolley yoke **1** until the hole for the clevis pin lines up with the hole in the swivel hanger (gray arrow), and all four wheels make contact with the j-tracks.

- Rotate **to the right** to raise the assembly, **to the left** to lower it.

Reinstall the clevis pin **2** and cotter pin **3** to secure the trolley assembly when the holes align.



8 Repeat Step 4 for every trolley assembly.

9 Remove the shims and check that the door panel has not shifted.

10 Follow the steps in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

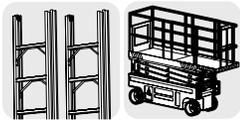
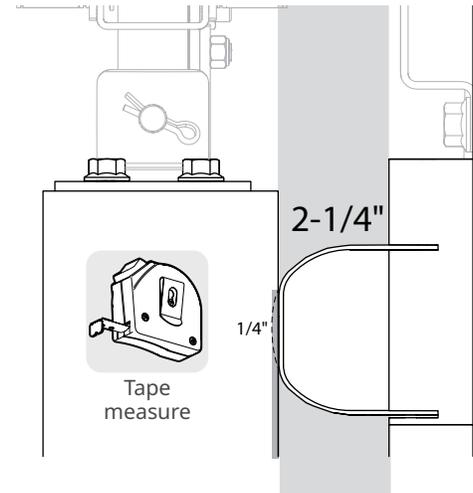
Step 2: check that the top of the door panel is correctly aligned with the bulb seal to securely seal the door; adjust if necessary

11 Measure the distance between the door panel and the backing board for the top bulb seal.

- **Correct distance** is 2-1/4".
- There should also be a **1/4" compression** on the bulb seal.

Measure on both sides of the panel.

- **If the distance is correct** and the top bulb seal is compressed along its entire length, go to the next step.
- **If distance is NOT correct**, adjust the hangar brackets.



Ladder
or
Scissor lift



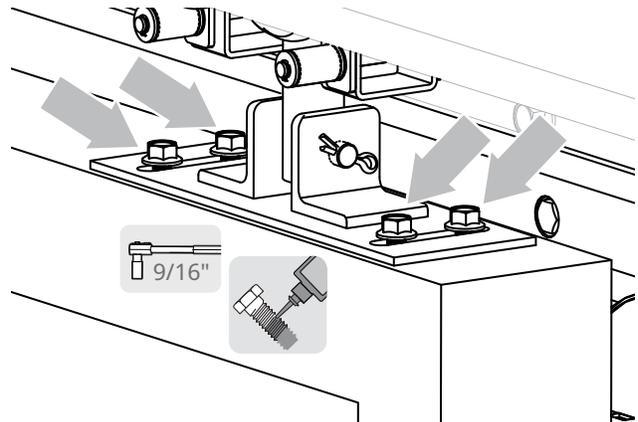
12 To adjust the position of the door panel:



- ① **Loosen** the four bolts (gray arrows) that secure the hangar assembly. Loosen them just enough that the door panel can slide from side to side, then stop

If Loc-Tite™ has been applied, this may require considerable force. Also **add** a $\text{Ø}1/4\text{''}-\text{Ø}3/8\text{''}$ patch of Loc-Tite™ Blue to the bolt threads prior to securing, locating the patch so it will fully engage the threads.

- ② **Press** against the door panel. You should be able to compress the bulb seal without additional tools.
- ③ **Tighten** the bolts to secure the door in position. **Torque** bolts to 15 ft-lbs, using a figure-8 sequence so torque is even.



13 Repeat Step 7 on both sides of the door panel.

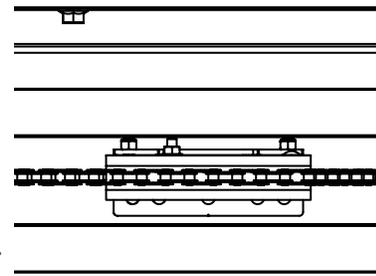
Step 3: check that the chain release assembly is correctly aligned; adjust if necessary

14 **Inspect** the chain release assembly looking down from above.

- The assembly should be aligned with the drive chain, and not pulling it forward or back, and centered between the two j-tracks.

Determine if the alignment is correct.

- **If the assembly is correctly aligned**, go to the next step.
- **If the assembly is NOT correctly aligned**, adjust its position on the track assembly.

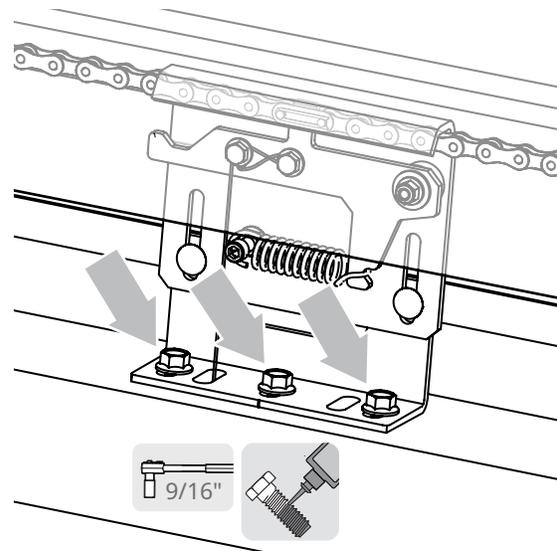


Top view looking down

15 **To adjust** the position of the chain release assembly:



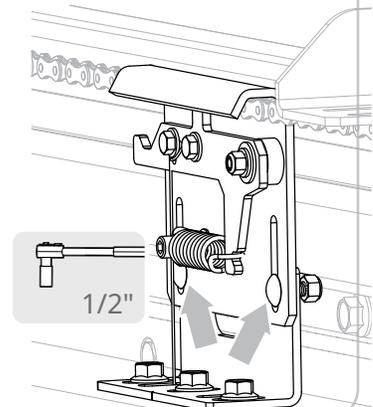
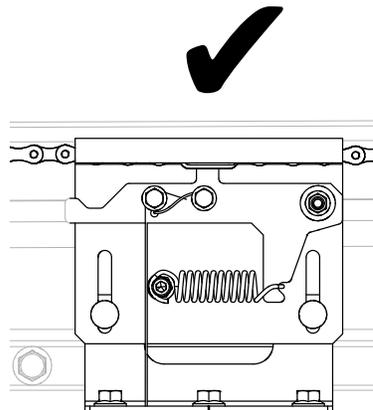
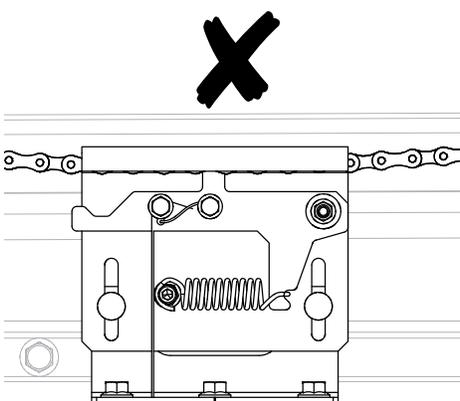
- ① **Loosen** the three bolts (gray arrows) that secure the assembly. Loosen them just enough that the assembly can slide from side to side, then stop.
 - **If Loc-Tite™ has been applied**, this may require considerable force.
 - Also **add** a $\text{Ø}1/4\text{''}-\text{Ø}3/8\text{''}$ patch of Loc-Tite™ Blue to the bolt threads prior to securing, locating the patch so it will fully engage the threads.



- ② **Position** the assembly so it is aligned with the chain as is not pulling it to the front or rear of the door panel.
- ③ **Tighten** the bolts to secure the assembly in position. **Torque** bolts to 15 ft-lbs. **Inspect** the vertical position of the chain release assembly as well.

The assembly should **not pull down** on the drive chain (✗). When positioned correctly, the chain passes through straight (✓) and the top of the chain release assembly is just below the top of the j-rails.

To adjust the height of the chain, **loosen** the nuts securing the two bolts on the weldment (gray arrows), **slide** the top half of the assembly up until the chain is level, then **secure** the two nuts.



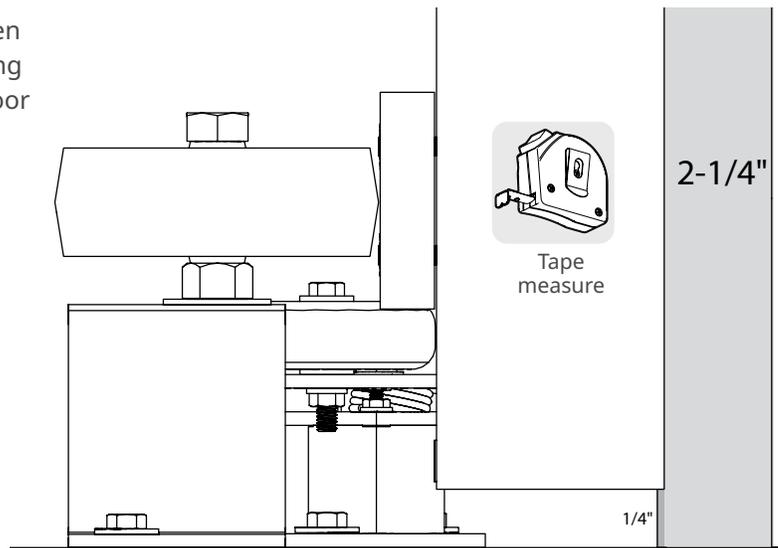
Step 4: check that the bottom of the door panel is correctly aligned with the bulb seal to securely seal the door; adjust if necessary

16 Measure the distance between the door panel and the backing board at the bottom of the door panel. This indicates whether the door panel is properly compressing the side seals.

- **Correct distance** is 2-1/4".
- There should also be a **1/4" compression** on the bulb seal.

Measure on both sides of the panel.

- **If the distance is correct** and the side bulb seals are compressed along their entire lengths, go to the next step.
- **If distance is NOT correct**, adjust the stay rollers.

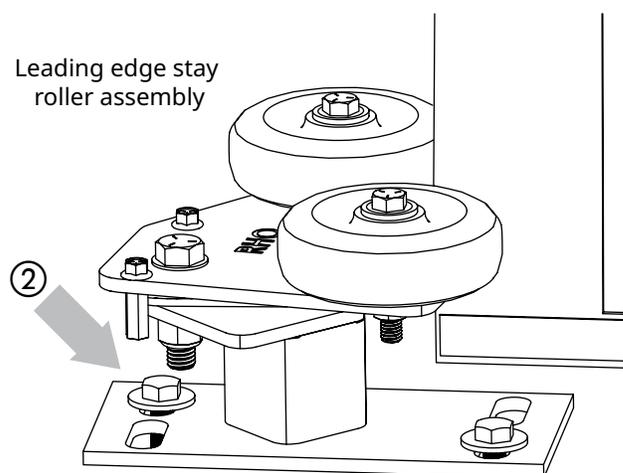
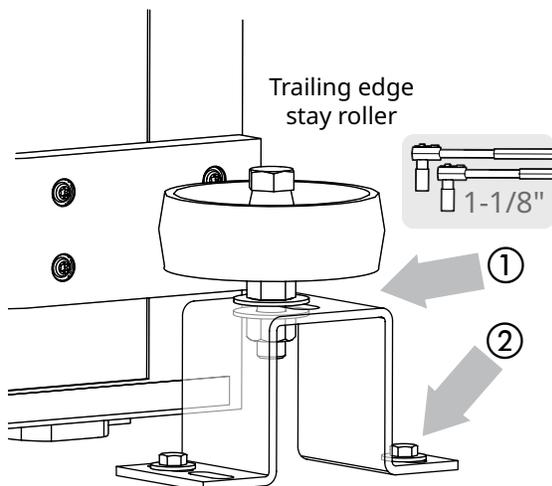


17 To adjust the stay rollers:

- **Press** against the door panel. You should be able to compress the bulb seal without additional tools.
- **On the trailing edge side (single roller):** first, **adjust** the position of the roller using the nuts that secure it to the bracket ①.

If this does not create a tight enough seal against the door panel, **loosen** the floor anchors ②, reposition the bracket, then **re-tighten** the anchors (floor anchors will vary based on installation).

- **On the leading edge side (double roller):** **loosen** the floor anchors ②, reposition the bracket, then **re-tighten** the anchors (floor anchors will vary based on installation).



Step 5: bi-part doors only: "toe in" the two door panels

IMPORTANT

On **bi-panel doors**, the bi-panel seal that seals the door **between** the panels when the door is closed slots most securely if the door panels are **slightly off level**, with the trailing edge slightly lower than the leading edge. This means the bottom of the panel reaches full seal before the top.

This is a unique feature of bi-part Turbo-Slide doors. All other Rytec doors should have door panels that are level.

18 To **toe-in** the door panels:

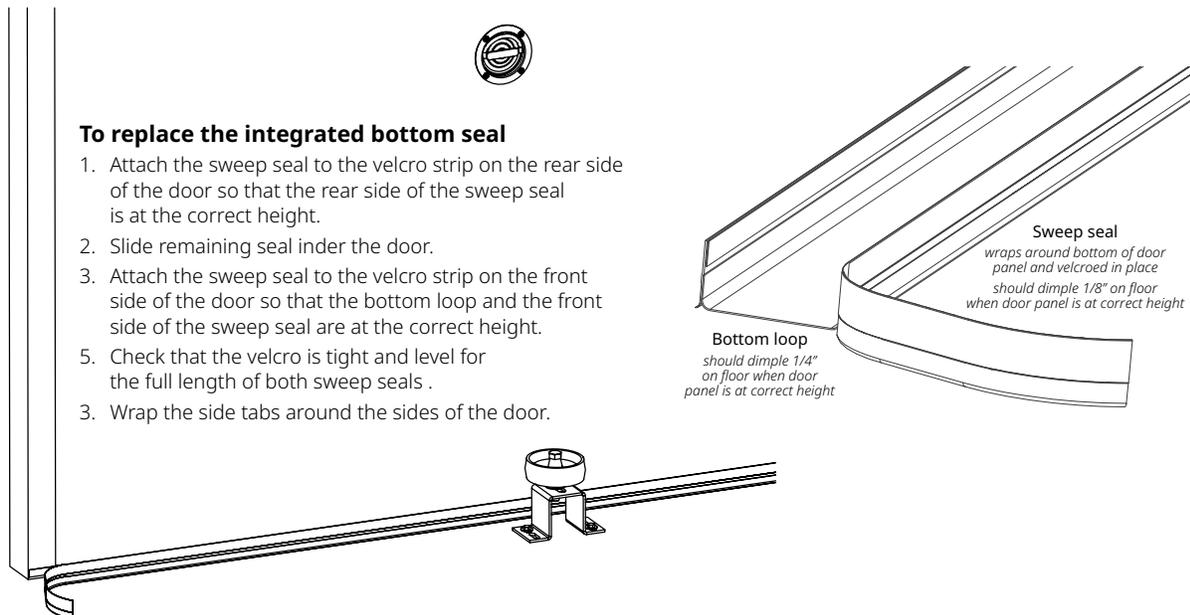
- **Adjust the shims** so the trailing edges of the door panels are roughly **1/4" lower** than the leading edges.
- **Follow the sequence from Step 1** to lower the trolley assemblies on the trailing edges of the door.

To finish:

19 **Inspect** the top and side bulb seals with the door in the fully closed position to make sure all seals are tight for the full length of the seals.

If necessary, **repeat** steps to make sure door compressed the bulb seals on all sides evenly.

20 **Jog** the door so you can access the sides of the door panel, then **replace** the integrated bottom seal so there is a 1/8" dimpling of the material where the seal meets the floor.



21 **Follow the steps** in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

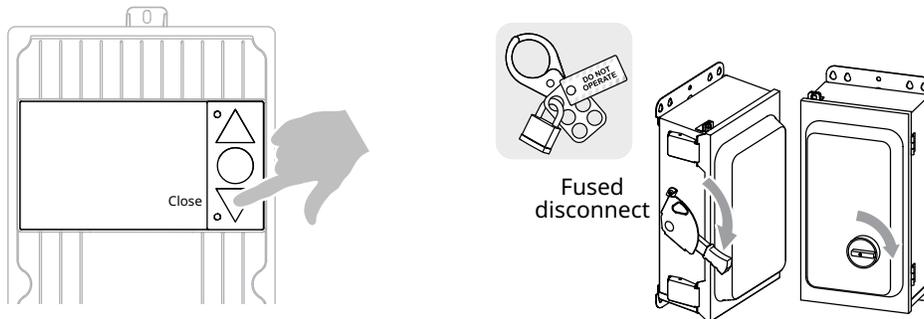
How to adjust the tension on the drive chain

IMPORTANT

Drive chain tension is controlled by the position of the return idler tensioner. It typically needs adjustment every 250,000 cycles, some doors require more frequent adjustments.

- **A chain that is slack** can jump a tooth or fall off the drive sprocket. It can also cause accelerated chain wear and damage to the door.
- **A chain that is too tight** can also cause accelerated chain wear and damage to the door.

- 1** Set the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.



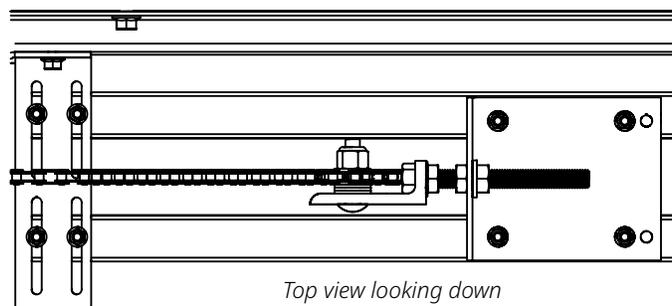
- 2** Go up to the head assembly.



- 3** Before adjusting the drive chain, follow the steps to verify that the door panel is correctly aligned, and the manual chain release is correctly positioned.

- 4** Inspect and, if necessary, **tighten** the mounting hardware on all components that are part of the drive chain.
See the steps starting on page 32 for all components to check.

- 5** Make sure the return idler tensioner assembly is centered between the J-rails and is aligned with the drive chain.



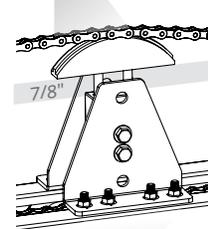
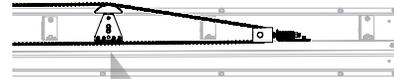
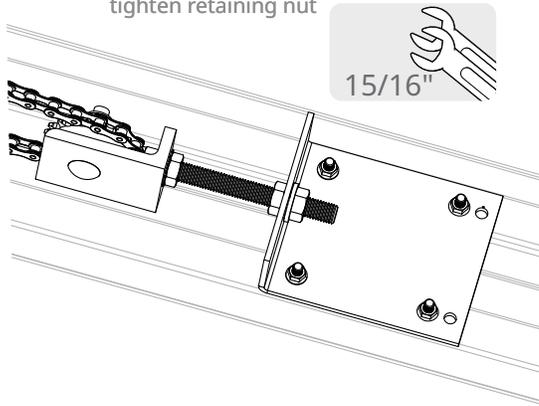
6 Adjust the tension of the drive chain by **turning** the nut on the tension adjusting bolt.

IMPORTANT Turn the nut **clockwise** to increase tension, **counterclockwise** to decrease tension.

Turn the nut 1/4 turn, then check the height of the two shafts on the banana guide before adjusting any further.

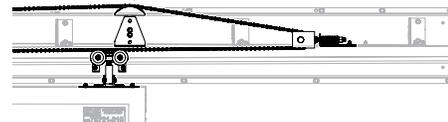
Tension is correct when the **height is 7/8"**.

Loosen retaining nut, turn tensioning nut clockwise to tighten, counterclockwise to loosen, then tighten retaining nut



Chain centered in banana guide.

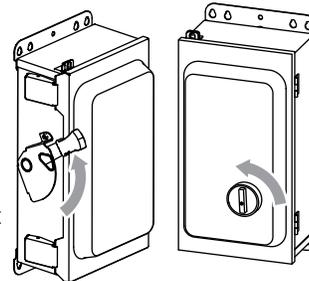
Tension on guide results in **7/8" distance** between bottom of yellow guide and top of housing



7 Restore power to the door.



Fused disconnect



8 Follow the steps in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

How to replace the trolley assemblies

Depending on the requirements of the service call, follow the steps shown here to replace one, two or all trolleys on the door.

IMPORTANT

For bi-panel doors, it will be necessary to remove the chain release assemblies in order to slide off the leading edge trolleys.

If the door was installed following the Rytec install manual, bolts securing the chain release assembly have had **Loc-Tite™** applied to them.

If the assembly is adjusted, Loc-Tite™ should be **reapplied** when they are reinstalled.

- 1** Pull back the sweep seal and insert **1/2" to 1" angled shims** spaced **6"** from the leading and trailing edge of each door panel.

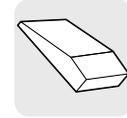
Tap in shims until they are securely set at the current door level.

DO NOT change the height of the door.

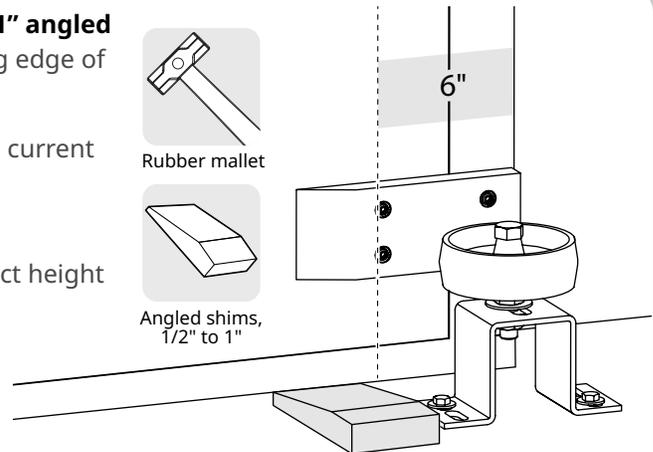
This will keep door panels level and the correct height while the trolleys are not attached.



Rubber mallet



Angled shims,
1/2" to 1"



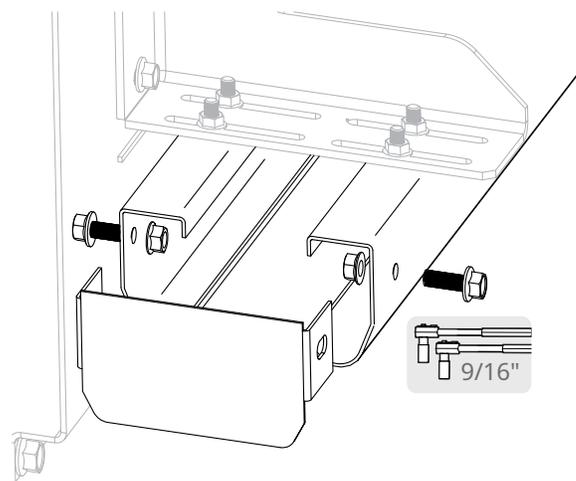
- 2** Go up to the head assembly.



Ladder
or
Scissor lift



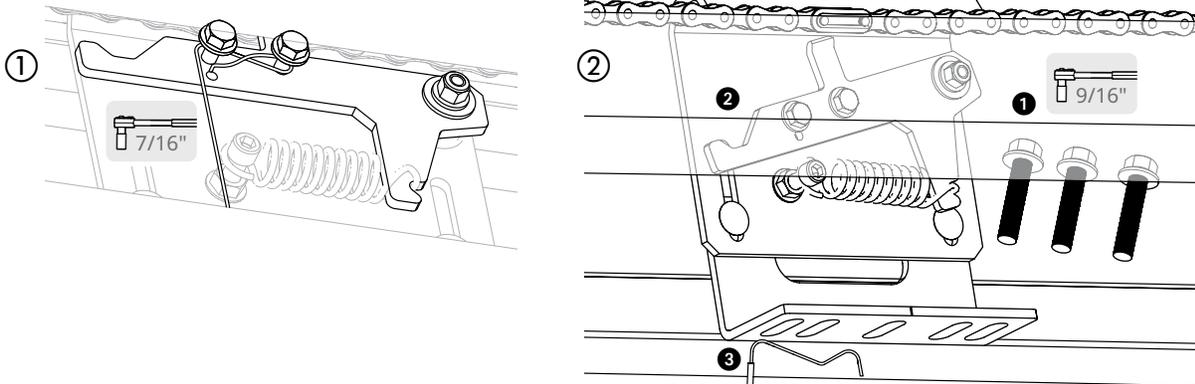
- 3** Remove the track end cap on the side of the track nearest the first trolley you want to replace.



4 If this is a **bi-part door** and you will be removing the roller assembly from the leading edge of one of both door panels, remove the chain release assembly.

- ① **Loosen** the two bolts that secure the chain release cable and **pull** the cable free.
- ② **Remove** three bolts that secure the assembly ①, manually pull down on the pivot arm until the tab is clear of the master chain link ②, and remove the assembly.

You will need to thread the chain release cable ③ through a bottom slot to free the assembly. **Slide** the assembly down and out of the track.

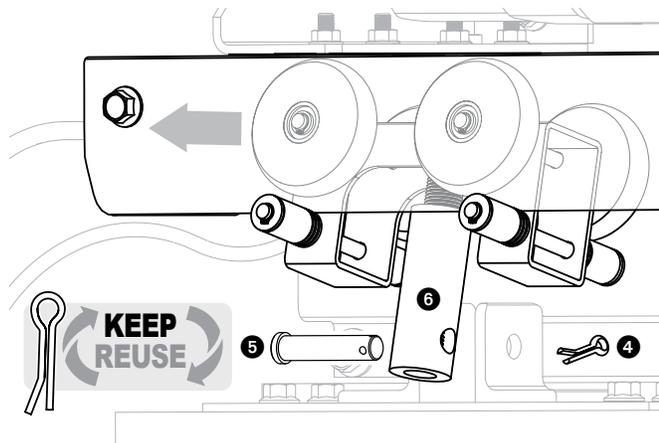


5 **Remove** the cotter pin ④ from the clevis pin ⑤ in the swivel hanger, then remove the clevis pin to free the trolley assembly.

Slide the trolley assembly around the swivel hanger and out the side of the trolley.

If necessary, you can **spin the trolley yoke ⑥** to shorten it and make the assembly easier move.

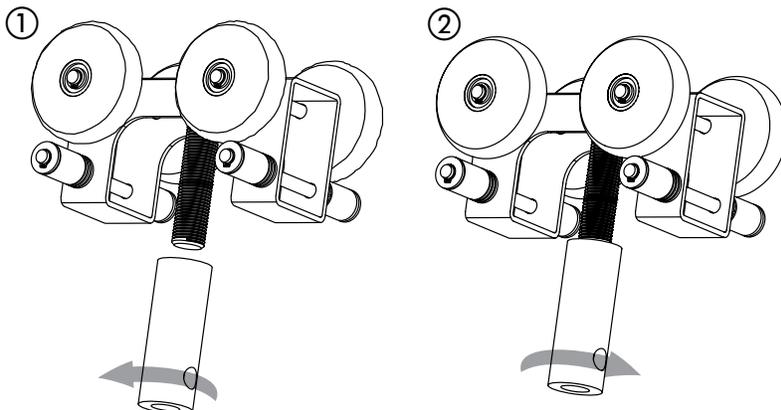
Retain the **cotter pin** for the replacement trolley.



6 **Repeat** Step 4 for every trolley assembly you are going to replace that has free access to the open side of the track.

7 **Spin** the trolley yoke ① to remove it from the trolley assembly that is being replaced.

Then spin it on ② to the replacement assembly.

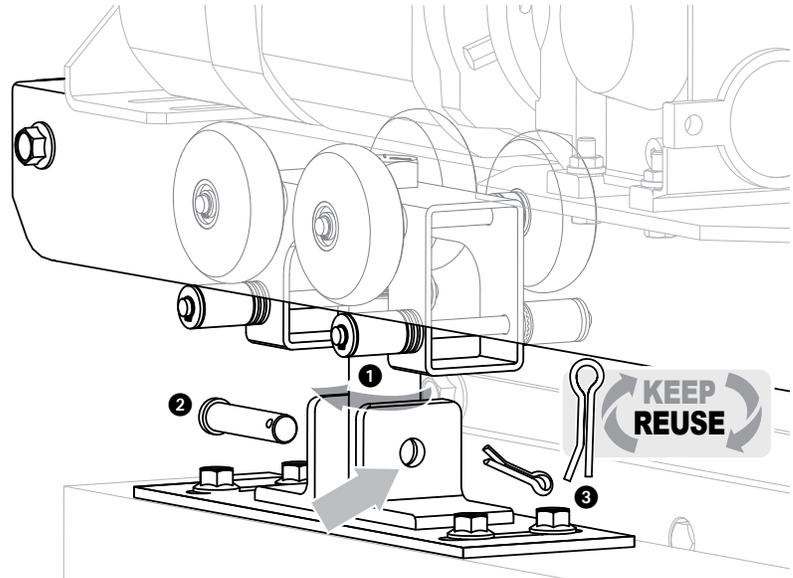


8 Slide the replacement trolley assembly into the track and on to the swivel hanger.

Rotate the trolley yoke 1 until the holes in the yoke line up with the holes in the swivel hanger (gray arrow).

This ensures the door height will be the same when the shims are removed.

Reinstall the clevis pin 2 and cotter pin 3 to secure the trolley assembly.



9 Repeat Step 7 for every trolley assembly you are going to replace that has free access to the open side of the track.

10 Reinstall the chain release assembly

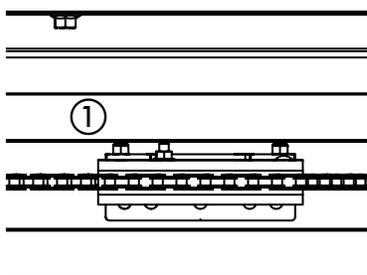
① Slide the assembly into its original position, **integrating the chain release cable** as you go. **Manually pull down** the swivel arm and reinsert the tab into the master chain link. **Release** the arm.

This ensures the assembly is properly aligned with the chain when it is secured.

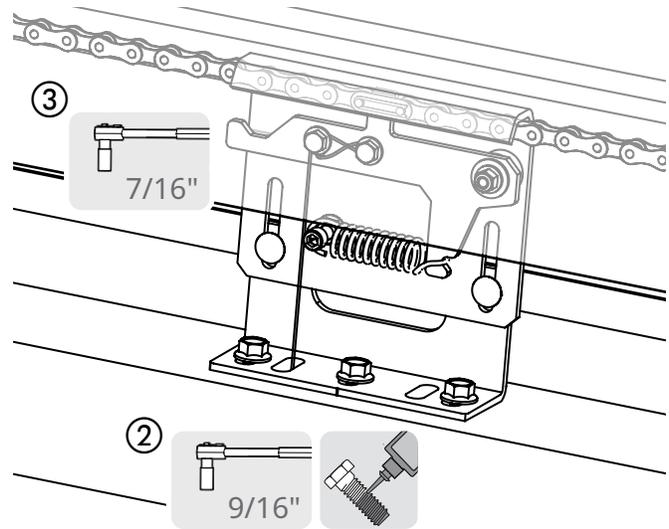
② Reinstall the three bolts in their original holes.

Add a $\text{Ø}1/4\text{''}-\text{Ø}3/8\text{''}$ patch of Loc-Tite™ Blue to the bolt threads prior to securing, locating the patch so it will fully engage the threads. **Torque** bolts to 15 ft-lbs.

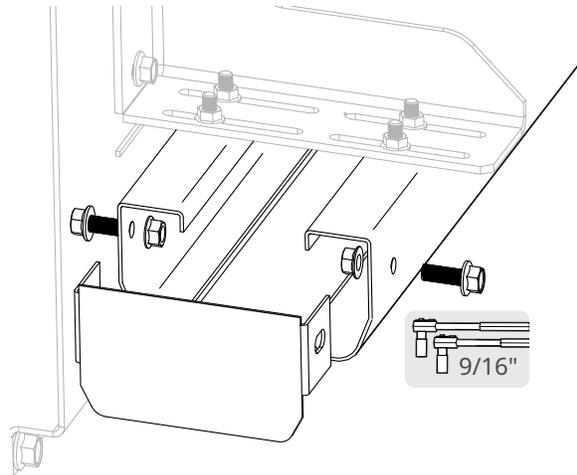
③ Reinstall the chain release cable. **Wrap** cable around the two securing bolts in a figure-8 pattern, **torque** bolts to 4 ft-lbs, and **tuck** end of cable into hole in swivel arm.



Top view looking down



11 Reinstall the track end cap.



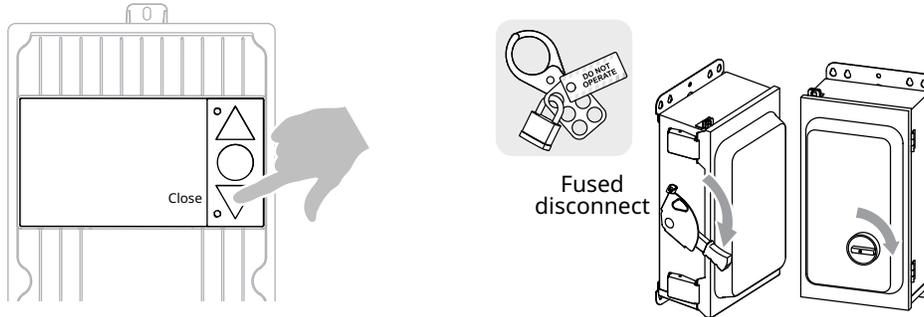
12 If necessary, repeat these steps on the other side of the door.

13 Follow the steps in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

How to manually reset the electromagnetic brake

- 1** Set the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.



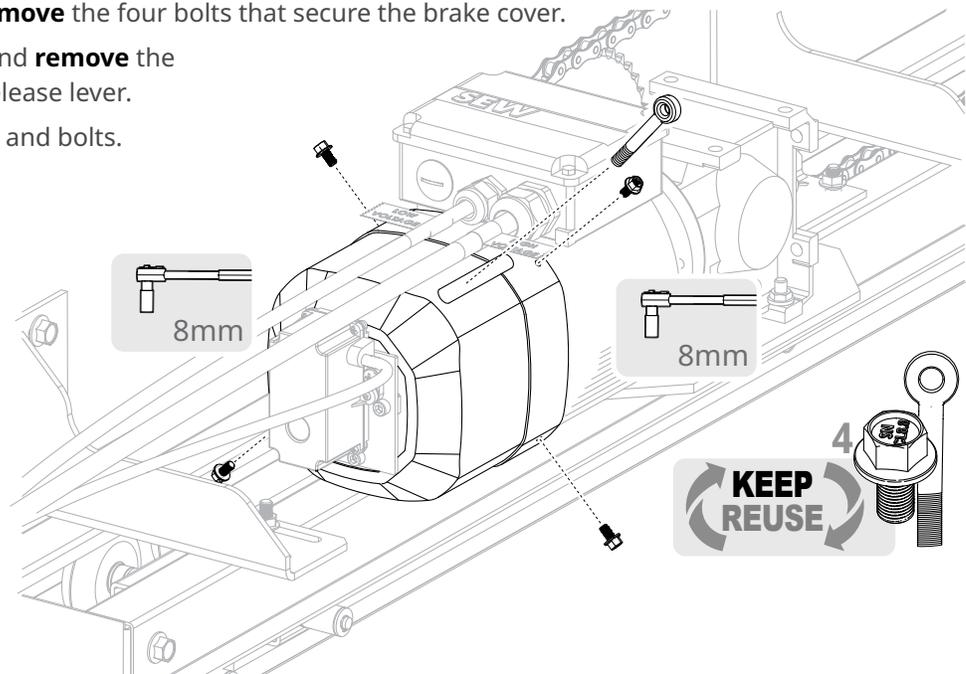
- 2** Go up to the head assembly.



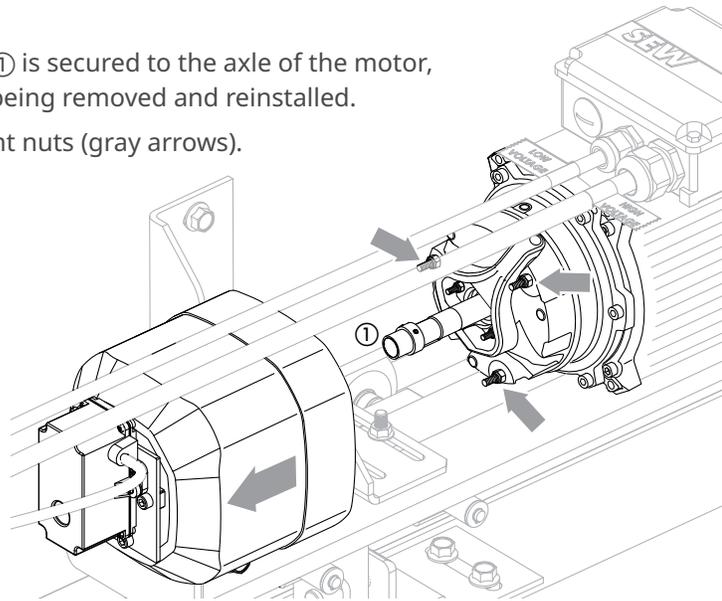
- 3** At the motor, **remove** the four bolts that secure the brake cover.

Also, **unscrew** and **remove** the manual brake release lever.

Retain the lever and bolts.



- 4** **Slowly slide** off the brake cover.
- Be aware** that the encoder magnet ① is secured to the axle of the motor, and the cover must pass by it when being removed and reinstalled.
- Locate** the three (3) brake adjustment nuts (gray arrows).



- 5** If you are **not experienced using brake feeler gauges**, follow these steps.

- 1:** Use a 10mm socket to turn all three nuts **CLOCKWISE** until they are fully set and you encounter resistance to turning them. **DO NOT turn past this point.**
- 2:** Then **turn** the nuts **one-half turn (1/2 turn) COUNTERCLOCKWISE** to loosen them.



IMPORTANT

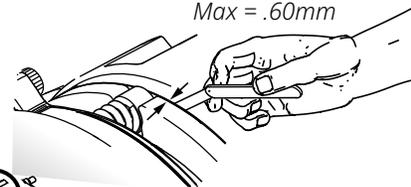
The nuts must be **adjusted equally** or the brake mechanism will wear unevenly, which will put excess wear on the motor.

- 6** If you **ARE experienced using brake feeler gauges**, follow these steps.

- 1:** Carefully remove the brake sealing band to expose the coil pad and disk.
- 2:** Measure the air gap next to each adjustment nut.
 - **Make sure** to measure the gap **between the dampening plate and coil.**
- 3:** **Air gap specs** for the Turbo-Slide brake are .25mm-.60mm.
- 4:** Use a 10mm socket to adjust all three nuts to achieve the same desired gap at all three nuts.

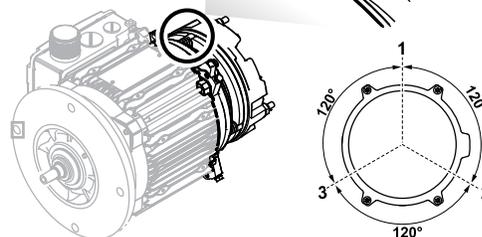


Min = .25mm
Max = .60mm



IMPORTANT

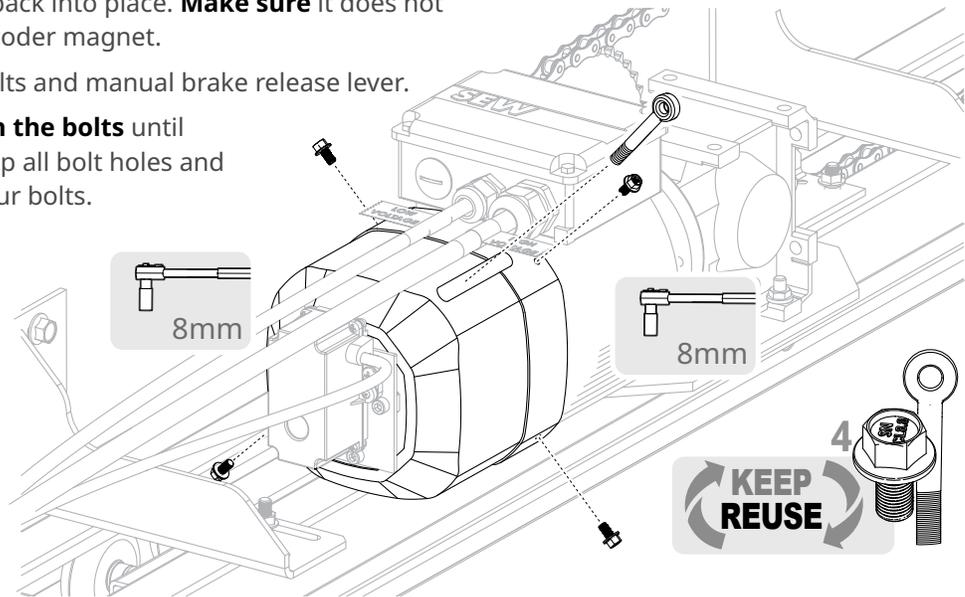
The nuts must be **adjusted equally** or the brake mechanism will wear unevenly, which will put excess wear on the motor.



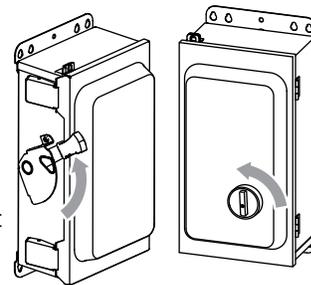
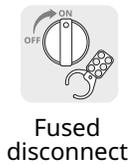
7 Slide the cover back into place. **Make sure** it does not catch on the encoder magnet.

Reinstall the bolts and manual brake release lever.

DO NOT tighten the bolts until you have lined up all bolt holes and reinstalled all four bolts.



8 Restore power to the door.



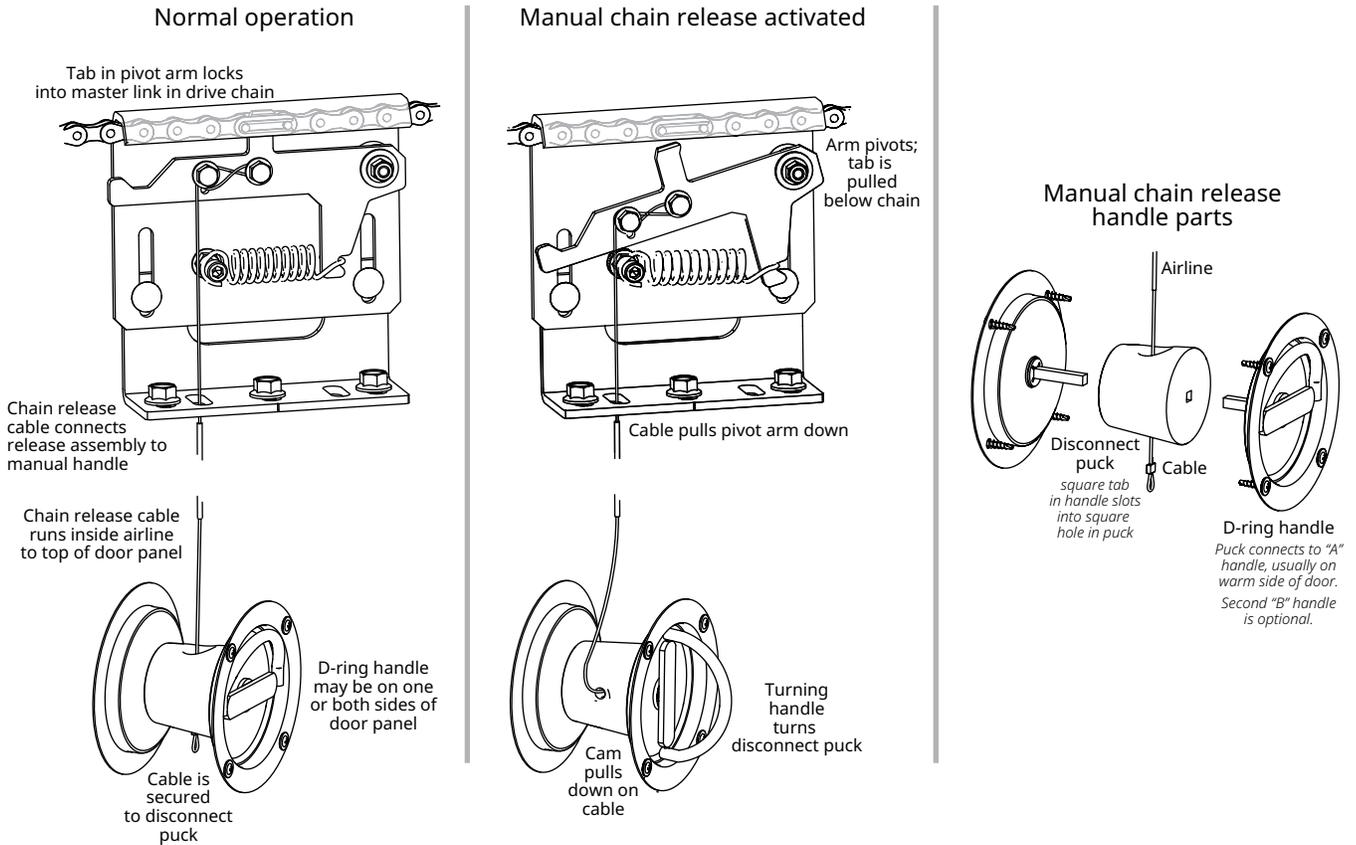
9 Follow the steps in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

How to replace the manual chain release cable

The Turbo-Slide door includes a manual chain release system to allow the door panels to be opened manually in the event of a power failure or for maintenance.

IMPORTANT This system is **not designed** as an emergency egress system.



1 Set the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.

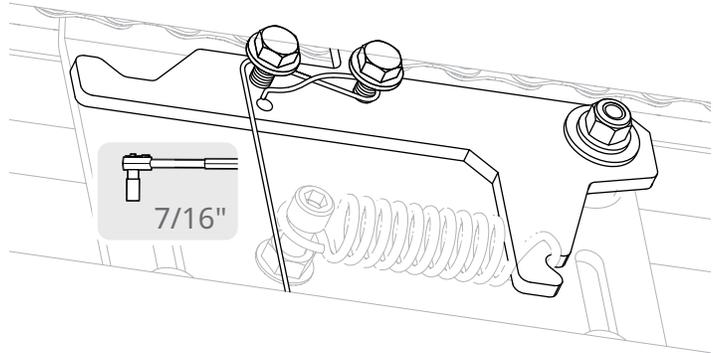


2 Go up to the head assembly.



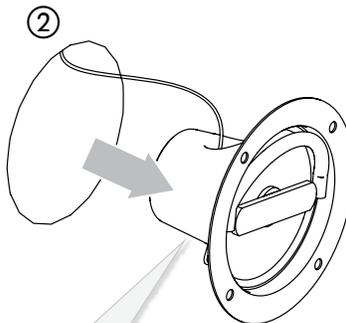
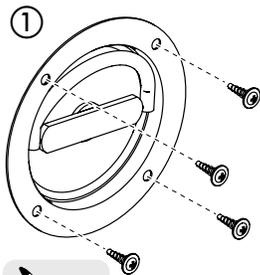
Ladder or Scissor lift

- 3** At the chain release assembly, **loosen** the two bolts to **release** the chain release cable.



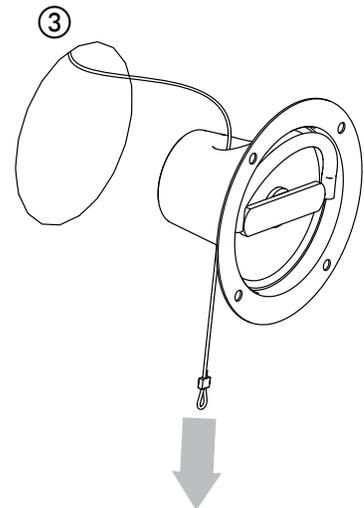
- 4** **Remove** the old chain release cable.

- ① **Remove** the four sheet metal screws that secure the manual chain release handle.
- ② **Remove** the handle and disconnect puck. **Make sure** the puck is secured to the handle.
- ③ **Pull down** to remove the old cable from the puck.



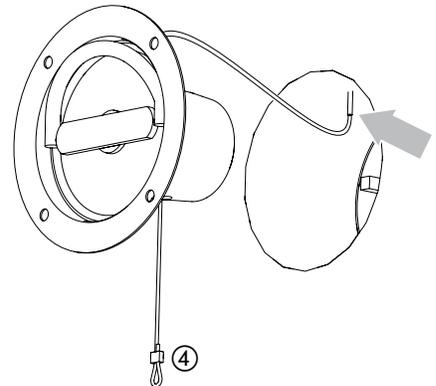
IMPORTANT

If the disconnect puck does not move with the handle, you have removed the "B" handle. Switch to the other side of the door and remove the "A" handle.



- 5** **Locate** the airline (gray arrow). The cable runs inside this tube up to the top of the door panel.

Thread the new cable through the puck until the loop ④ slots into the bottom of the puck, then through the airline until it reaches the manual release assembly at the top of the door.

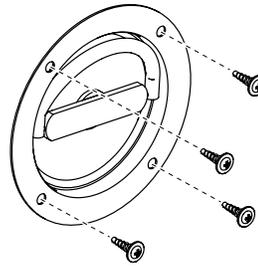


6 Slide handle and puck back into door panel so that square tab on "B" handle slots into square hole in puck.

Reinstall the four sheet metal screws.

IMPORTANT

You may have to set the handle at a slight angle, creating new screw holes, to reinstall it securely.



#2



7

IMPORTANT



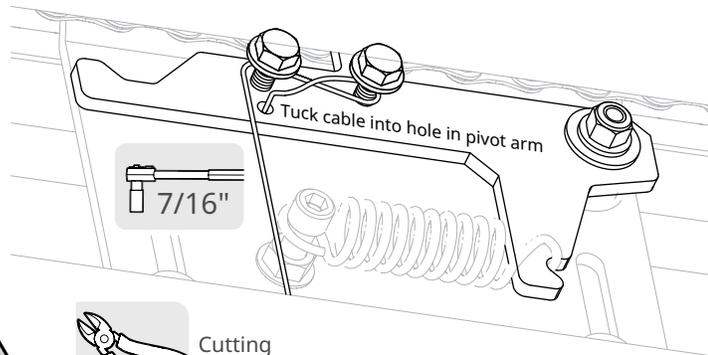
Make sure that the pivot arm is in the upright position with the **tab fully engaged with the chain master link**, and that the tab **remains fully engaged** with the chain master link, while performing this step.

Failure to do this could result in the door panel disengaging from the chain during normal operation.

At the chain release assembly, pull cable up until it is tight, loop the cable around the two bolts in a figure-8 pattern, then tuck into hole in assembly.

Trim excess length if necessary.

Tighten both bolts to a torque of 4 ft-lbs.



Ladder or Scissor lift



Cutting pliers

8

Test the manual chain release handles on both sides of the door.

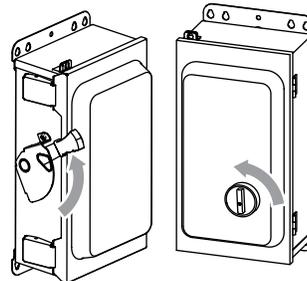
Make sure that turning the handle releases, then re-engages the chain.

9

Restore power to the door.



Fused disconnect



10

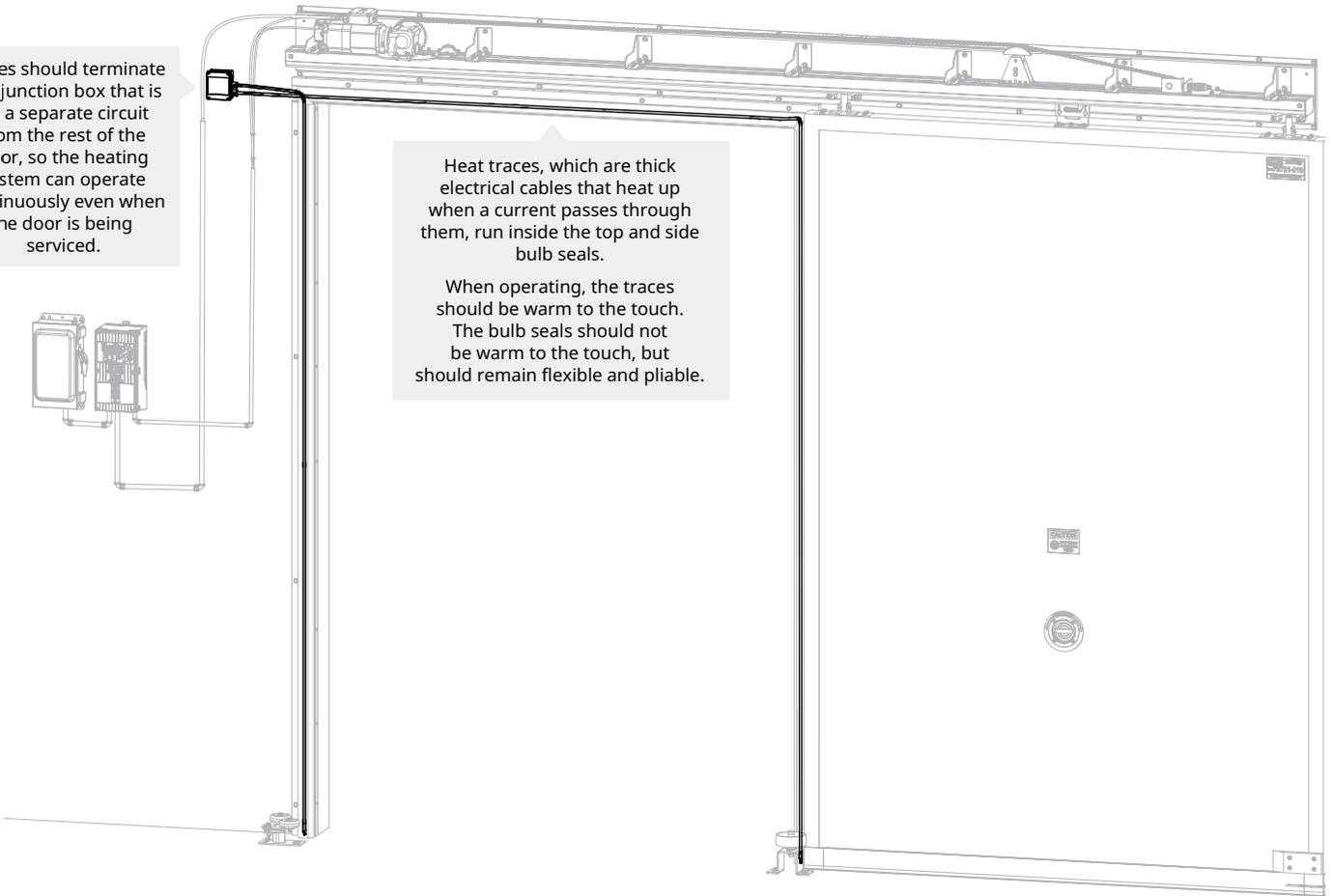
Follow the steps in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

How to replace the heat trace

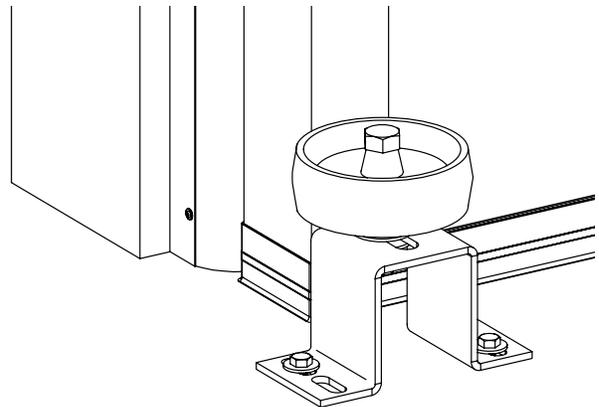
The heat traces (heat tape) run inside the bulb seals and maintain a constant warming of the nitrile bulbs. The traces are wired separately from the controller.

Traces should terminate at a junction box that is on a separate circuit from the rest of the door, so the heating system can operate continuously even when the door is being serviced.



How to access the heat trace

- 1** Jog the door to the fully open position so that you can access the bulb seals on both sides of the door.

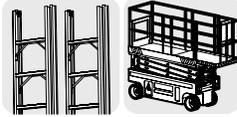


2 **IMPORTANT**

Shut off power to the junction box.
This should be on a separate circuit, with a separate disconnect, from the power to the door.



3 **Go up** to the head assembly.



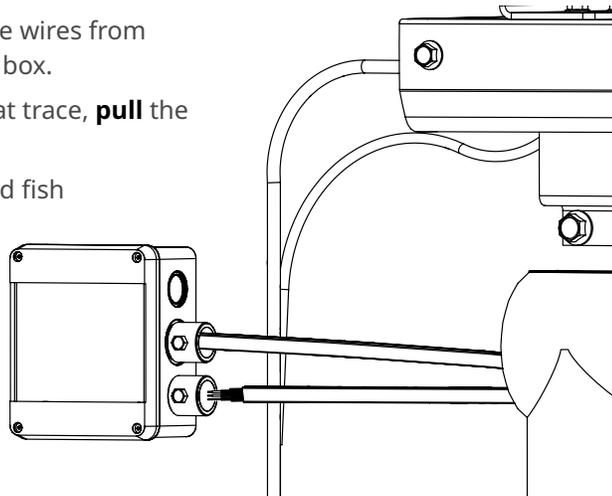
Ladder
or
Scissor lift



4 **Open** the junction box and **disconnect** the wires from their terminal connections in the junction box.

If you are replacing the non-drive side heat trace, **pull** the trace through the top bulb seal.

- **It is held in place by gravity** and should fish through the seal freely.



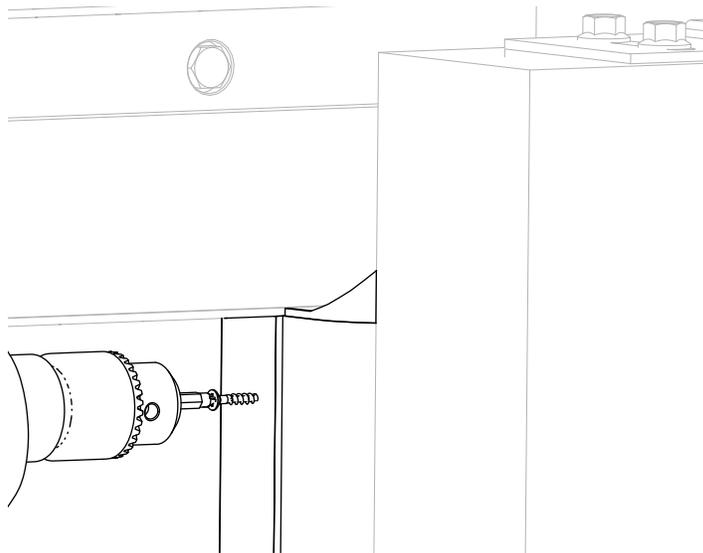
5 **Remove** all the wood screws on the door opening side of the side seal and use a putty knife to **cut** the calking between the top and side nitrile bulbs.



Power drill with #2 Phillips head



Putty knife or paint scraper

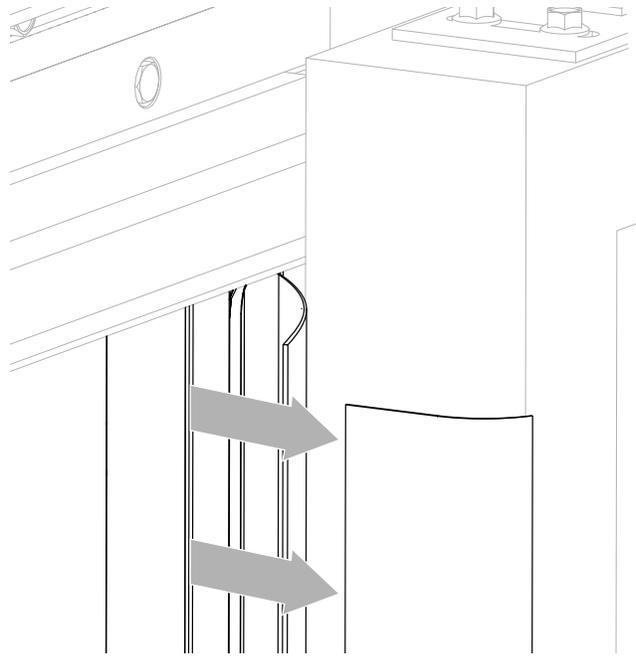


6 **Pull out** the black EPDM flap and **pull** the nitrile bulb out of its retaining slot.

DO NOT DISCARD the EPDM flap.

You will reinstall it after you install the new heat trace.

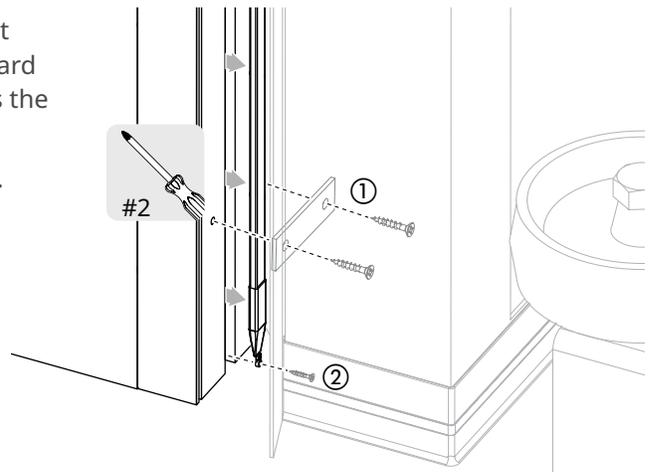
You can access the HDP A backing board and the heat trace without removing the seal from the door.



How to replace the heat trace

7 **Remove** all of the clamps that hold the heat trace in the groove in the HDP A backing board ①, or **remove** the single screw that secures the heat trace at the bottom of the side seal ②.

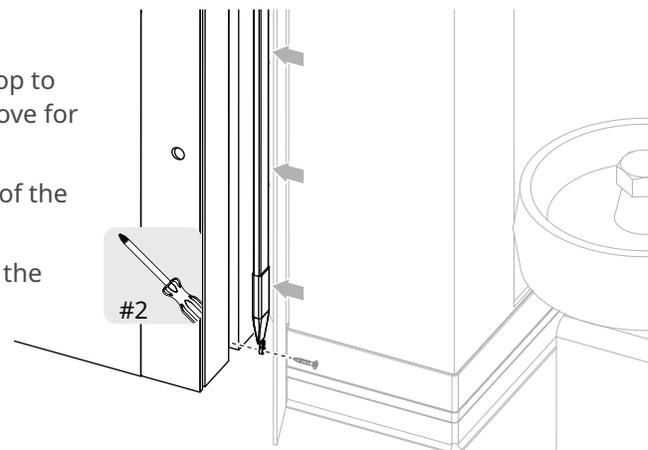
You will **NOT re-install** the clamps. Discard.



8 **Slot** the new heat trace into the groove

- **Press down** along the full length to the top to make sure it is securely seated in the groove for the entire length of the seal
- **Make sure** that it extends to the bottom of the seal.

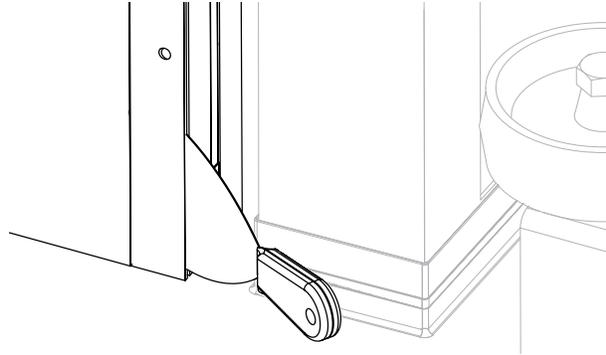
Install a wood screw in the round eyelet at the bottom to secure it in place.



9 Use the putty knife to clean out the slot for the nitrile bulb and EPDM flap.

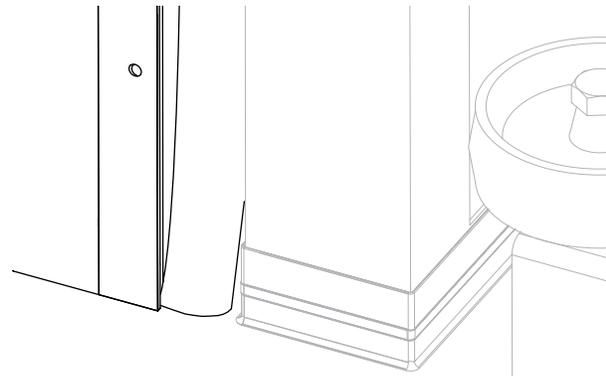


Putty knife or paint scraper



10 Slide the nitrile bulb back into its slot

- **Start** at the ends and work your way to the center.
- **Make sure** the bulb is fully seated in the slot for its entire length.

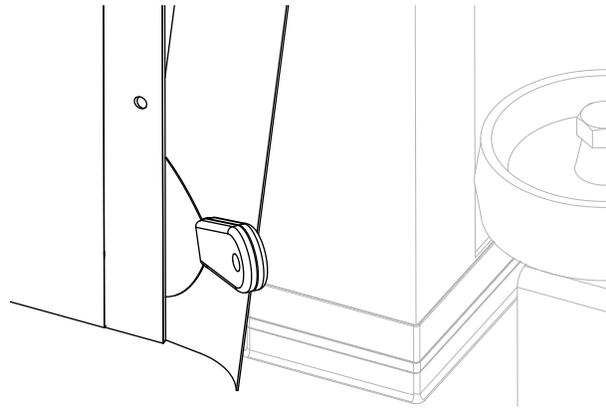


11 Use the putty knife to press the EPDM flap back into place.

- **Start at one end** and work gradually up or down the seal.
- **Make sure** there are no kinks or folds in the flap and that it is fully seated in the slot



Putty knife or paint scraper

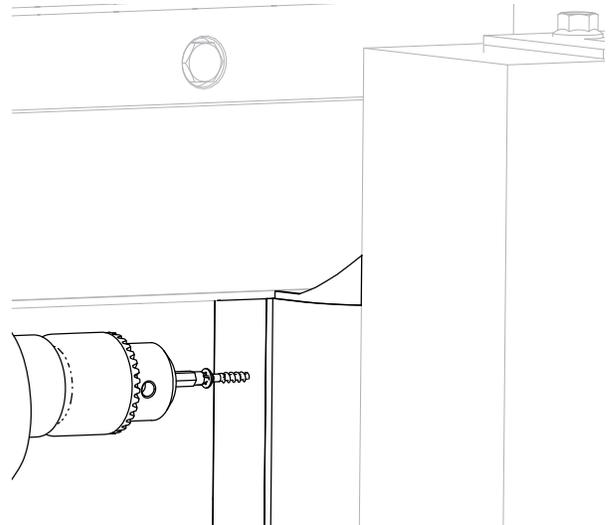


12 Reinstall the seal.

- **Route** the heat trace through the hole in the top seal and to the junction box.
- **Re-caulk** between the side and top nitrile bulbs.
- **Secure** the nitrile bulb and EPDM flap on the door opening side with wood screws spaced ~20" apart.

You may place the screws in the existing holes or tap new ones within 1" of the originals.

New holes must be pre-drilled before inserting screws.



Caulk



Power drill with #2 Phillips head

13 Trim the heat trace at the junction box, **prep** the cables as shown in the next section, and **connect the** wires.

14 If necessary, **repeat** these steps for the other side seal.

How to prep the heat trace wires at the junction box

IMPORTANT The standard insulation on the heat trace wiring is brittle and should be reinforced with heat shrink.

1 Measure the heat trace so it reaches inside the junction box before you trim it to expose the wires.

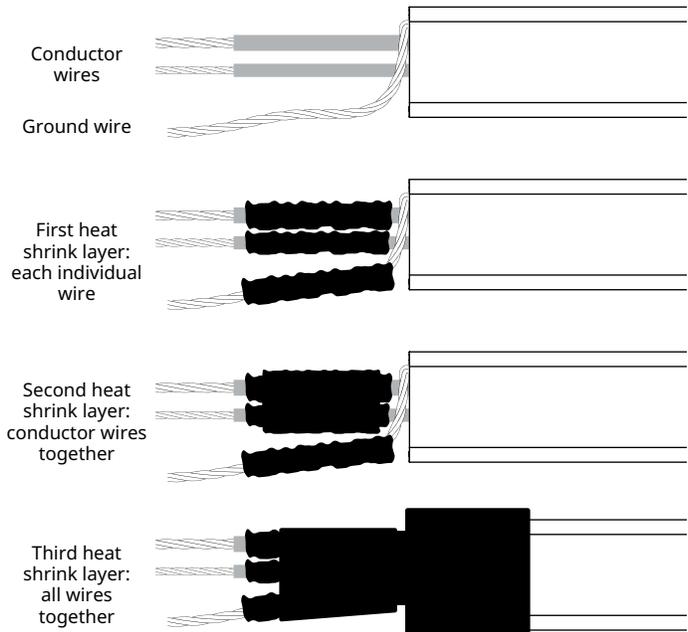
Trim to expose 3" of insulated wire and an additional 1/4" of bare wire.

There are three wires: two conductors and a ground wire.

2 Install three layers of heat shrink.

- The first layer is placed on each of the three individual wires.
- The second layer is placed around the two conducting wires.
- The third layer is placed around all three wires.

3 Once the wires are prepped, **connect** the heat trace to the junction box terminals.

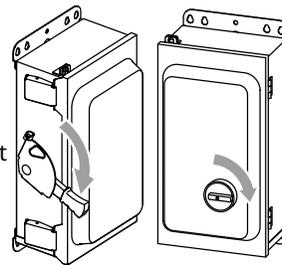


How to inspect the door for damage after a collision

1 Shut off power to the door and perform a lockout/tagout.



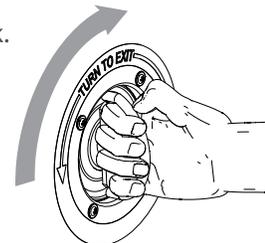
Fused disconnect



2 Turn the manual chain release handle to disconnect the door panel from the drive chain.
Manually slide the door back and forth across the entire length of the track.
Look and listen for signs that parts are misaligned, jammed or damaged.

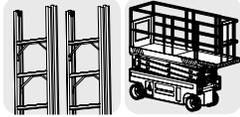
IMPORTANT Damaged parts should be **documented and replaced**.

Leave the door in the **open position** to give access to all bulb seals.

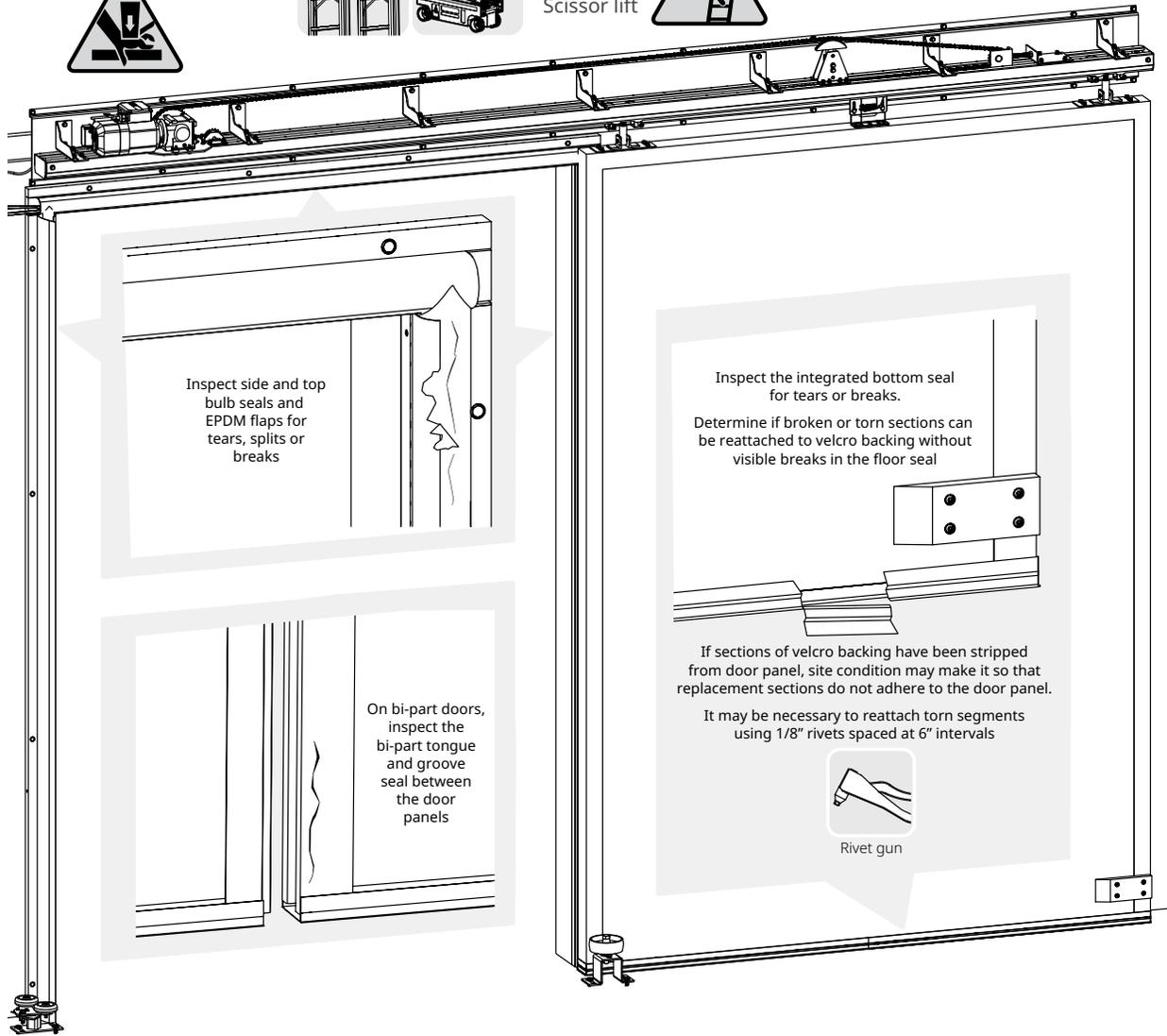


3

Inspect all seals.



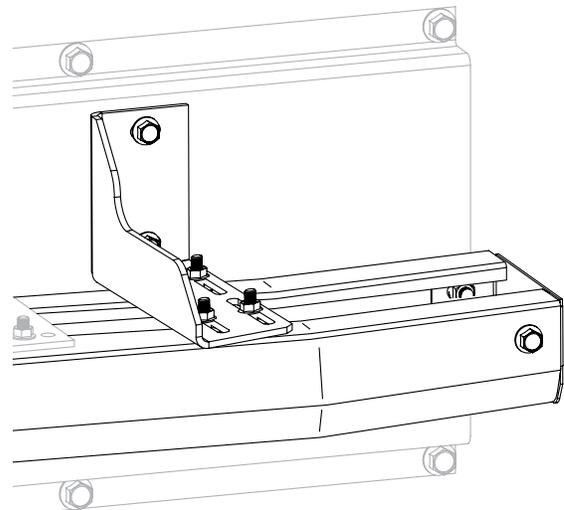
Ladder
or
Scissor lift



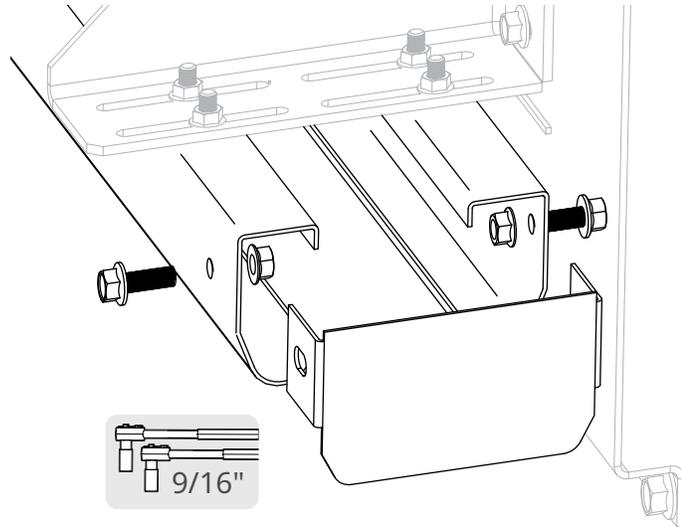
4

Inspect the j-rails for kinks, dents or bends.

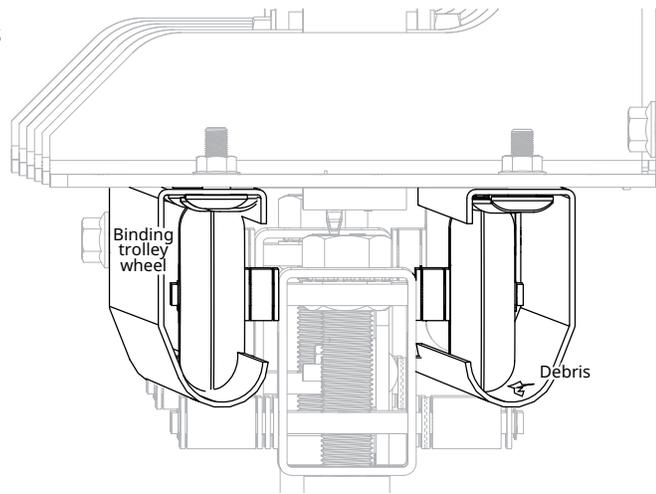
Inspect the j-rail brackets to see if any are misaligned, loose or bent.



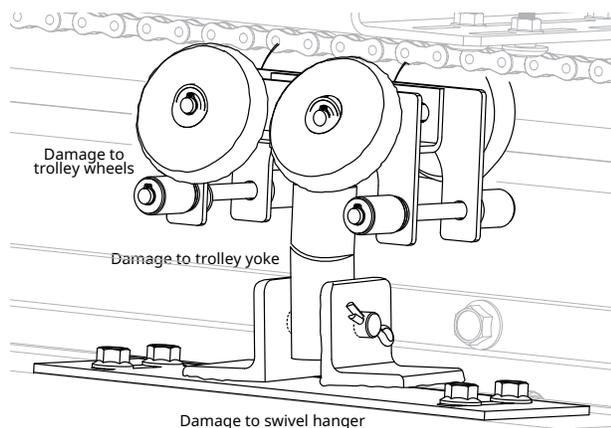
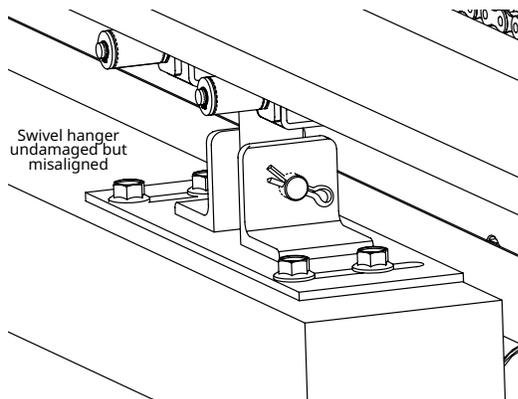
5 Remove the track covers to give a clear view of the inside of the track.



6 Inspect the inside of the track for debris or damage.
 Check all trolley wheels for binding against the j-rails, misalignment or damage.

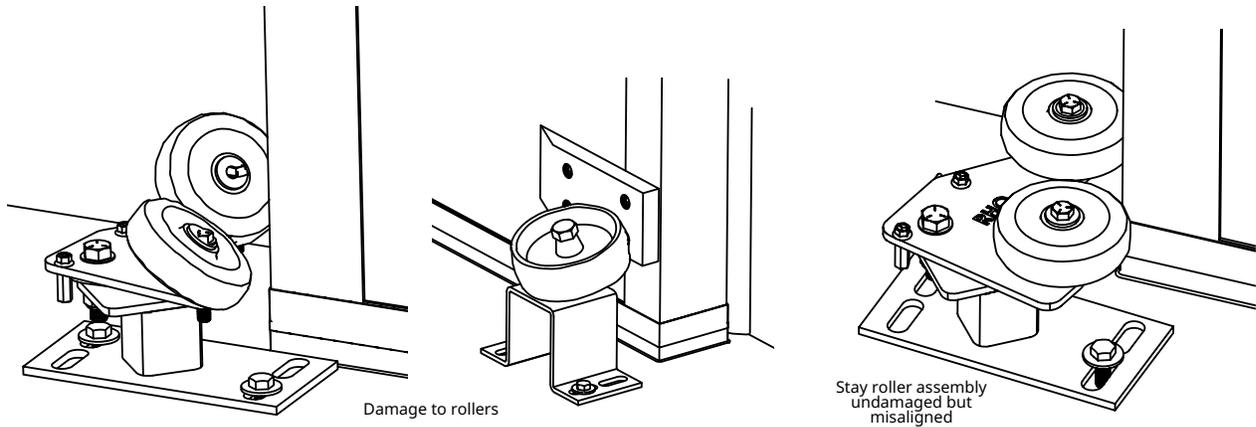


7 Inspect the trolley assemblies and swivel hangers for damage or misalignment.
 Damaged parts and assemblies should be replaced.
 Misaligned assemblies that are not damaged can be adjusted back into a working configuration. Follow the steps in *How to realign the door panel so all seals are secure* starting on page 57.

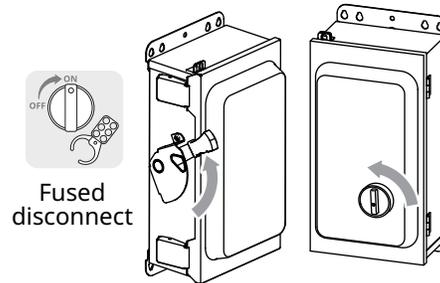


- 8** **Inspect** the stay rollers for damage or misalignment.
Damaged parts and assemblies should be replaced.

Misaligned assemblies that are not damaged can be adjusted back into a working configuration. Follow the steps in *How to realign the door panel so all seals are secure* starting on page 57.



- 9** **Restore** power to the door.

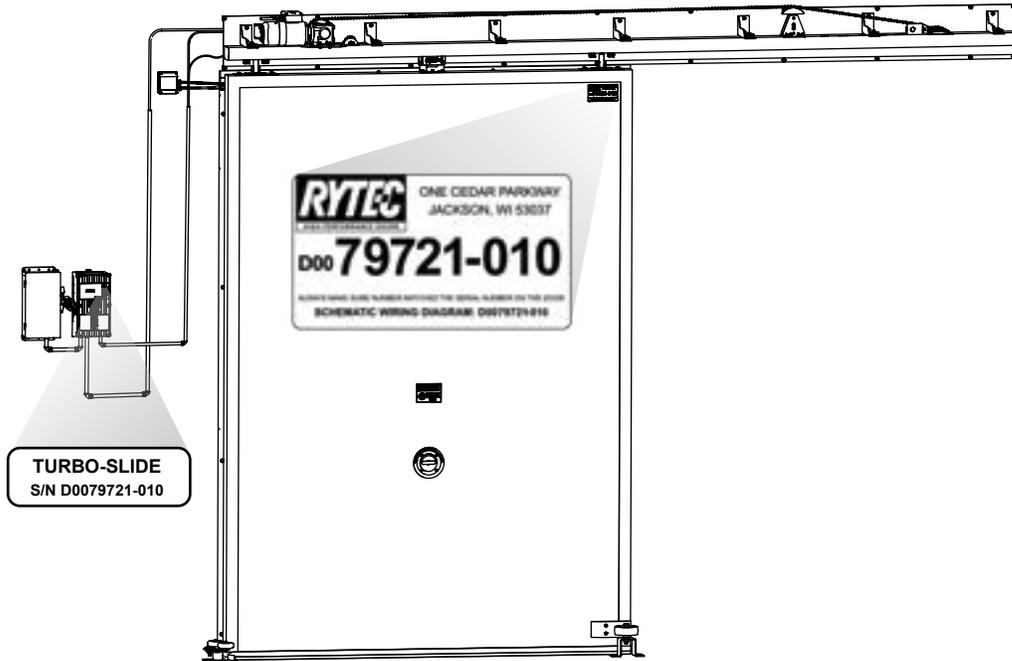


- 10** **Follow the steps** in *Navigate to parameter P:980 and set the value to 4 so the door will cycle continuously* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing.

Look and listen for any indication that opening and closing is not running smoothly.

How to order parts

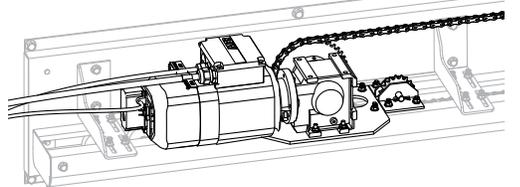
1 **!IMPORTANT! Make sure** you have the serial number of your door before you start.



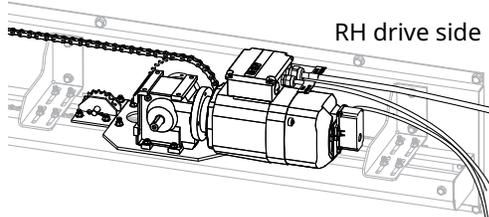
Check the top of the trailing edge of the door panel or panels, and on the control box, for labels showing the serial number.

!IMPORTANT! Make sure all numbers match. Tell the person you speak with if they do not.

2 **Look** at the head assembly of your door to see if the drive side is left hand (LH) or right hand (RH).



LH drive side



RH drive side

3 **Use** the parts lists on the following pages to find the part numbers and descriptions for the parts you need.

4 **Call** your local Rytec representative or Rytec technical support at **800-628-1909**.

Enter **#1** for technical support, or **#2** for the parts department.

You can also e-mail the parts department at **parts@rytecdors.com**.

YOU MUST contact the parts department and request a quote before you can order parts. All requests for quote must include the **door's serial number**.



NOTE: Rytec Corporation also has an online parts store at **www.rytecdors.com**.

- You must have a user account to access the site. Contact the Rytec parts department at **800-628-1909 Ext. 2** to request an account.
- The site stocks standard parts. Parts listed as "configured" in this manual **are not available** on the site.
- Some parts are available for next-day shipping.

How to return unwanted parts

- 1 For returns covered by warranty, call Rytec technical support at **800-628-1909 Ext. 1** for authorization.
For returns NOT covered by warranty (physical returns), call the Rytec parts department at **800-628-1909 Ext. 2** for authorization. Requests for quotes, or part orders, should also be e-mailed to **PARTS@RYTECDOORS.COM**.
 - Your call will be redirected if necessary to put you in touch with the correct department.
 - There may be a **restock fee** for the returned part.
 - **Electrical parts which have been energized**, such as the System 4® controller, the brake assembly, the mobile unit, the light curtains or third party activators, cannot be returned.
 - Also, there are restrictions on returns for **configured parts** that were built to match the specifications of your door.

Warranty return

- 1 Rytec will create a **Return Merchandise Authorization (RMA)** and assign you an **incident number**.

- 2 **You will receive** replacement parts, a prepaid return label, and the RMA paperwork.

NOTE: Rytec may determine that it is not necessary to return the warranted parts in order to receive the replacement parts.

- 3 Use the box and prepaid label to return the warranted parts to Rytec **within 30 days of receiving the replacements**.

!IMPORTANT! You must include the RMA paperwork with the returned parts.

Physical return

- 1 Rytec will assign you an **incident number**.

- 2 **Box and return** the parts.
!IMPORTANT!
You must include the incident number with the returned parts.

Unless you are told otherwise by Rytec, shipping costs for a physical return **are your responsibility**. Call the Rytec parts department at **800-628-1909 Ext. 2** if you have any questions.

- 3 **When Rytec receives the parts**, we will inspect them. When we have determined the parts are in good working order, we will issue a refund to your account, or send a check by mail **within 30 days**.

Why you may be sent substitute parts

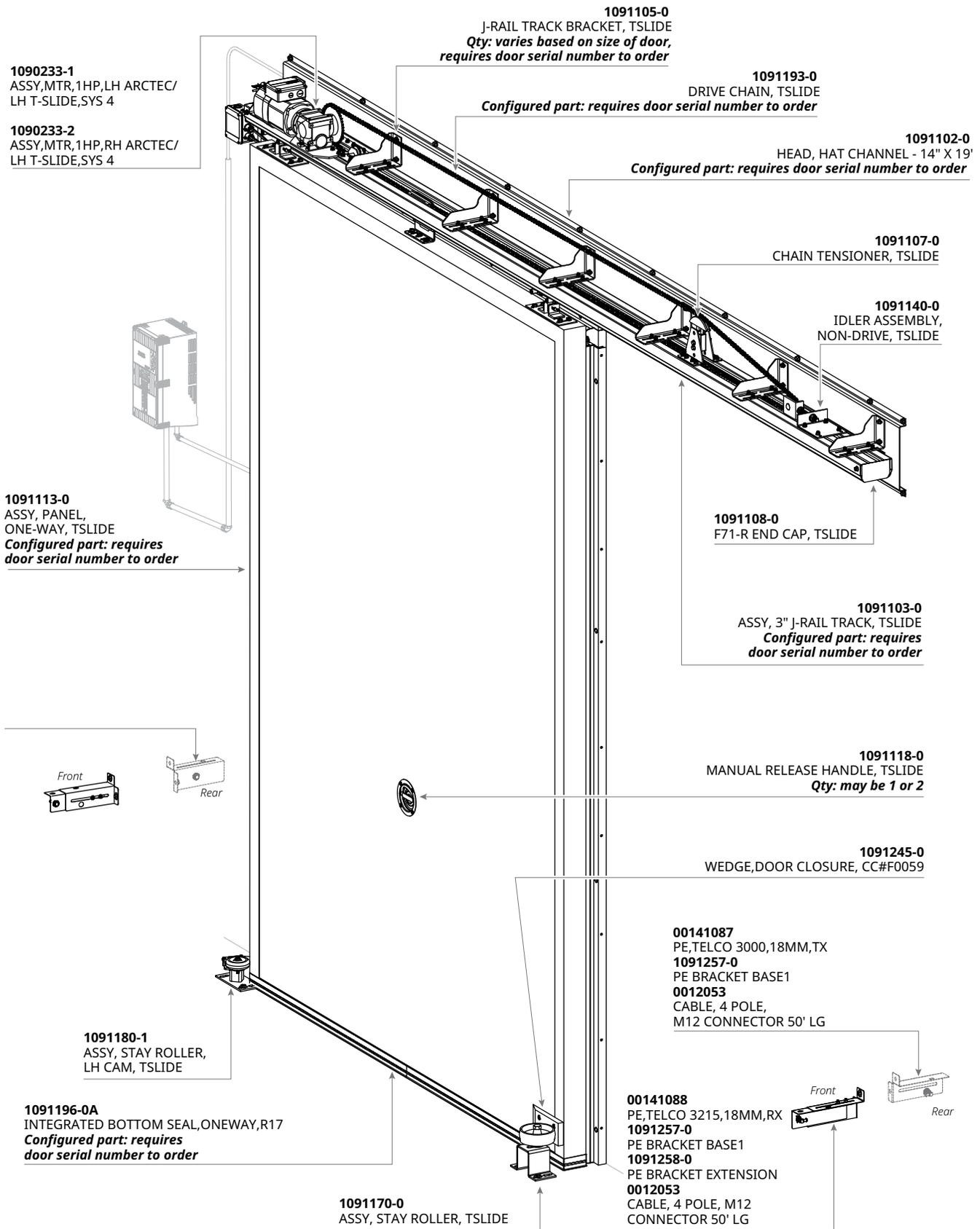
Many Rytec doors are custom engineered to meet the unique needs of the installation site, so the parts used for your door may be different from those shown in this manual.

If a part has been improved or updated since your installation, the new part will be substituted for the part ordered. The new part may have a revised part number.

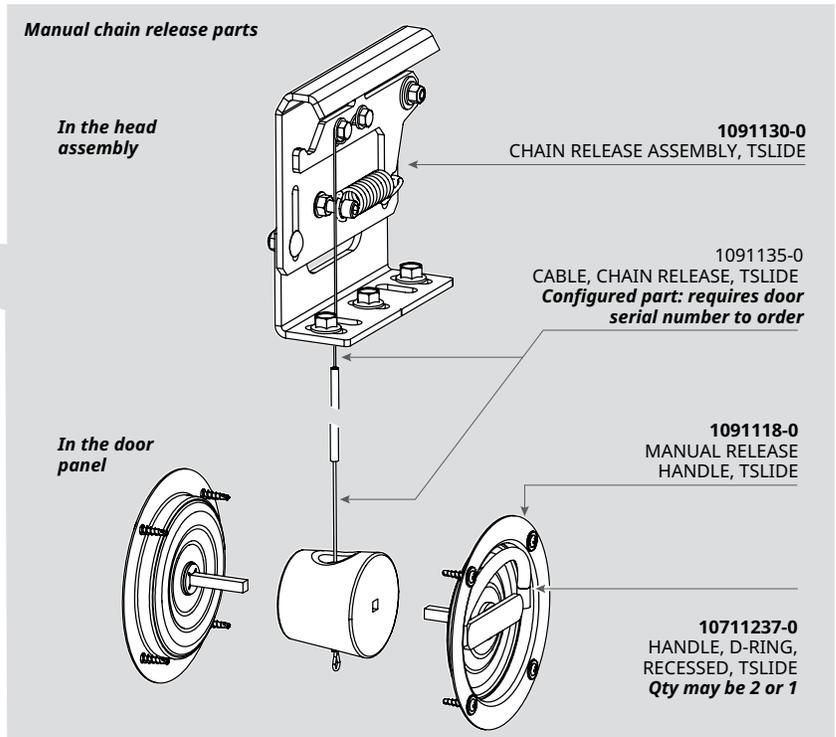
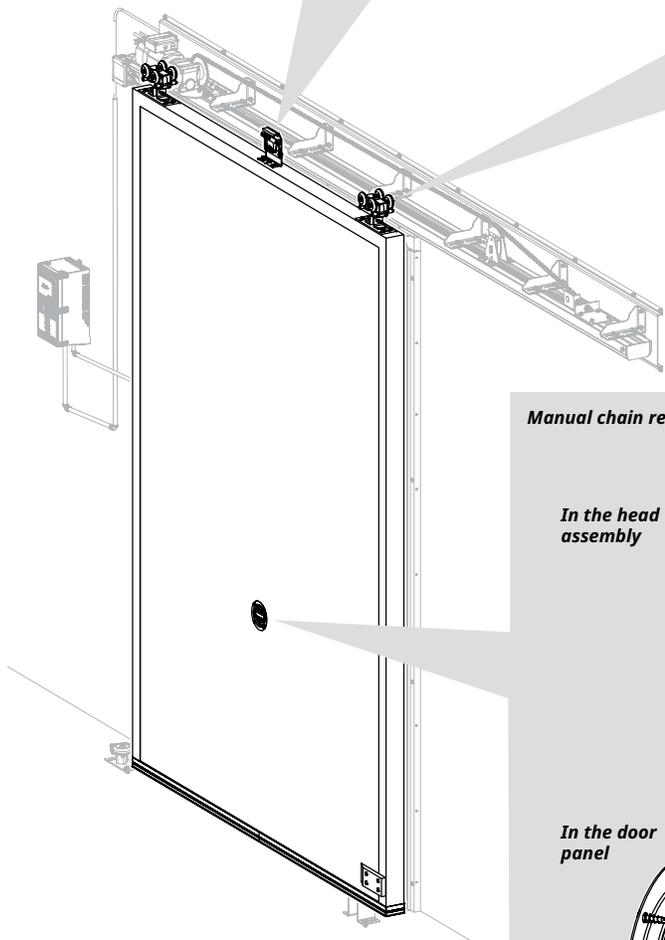
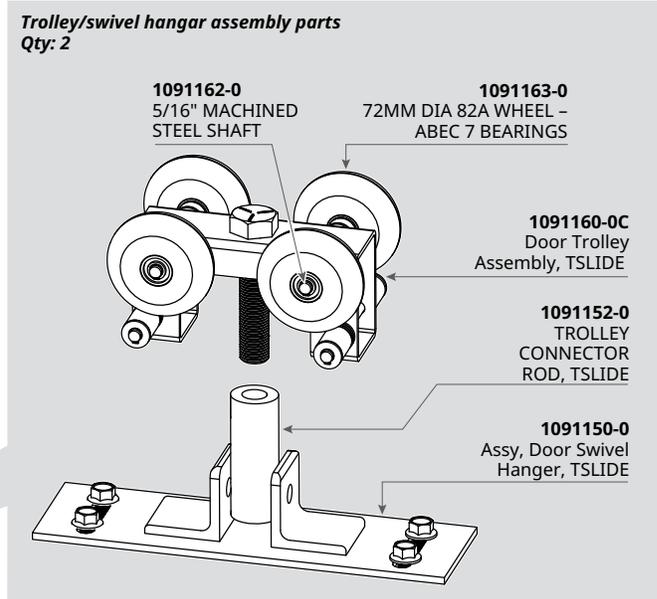
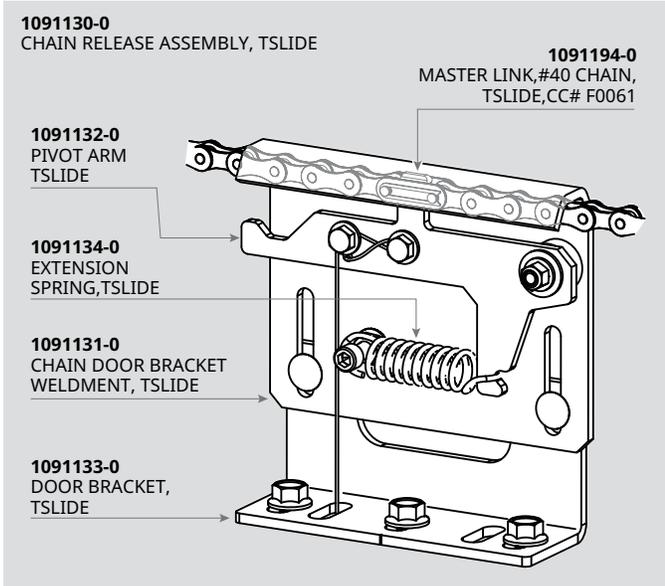
Rytec Technical Knowledge Center

The Rytec Technical Knowledge Center, reached via the Customer Support page at **www.rytecdoors.com**, holds manuals, service bulletins, and video presentations for all Rytec model doors.

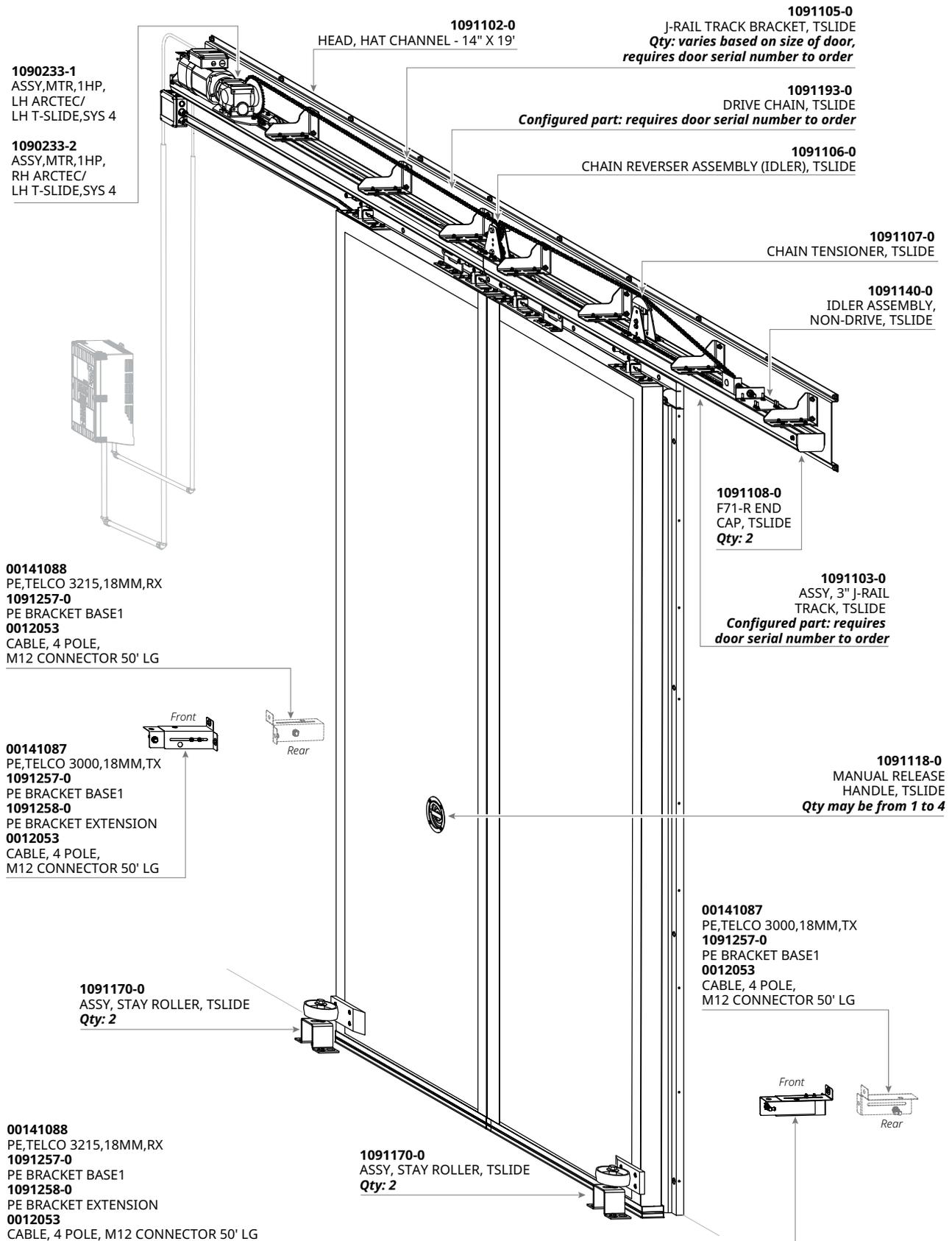
Major components single panel doors



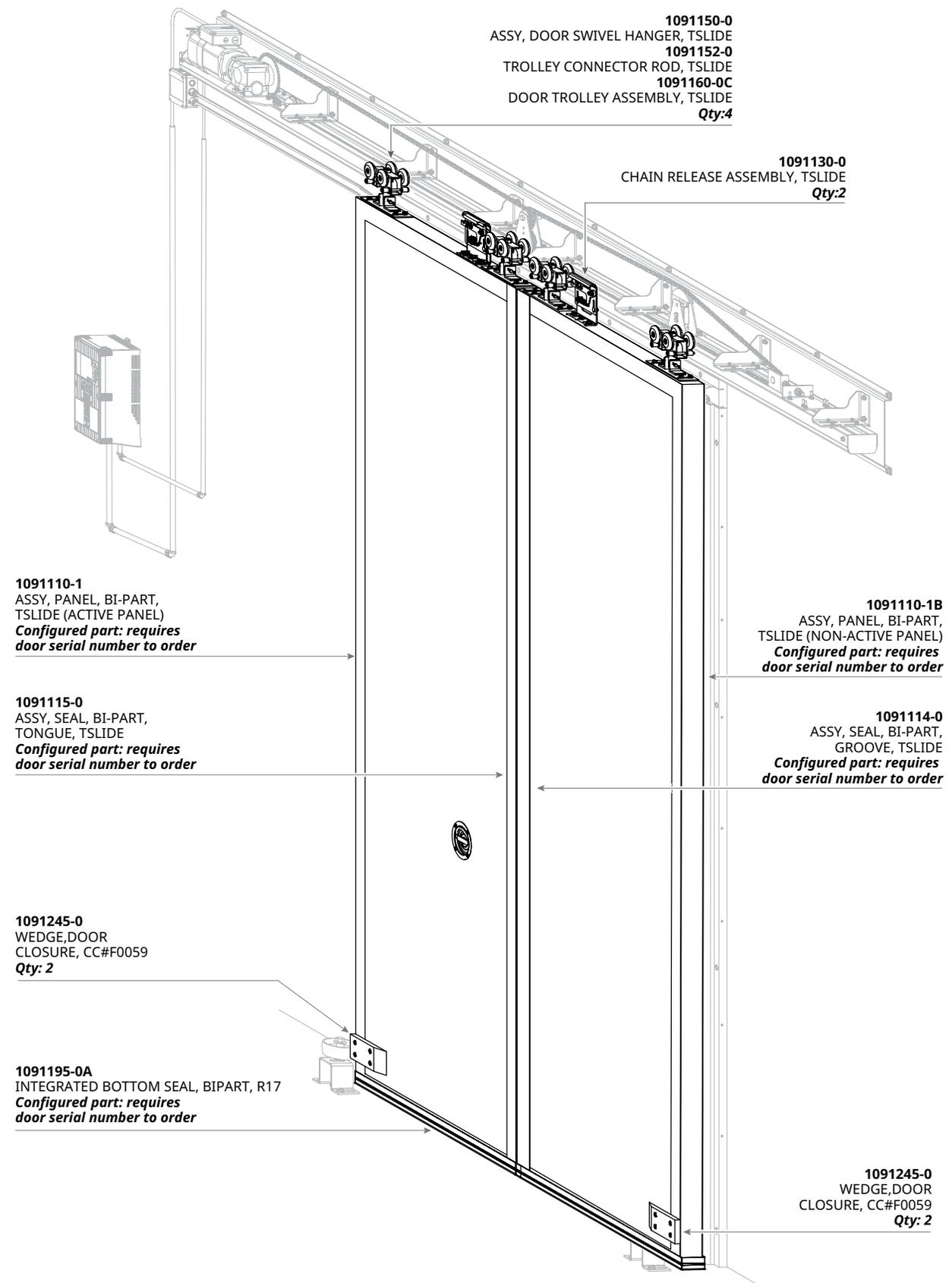
Door panel components all doors



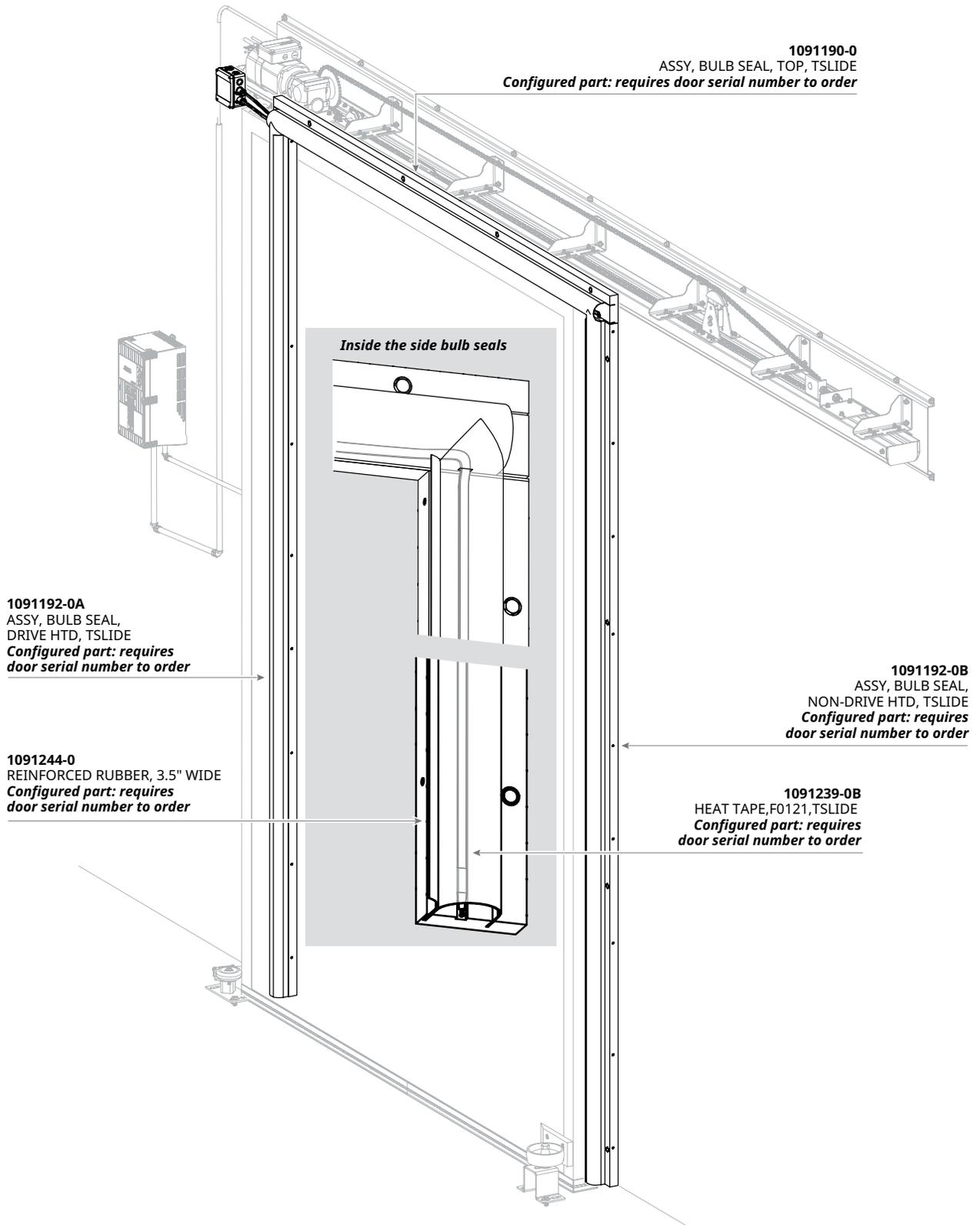
Major components bi-part doors



Door panel components bi-part doors



Bulb seals all doors

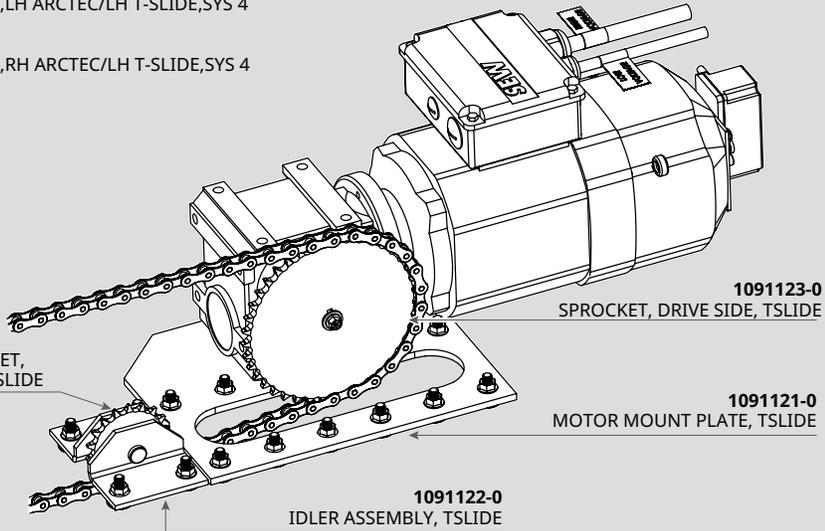


Head assembly components all doors

1090233-1
ASSY,MTR,1HP,LH ARCTEC/LH T-SLIDE,SYS 4

1090233-2
ASSY,MTR,1HP,RH ARCTEC/LH T-SLIDE,SYS 4

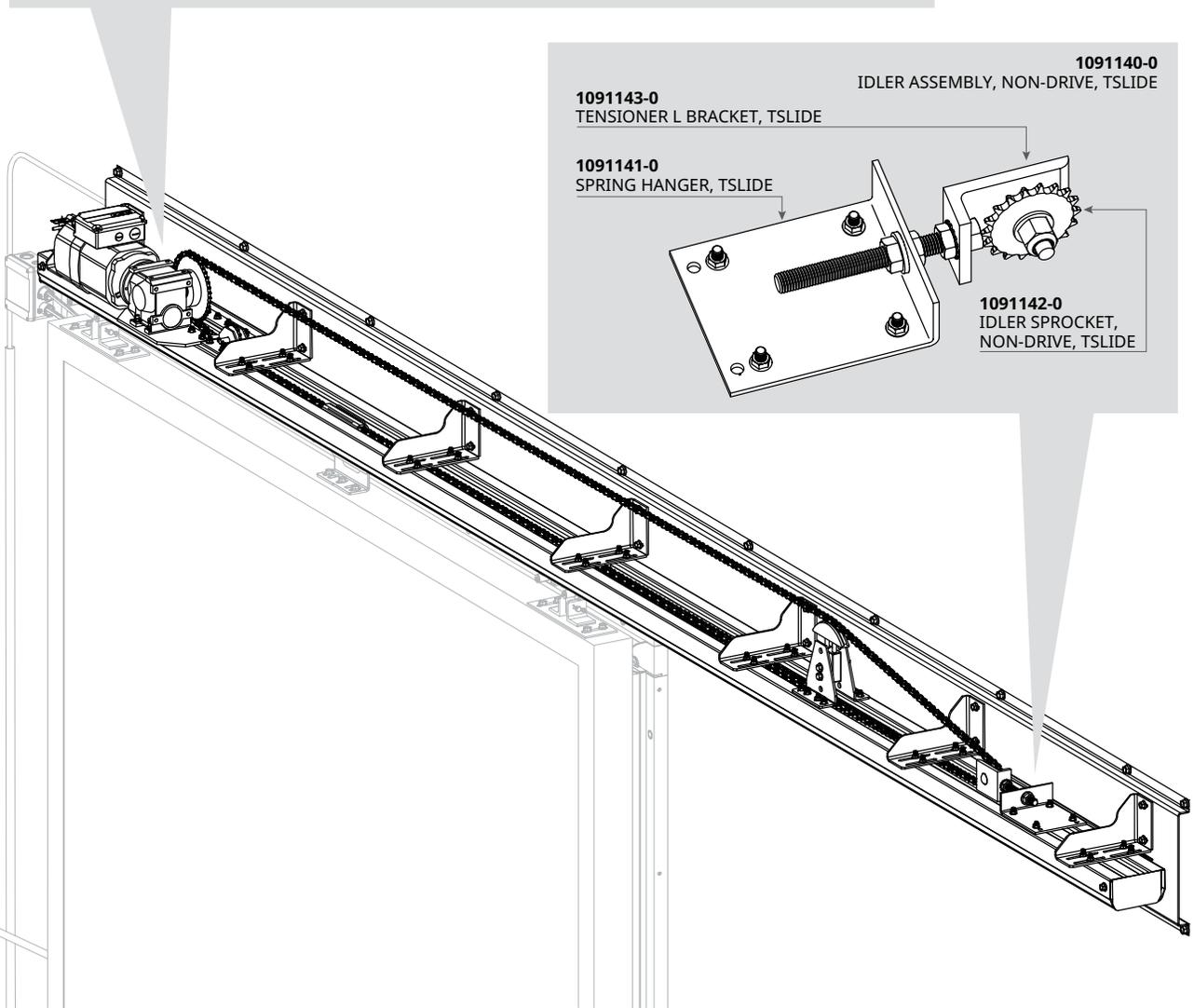
1091142-0
IDLER SPROCKET,
NON-DRIVE, TSLIDE



1091123-0
SPROCKET, DRIVE SIDE, TSLIDE

1091121-0
MOTOR MOUNT PLATE, TSLIDE

1091122-0
IDLER ASSEMBLY, TSLIDE



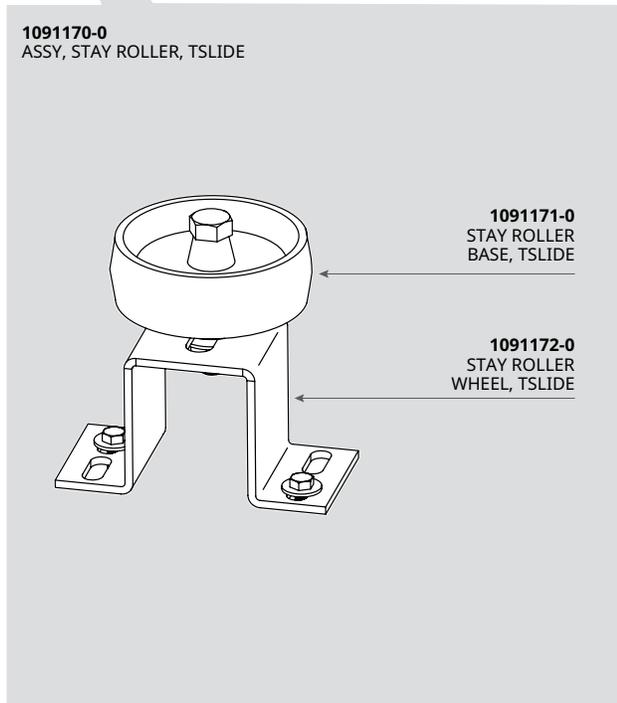
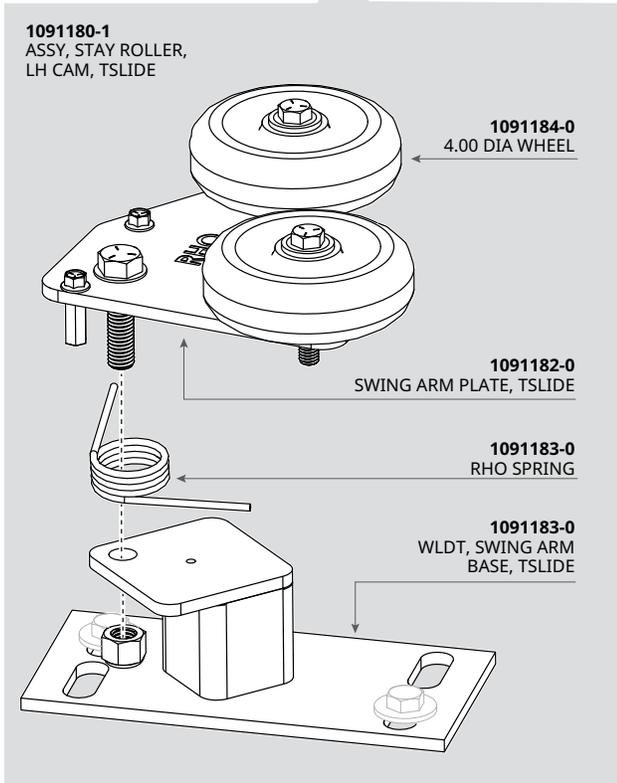
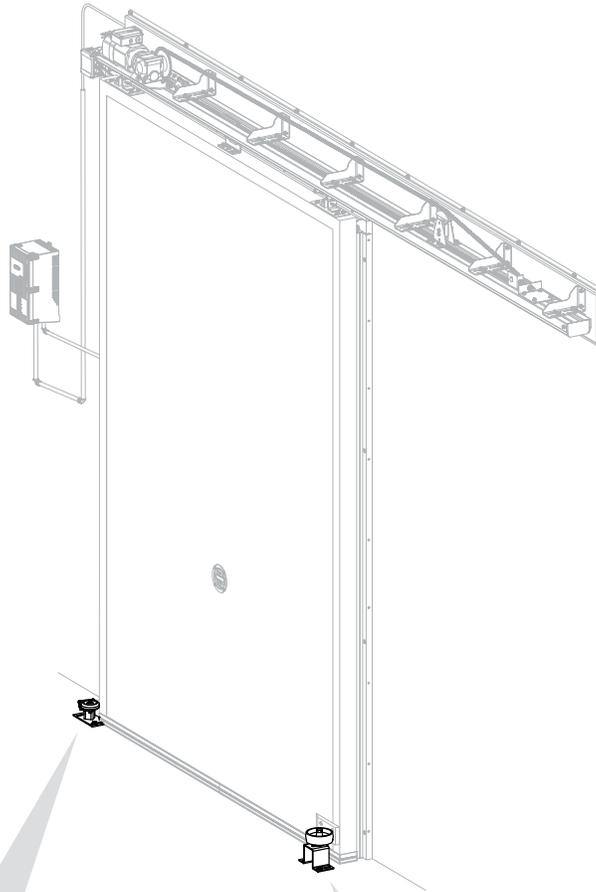
1091143-0
TENSIONER L BRACKET, TSLIDE

1091141-0
SPRING HANGER, TSLIDE

1091140-0
IDLER ASSEMBLY, NON-DRIVE, TSLIDE

1091142-0
IDLER SPROCKET,
NON-DRIVE, TSLIDE

Stay rollers all doors



Recommended stock parts for Turbo-Slide service

Part Number	Rytec part listing	Description	Quantity
1091130-0	CHAIN RELEASE ASSEMBLY, TSLIDE	Chain disconnect assembly	2
1091134-0	EXTENSION SPRING, TSLIDE	Extension spring for disconnect	4
1091142-0	IDLER SPROCKET, NON-DRIVE, TSLIDE	Idler sprocket	4
1091150-0	Assy, Door Swivel Hanger, TSLIDE	Assembled swivel hanger	2
1091160-0C	Door Trolley Assembly, TSLIDE	UR trolley assembly	4
1091162-0	5/16" MACHINED STEEL SHAFT	2A 5/16" Axle assembly	16
1091163-0	72MM DIA 82A WHEEL - ABEC 7 BEARINGS	Trolley wheels	32
1091164-0	Under Roller Bushing	Under Roller Bushing	16
1091170-0	Assy, Stay Roller, TSLIDE	Standard stay roller assembly	2
1091172-0	STAY ROLLER WHEEL, TSLIDE	Standard stay roller wheel	4
1091180-1	Assy, Stay Roller, LH Cam, TSLIDE	Cammed stay roller left assembly	2
1091180-2	Assy, Stay Roller, RH Cam, TSLIDE	Cammed stay roller right assembly	2
1091183-1	LHO SPRING	CSR torsion spring left	4
1091183-2	RHO SPRING	CSR torsion spring right	4
1091184-0	4.00 DIA WHEEL	Cammed stay roller 4" wheel	8

Recommended bulk items for Turbo-Slide service

Part Number	Rytec part listing	Description	Quantity
1091135-0	CABLE, CHAIN RELEASE, TSLIDE	1/16" Stainless Steel Cable	Spool
Generic hardware		1/8" Aluminum Stops (cable ferrules)	50
1091237-0C		Armorlock Patch Kit (black small) a. The Armorlock patch kit has a shelf life of 1 year from date of manufacture; depending on use, we do not recommend having more than 2 at a time. b. You will need to purchase a 50 mil 2-part applicator gun for Armorlock application.	2
1091248-0A		Velcro Hook 2" w/adhesive	100 ft.
Generic hardware		3/4" - #8 Phillips Modified Truss Screws SS	300

Repair kits for door panels

Part Number	Rytec part listing
P1091237-0A	PANEL PATCH,12 X 12,WHITE, COLD CHAIN
P1091237-0B	PANEL PATCH,12 X 12,BLUE, COLD CHAIN
P1091270-0A	ARMOR LOCK, PRE-MADE, 4" WIDE, LINEAL FT
P1091237-0C	ARMORLOCK PATCH KIT,BLACK,SMALL CC#F0034
P1091237-0D	ARMORLOCK PATCH KIT,BLACK,LARGE CC#F0035

TURBO-SLIDE® 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 **Turbo-Slide® 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 One (1) Year from the date of shipment of the Product from the Seller's plant ("Shipment"). Note: Motor assembly is a mechanical component.
- **Electrical components** for a period of One (1) Year from Shipment.
- **Standard door panel assemblies** for a period of Five (5) Year from Shipment.
- **Seals, including sweep seal, bulb seal and leading edge seals**, 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: <ul style="list-style-type: none"> (a) The Product is modified in a manner not approved in writing by Seller; or (b) Buyer fails to maintain the Product in accordance with instructions contained in the Owner's Manual for the Product. © Rytec Corporation 2023

WARRANTY

Owner's Manual

Turbo-Slide® Doors



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