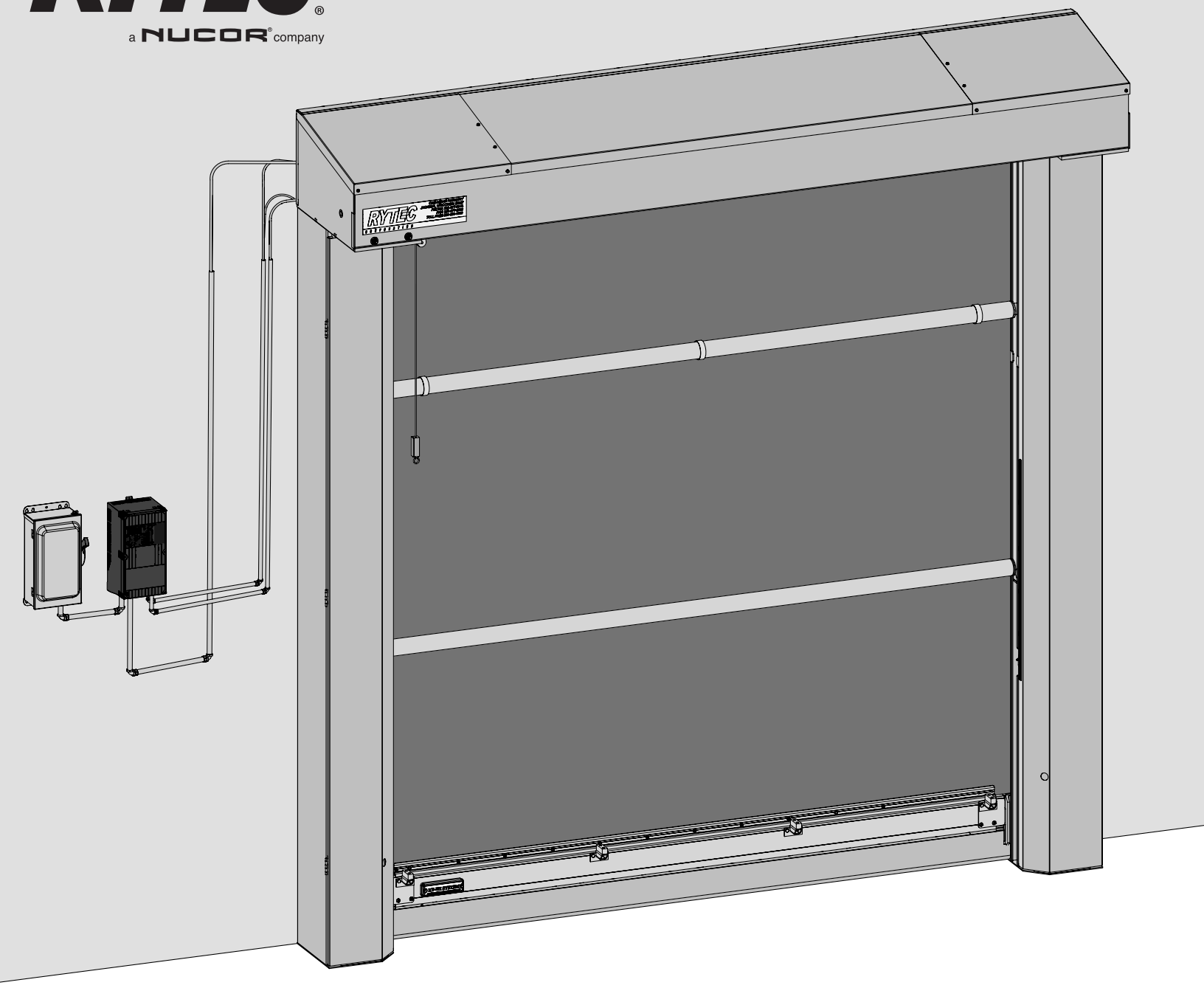
RYTEC®
a NUCOR® company



Owner's Manual

Fast-Seal® (Model FS1000) Doors

	⚠ 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.

1020811-0
Rev 01 12/25
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The information contained in this manual will allow you to operate and maintain your Rytec Fast-Seal® 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.

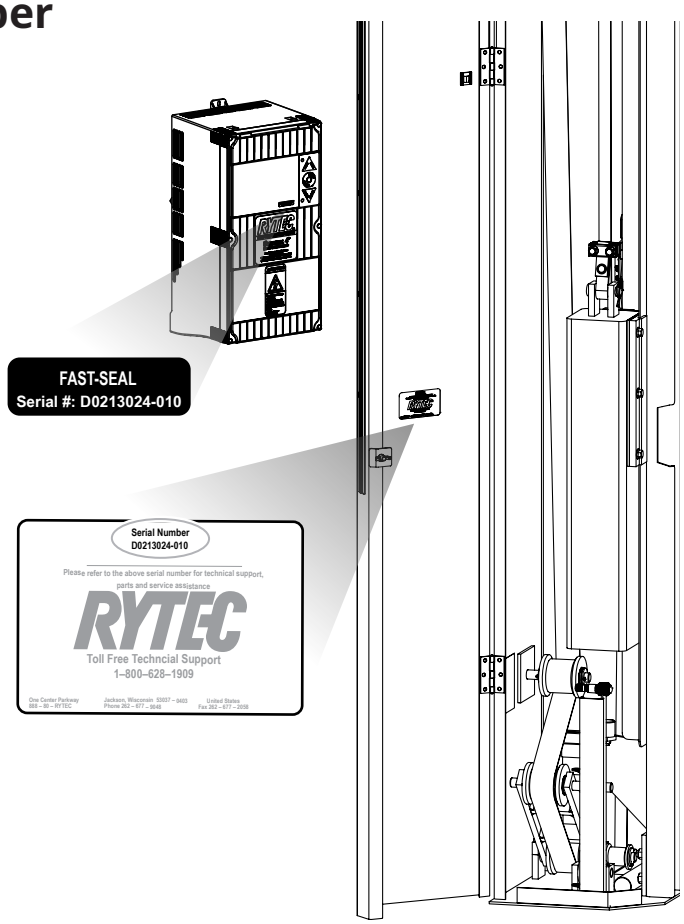
How to find the serial number

IMPORTANT

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

There are labels displaying the serial number in several locations on the door.

The easiest labels to locate are at roughly eye level, inside the side column covers on both sides of the door, and at the bottom of the display on the controller.

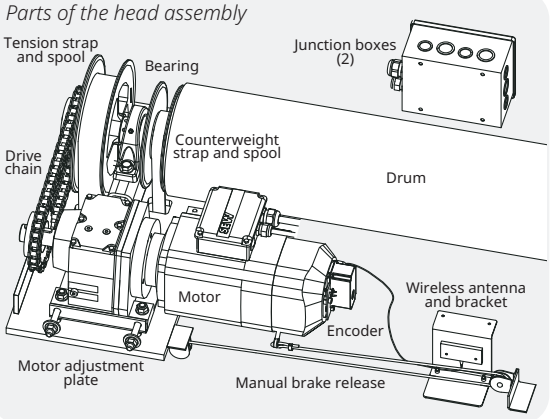


Rytec naming conventions

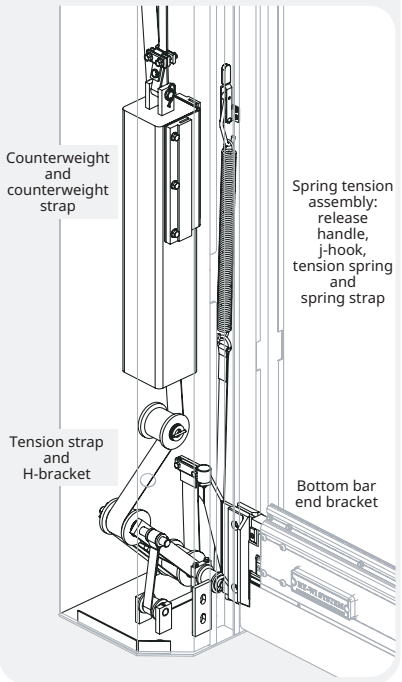
The illustration on this page shows the terms used by Rytec technical support to refer to the major components of your door.

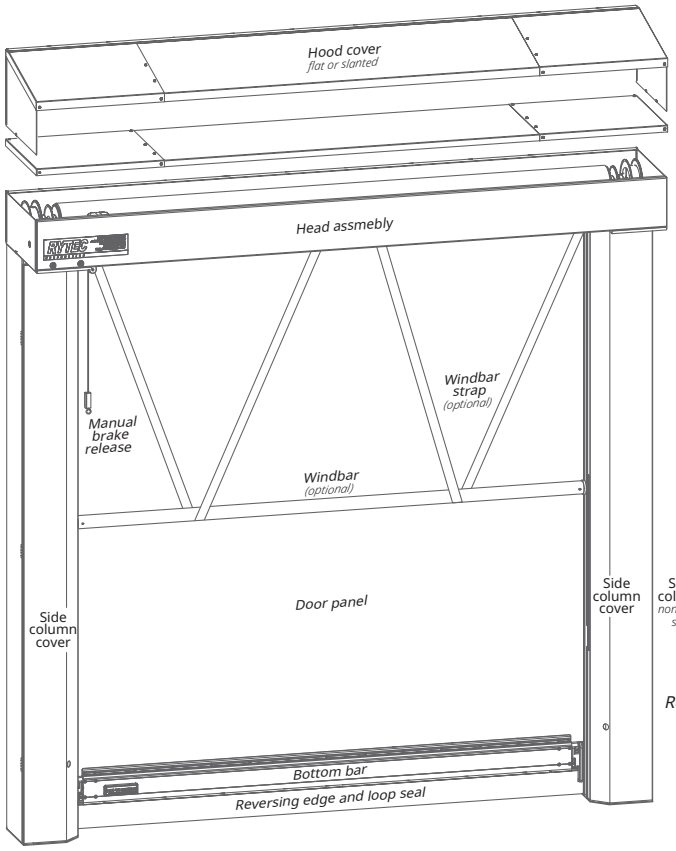
Using these terms helps technical support to provide assistance as quickly as possible.

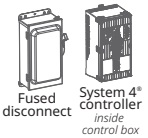
Parts of the head assembly



Parts of the side column - inside view





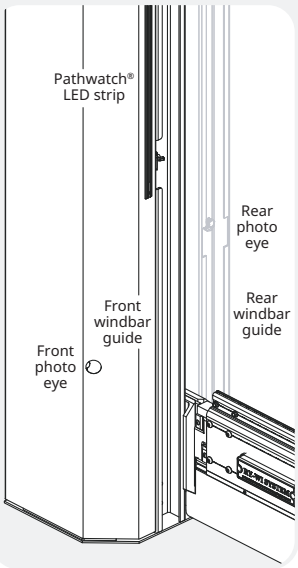


NOTE:
Unlinke most Rytec doors, Fast-Seal does not have left (LH) and right (RH) configurations

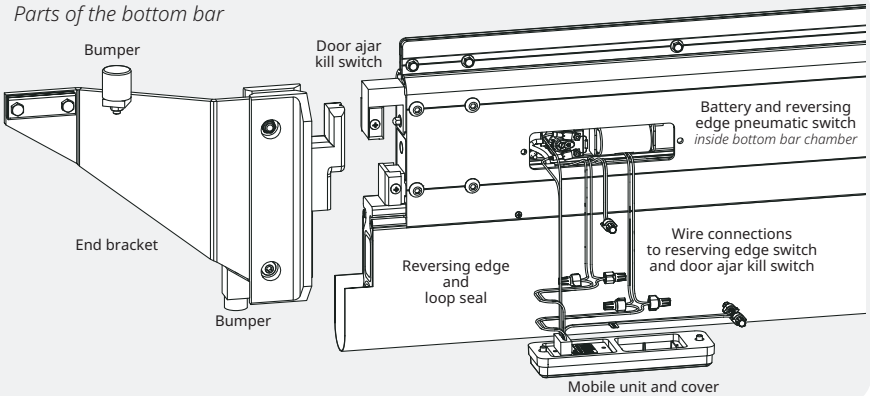
Rear

Front
head assembly side

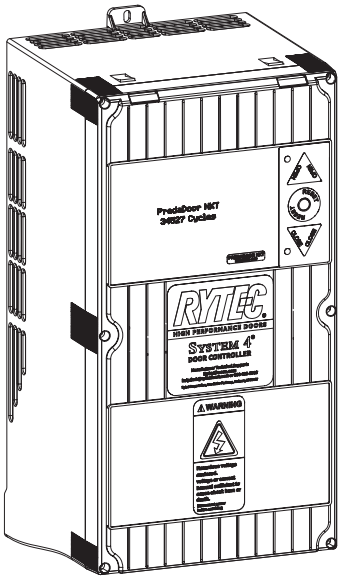
Parts of the side column - outside view



Parts of the bottom bar



The System 4® controller



The Fast-Seal 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, and alert systems.

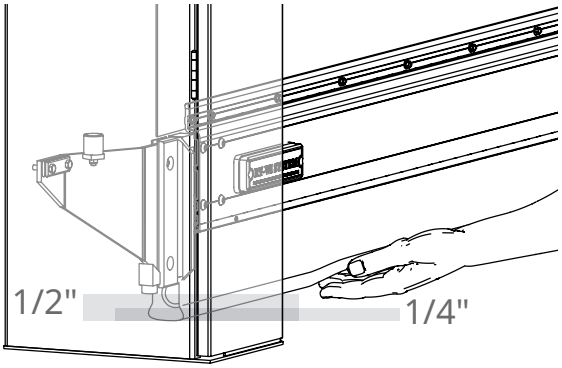
Door performance can be customized to meet the needs of any installation.

The open and close limits

The heights 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.

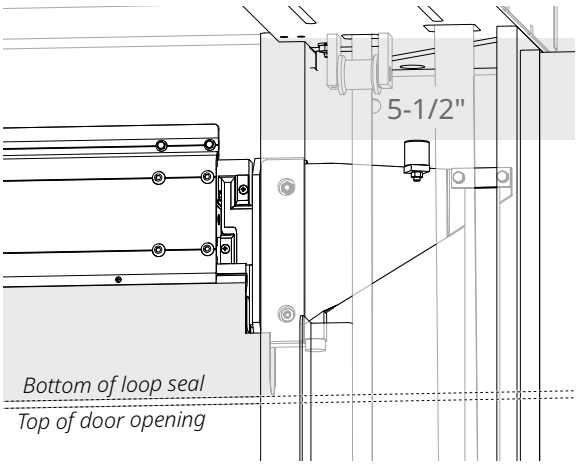
The limits should be checked periodically and adjusted if necessary.

For Fast-Seal, the door is at the correct **close limit** when the **bottom of the loop seal** rests on the floor with a slight bulge so that there is a complete seal, and the **reversing edge** is 1/4" above the floor (finger width).



At this height, the **bottom bumper on the end bracket** should be 1/2" above the baseplate of the side column.

The door is at the correct **open limit** when the **bottom of the loop seal** is just above the top of the door opening, and the **upper bumper on the end brackets** are 5-1/2" below the top plates of the side columns.



Move at least ten feet from the door to check the height.

The counterweights

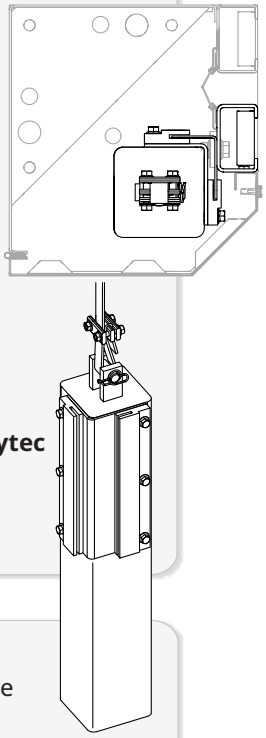
The Fast-Seal uses a set of counterweights in the side columns to balance the weight of the door panel when it opens and closes.

The counterweights are connected to the same drum and idler as the door panel by a pulley system that rolls up and unrolls in the opposite direction to the door panel.

Counterweights on large doors can be heavy enough to require caution when performing service inside the side columns.

Fast-Seals with 14" side columns *(smaller size)*: counterweight is squared and has guide brackets on two sides, holding it in place in the L-shaped guide track welded to the back of the front windbar guide.

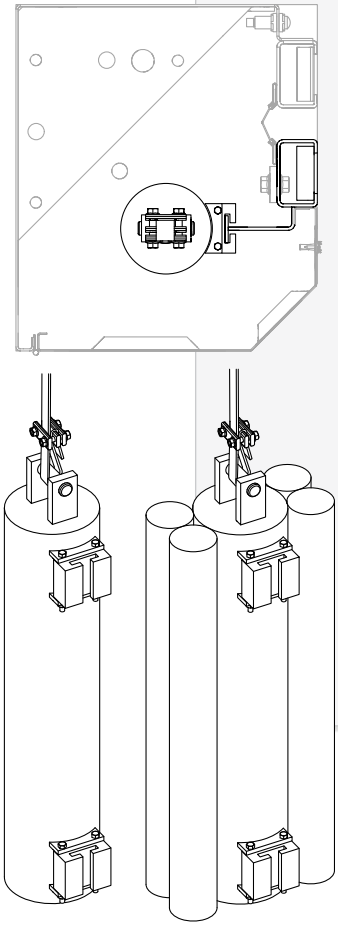
The counterweight is **fully assembled at Rytec** and must be partially disassembled during installation.



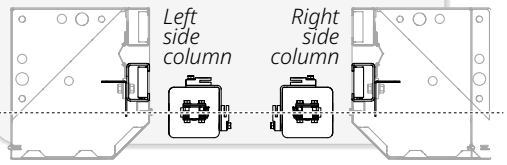
Fast-Seals with 17" side columns and larger 14" side column doors: counterweight is cylindrical and has a single set of guide brackets holding it in place in the T-shaped guide track welded to the back of the front windbar guide.

On larger, heavier doors, the counterweight may be made up of **multiple cylindrical weights.**

The guide brackets and hardware are in the **small parts box.**



For these14" doors, make sure to place the counterweights in the side columns so that the brackets are to the rear and inside of the door, and the clevis pins are parallel to the door panel.



The windbars

Windbars provide structural support for the door panel in high pressure installations.

Unlike most Rytec doors, where the windribs are integrated into the door panel, the windbars in Fast-Seal have separate front and rear guide tracks. The door track is the space between these two guide tracks, which are present whether or not the door has windbars.

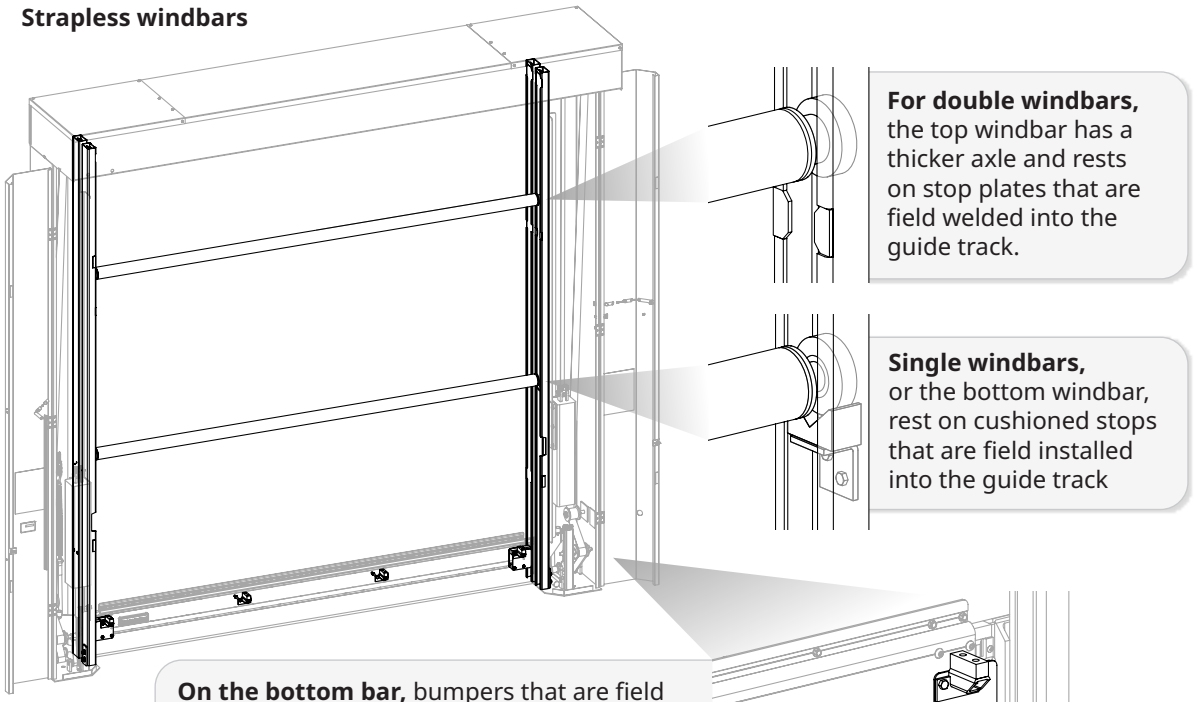
Fast-Seal doors can have windbars in front of the door panel, behind the door panel, or both.

There are two types of windbars: strapless and strapped

Strapless windbars are held in place by brackets installed into the windbar guide tracks Bumpers mounted on the bottom bar raise and lower the windbar as the door moves up and down.

There can be **single or double** strapless windbars.

Strapless windbars



For double windbars, the top windbar has a thicker axle and rests on stop plates that are field welded into the guide track.

Single windbars, or the bottom windbar, rest on cushioned stops that are field installed into the guide track

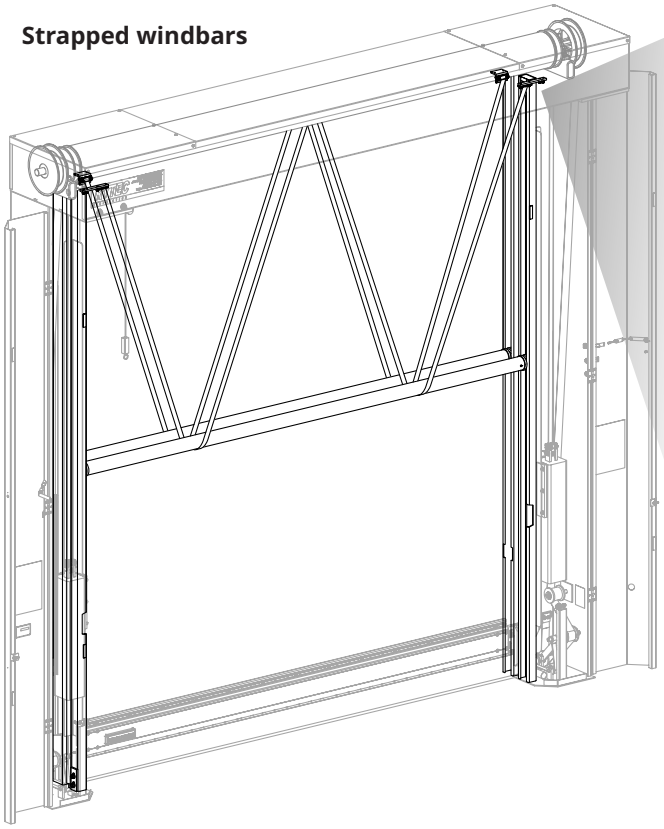
On the bottom bar, bumpers that are field installed onto the bar lift, then lower the windbars as the door raises and lowers.

There are cover plates at both ends of the bar that prevent the end brackets from detaching, and the door ajar system is deactivated.

Strapped windbars are held in place by straps that roll and unroll with the door panel, raising and lowering the windbar with the door panel.

There can only be one strapped windbar per side of the door panel.

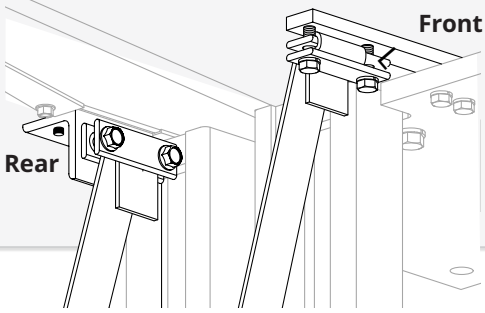
Strapped windbars



There are two straps per side, with one end of each rolled around the drum with the door panel, and the other clamped to the head assembly next to the side column.

For front straps, the clamp assembly is field installed and is in the **small parts box.** The clamp assembly for rear straps is preinstalled at Rytec.

A typical strapped windbar configuration includes **both front and rear windbars,** but there may be only one, or a strapped windbar on one side of the door panel may be combined with a strapless windbar on the other.



Many combinations of strapless and strapped windbars are possible

- Single strapless, front, rear, or both sides
- Single strapless on one side, double strapless on the other
- Double strapless, both sides
- Strapped (single only), front, rear or both sides
- Strapped on one side, single strapless on the other

The door ajar breakaway system

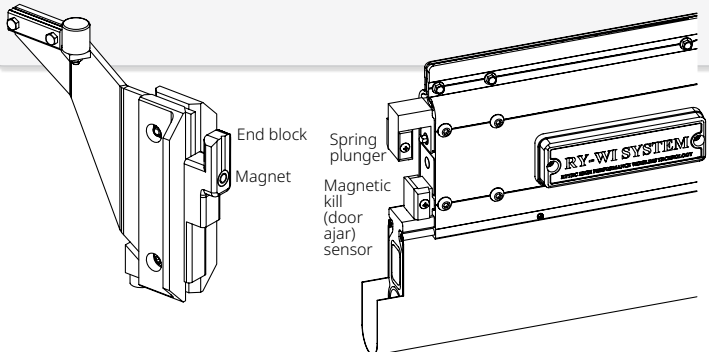
The Fast-Seal was the first door to feature a door ajar breakaway system, and features the first design for a breakaway bottom bar.

The end brackets detach from the bottom bar when the door panel is struck. A magnetic kill switch in the bottom bar senses that the end bracket has separated and stops the door. There are kill switches on both sides of the bottom bar, so the door stops even if only one end bracket has separated.

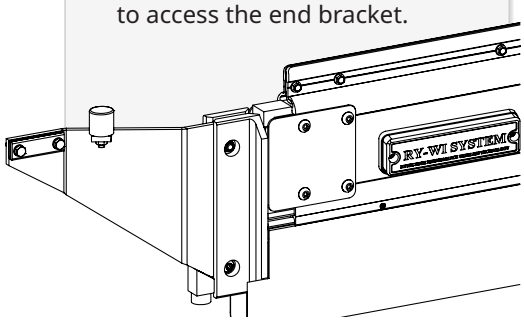
The bottom bar must be reassembled before the door can return to service.

On doors that are wider than twenty-four feet, or that feature strapless windbars, this system is deactivated and the end brackets are secured to the bottom bar by steel cover plates.

- The end brackets have a **z-shaped end block** that slots into the end block in the bottom bar.
- A **spring-loaded plunger** snaps into the notch in the end block to secure the end bracket in place.
- On contact, the end brackets **remain in the door track** while the rest of the bottom bar swings freely.
- A **magnetic sensor** in the bottom bar senses that the magnet in the end block has moved away and stops the door.



- The door ajar breakaway system is **deactivated** on doors that are >24' (twenty four feet) wide, or that have strapless windbars (see next section).
- Two **steel cover plates** prevent the end brackets from detaching on contact.
- On these doors, you will need to remove the cover plates in order to access the end bracket.



The obstruction detection systems

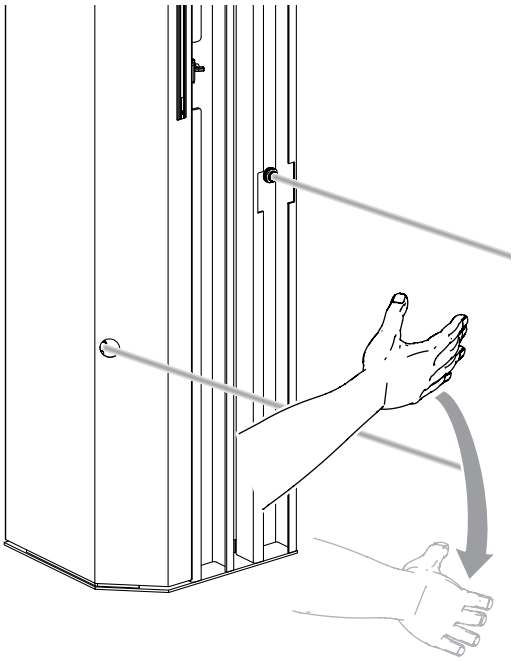
Photo eyes

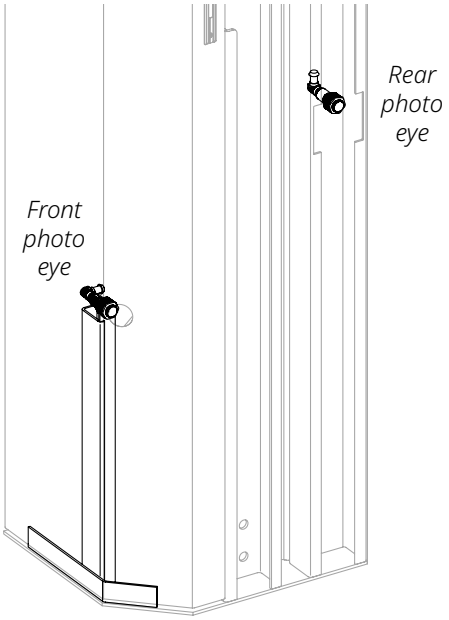
The standard Fast-Seal installation includes two obstruction detection systems which stop, then reverse the door if they are activated.

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 are preinstalled onto the front of the side columns 18 inches above the floor. The rear photo eyes are preinstalled onto the rear windbar guide, 28 inches above the floor.

NOTE: The side column cover must be opened to access and service the photo eyes.

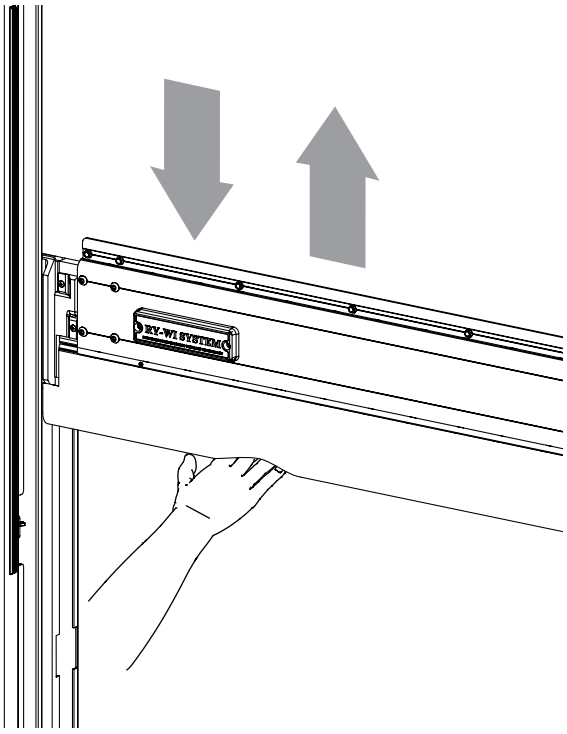




Reversing edge

The **reversing edge** is attached to the bottom bar under the loop seal. It runs the length of the bottom bar.

If the edge hits an obstruction, it actives a pneumatic switch in the bottom bar to stop, then reverse the door. The door then cycles normally and closes.



SAFETY

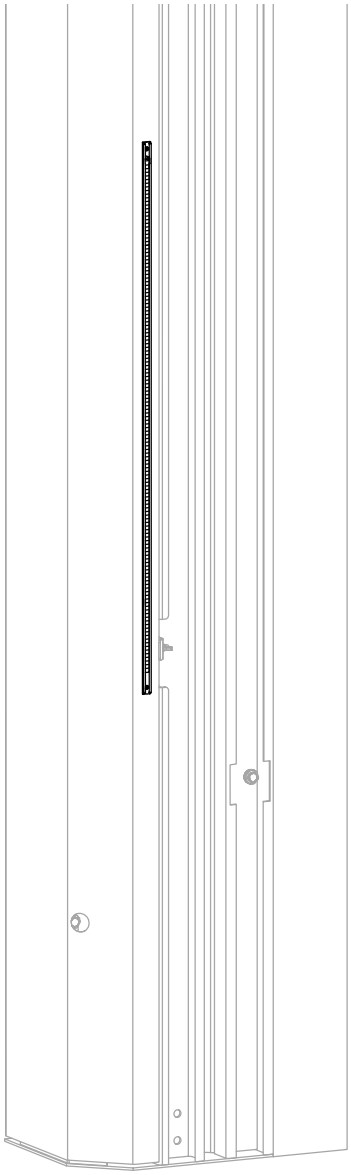
The alert system

The **Pathwatch® LED strip**, mounted on both side columns, alert users when the door is active. The strips flash in the following ways:

- **Before the door closes:** blinking yellow for three seconds
- **While the door closes:** continuous red until the door stops

The Pathwatch strip is mounted on the inner edge of the side column cover, in front of the front windbar guide. The strips face into the door opening.

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

CRUSH AND BODY CRUSH HAZARD

BEFORE WORKING ON THE DOOR:

- **Make sure the high voltage fused disconnect** has been set it to the OFF position and a lockout/tagout has been performed.

WHEN WORKING ON THE DOOR:

- **Make sure** the door panel is secured at all times, proper procedures and safety measures are followed, and tools meet recommended specs.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY

⚠ WARNING

FALLING HAZARD

- **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.

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY

⚠ CAUTION

CRUSH HAZARD

KEEP HANDS CLEAR OF PINCH POINTS

- **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.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY

⚠ WARNING

CUT AND BLADE HAZARD

KEEP HANDS CLEAR OF ALL BLADES AND SHARP EDGES

- **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.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY

⚠ WARNING

FORK LIFT

- **Make sure** fork lift operators are certified for the lift in use, that the forklift is rated for at least the Rytec® standard of 4,000 pounds, and that non-service personnel are clear of the work area.
- **Follow** all proper procedures and safety instructions.

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY

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.

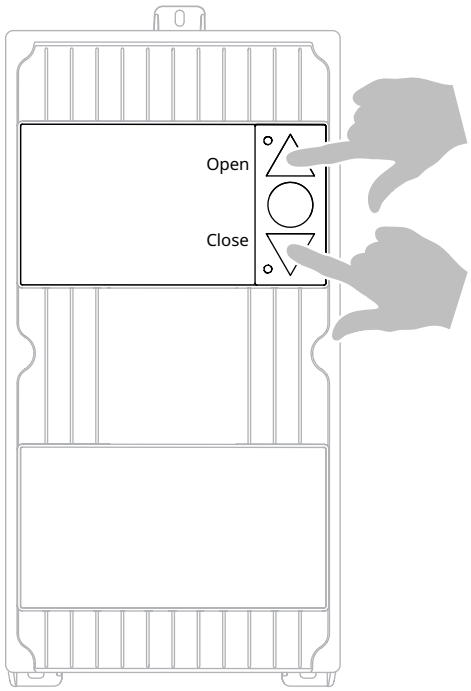
- Maintenance of the door and the control system is to be done by trained, qualified and authorized individuals only.
- Make sure all routine maintenance is performed as scheduled in the instructions for the door.
- Make sure the power disconnect is set to the OFF position and a correct lockout/tagout 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

	Indicates instructions which, if not followed, could result in **damage to the door** or **voiding of the warranty.**
	Indicates **best practice.** This is how Rytec Technical Support does the job.

How to open and close the door using the System 4 controller

The System 4 controller should be installed within sight of the Fast-Seal door.

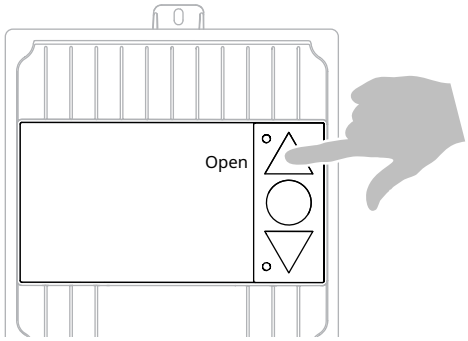


- **Press the UP arrow** to manually open the door.
- **Press the DOWN arrow** to manually close the door.
- Under normal operating conditions, the door should always **close automatically.**

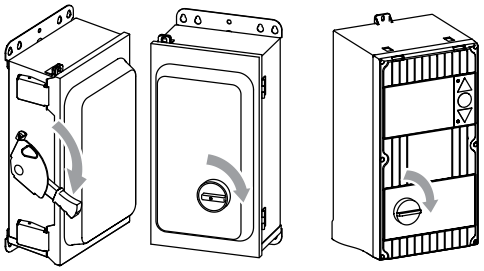
Under normal operating conditions, it should not be necessary to use the System 4 controller. Rytec offers a wide range of automatic and manual activators designed to fit the specific requirements of the installation. Call Rytec Technical support at **800-628-1909** if you have questions about the activators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

How to hold the door open

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.



Fused disconnect

System 4 controller

3 **Perform a lockout/tagout.**

⚠ CAUTION

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

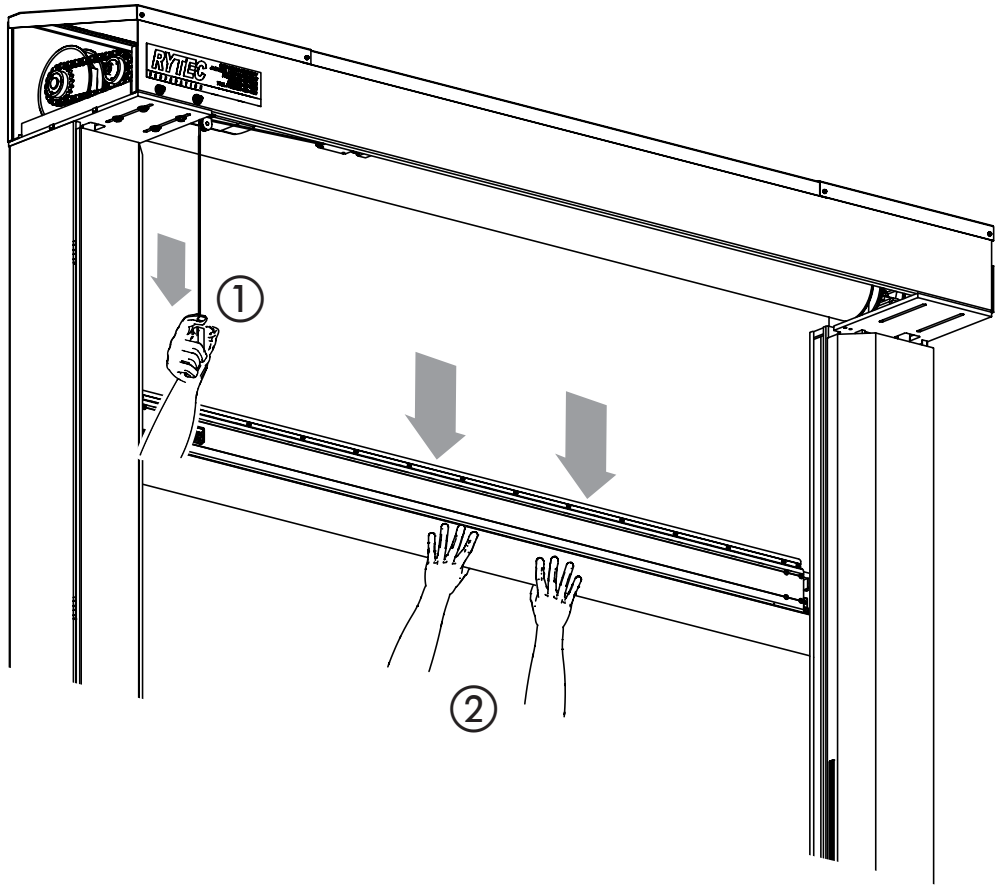
OPERATION

How to open and close the door manually

1 **Pull down** on the brake release cable ① to free up the door panel to move.

The weight of the door panel is balanced by the counterweight, so the door can be pulled up or down manually ②.

Release the brake release cable when the door panel is at the desired height.

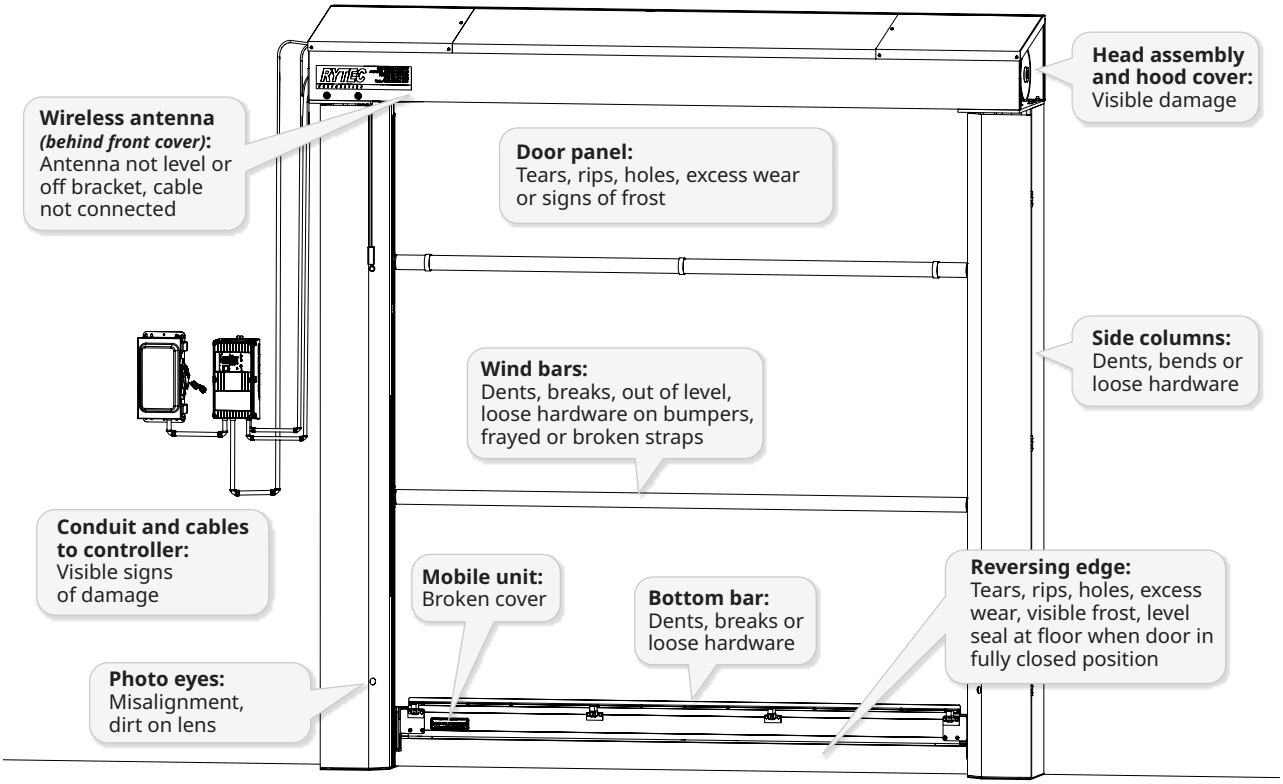


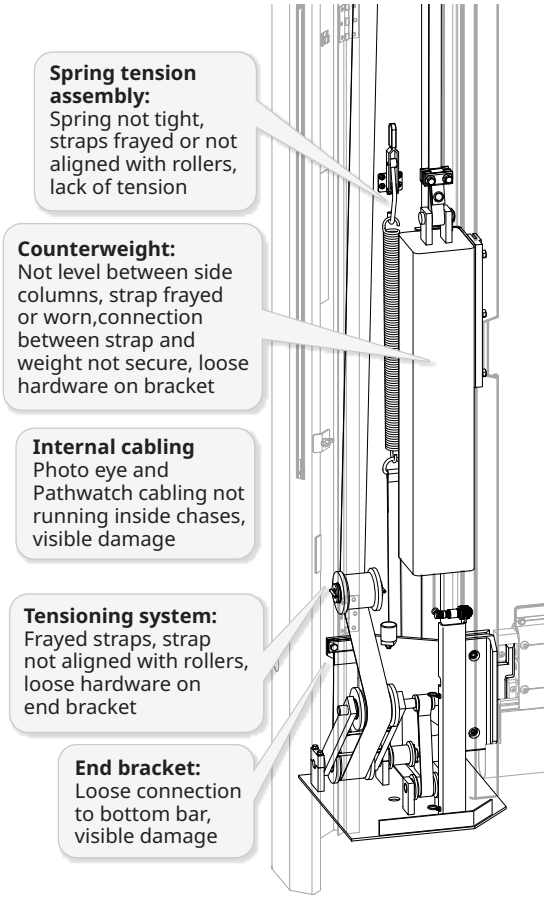
Recommended inspection and maintenance schedule

Action	Daily	Quarterly
Inspect visually externally for damage: door panel, windbars, side columns, bottom bar, wireless antenna, cables and conduit		
Inspect visually inside the side columns for damage: counterweight system, tensioning system, cables and wire chases		
Test door operation		
Test reversing edge		
Test photo eyes; clean if necessary		
Visually inspect controller, cabling and conduit		
Inspect hardware; tighten where necessary		
Visually inspect the end bracket assemblies, tensioning system, and spring tension assemblies		
Visually inspect the bottom bar, including the door ajar breakaway components on both ends, the mobile unit, the reversing edge switch, the battery, and all internal wiring		
Test the battery voltage		
Visually inspect the rear brush seal in the head assembly		
Visually inspect all parts of the counterweight assemblies		
Visually inspect the motor, drive chain, and drum in the head assembly		
Lubricate all bearings		
Inspect anchoring; tighten where necessary		
Check condition of safety labels		
Check open and close limit; adjust if necessary		
Test photo eyes; clean or realign if necessary		
Test reversing edge and door ajar breakaway systems; adjust if necessary		
Test brake and brake release		
Perform or schedule routine or required 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 side columns, head assembly and wireless antenna for signs of damage or excessive wear as detailed in the illustration.

2. **Inspect** the door panel, door track, bottom bar and reversing edge for damage or signs of excessive wear as detailed in the illustration.

3. **Inspect** the windbars and all parts of the windbar assembly for damage or signs of excessive wear as detailed in the illustration.

4 **Open** the side column covers and **inspect** the counterweight system, tensioning system and spring tension assembly in each side column.

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

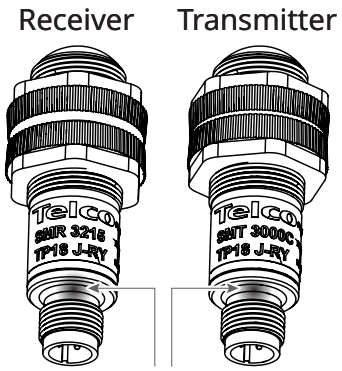
- **Make sure** the door panel rises to the fully open position, remains in place for the standard time, and then closes to the fully closed position.
- **Make sure** the reversing edge is level when the door is fully closed.
- **Repeat** for each activating device.

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

- **Unusual noises** such as grinding, whining or excessive motor noise
- **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 or door panels.
- **Unexpected delay** in activation or unusually long time period before automatically closing.

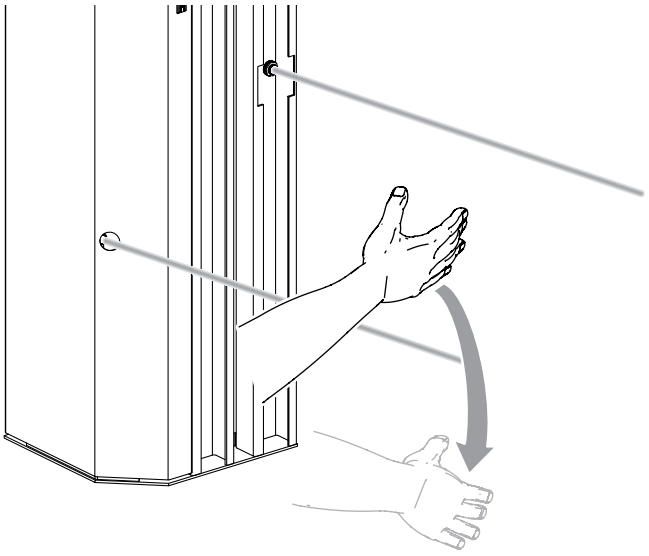
7 **Check** the LED lights in the front transmitter and receiver (rear pair are not accessible).

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



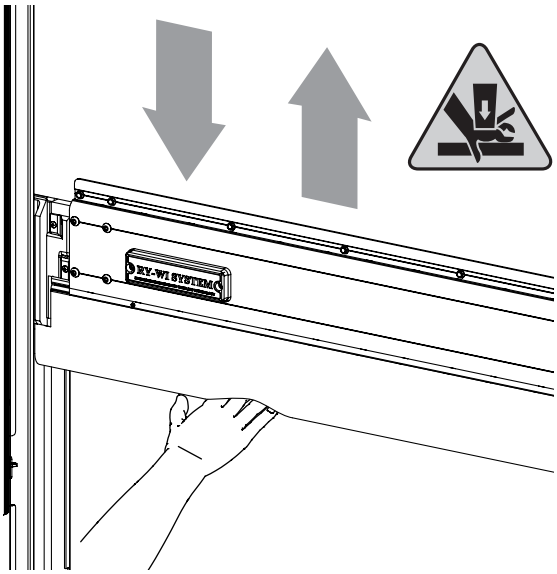
8 While the door is closing, **break the beam** on each set of photo eyes.

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

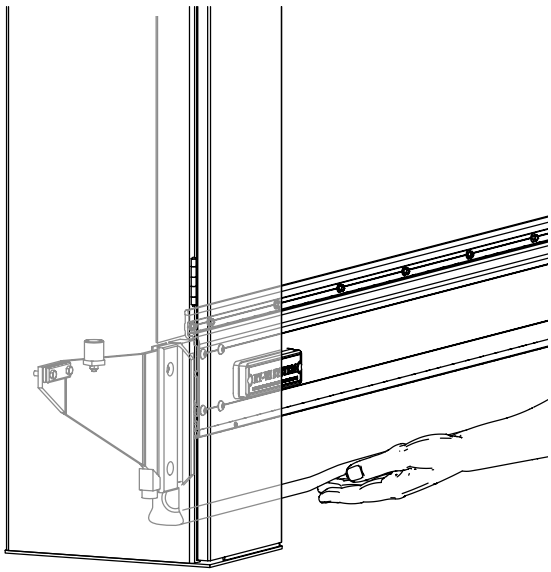


9 **Place your hand** in the path of the closing door panel, above the photo eye beams, and allow the reversing edge to hit it.

- The door panel should stop, reverse, then run through the delay timers and close normally.

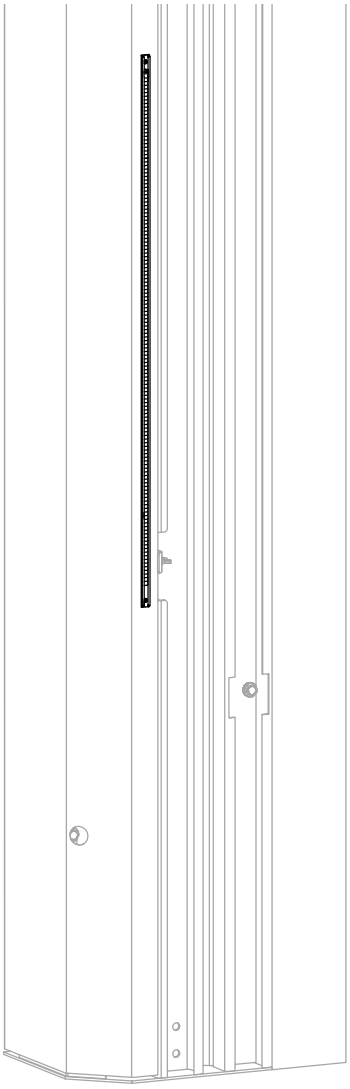


10 **Run your fingers** along the bottom of the reversing edge when the door is in the fully closed position to make sure there is a tight seal to the floor the entire length of the edge.



11 **Observe** the Pathwatch LED strips on both side columns as the door opens and closes.

- **Before the door closes:** strips flash yellow for three seconds.
- **While the door closes:** strips glow continuously red until the door stops.

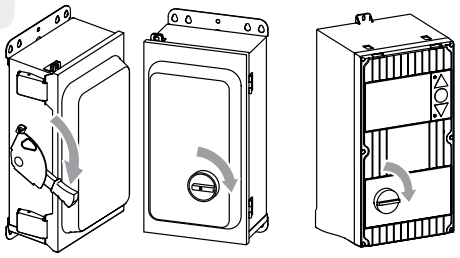


Daily cleaning - if required

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

2 If the door panel or side columns require cleaning:

1: 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

2: Use a mild non-abrasive solution of soap and warm water.

3: Grease or oil-based buildup may require using a commercial grade cleaner/degreaser.

4: Apply the cleaning solution to the dirty area by spraying, or with a damp microfiber cloth.

5: Reapply until the dirt is removed or the grease breaks up.

6: Rinse lightly with a water spray, then **wipe down** with a clean, damp microfiber or lint-free cloth.

7: Use a clean and dry microfiber or lint-free cloth to dry the cleaned area.

8: When the area is dry, **restore** power to the door.

Quarterly maintenance

This section is a **step-by-step breakdown** of the most efficient inspection, tightening, testing and lubricating routine for the door. It shows you how to perform all maintenance procedures in one area before moving to the next, in a logical sequence.

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

IMPORTANT

Contact Rytec Technical Support at **800-628-1909** or e-mail **rytec.helpdesk@nucor.com** if you have any questions at any time during service of the door. **See** page 6 for a list of Rytec terms.

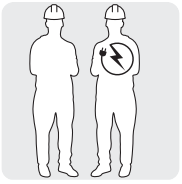
Safety

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

Electrical work must meet all applicable local, state and national codes.

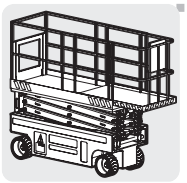
Failure to wire the door correctly can cause shock, burns or death to the people who install, use or service the door.

Failure to comply also voids the warranty for the door.

Requirements – Lifts

⚠ WARNING

Follow all safety instructions on all lifts and ladders used for this installation.



- **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

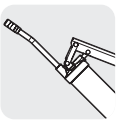
Additional tools may be required to perform maintenance after inspections and tests have been done. They will be called out as they are needed.


Multimeter


(2) Vise grips

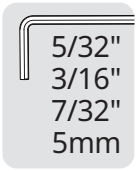

Carpenter's level


Vacuum cleaner

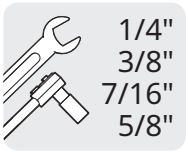

Grease gun


Thread sealant

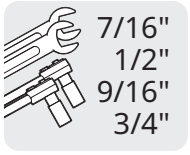
Lubricating oil



Hex wrench



Socket or open wrench



(2) Sockets or wrenches needed

Phillips screwdriver

Quarterly maintenance - visual inspections and tightening hardware

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

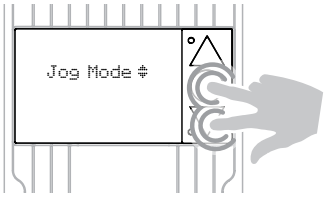
- Do not tighten hardware **unless you can feel that it is loose**, and you can rotate it by hand.
- **Do not overtighten:** tighten only until hardware cannot be rotated with your fingers.
- **Power tools** can be used to loosen hardware, but **should not be used to tighten.**
  - Much of the hardware on the Turbo-Seal Insulated is Tek screws, which can easily be overtorqued and strip out mounting holes.

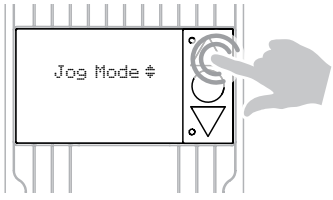

NO POWER TOOLS

1 **Perform** all the visual inspections of the daily inspection.

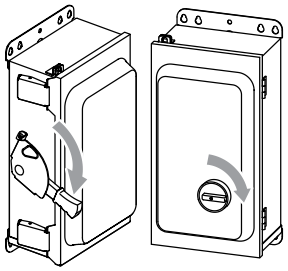
Perform any required cleaning.

2 **Jog** the door to a comfortable working height, then **shut off power to the door** and perform a lockout/tagout.





Fused disconnect



⚠ WARNING

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.**

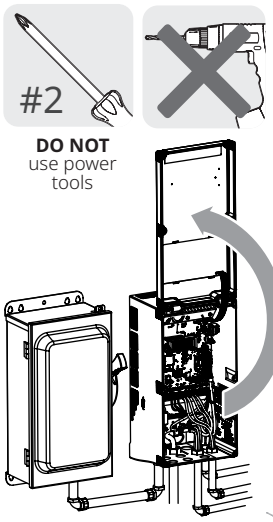
Then wait 5 minutes after performing the lockout/tagout before opening the controller.

Do not set the disconnect switch to the ON position until the controller has been closed and the cover secured.

Failure to comply could result in shock, burns or death.

3

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



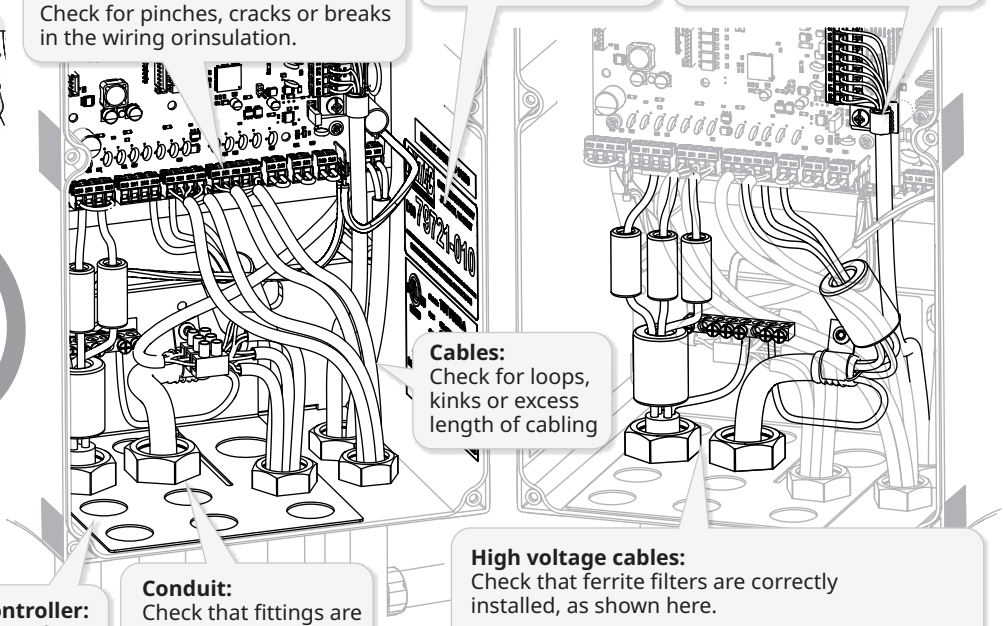
DO NOT use power tools

Wires:
Tug lightly at terminal connections to make sure they are securely set.

Check for pinches, cracks or breaks in the wiring orinsulation.

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

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

High voltage cables:
Check that ferrite filters are correctly installed, as shown here.

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

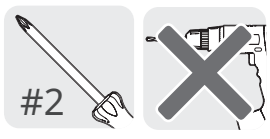
Check that the P-clip makes a secure connection to the motor cable, copper sheath and drain wire.

4

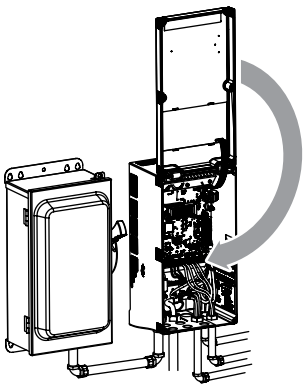
Close and secure the cover of the controller when you are done.

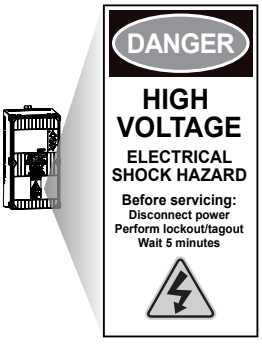
Then **check the condition** of the warning label on the front of the control box. **Make sure** it can be clearly seen and that all text is readable.

Call Rytec technical support at **800-628-1909** if any safety labels need to be replaced.

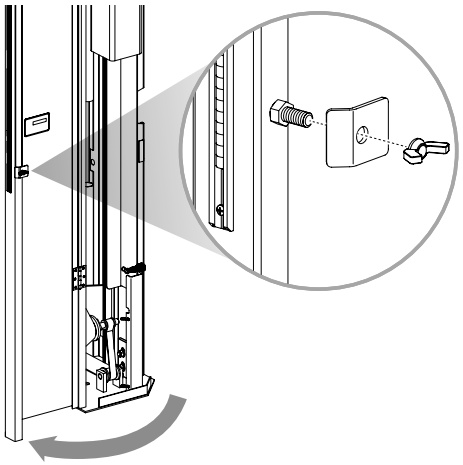


DO NOT use power tools

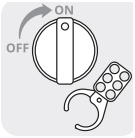




5 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.

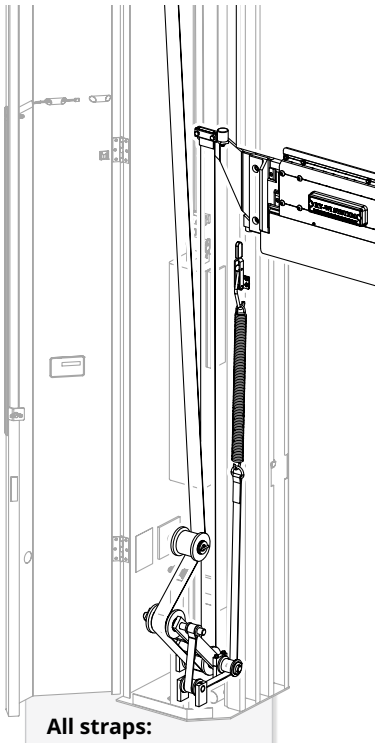


6 **Remove** the lockout/tagout and **restore** power to the door.



7 **Run the door** through several cycles of opening and closing.

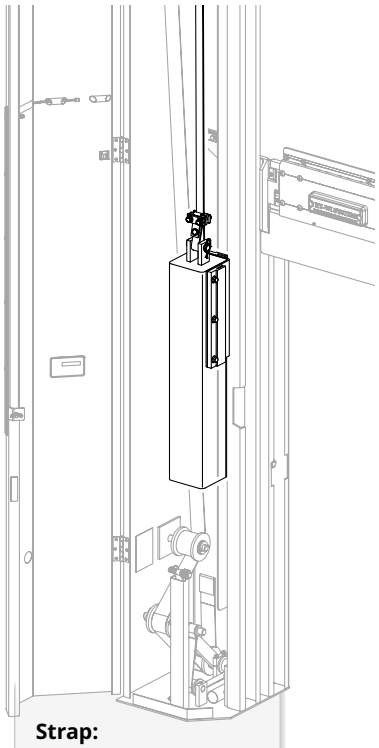
Inspect the components inside both side columns as the door opens and closes.



All straps: undamaged and aligned with rollers

Tension spring: Engaged and undamaged

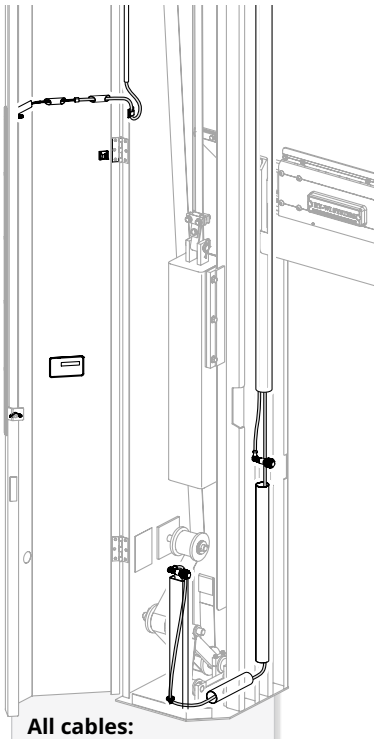
H-bracket: Moves smoothly through cycle and all parts undamaged



Strap: undamaged and securely clamped

Guides: Aligned with guide tracks and undamaged

Counterweight: Moves smoothly through cycle, leaving enough space at top and bottom of run

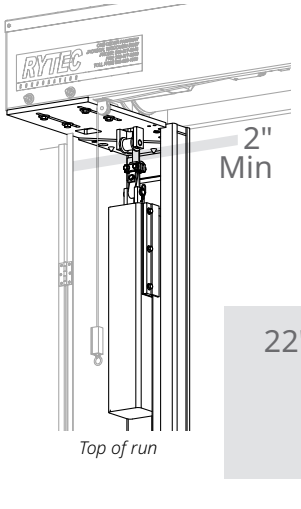


All cables: routed mostly in chases, no loops or wraps of cable exposed to moving parts

Label: Clearly legible and undamaged

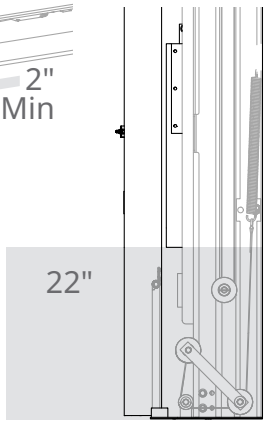
8

Make sure the counterweight operates within the recommended open and close limit, and the tensioning H-bracket moves up and down to the correct heights as the door moves through the cycle.



Top of run

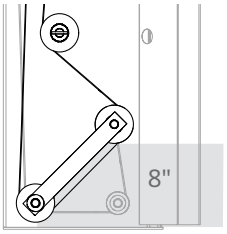
Counterweight



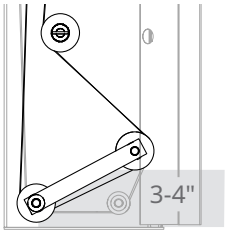
Bottom of run

Ladder or Scissor lift

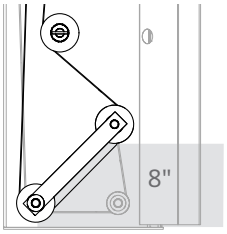
Tensioning system H-bracket



Door fully closed



Door in motion

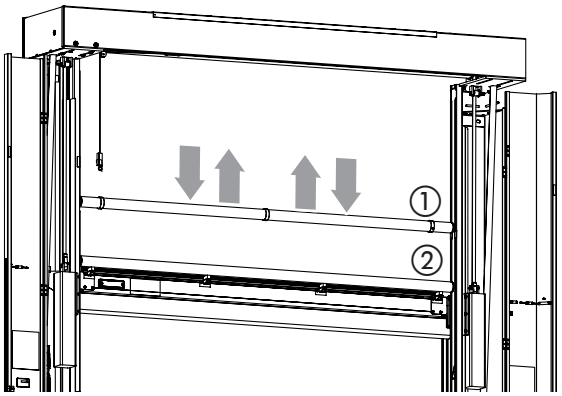


Door fully open

9

On doors with strapless windbars, **make sure** the windbars:

- **Move smoothly** in the guides
- **Stop and rest securely** on the cushioned stop assemblies or stop plates ① when the door panel is lowered
- And **the bumpers on the bottom bar** raise the windbars ② when the door panel is raised



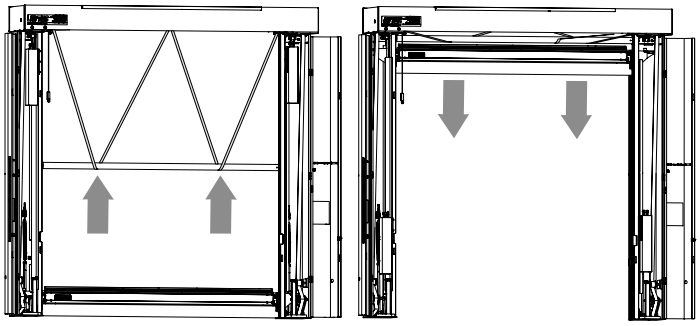
10

On doors with strapped windbars, **make sure** the windbars move smoothly in the guides, and that they are half-way up the door panel throughout the cycle.

If there are **both front and rear strapped windbars,** they must be at the same height.

Check the position of the windbar with the door fully open.

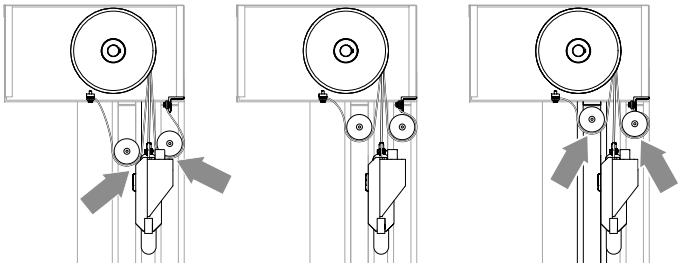
- The windbar should be half-way between the top of the windbar guide and the top of the bottom bar, free of contact.
- The windbar is **too low** if it is making contact with the bottom bar, and **too high** if it is making contact with the strap bracket, the top of the windbar guide, or the rolled-up door panel.



Too low
Windbars make contact with bottom bar

Correct
Windbars free of contact

Too high
Windbars make contact with bracket or top of guides

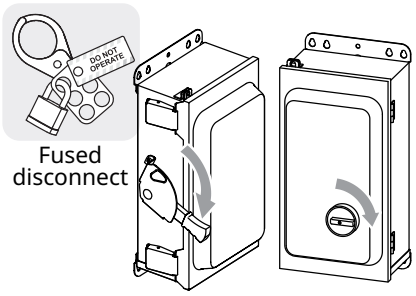


11 **Jog** the door to a comfortable working height.

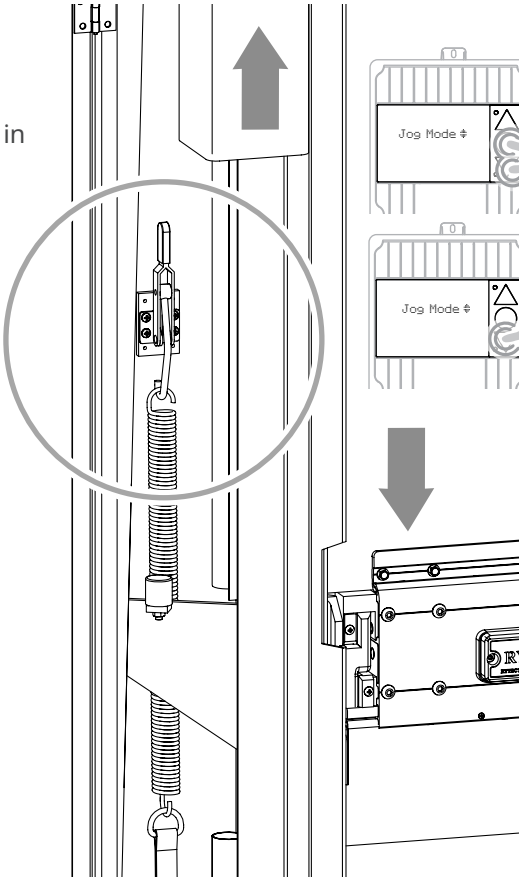
Make sure that both the **counterweights** and the **end brackets** of the bottom bar are clear of the spring release handle of the spring tension system in both side bars.

- You will be pulling down the handle.

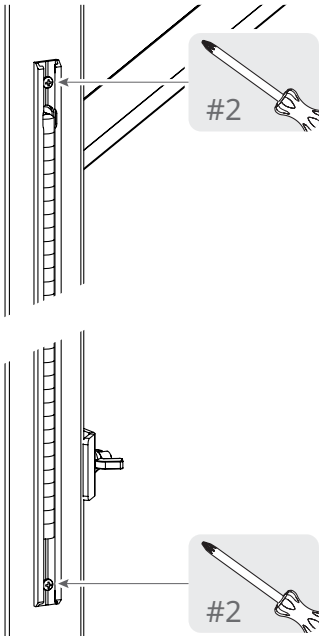
Then **shut off power to the door** and perform a lockout/tagout.



Fused disconnect

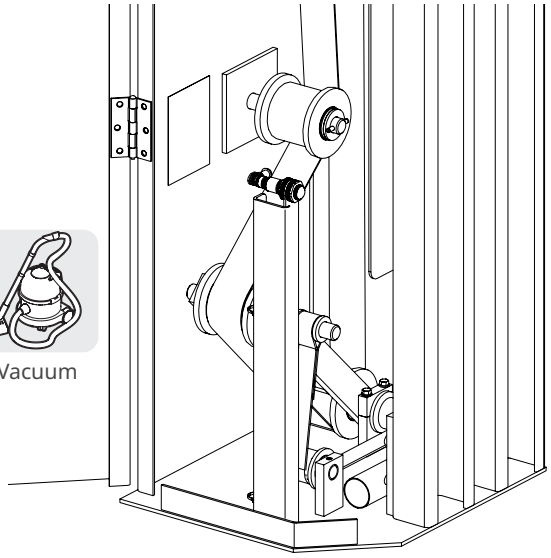


12 **Inspect, and if necessary tighten,** the hardware on the Pathwatch LED strips.

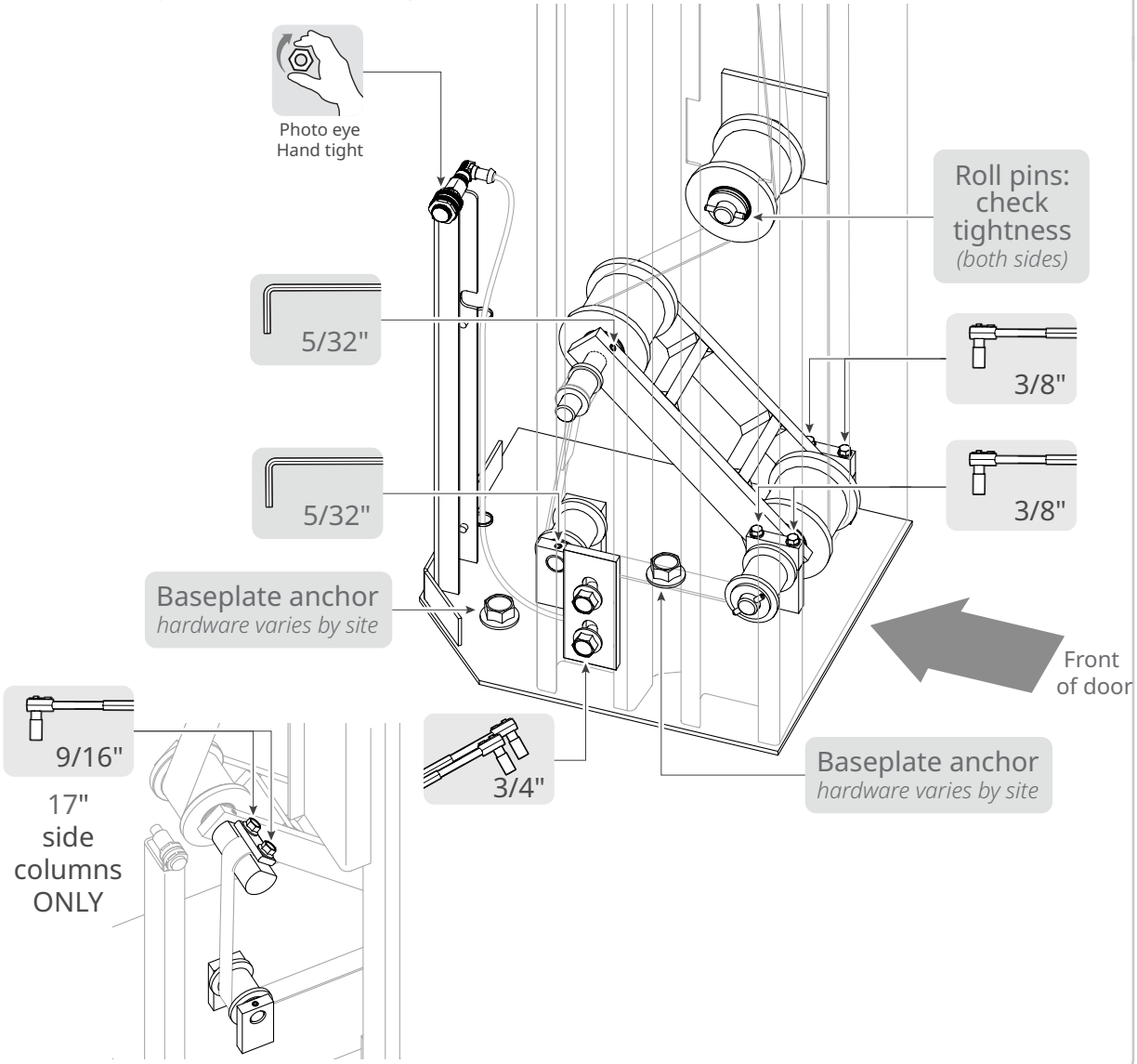


13 If necessary, **clean** the baseplate area of both side columns.


Vacuum



14 **Inspect, and if necessary tighten,** the hardware in the baseplate components as well as the anchoring hardware in the baseplate.

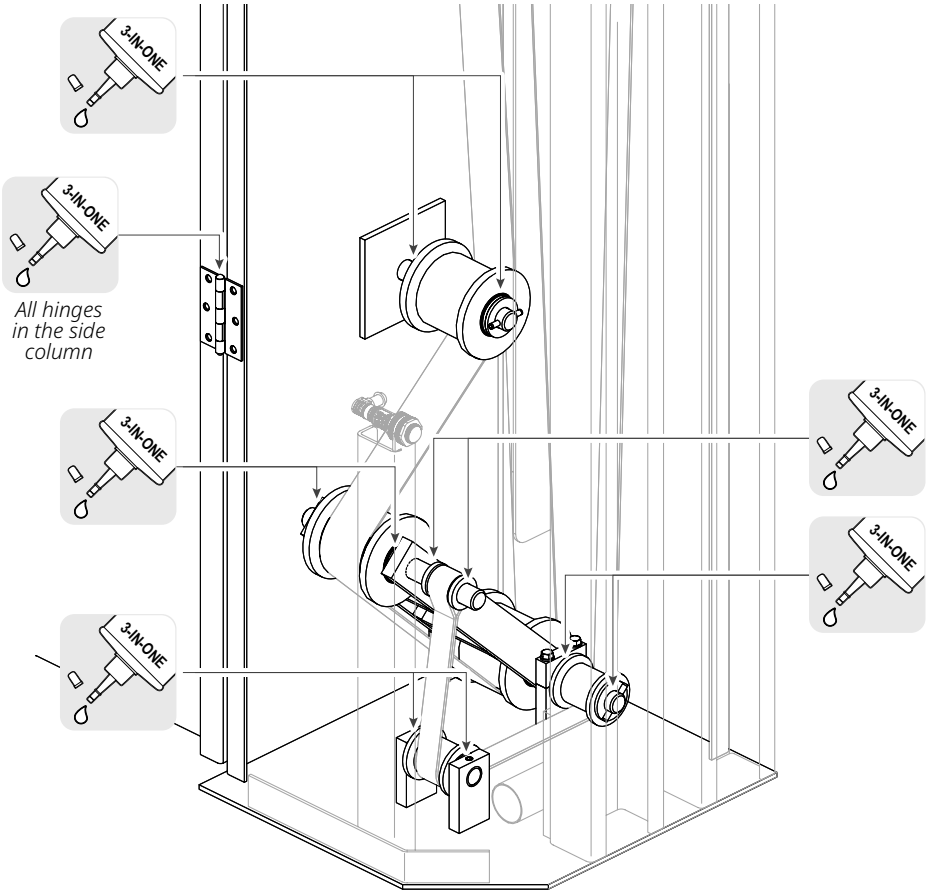


15 **Use a penetrating oil,** such as a 3-IN-ONE oil, to lubricate all axles in the baseplate area and the side column.

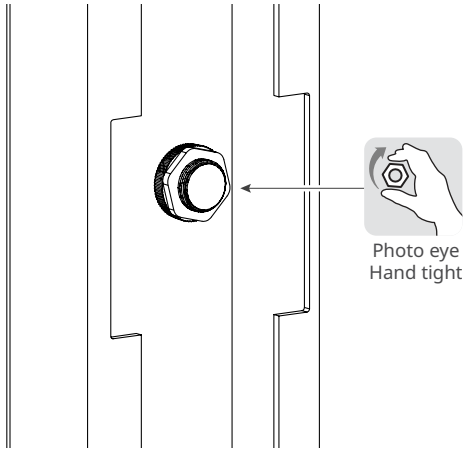
- All **hinge pins** in the hinges for the side column cover
- The **upper tension strap roller**
- Both rollers in the **H-bracket**
- All three rollers for the **spring tension system**

Clean off all lubrication points after applying the oil.

Do this in both side columns.



16 **Inspect, and if necessary tighten or clean,** the rear photo eye inside the rear windbar track.

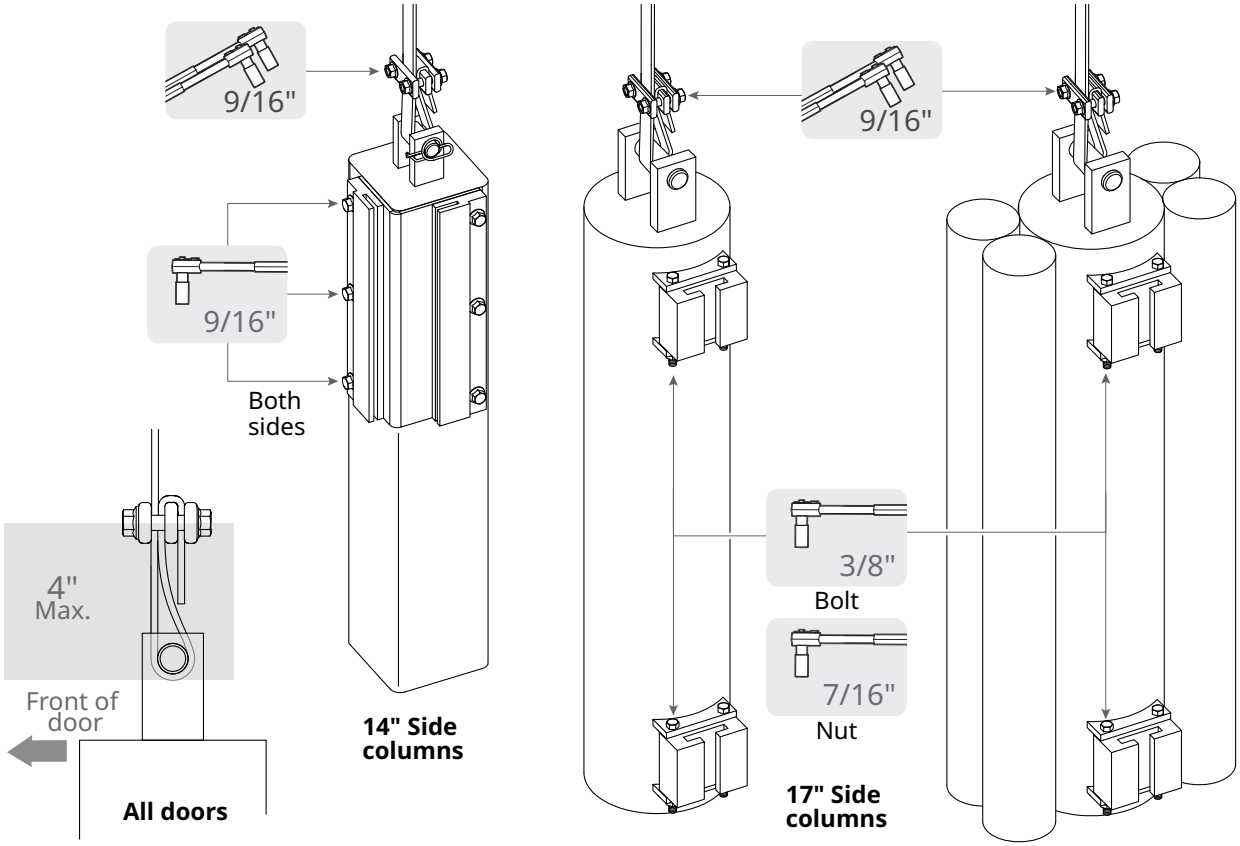


17

Inspect, and if necessary tighten, the hardware for the counterweight strap.

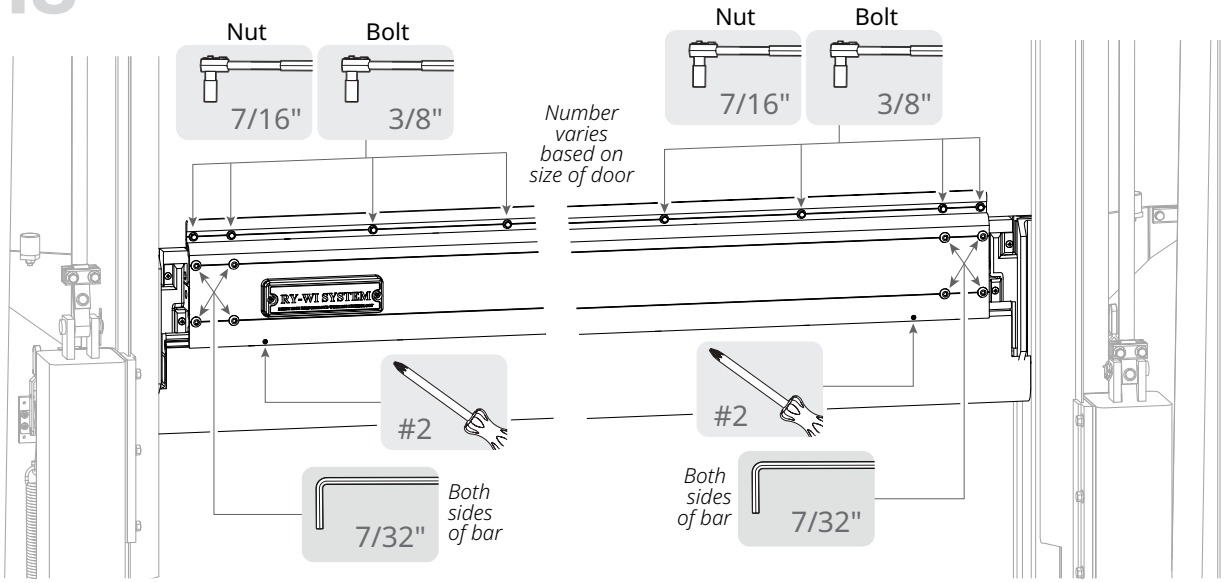
Make sure the strap is looped correctly, and that the strap clamp is the **correct distance** from the counterweight. Also **make sure** the counterweight is securely in its guide(s).

For doors with 14" side columns, **make sure** the cotter pin is in place. **There is no cotter pin** for counterweights in doors with 17" side columns.



18

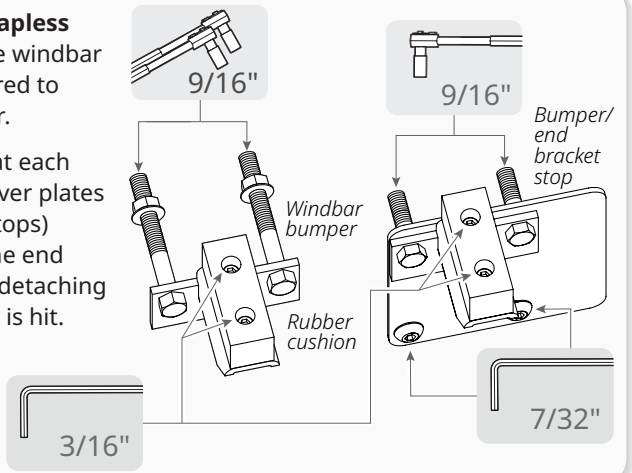
Inspect, and if necessary tighten, the hardware in the bottom bar.



19 For doors with strapless windbars, **inspect, and if necessary tighten,** the hardware securing the windbar bumpers to the bottom bar and the rubber cushions to the bumpers.

Doors with **strapless windbars** have windbar bumpers secured to the bottom bar.

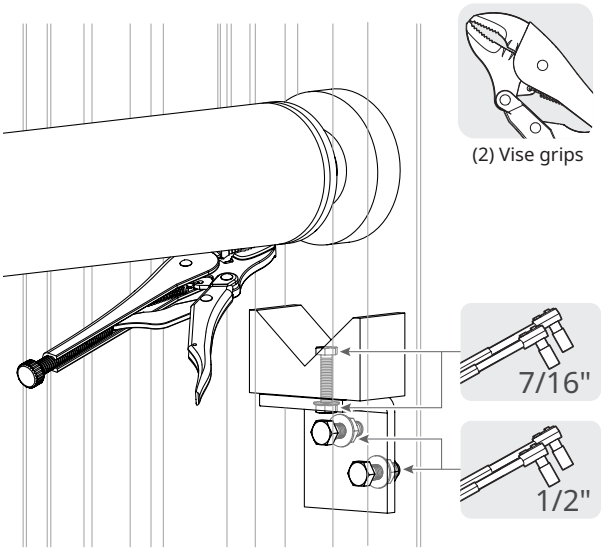
The bumpers at each end include cover plates (end bracket stops) that prevent the end brackets from detaching when the door is hit.



20 On doors with strapless windbars, **lift** the windbar off the cushion assemblies in the windbar guides and **secure** in place with a pair of vise grips.

Inspect the rollers on both ends of the windbar, and the cushions, for wear or damage.

Then **inspect, and if necessary tighten,** the hardware on both cushion assemblies.



INSIDER'S TIP **It is easier** to work on the bottom bar and the wires inside if you have a work surface at working height to place the cover on when you remove it.

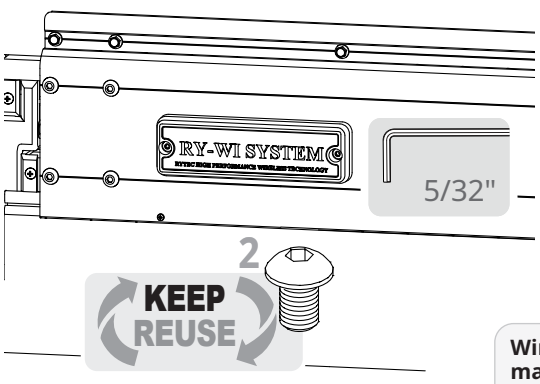
21

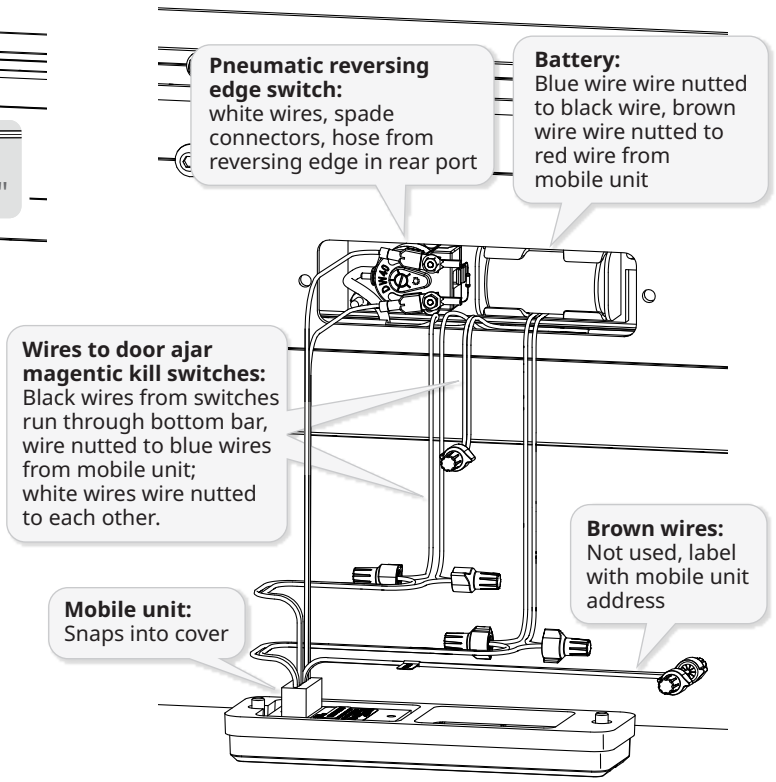
Remove the cover from the drive side of the bottom bar to reveal the pneumatic switch for the door ajar breakaway system, as well as the wires and hoses inside the bottom bar. **Retain** the bolts.

Carefully separate and identify the wires and the components inside the bottom bar.

- **Check** that all wire connections to the mobile unit are correct.
- **Check** that all wires are securely wire nutted, all wire connections are clean and wires are free from damage.
- **Strip** wires and **reinstall** into wire nuts if required.

NOTE: wires in actual door will be considerably thinner than shown here.

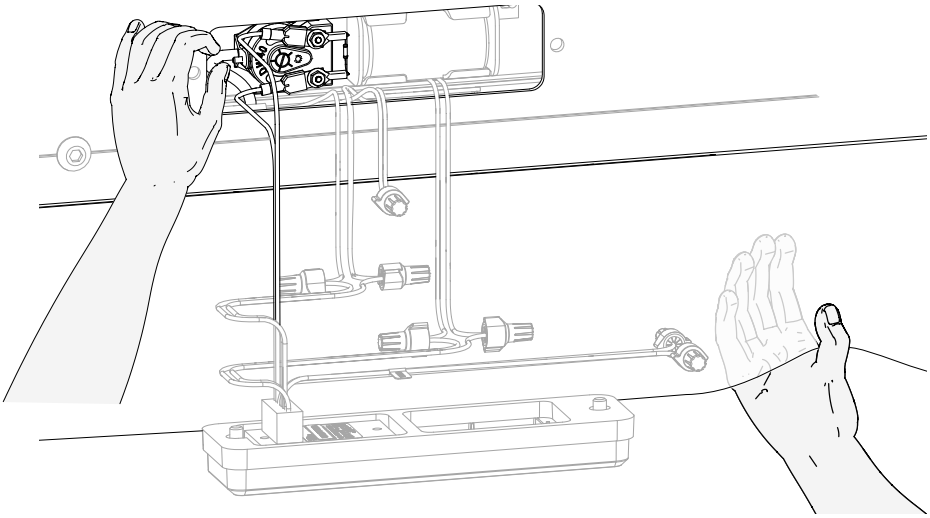




22

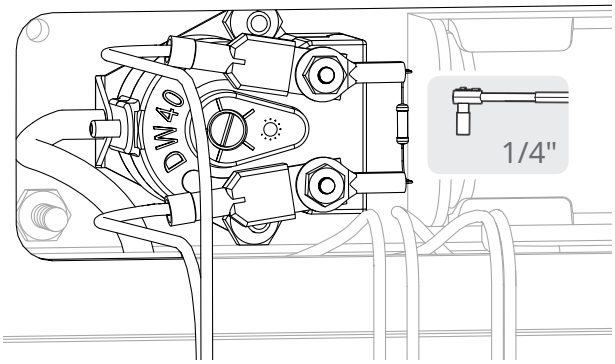
Pinch the hose to the reversing edge switch, then **squeeze** the reversing edge.

You should feel a **small amount of resistance** in the edge, and increased pressure in the hose, indicating the reversing edge is intact.



23 **Makes sure** the hose to the reversing edge switch connects to the **REAR port** on the switch, that the switch is **securely set** in its bracket, that the **spade connectors** are tight, and that the **resistor** is secured to the contacts.

Tighten the nuts holding the resistor in place if necessary.

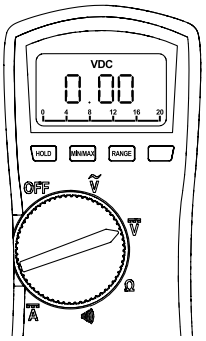


IMPORTANT

Checking the voltage on the wireless battery should be a standard part of any service call for a wireless door.

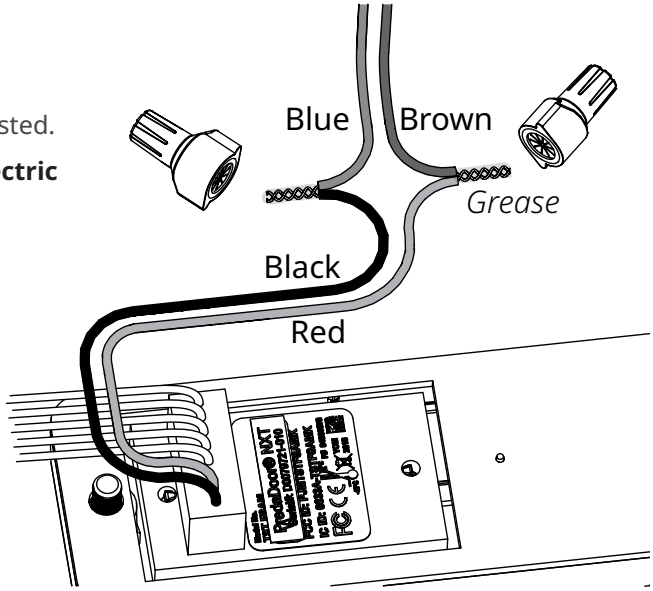
The multimeter used to check the voltage on the wireless battery must have a display that shows at least two decimal places.

Multimeters that **show just one decimal place** may round up and give an incorrect reading.



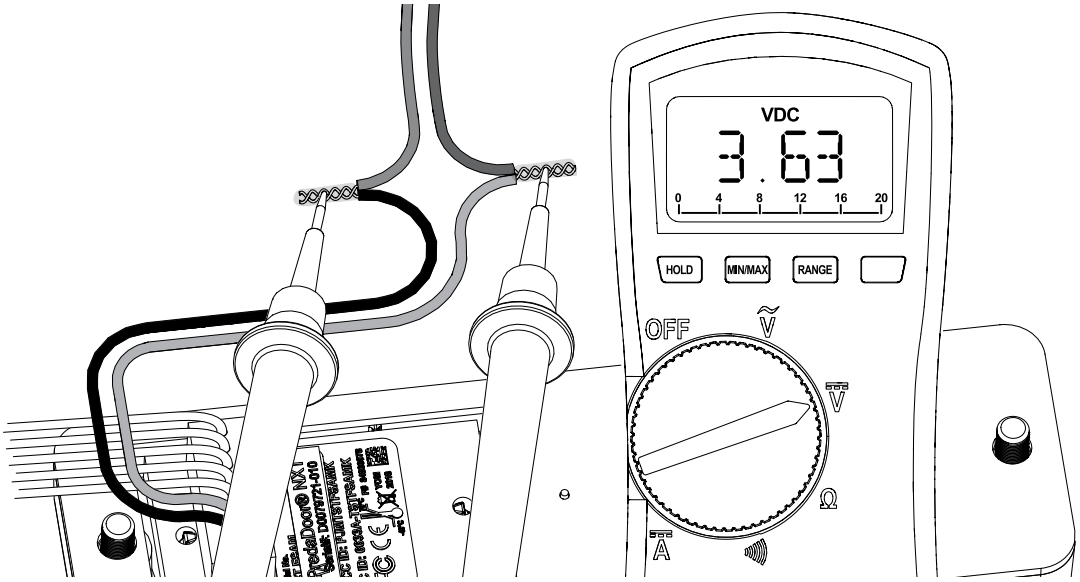
24 **To check** the voltage on the battery, remove the wire nuts connecting the blue/black and brown/red wires.

- **Make sure** the wires are securely twisted.
- The wires should be coated in a **dialectric grease** that facilitates current flow. **DO NOT wipe the grease off.**



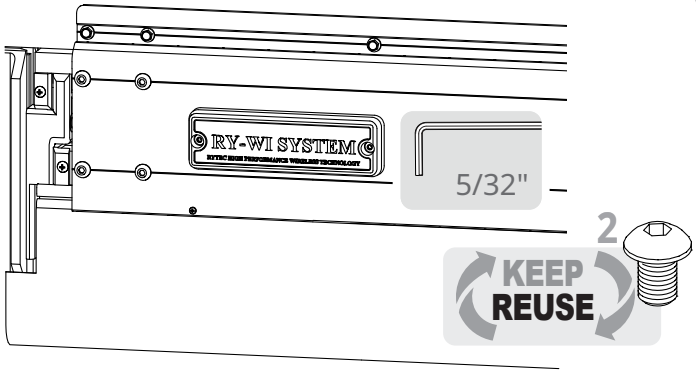
25 **Set the multimeter** to DC voltage, **make sure** the user interface is set to display at least two decimal places, and **touch the probes** to the exposed wires.

- **3.61 volts is the minimum** acceptable reading.
  - If you get a reading of 3.61 volts or higher, simply **retighten** the wire nuts.
- **3.60 volts or lower** means the battery should be replaced.
  This is the case, even though the battery is listed as a 3.60 volt battery.
  - **Battery is held in the bracket** by friction and can be popped out and replaced.
    Trim new wires and **twist** securely to the wires in bottom bar, blue to black and brown to red. **Retain** as much dielectric grease as possible. **Reinstall** the wire nuts.



26 **Carefully wrap** the wires so they will not be pinched or crimped when the Ry-Wi cover is replaced.

Then **replace and secure** the cover.



⚠WARNING

CRUSH HAZARD

The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

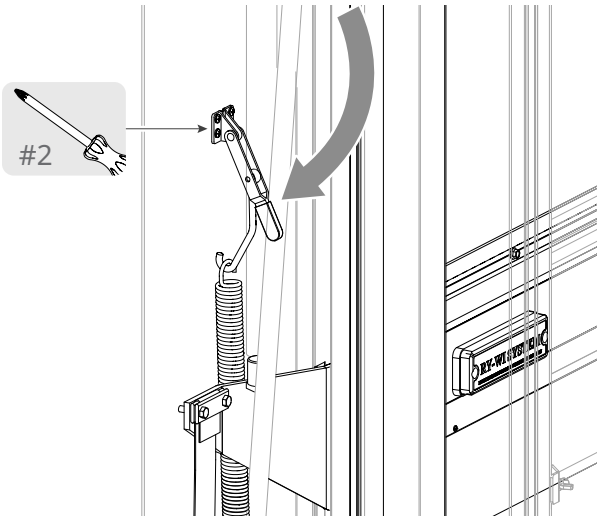
FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

27

Pull down the spring release handle to release the spring tension.

Do this in both side columns.

Then inspect, and if necessary tighten, the screws on the handle bracket.



⚠ WARNING

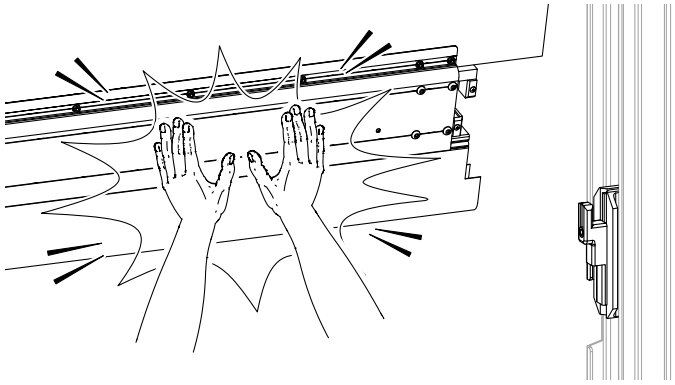
The next step requires you to **strike the metal bottom bar** hard enough to push the door panel out of the door track.

Do not attempt this procedure if you have a previous injury which might be aggravated by the force of the contact.

28

Strike the bottom bar hard enough to separate it from the end bracket.

- **This is most easily done** near a side column.
- **Do this** on both sides of the bottom bar.
- **Allow** the end brackets to fall to the bottom of the side column.



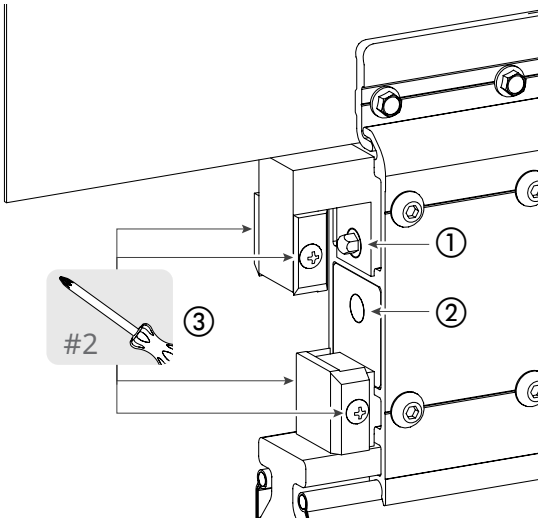
29

Inspect both ends of the bottom bar.

① **Check** that the spring plunger is working properly.

② **Inspect** the magnetic kill switch for visible signs of damage.

③ **Inspect** the top and bottom slider pads for visible signs of damage or wear, and **tighten** the screws if necessary.

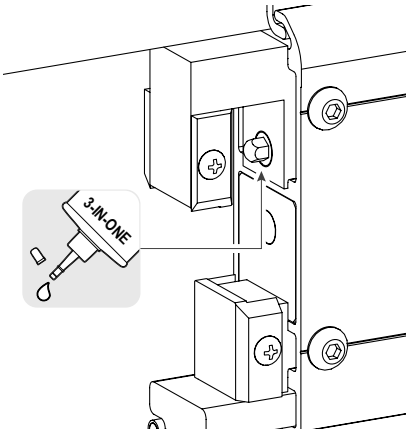


30 **Use a penetrating oil,** such as a 3-IN-ONE oil, to lubricate the spring plunger.

Make sure the base of the spring plunger does not extend past the face of the L-block, as this may prevent the door ajar breakaway system from operating correctly.

Clean off all lubrication points after applying the oil.

Do this in both sides of the bottom bar.



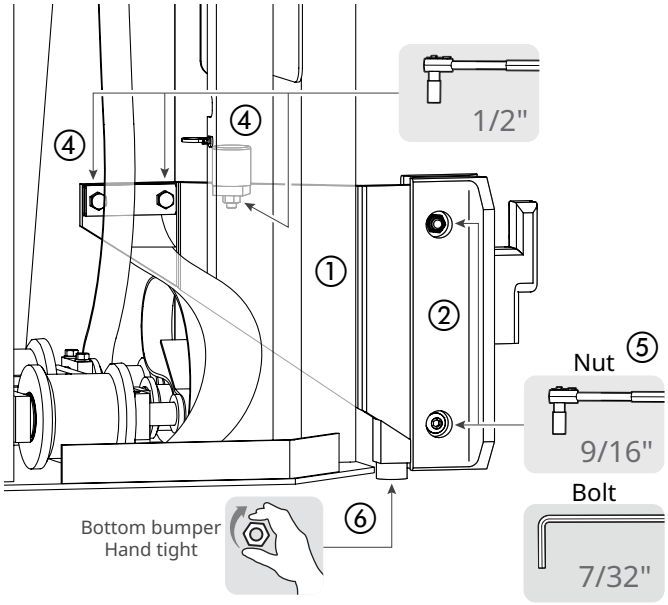
31 **Inspect** both end brackets ①, and front and rear bracket guides ②, for signs of visible damage, then **inspect, and if necessary tighten,** the hardware.

③ The tension strap clamp.

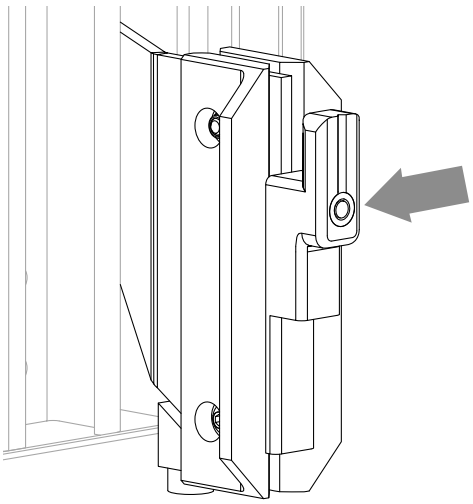
④ The top bumper.

⑤ The bracket guides.

⑥ The bottom bumper



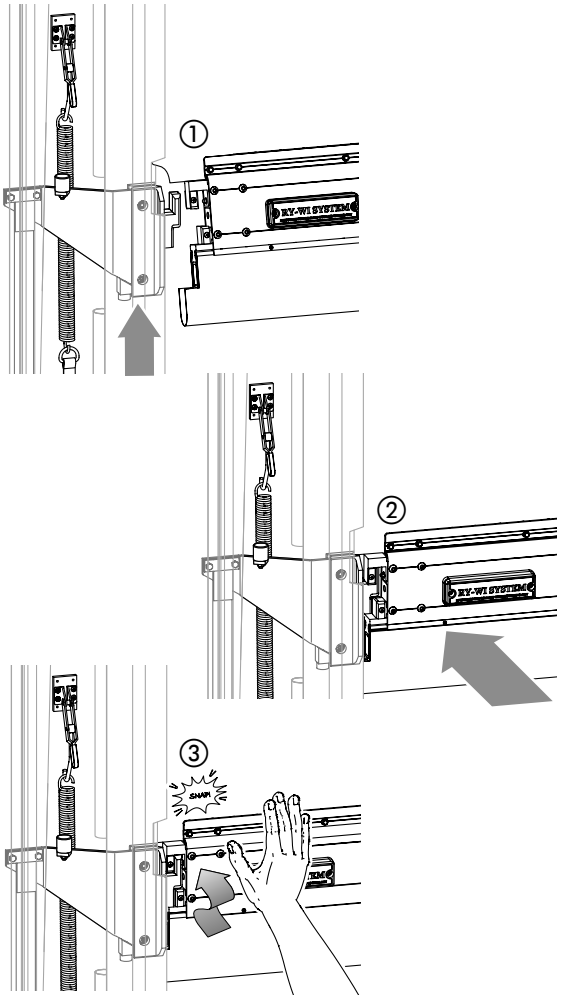
32 **Inspect** the magnets in both end brackets for visible signs of damage, and to make sure they are securely set in the bracket.



33 To put the bottom bar back together, **slide** each end bracket up until it is level with the bottom bar ①, and reconnect it.

② **Line up** the top and bottom L-brackets on the bottom bar with the Z-shaped block on the end bracket and **push them together** until friction from the slider pads holds the bottom bar in place.

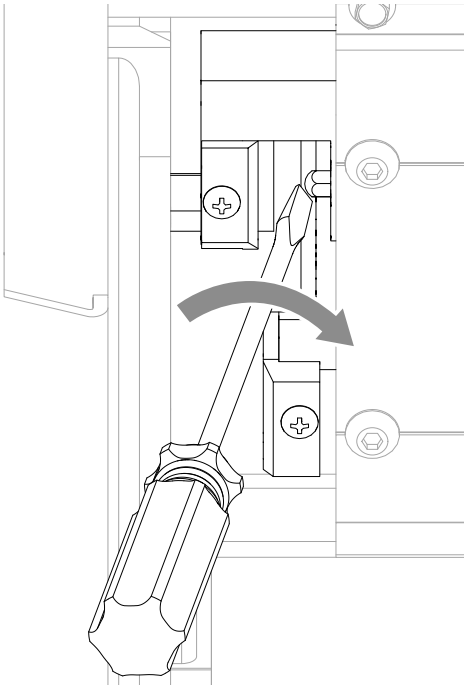
③ **Push** the bottom bar forward in a rocking, motion until the spring plunger clicks. **Position** your other hand behind the bottom bar to prevent overshooting the spring plunger.



34 If the spring plunger is difficult to compress, **use** a large flathead screwdriver to lever it down enough to start sliding in the bottom bar without overshooting.

Then **push in** the bottom bar the rest of the way until you hear the spring plunger click into place.

INSIDER'S TIP



35

Make sure all straps have no twists or kinks and are aligned with their rollers, and the hook on the spring tension handle points towards the back of door.

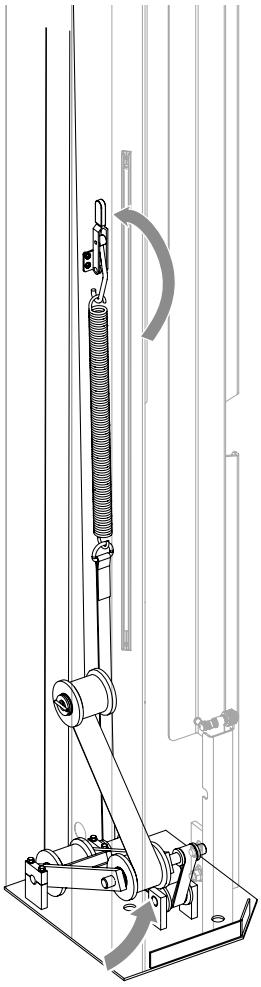
IMPORTANT

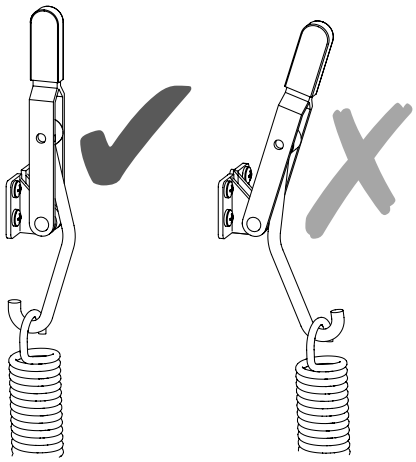
The handle will not latch into place if the hook is not pointing to the rear wall of the side column.

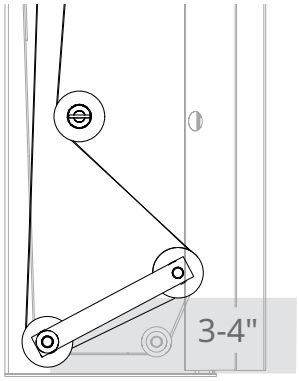
Pull up on the spring release handle until it latches in place and the spring is applying tension.

Make sure the spring strap does not twist or kink as tension is applied to it.

- The front roller of the H-bracket should **rise** to a position 3-4" above the baseplate.







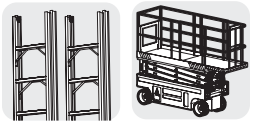
Correct position when door is between open and closed limits

36

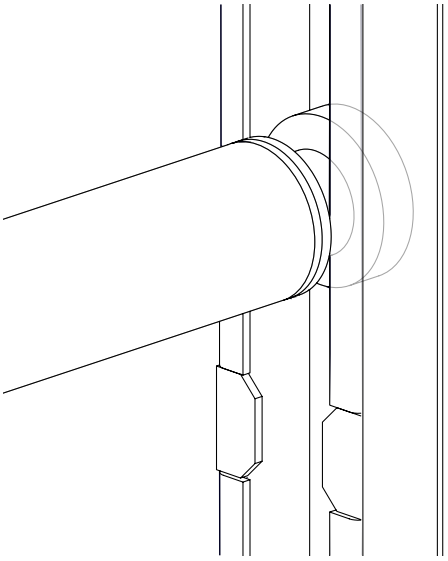
For doors with double strapless windbars, **lift** the upper windbar off the two welded windbar stops.

Inspect the rollers on both sides of the windbar for visible damage or wear.

Inspect the stops to make sure the welds are secure.



Ladder
or
Scissor lift



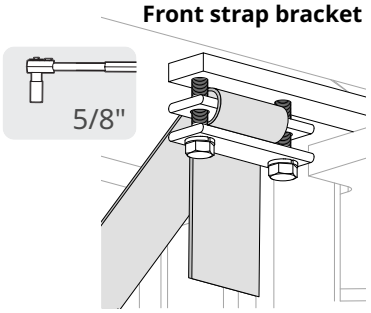
37

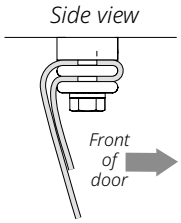
For doors with strapped windbars, **check** that the windbar is level and that the height of the windbar is roughly half-way between the head assembly and the bottom bar.

Inspect the strap for visible damage or signs of wear.

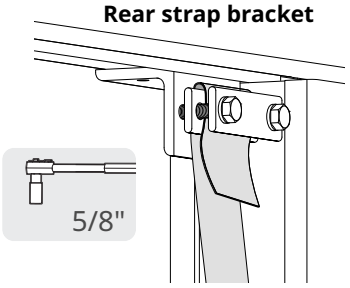
Inspect, and if necessary tighten, the hardware on the clamps in the head assembly.

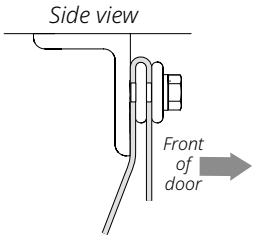
Front strap bracket



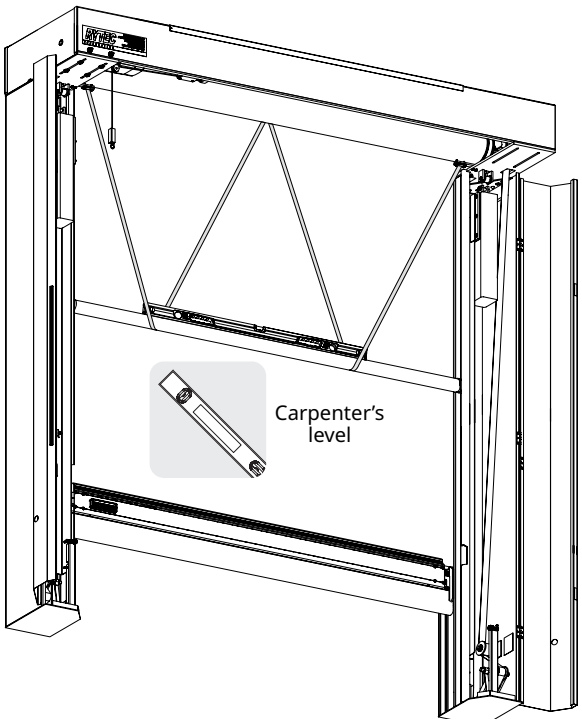


Rear strap bracket





Ladder
or
Scissor lift



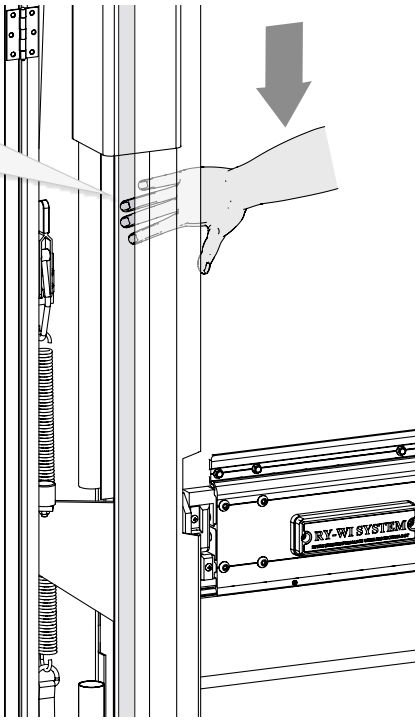
38

Inspect the door panel seals inside both side columns.

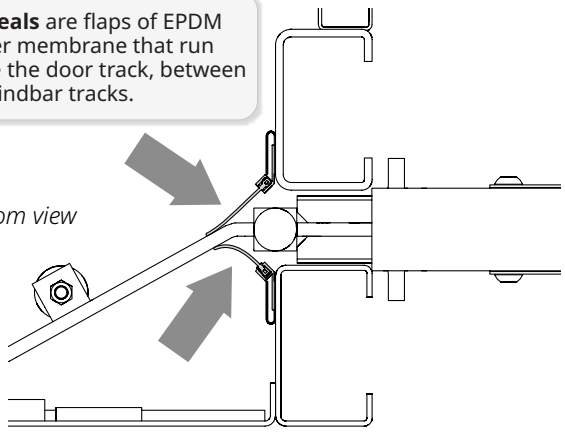
Run your hand down the height of the door panel between the panel and the seal.

Make sure the seal is not damage and makes contact with the panel.

Do this on both sides of the door panel, inside both side columns.



The seals are flaps of EPDM rubber membrane that run inside the door track, between the windbar tracks.



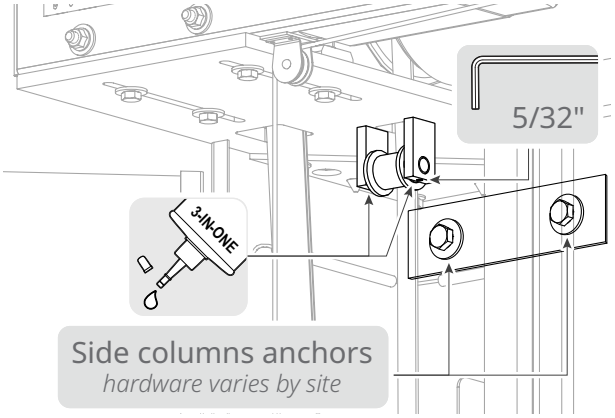
39 Beneath the head assembly, **inspect, and if necessary tighten,** the anchors at the top of the side column.

Inspect, and if necessary tighten, the hex lock nut on the counterweight roller.

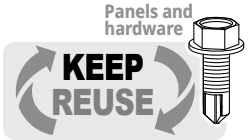
Use a penetrating oil, such as a 3-IN-ONE oil, to lubricate the roller axle.

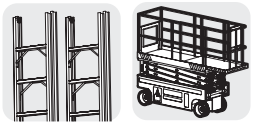
Clean off excess lubrication after applying the oil.

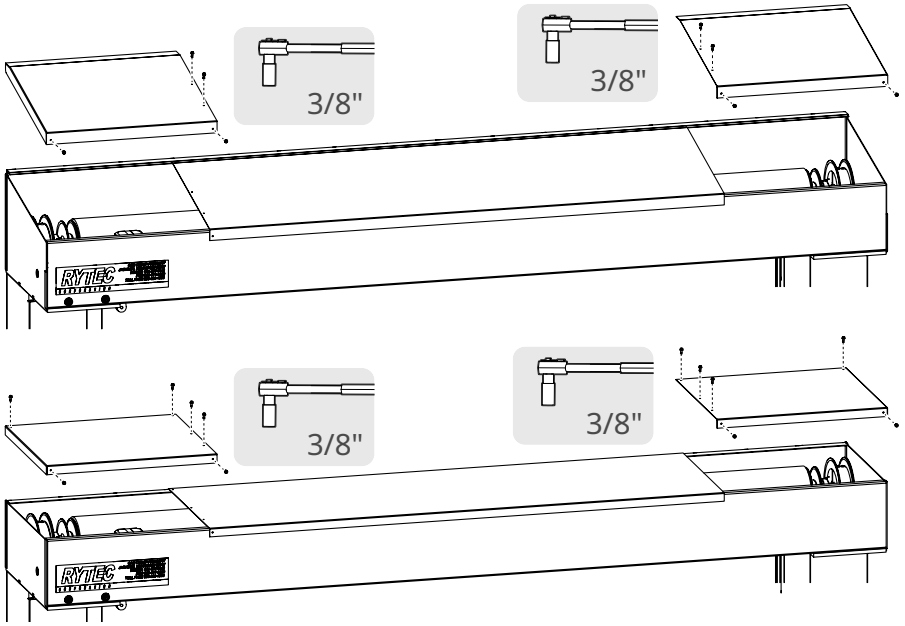
Do this in both side columns.



40 For doors with flat or slanted hood covers, **remove** the left and right top panels to access the head assembly.

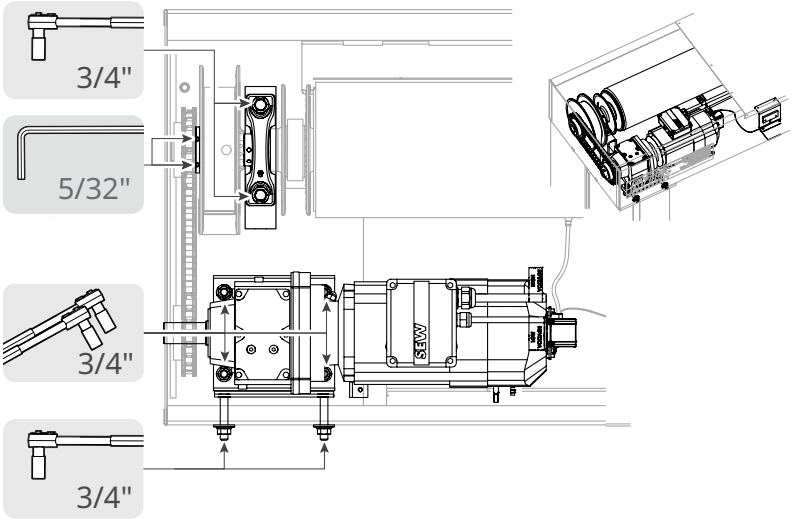



Ladder or Scissor lift



41 In the drive side of the head assembly, **inspect, and if necessary tighten,** the hardware for:

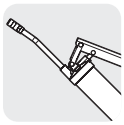
- The bearing
- The tension strap spool locking collar
- The motor adjustment plate (motor mount)
- The adjustment plate setting nuts



42

Make sure the bearing is properly lubricated.

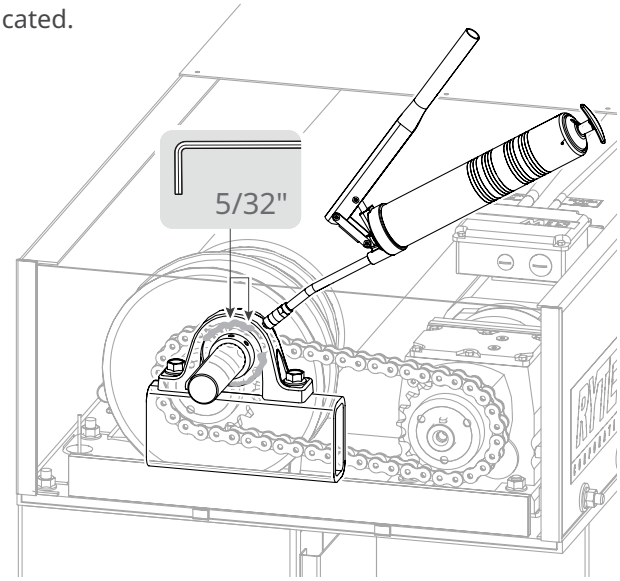
- If necessary, **lubricate** the bearing at the zerk fitting.
- Recommended lubrication is a lithium-based grease conforming to NLGI Grade 2 standards. It should be medium viscosity, low torque, with an operating temperature range of –30°F to +200°F.



Grease gun

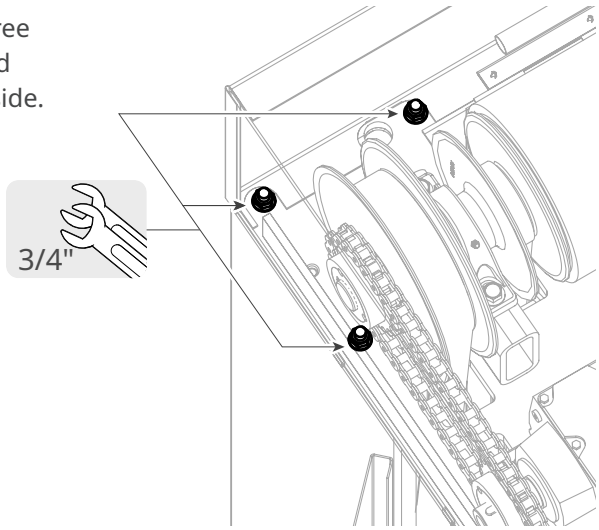
- **Wipe off the old grease** as it is pushed out by the grease from the grease gun.

Also **inspect, and if necessary tighten,** the two set screws on the bearing.



43

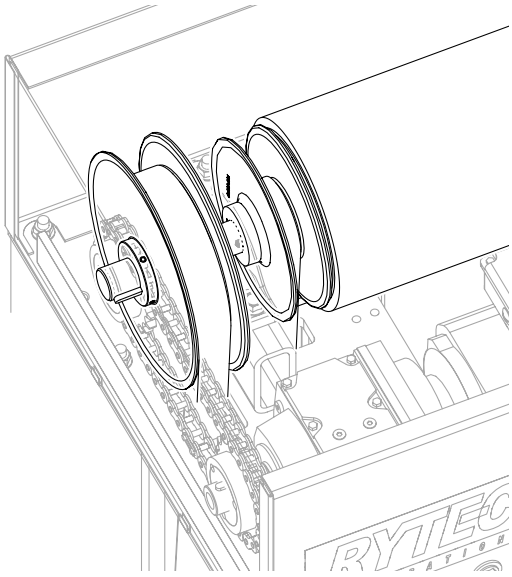
Inspect, and if necessary tighten, the three bolt/nut combinations that secure the head assembly to the side column on the drive side.



44

Inspect the drum, counterweight spool and tension strap spool for visible damage or wear.

Also, **check all visible cabling** to make sure it is tightly secured, clear of moving parts, and that there is no excess cable length in loops or wraps.

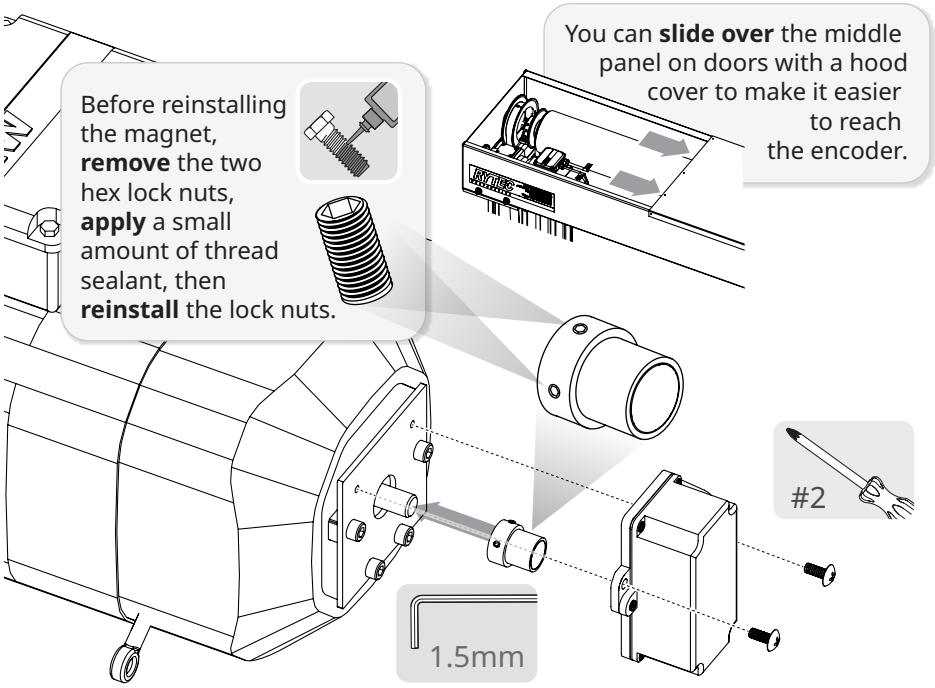


45

ONLY do this if the door owner has reported a problem with the door which suggests an encoder issue.

- **Remove** the encoder to expose the encoder magnet.
- **Loosen** the two hex screws on the magnet and **remove** it from the motor axle.
- **Apply** lock sealant to the two hex screws, then **reinstall** the magnet and **tighten** the screws.

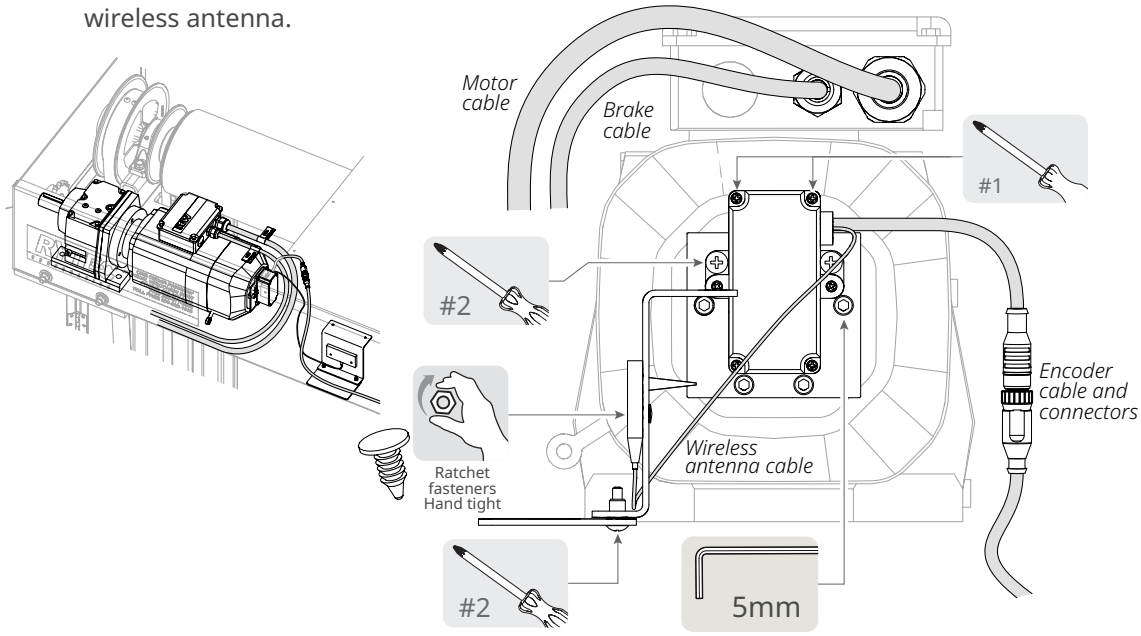
IMPORTANT



46

Inspect, and if necessary tighten, the hardware for the encoder and wireless antenna.

- The four hex bolts securing the mounting plate to the motor, the two screws that secure the encoder to the plate, and the six screws that secure the top of the encoder.
- The two screws on the wireless antenna bracket, and two ratchet fasteners on the antenna.
- Also, **inspect** the cables from the encoder, electromagnetic brake and motor, and to the wireless antenna.



47

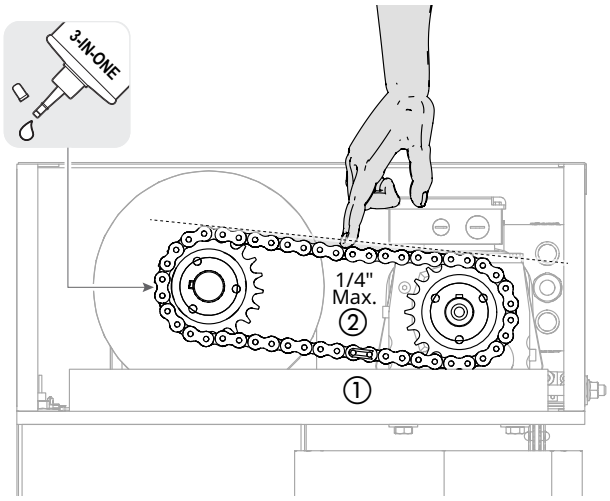
Inspect the drive chain.

Make sure the master link is secured with a retaining clip ①.

Press down on the chain. It should deflect no more than 1/4", which is roughly half the width of a finger.

Use a penetrating oil, such as a 3-IN-ONE oil, to lubricate the chain and sprockets.

Clean off excess lubrication after applying the oil.



48

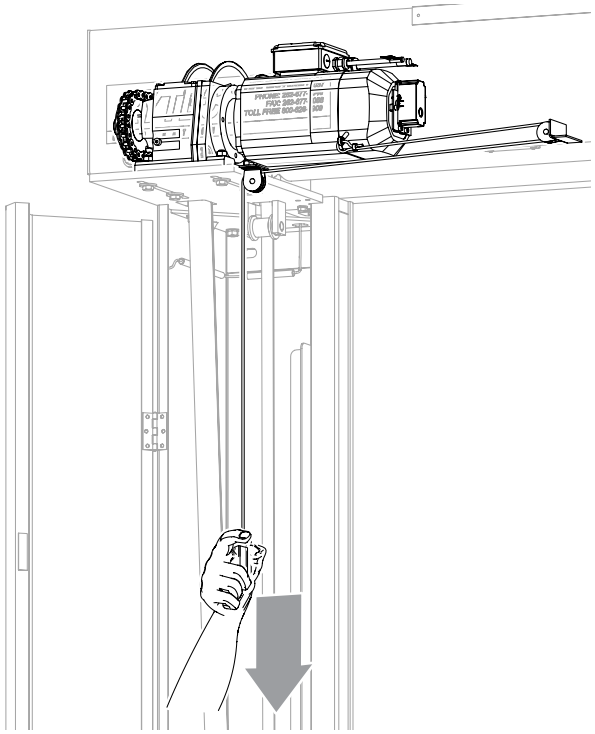
Inspect the brake release system.

Make sure the cable is securely attached to the brake release lever, winds cleanly through the two pulleys, and has no visible damage or wear.

Pull down on the handle, and make sure the brake releases and the door moves to the point where the door panel and counterweight balance out.

Release the handle and make sure the brake re-engages.

You **DO NOT** need to lubricate the pulleys.

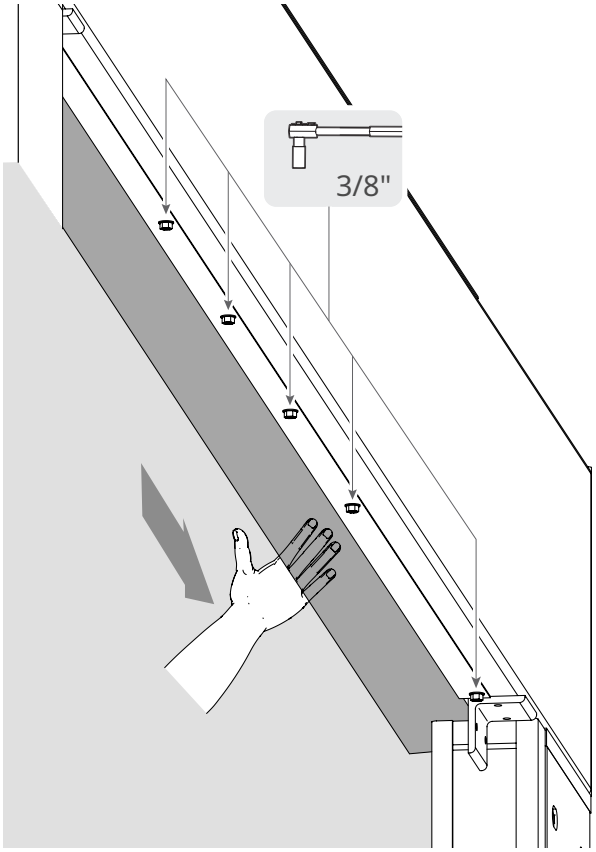


49

At the rear of the door panel, **run** your hand between the rear brush seal and the door panel for the full width of the door.

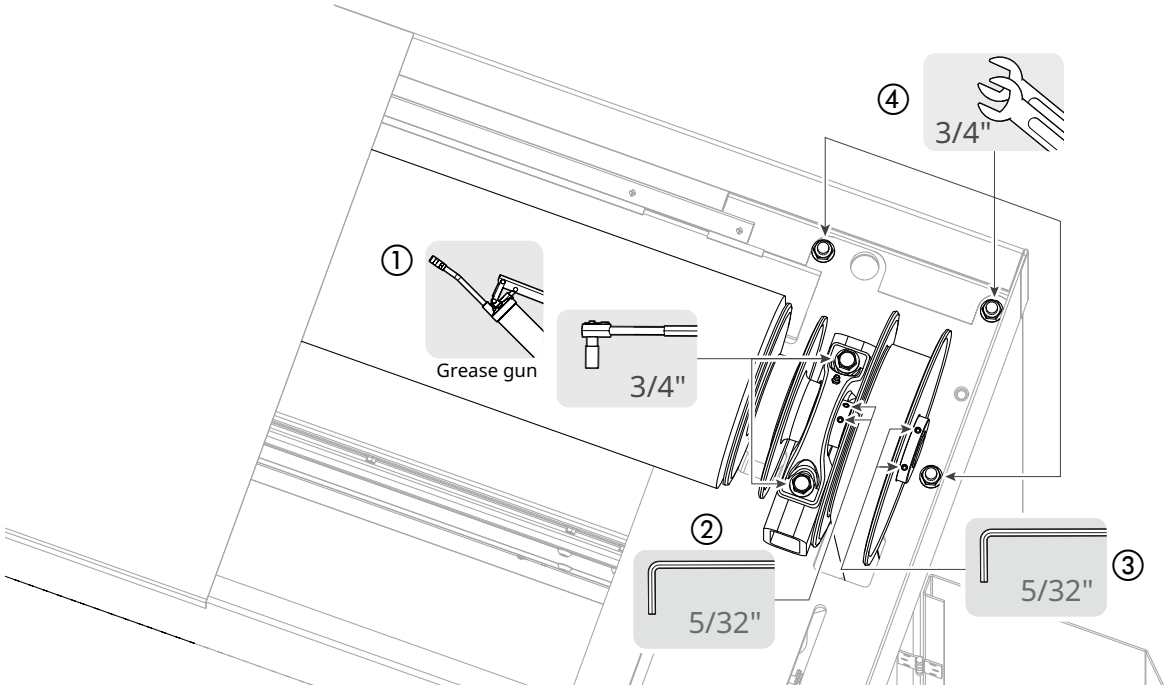
Make sure there is contact for the full width, and that there is no visible damage to the seal.

If the seal is secured with tek screws, **inspect, and if necessary tighten,** the hardware.

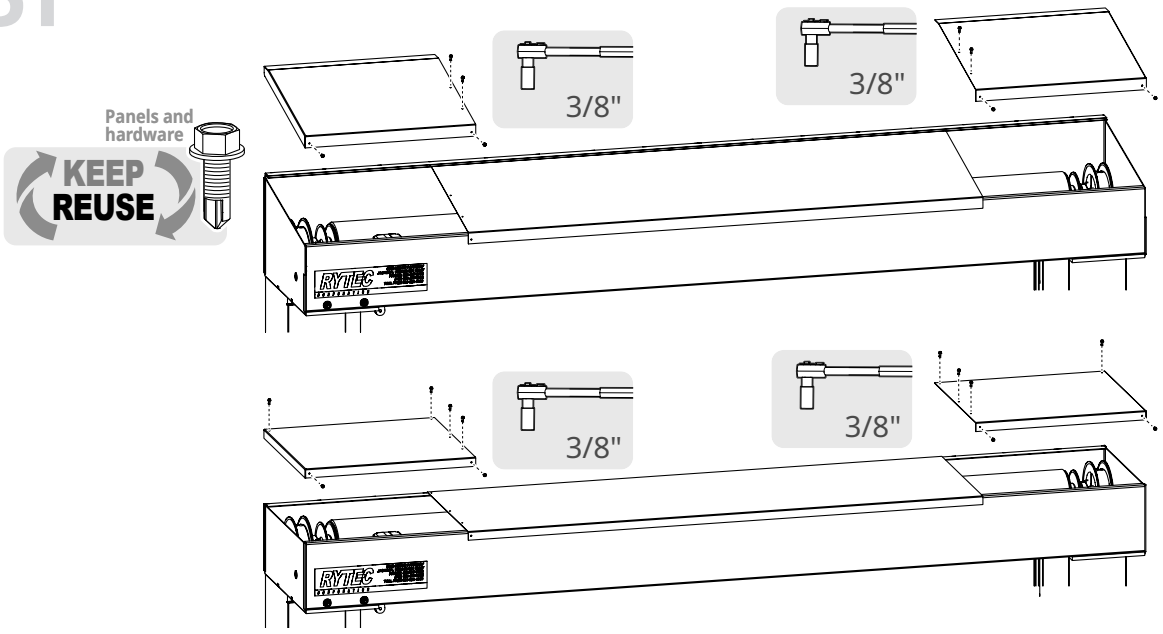


50 On the non-drive side of the head assembly, **perform** the same services you did on the drive side.

- **Inspect, and if necessary tighten,** the hardware on the bearing ①, then lubricate the bearing. Also inspect, and if necessary tighten, the two set screws on the bearing ②.
- **Inspect, and if necessary tighten,** the two lock nuts on the tension strap spool locking collar ③.
- **Inspect, and if necessary tighten,** the three bolt/nut combinations that secure the head assembly to the side column ④.
- Also **check** the drum, counterweight spool and tension strap spool for visible damage or wear, and **make sure** all cabling is tightly secured, clear of moving parts, and that there is no excess cable length in loops or wraps.



51 For doors with flat or slanted hood covers, **reinstall** the left and right top panels.



Quarterly maintenance - testing the components

Set the controller to Parameter mode and access Service level parameters

Do This *Result*

1

The door starts in run mode.

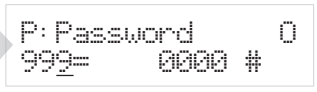
2

until the parameter screen displays

You are in Parameter mode.
Go to parameter 999.

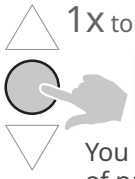
3

2x to reach parameter P:999



The Password parameter
P:999 screen displays.

4



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

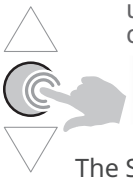
You can change the value
of parameter P:999.

5

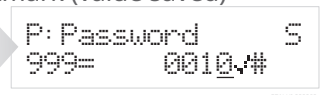
16x to set value to hexadecimal 10

Set the value to 10
(Service level password).

6



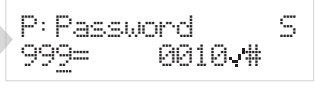
until question mark changes to checkmark (value saved)



The Service level password is saved.

7

1x to return to parameter side



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

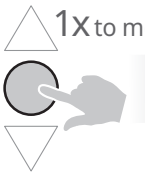
This parameter stores the last eight error codes generated by the controller, as well as date and time. **This can alert you to issues** the door owner may not have told you about.

Do This *Result*

1

until parameter displays

2



1x to move cursor to the right (value side)

3

Let the value scroll to see date and time

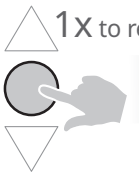
Make a note of the information.

4

Press UP or DOWN ARROW to scroll through errors

Note if any errors are recent and should be taken into account when testing components.

5



1x to return to parameter side

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

Do This *Result*

1 until parameter displays

P:Operat.Mode S
980= 0 #

The default value is 0.

2 1x to move cursor to the right (edit value)

P:Operat.Mode S
980= 0✓#

You can now change the value.

3 4x to change the value to 4

P:Operat.Mode S
980= 4?#

4 until question mark changes to checkmark (value saved)

P:Operat.Mode S
980= 4✓#

The new value is saved.

5 until door returns to run mode

PredaDoor NXT
[xxx] Cycles

6 press either arrow to start cycling

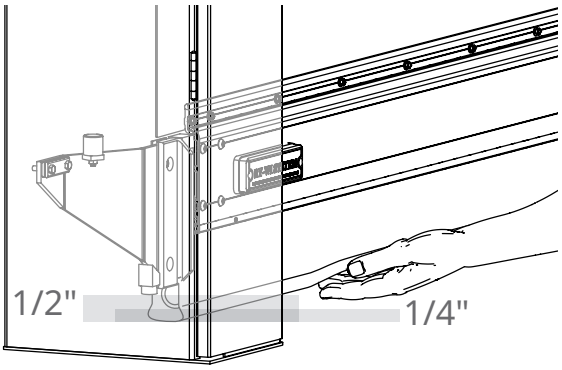
Acl 1 5 Sec

Check that the door stops at the correct open and close limits

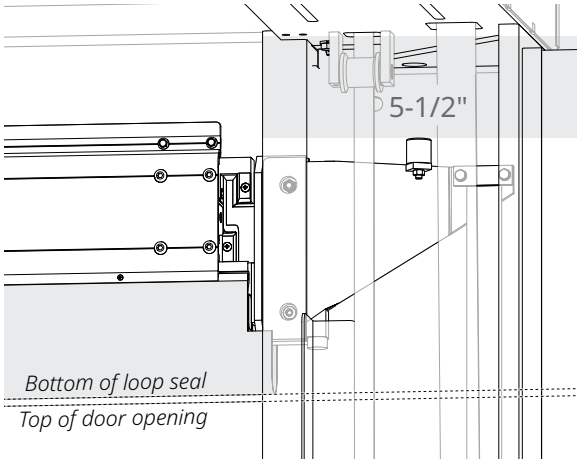
1 **Watch** the door as it cycles. **Stop** it at the fully open and fully closed position.

If the open or close limits are not correct, **follow** the instructions to set limits.

- The door is **at the correct close limit** when the bottom of the loop seal rests on the floor with a slight bulge, creating a complete seal, and the reversing edge is 1/4" above the floor (finger width).
- At this height, the **bottom bumper** on the end bracket should be 1/2" above the baseplate of the side column.



- The door is **at the correct open limit** when the bottom of the loop seal is just above the top of the door opening, and the upper bumper on the end brackets are 5-1/2" below the top plates of the side columns.

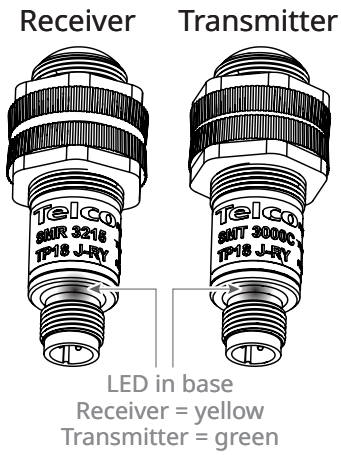


- **Move at least ten feet** from the door to check the height.

Test the photo eyes

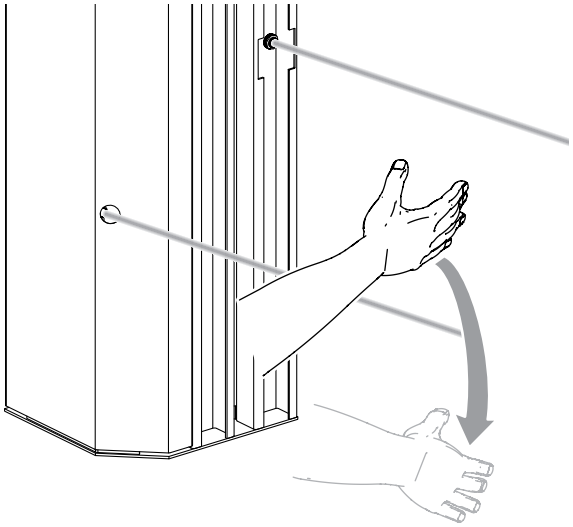
2 **Check** the LED lights in the front transmitter and receiver (rear pair are not accessible).

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



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

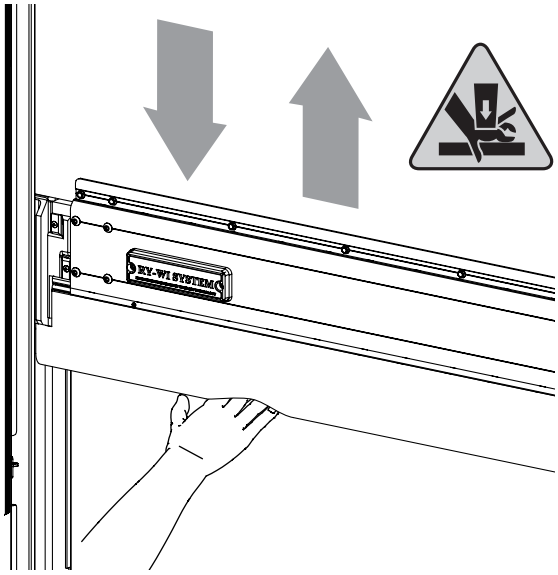
- **Door should stop, reverse,** and stay open as long as the obstruction remains in place.
- **Door should only close** when the obstruction is removed.



Test the reversing edge

4 **Place your hand** in the path of the closing door panel, above the photo eye beams, and allow the reversing edge to hit it.

- The door panel should stop, reverse, then run through the delay timers and close normally.



5 **If necessary,** adjust the sensitivity of the reversing edge. See *How to reset the sensitivity of the reversing edge pneumatic switch* starting on page 95.

6 IMPORTANT

Set the controller to parameter mode.

Set Parameter 980 back to 0 to take the door out of continuous cycle.

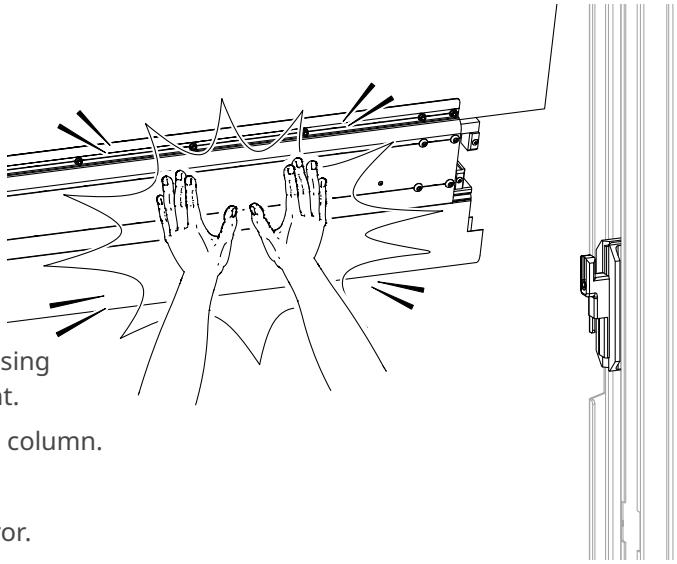
Return to run mode.

Test the door ajar breakaway system

	⚠ WARNING
	This procedure requires you to strike the metal bottom bar hard enough to push the door panel out of the door track. **Do not attempt this procedure** if you have a previous injury which might be aggravated by the force of the contact.

IMPORTANT **The door ajar breakaway system is deactivated** on doors that are >24' (twenty four feet) wide, or that have strapless windbars (see next section).

1 **Test one side of the bottom bar at a time** to make sure that both magnetic switches stop the door when the end bracket separates from the bottom bar.

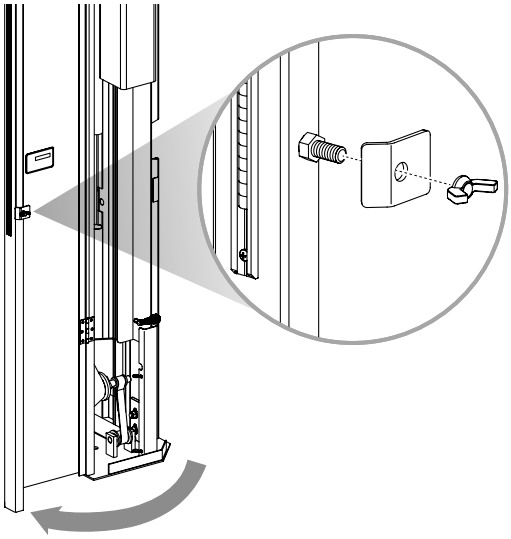


IMPORTANT

- **Strike the bottom bar** hard enough to separate it from the end bracket.
- **You can do this** while the door is closing or after jogging it to a working height.
- **This is most easily done** near a side column.
- **Door should stop immediately.**

- **The controller** generates an F:060 error.

2 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



⚠WARNING

CRUSH HAZARD

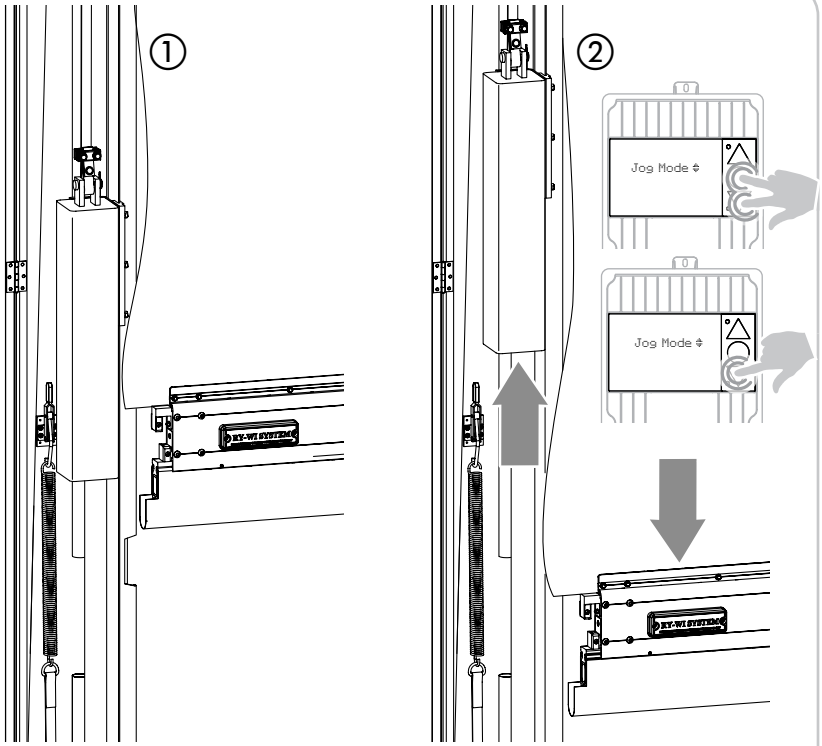
The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

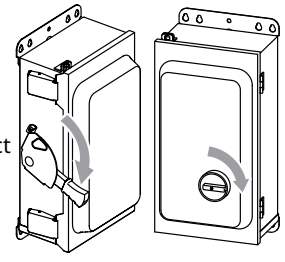
3 If the counterweight is blocking access to the spring release handle ①, **set** the door in jog mode so the handle is clear ②.

Make sure the door panel does not tear as the bottom bar moves up or down.



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

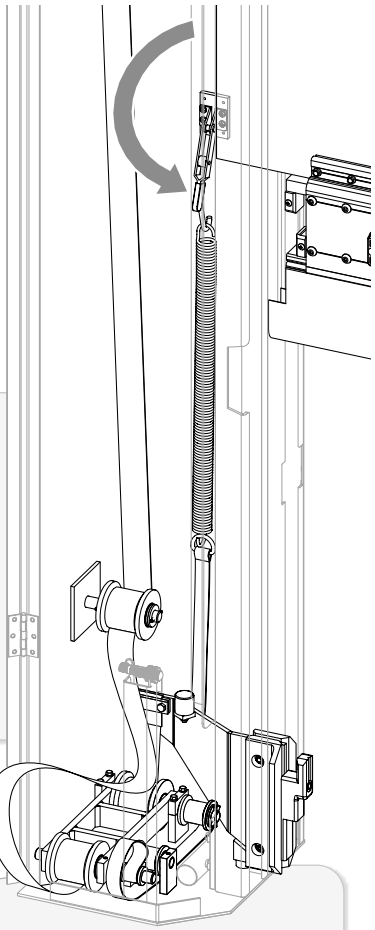
Fused disconnect



5 If it is not already on the floor, **make sure** the end bracket slides smoothly to the bottom of the door track.

- The **tensioning strap** should be slack, and the **H-bracket** should be flat on the baseplate from the extra length of strap.

Make sure all straps are straight and clear, then **pull down** the spring release handle to release the spring tension.



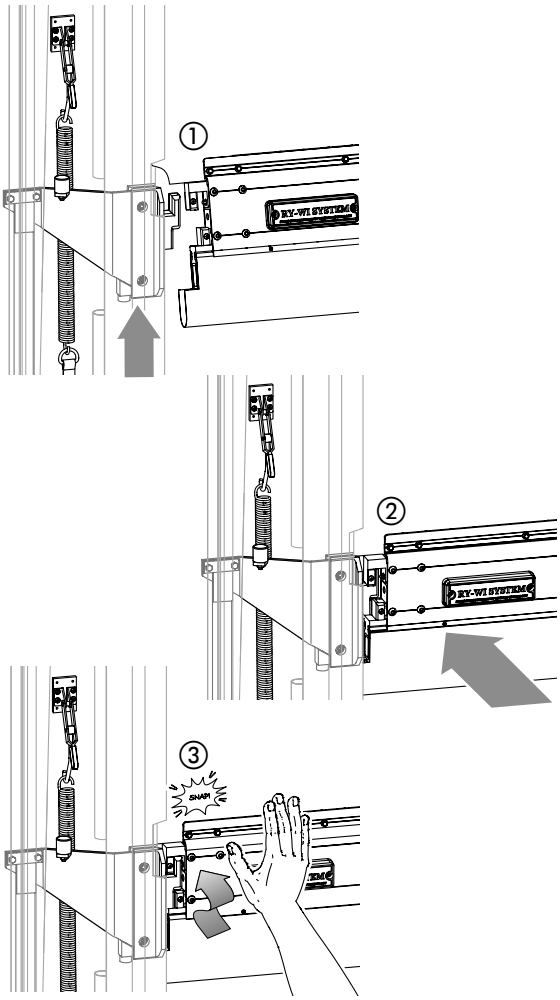
Make sure the tensioning strap and the spring tension strap are loose from the extra length but not twisted or crimped, and are aligned in their rollers.

Pull down on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.

6 **Slide** the end bracket up until it is level with the bottom bar ①, and reconnect it.

② **Line up** the top and bottom L-brackets on the bottom bar with the Z-shaped block on the end bracket and **push them together** until friction from the slider pads holds the bottom bar in place.

③ **Push** the bottom bar forward in a rocking, motion until the spring plunger clicks. **Position** your other hand behind the bottom bar to prevent overshooting the spring plunger.

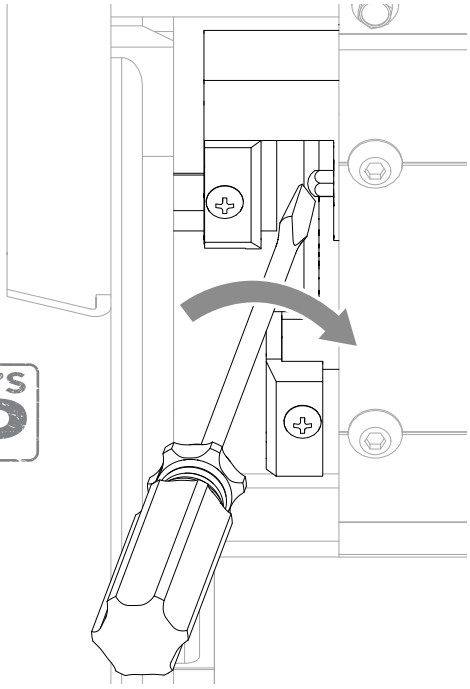


7

If the spring plunger is difficult to compress, **use** a large flathead screwdriver to lever it down enough to start sliding in the bottom bar without overshooting.

Then **push in** the bottom bar the rest of the way until you hear the spring plunger click into place.

INSIDER'S TIP



8

Make sure all straps have no twists or kinks and are aligned with their rollers, and the hook on the spring tension handle points towards the back of door.

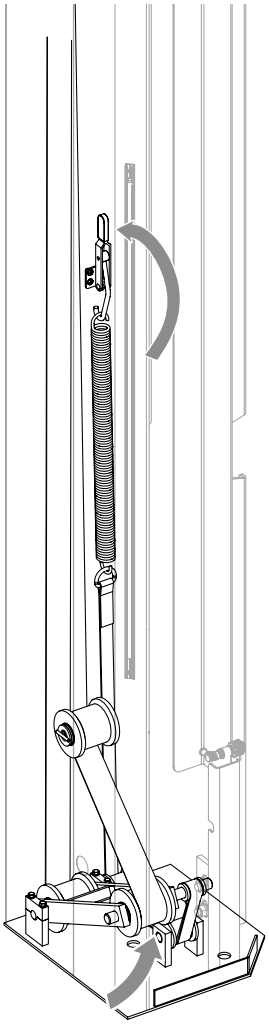
IMPORTANT

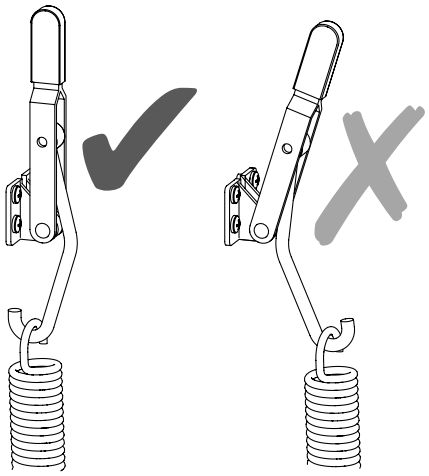
The handle will not latch into place
if the hook is not pointing to the back.

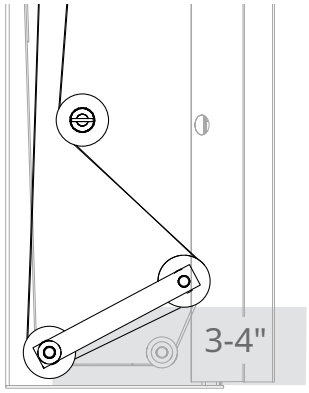
Pull up on the spring release handle until it latches in place and the spring is applying tension.

Make sure the spring strap does not twist or kink as tension is applied to it.

- The front roller of the H-bracket should **rise** to a position 3-4" above the baseplate.

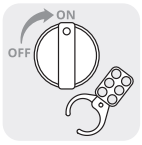




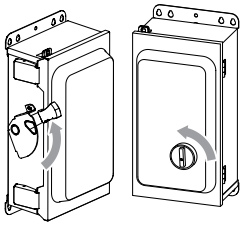


Correct position when door is between open and closed limits

9 **Remove** the lockout/tagout and **restore** power to the door.



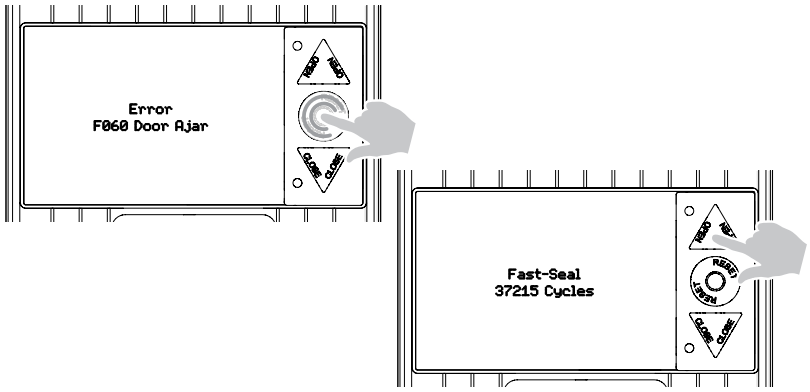
Fused disconnect



10 **Press and hold the RESET button** to clear the F:060 error.

Then **press** the UP Arrow and watch the door as it cycles through opening and closing

Watch the door through the cycle to make sure the door panel and bottom bar have been reset correctly and the tensioning system is operating correctly.



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

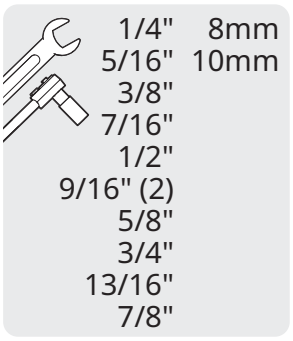
See the **Requirements** section of the Quarterly Inspection beginning on page 23 for a complete list of requirements, including site conditions and staffing.

Safety

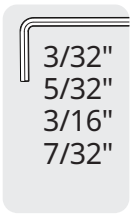
Read the Safety section beginning on page 12 before performing any service on the door.

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.



Socket or open wrench



Hex wrench

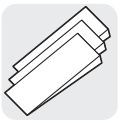
Flat head screwdriver

Phillips screwdriver


Precision screwdriver


(2) Saw horses


Scrap wood


Shims


Sharpie


Measuring tape


Putty knife

Lockout and lock

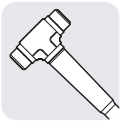

Wire tool

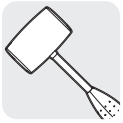

Isopropyl alcohol


Loctite

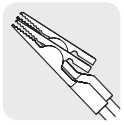
Penetrating oil

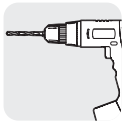

Gear puller

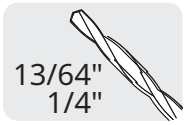

Soft faced or rubber mallet




Multimeter with alligator clips



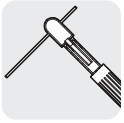

Power drill and drill bits




Cutting pliers


Needle nose pliers


Hammer and pin punch

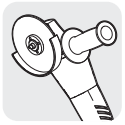

Arc welder or torch


Ball peen hammer


File or emery paper


Rivet gun and 1/8" pop rivet


(2) Vise grips


Angle grinder

SERVICE

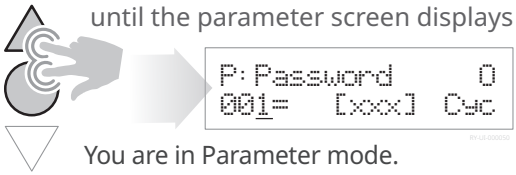
How to set the controller to Parameter mode and access Service level parameters

Do This *Result*

1

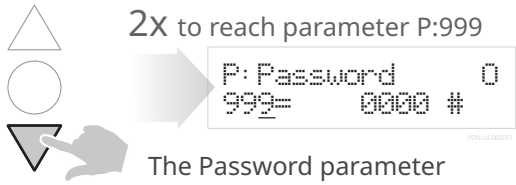
The door starts in run mode.

2 until the parameter screen displays



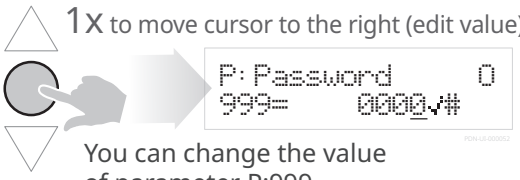
You are in Parameter mode.
Go to parameter 999.

3 2x to reach parameter P:999



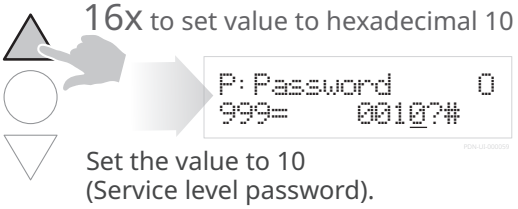
The Password parameter P:999 screen displays.

4 1x to move cursor to the right (edit value)



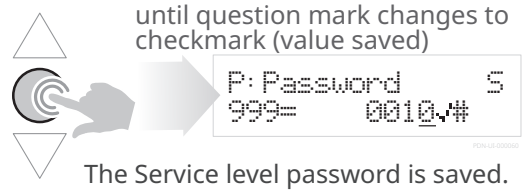
You can change the value of parameter P:999.

5 16x to set value to hexadecimal 10



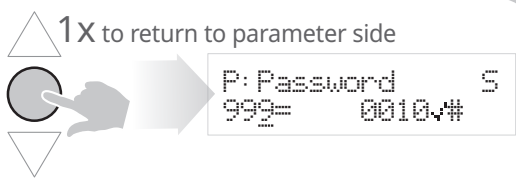
Set the value to 10
(Service level password).

6 until question mark changes to checkmark (value saved)



The Service level password is saved.

7 1x to return to parameter side

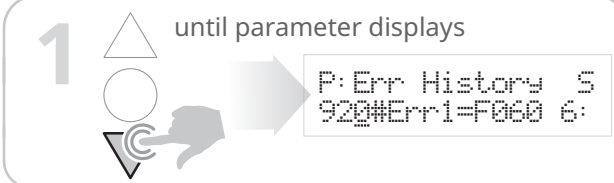


How to check the error history of the door

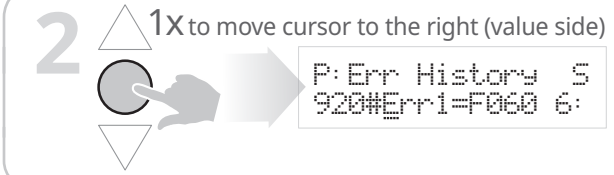
Parameter P:920 stores the last eight error codes generated by the controller, as well as date and time. **This can alert you to issues** the door owner may not have told you about and should be a standard step in any service call.

Do This *Result*

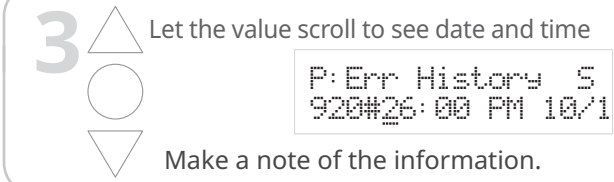
1 until parameter displays



2 1x to move cursor to the right (value side)

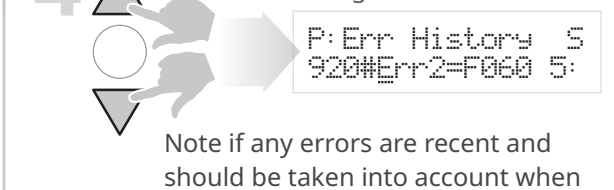


3 Let the value scroll to see date and time



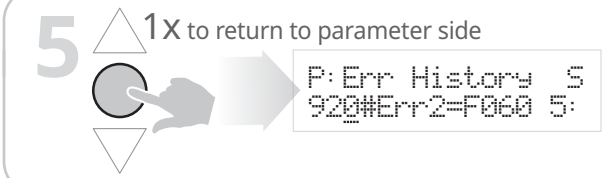
Make a note of the information.

4 Press UP or DOWN ARROW to scroll through errors



Note if any errors are recent and should be taken into account when testing components.

5 1x to return to parameter side



How to put he door into test mode

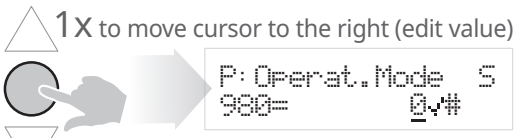
Parameter P:980 sets the operating mode for the door. When it is set to a value of 4, the door will cycle continuously

Do This *Result*

1 until parameter displays

The default value is 0.

2 1x to move cursor to the right (edit value)



You can now change the value.

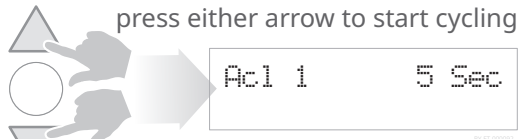
3 4x to change the value to 4

4 until question mark changes to checkmark (value saved)

The new value is saved.

5 until door returns to run mode

6 press either arrow to start cycling

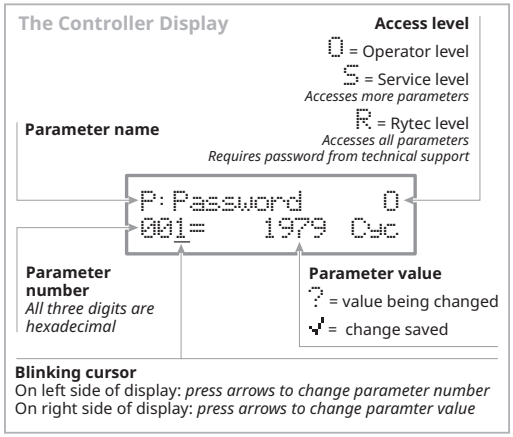


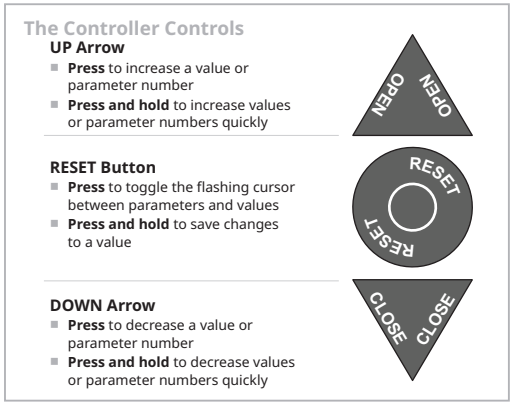
How to set limits

⚠ CAUTION

Make sure 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.





NOTE: The System 4 display uses hexadecimal numbers to number parameters and for some values.

The display uses the ten numeric characters (0-9), plus six letters (A-F), which represent the values from 11 through 16.

In some cases it will be necessary to press the UP arrow sixteen times to change a value from 0000 to 0010.

Icon key

Press | Press and hold | Press UP or DOWN arrow, as needed

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

Do This *Result*

1

The door starts in run mode.

2 until the parameter screen displays

You are in Parameter mode.
Go to parameter 999.

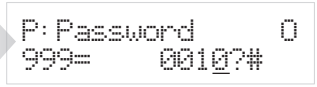
3 2x to reach parameter P:999

The Password parameter P:999 screen displays.

4 1x to move cursor to the right (edit value)

You can now change the value of parameter P:999.

5 16x to set value to hexadecimal 10



Set the value to 10
(Service level password).

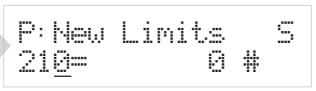
6 until question mark changes to checkmark (value saved)

The Service level password is saved.

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

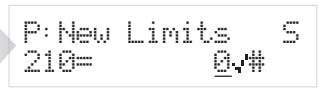
Do This *Result*

1 until 210 displays



The Limits parameter (210) screen displays.

2



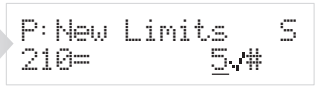
The cursor moves to the right side.

3 5x

Set the New Limits value to 5.

- This setting allows you to edit both the closed position limit and the open position limit.

4 5 sec.



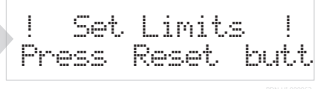
The New Limits value is saved.

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

5

The cursor moves to the left side.

6 5 sec.



The sequence to set the closed and open position limits begins.

Do This *Result*

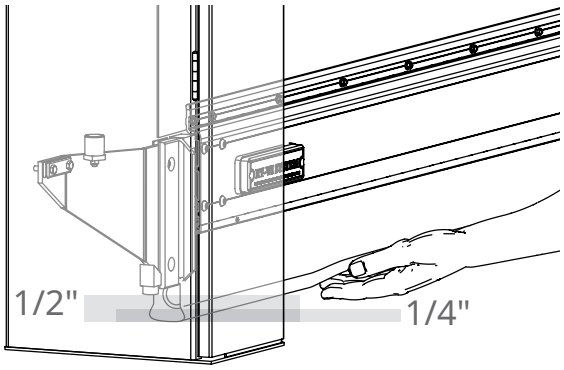
7

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

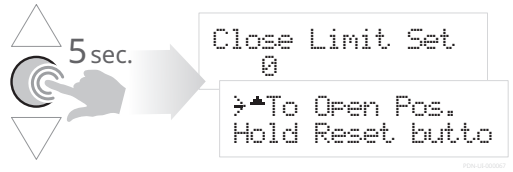
8 until closed height is correct

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.
- The door is **at the correct close limit** when the bottom of the loop seal rests on the floor with a slight bulge, creating a complete seal, and the reversing edge is 1/4" above the floor (finger width).
- At this height, the **bottom bumper** on the end bracket should be 1/2" above the baseplate of the side column.



9 5 sec.



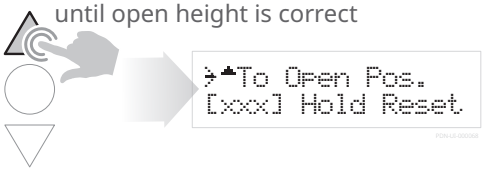
The closed position limit is saved.

You must press and hold the Reset button for five (5) seconds to save the new limit.

You can now set the value for the open limit.

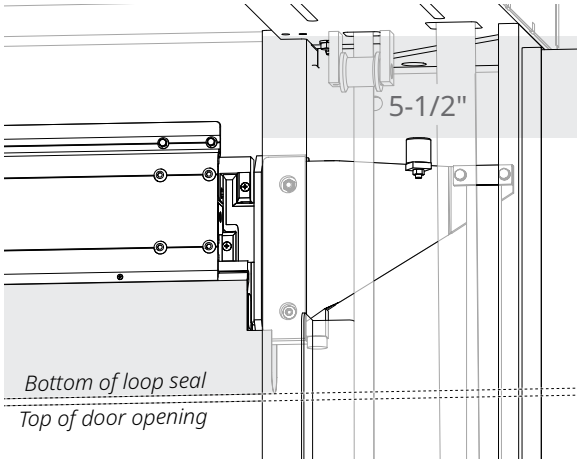
Do This *Result*

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.
- The door is **at the correct open limit** when the bottom of the loop seal is just above the top of the door opening, and the upper bumper on the end brackets are 5-1/2" below the top plates of the side columns.



- **Move at least ten feet** from the door to check the height.

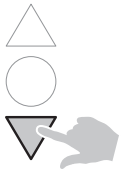
11 5 sec.

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.

Do This *Result*

12



PredaClean
I555 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.

Do This *Result*

13

Test for these conditions while the door opens and closes:

- Door panel moves smoothly
- Door is not unusually noisy
- Drive shaft does not shake
- (Optional) windbars move smoothly
- Door limits are correct

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

IMPORTANT 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.

Go to parameter P:221 (Close Position) or P:231 (Open position) and change the value *(P:221 shown here)*

Do This *Result*

1 until parameter displays

P:Adj Cls Pos S
221= 0 Inc

Default value is 0 Inc.

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

2 1x to move cursor to the right (edit value

P:Adj Cls Pos S
221 0✓Inc

Checkmark indicates current value.

3 until new value displays

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

Press **UP ARROW** to increase Inc.

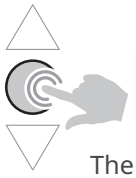
Press **DOWN ARROW** to decrease Inc.

The question mark indicates the value is changed but not yet saved.

Do This *Result*

4 IMPORTANT Do not change the value by more than 5 Inc before testing the door.

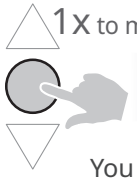
5 until question mark changes to checkmark (value saved)



P:Adj Cls Pos S
221= [x]✓Inc

The new value is saved.

6 1x to move cursor to the left (parameters)



P:Adj Cls Pos S
221= [x] Inc

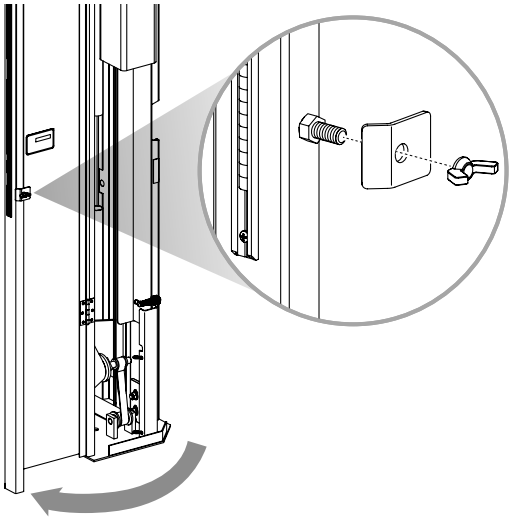
You can now exit parameters.

7 until door exits parameter mode

Fast-Seal
[xxx] Cycles

How to reset the door panel and door ajar breakaway system

1 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



⚠WARNING

CRUSH HAZARD

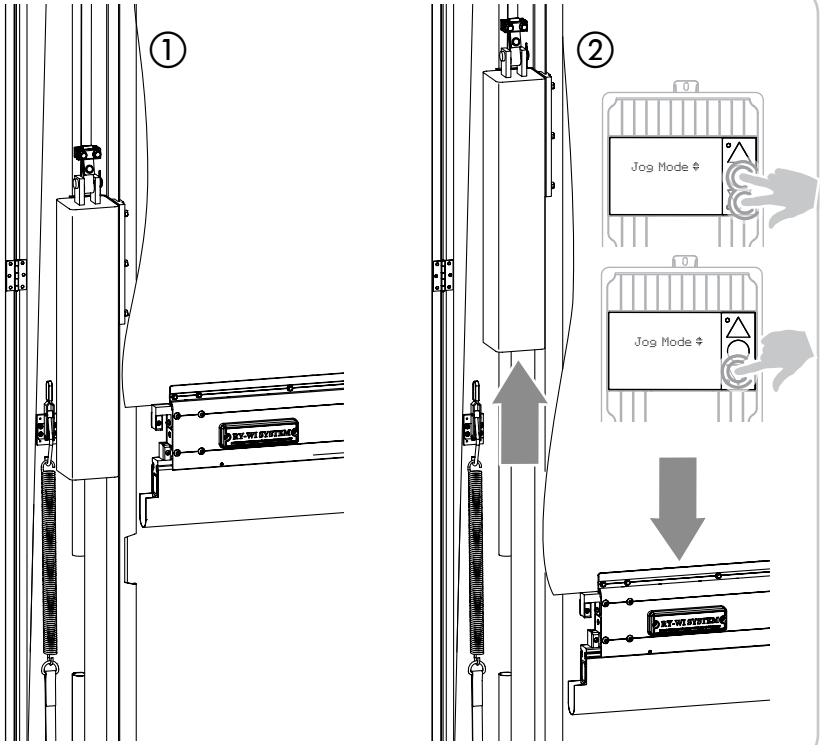
The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

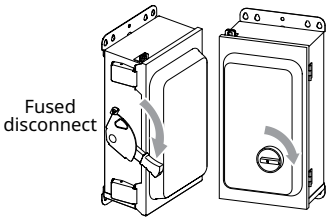
FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

2 If the counterweight is blocking access to the spring release handle ①, **set** the door in jog mode so the handle is clear ②.

Make sure the door panel does not tear as the bottom bar moves up or down.



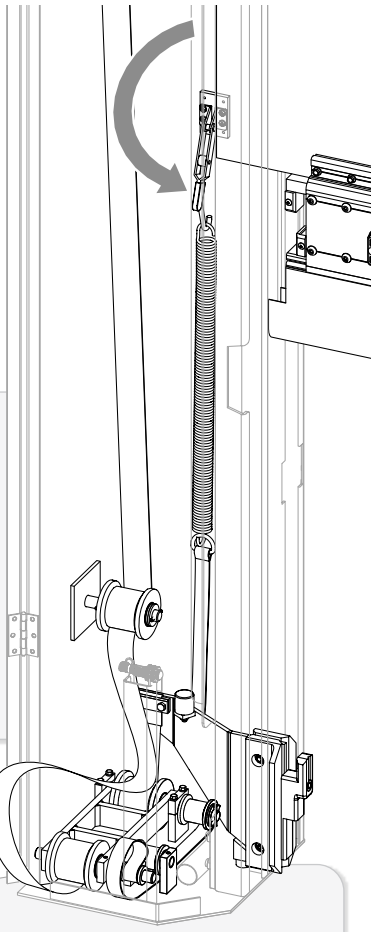
3 **Shut off power to the door** and perform a lockout/tagout.



4 If it is not already on the floor, **make sure** the end bracket slides smoothly to the bottom of the door track.

- The **tensioning strap** should be slack, and the **H-bracket** should be flat on the baseplate from the extra length of strap.

Make sure all straps are straight and clear, then **pull down** the spring release handle to release the spring tension.



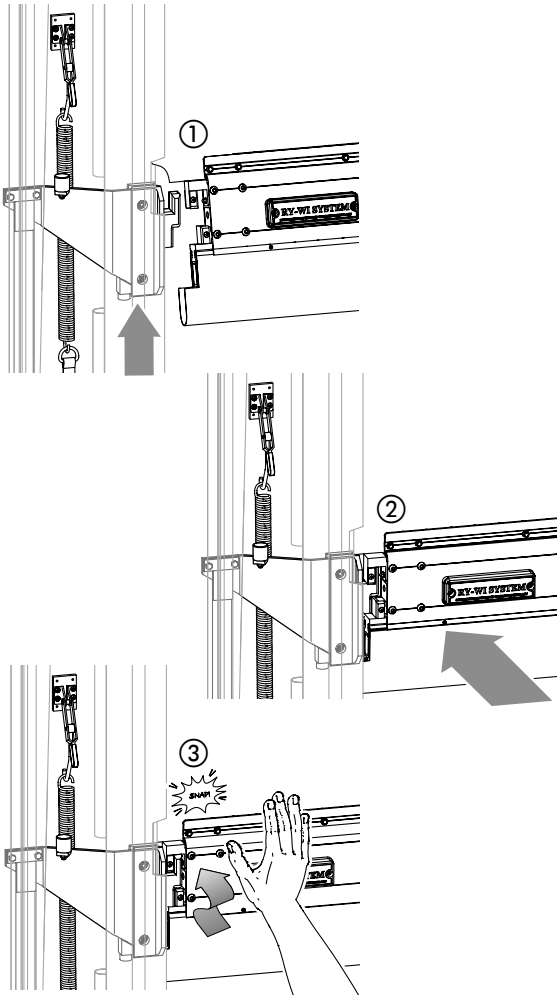
Make sure the tensioning strap and the spring tension strap are loose from the extra length but not twisted or crimped, and are aligned in their rollers.

Pull down on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.

5 **Slide** the end bracket up until it is level with the bottom bar ①, and reconnect it.

② **Line up** the top and bottom L-brackets on the bottom bar with the Z-shaped block on the end bracket and **push them together** until friction from the slider pads holds the bottom bar in place.

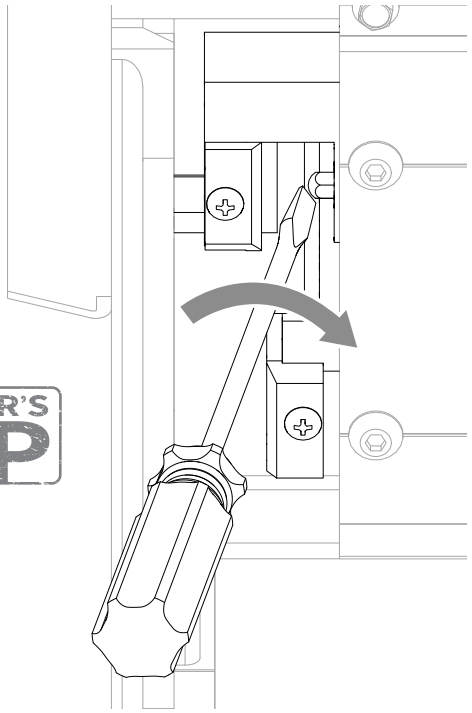
③ **Push** the bottom bar forward in a rocking, motion until the spring plunger clicks. **Position** your other hand behind the bottom bar to prevent overshooting the spring plunger.



6

If the spring plunger is difficult to compress, **use** a large flathead screwdriver to lever it down enough to start sliding in the bottom bar without overshooting.

Then **push in** the bottom bar the rest of the way until you hear the spring plunger click into place.



INSIDER'S TIP

7

Make sure all straps have no twists or kinks and are aligned with their rollers, and the hook on the spring tension handle points towards the back of door.

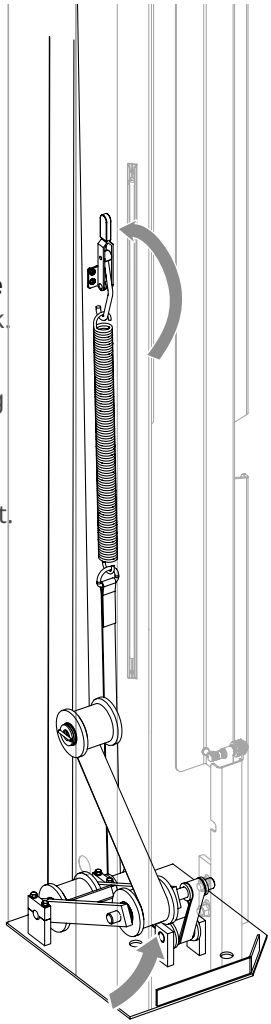
IMPORTANT

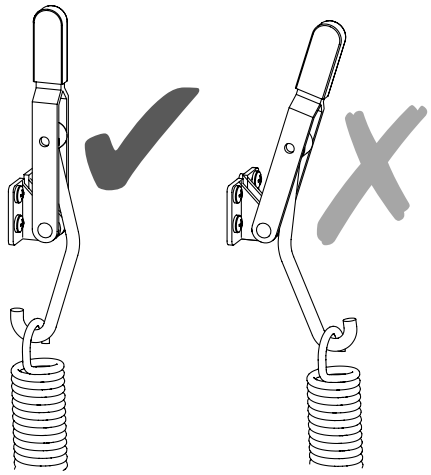
The handle will not latch into place if the hook is not pointing to the back.

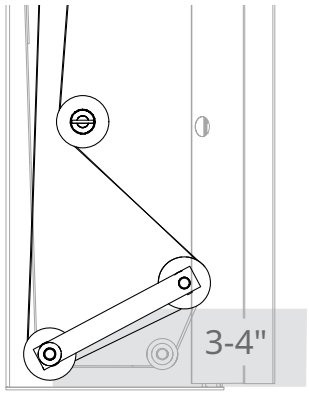
Pull up on the spring release handle until it latches in place and the spring is applying tension.

Make sure the spring strap does not twist or kink as tension is applied to it.

- The front roller of the H-bracket should **rise** to a position 3-4" above the baseplate.

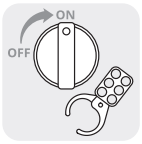




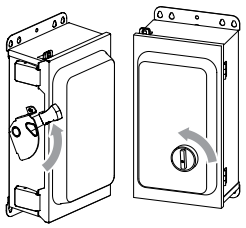


Correct position when door is between open and closed limits

8 **Remove** the lockout/tagout and **restore** power to the door.



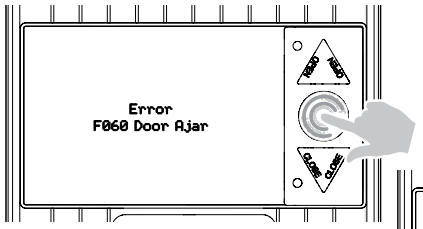
Fused disconnect

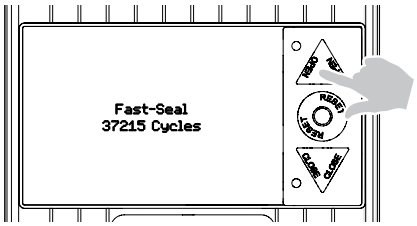


9 **Press and hold the RESET button** to clear the F:060 error.

Then **press** the UP Arrow and watch the door as it cycles through opening and closing

Watch the door through the cycle to make sure the door panel and bottom bar have been reset correctly and the tensioning system is operating correctly.





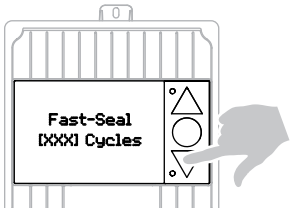
The bottom bar

How to take the door panel out of the door track

For many service tasks, it is easier to first **take the door panel out of the door track.** This gives you unrestricted access to all parts of the bottom bar and the end brackets.

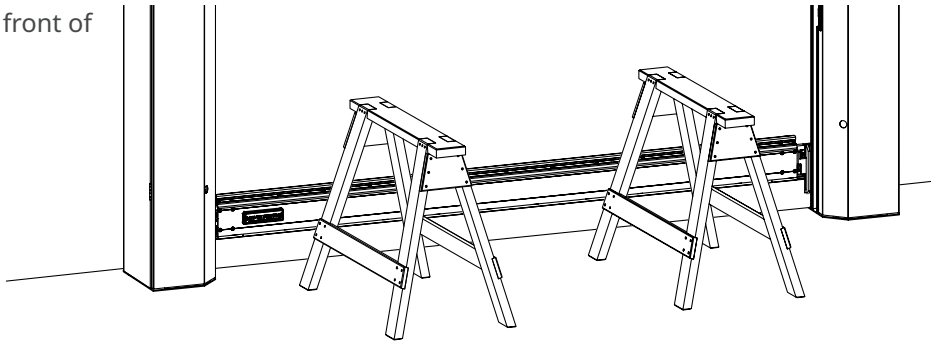
INSIDER'S TIP **It is easier** to work on the wires and components inside the bottom bar if you have a work surface at working height to place the cover on when you remove it.

1 If the door is not already closed, **press** the CLOSE button to move the door to the fully closed position.



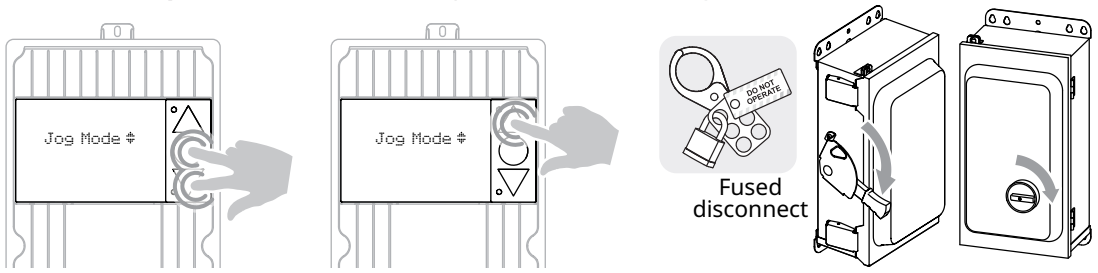
2 **Place** saw horses in front of the door opening.

(2) Saw horses



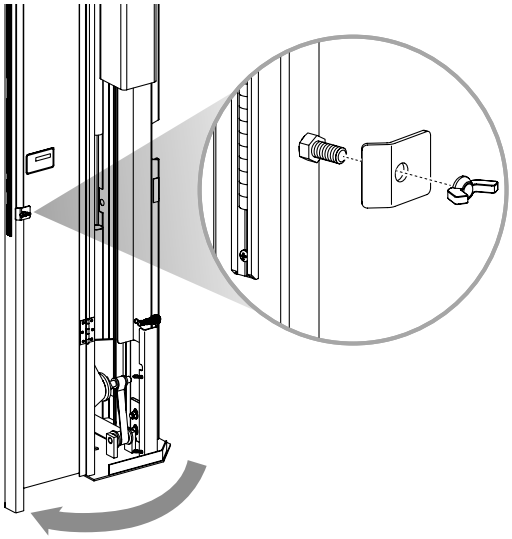
3 **Switch** the door to jog mode and **jog** the door up to a height where you will be able to fold over the door panel and lay the bottom bar flat on the saw horses.

Then **shut off power to the door** and perform a lockout/tagout.

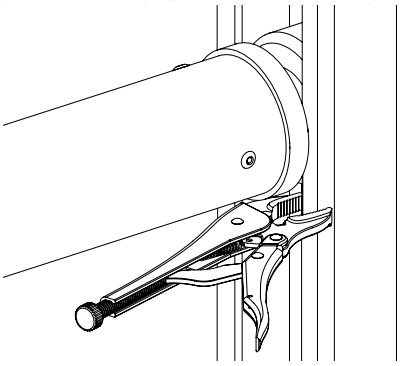


4 If the door has windbars that will prevent you from removing the bottom bar at a comfortable working height, you will need to secure them so they are out of the way.

- First, **loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open so that you can access the windbar guides, then **replace** the latch and nut on the retaining screw so they are not misplaced. **Do this** in both side columns.
- Then **lift** the windbar so it is out of the way, and **use** a pair of vise grips to secure it in place.



(2) Vise grips



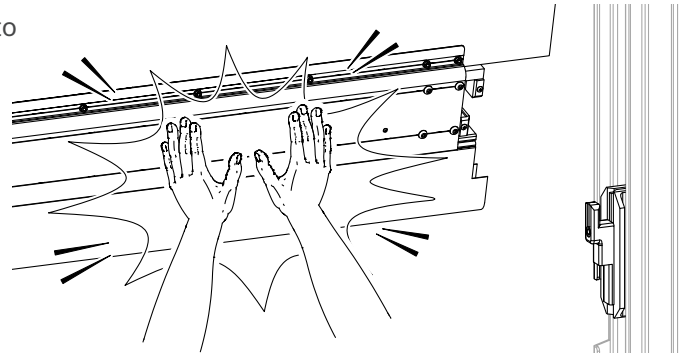
⚠ WARNING

This procedure requires you to strike the metal bottom bar hard enough to push the door panel out of the door track.

Do not attempt this procedure if you have a previous injury which might be aggravated by the force of the contact.

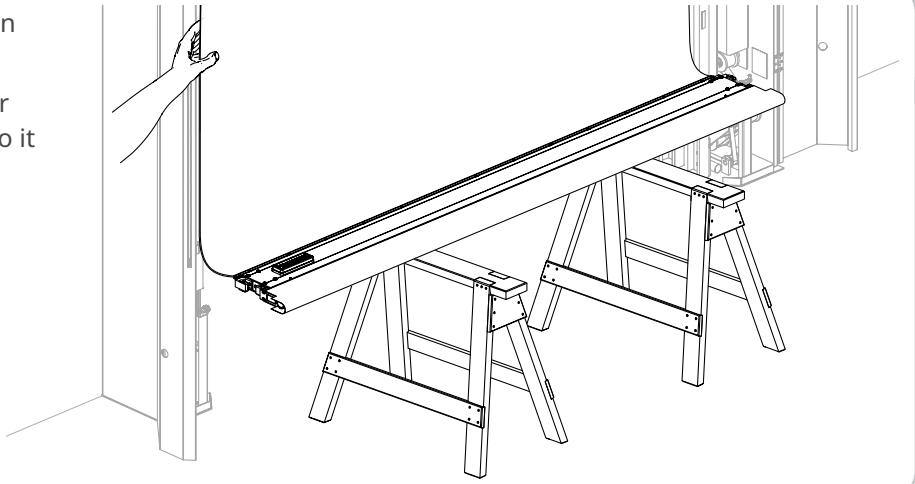
5 **Strike the bottom bar** hard enough to separate it from the end bracket.

- **This is most easily done** near a side column.
- **Do this** on both sides of the bottom bar.
- **Allow** the end brackets to fall to the bottom of the side column.



6 **Place** the bottom bar on the saw horses.

Pull the rest of the door panel out of the track so it hangs freely.



How to put the door panel back in the door track when you are finished

⚠WARNING

CRUSH HAZARD

The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

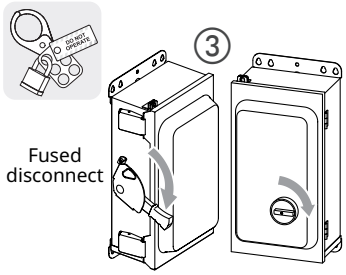
- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

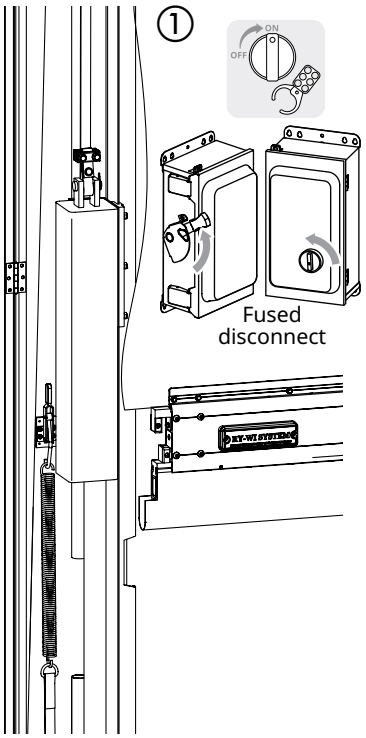
FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

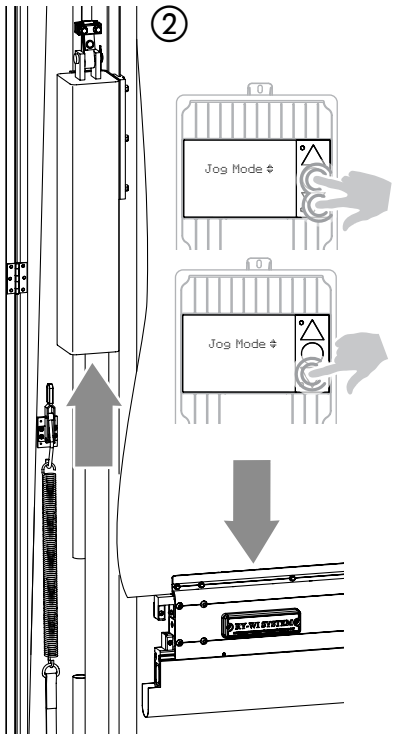
1 If the counterweight is blocking access to the spring release handle ①, **restore** power to the door, **set** the door in jog mode, and **jog it** so the handle is clear ②.

Make sure the door panel does not tear as the bottom bar moves up or down.

Then **shut off power** and perform a lockout/tagout ③.



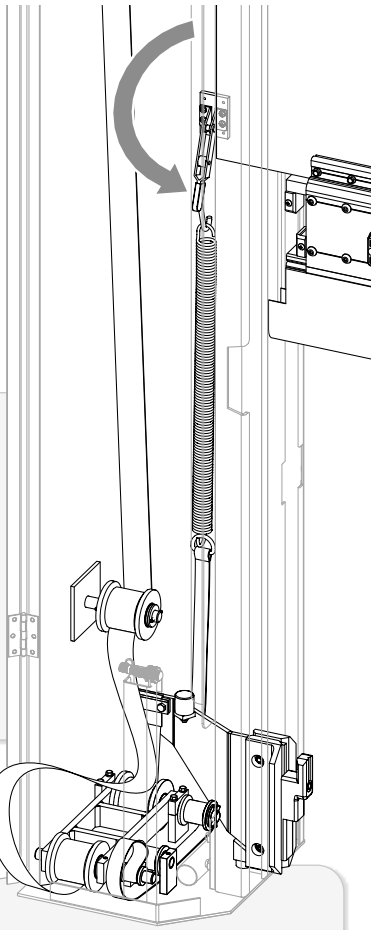




2 If it is not already on the floor, **make sure** the end bracket slides smoothly to the bottom of the door track.

- The **tensioning strap** should be slack, and the **H-bracket** should be flat on the baseplate from the extra length of strap.

Make sure all straps are straight and clear, then **pull down** the spring release handle to release the spring tension.



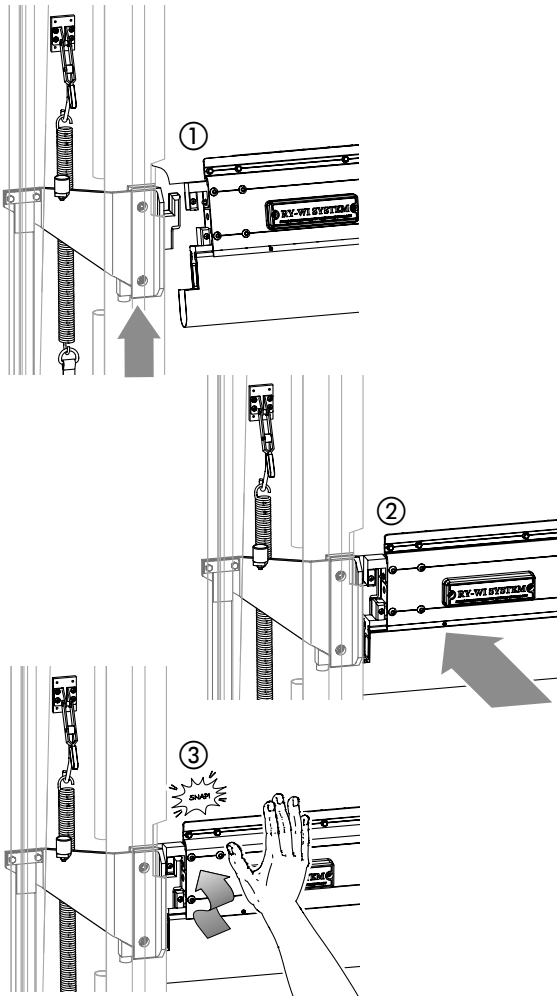
Make sure the tensioning strap and the spring tension strap are loose from the extra length but not twisted or crimped, and are aligned in their rollers.

Pull down on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.

3 **Slide** the end bracket up until it is level with the bottom bar ①, and reconnect it.

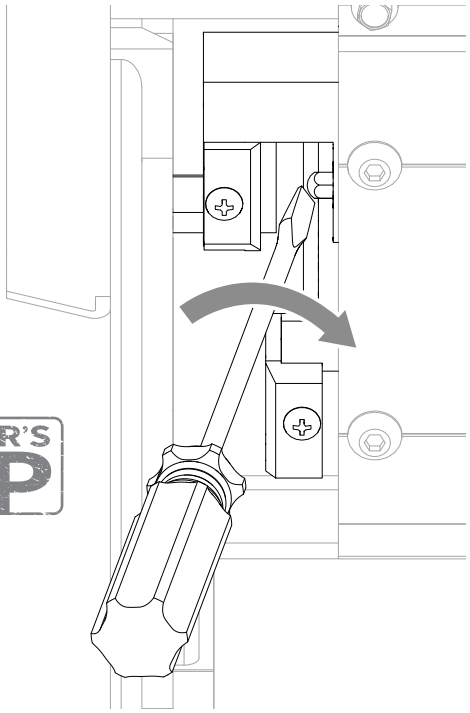
② **Line up** the top and bottom L-brackets on the bottom bar with the Z-shaped block on the end bracket and **push them together** until friction from the slider pads holds the bottom bar in place.

③ **Push** the bottom bar forward in a rocking, motion until the spring plunger clicks. **Position** your other hand behind the bottom bar to prevent overshooting the spring plunger.



4 If the spring plunger is difficult to compress, **use** a large flathead screwdriver to lever it down enough to start sliding in the bottom bar without overshooting.

Then **push in** the bottom bar the rest of the way until you hear the spring plunger click into place.



INSIDER'S TIP

5 **Make sure** all straps have no twists or kinks and are aligned with their rollers, and the hook on the spring tension handle points towards the back of door.

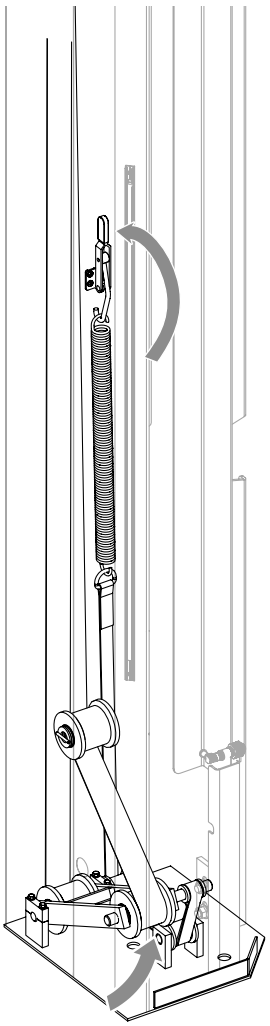
IMPORTANT

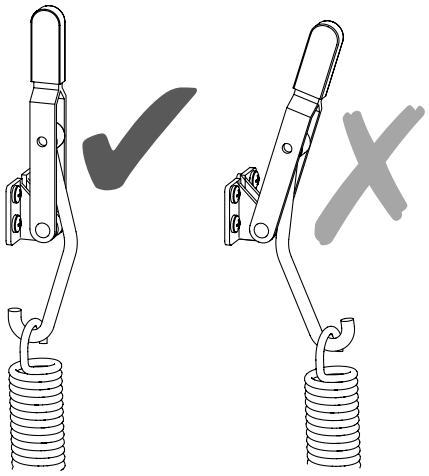
The handle will not latch into place if the hook is not pointing to the back.

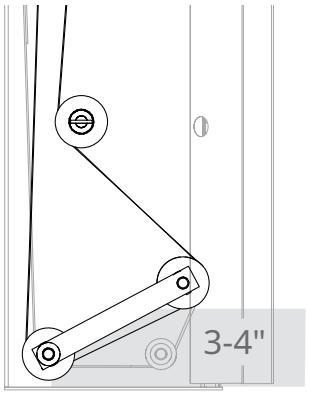
Pull up on the spring release handle until it latches in place and the spring is applying tension.

Make sure the spring strap does not twist or kink as tension is applied to it.

- The front roller of the H-bracket should **rise** to a position 3-4" above the baseplate.

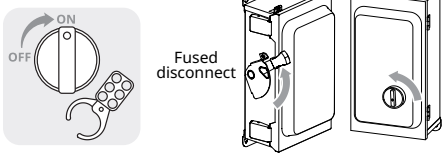






Correct position when door is between open and closed limits

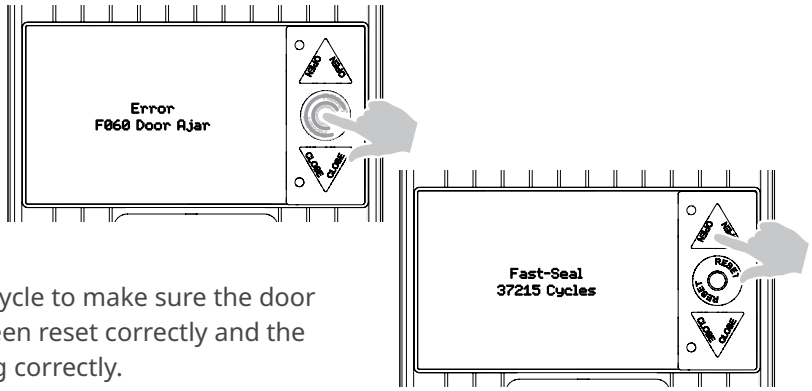
6 **Remove** the lockout/tagout and **restore** power to the door.



7 If the controller shows an F:060 (door ajar) error, **press and hold the RESET button** to clear the F:060 error.

Then **press** the UP Arrow and watch the door as it cycles through opening and closing

Watch the door through the cycle to make sure the door panel and bottom bar have been reset correctly and the tensioning system is operating correctly.



8 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

9 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

How to remove and replace the entire bottom bar

IMPORTANT

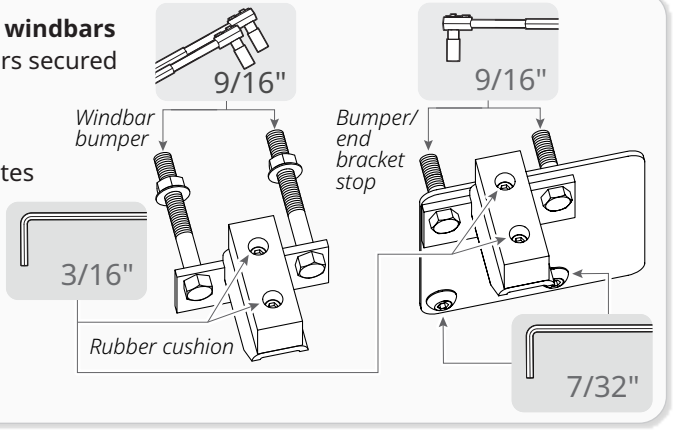
You must update the mobile unit address at parameter P:F07 to allow the controller to locate and communicate with the mobile unit in the new bottom bar. The address is **a hexadecimal number (includes numbers and letters)** listed on a label attached to the brown wire at terminal 3 on the new mobile unit.

1 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

2 For doors with strapless windbars, **remove** the windbar bumpers.

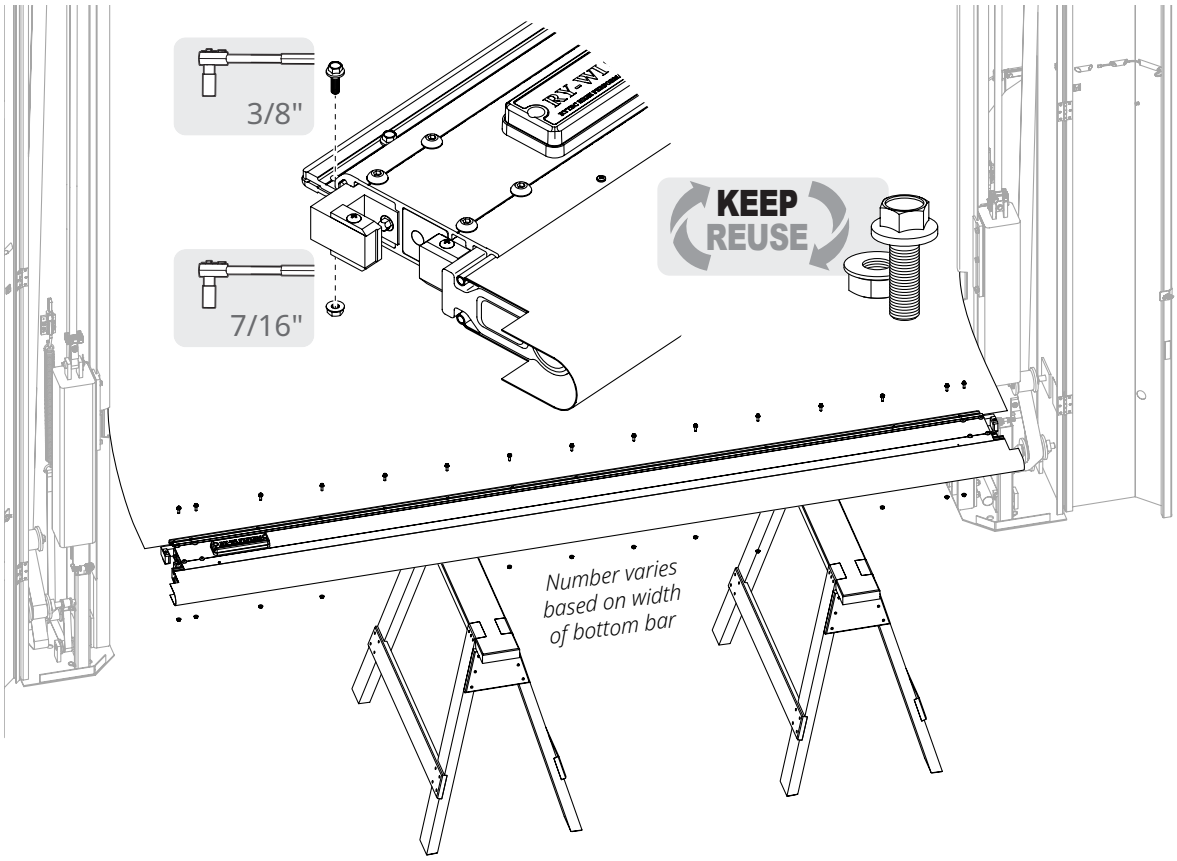
Doors with **strapless windbars** have windbar bumpers secured to the bottom bar.

The bumpers at each end include cover plates (end bracket stops) that prevent the end brackets from detaching when the door is hit.

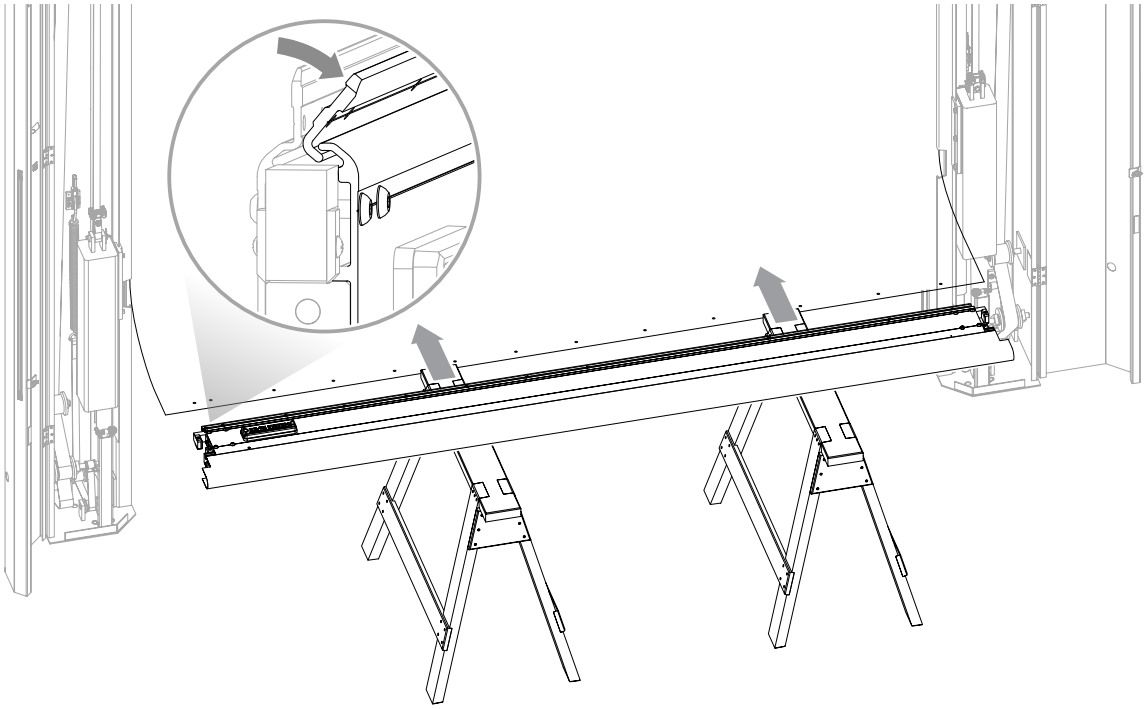


3 **Loosen and remove** the bolt/nut combinations along the top of the bottom bar.

You will **reinstall** all bolts/nuts after you replace the bottom bar, so **retain** all hardware.

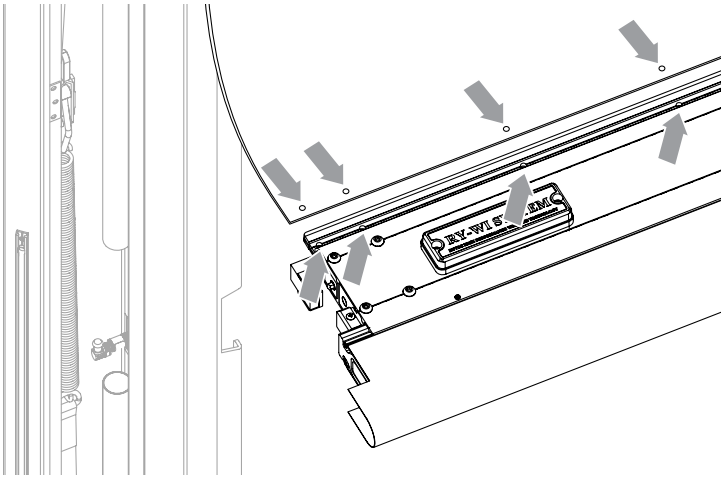


4 **Swing the clamp plate free of the bottom bar frame and slide** the door panel away from the bottom bar. Then **remove** the bottom bar.



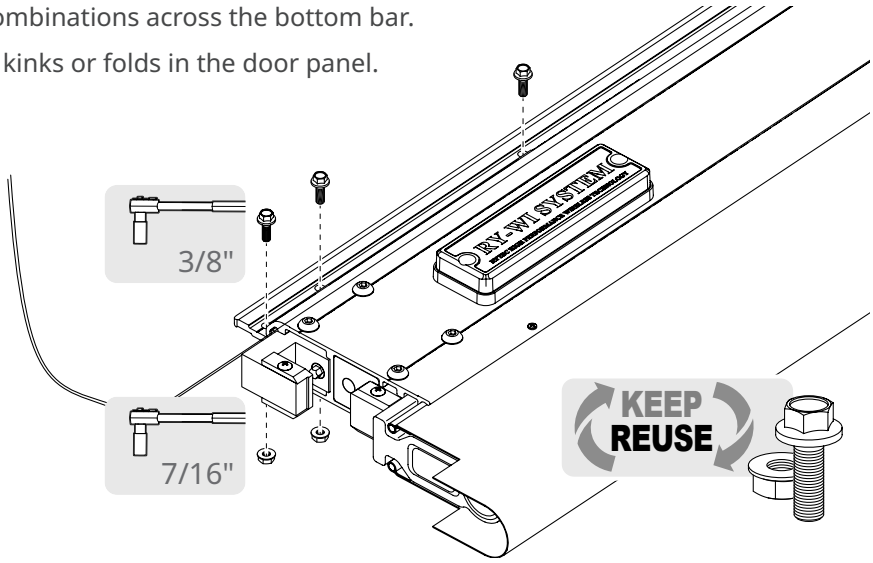
5 **Place** the new bottom bar on the saw horses and line up the bolt holes at the top of the bar with the existing holes in the door panel.

Slide the door panel into the new bottom bar until the holes line up and **swing** the clamp place into place so its holes also line up..

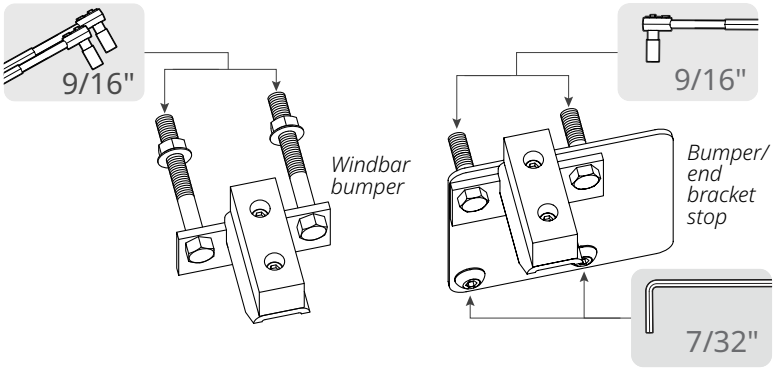


6 **Reinstall** the bolt/nut combinations across the bottom bar.

Make sure there are no kinks or folds in the door panel.



7 For doors with strapless windbars, **reinstall** the windbar bumpers.



8 See *How to remove and replace the mobile unit* starting on page 86 for the steps to locate the mobile unit address of the new mobile unit and sync it with the controller.

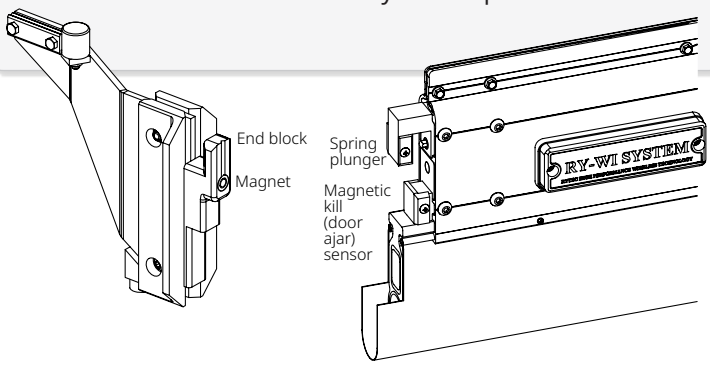
9 **Follow the steps** in *How to put the door panel back in the door track when you are finished* on page 65 to put the door panel back in the door track, set limits, and test the door.

How to remove and replace an end bracket

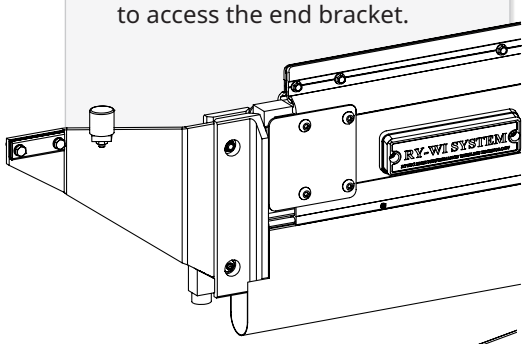
Before you begin: things to know about the Fast-Seal end brackets

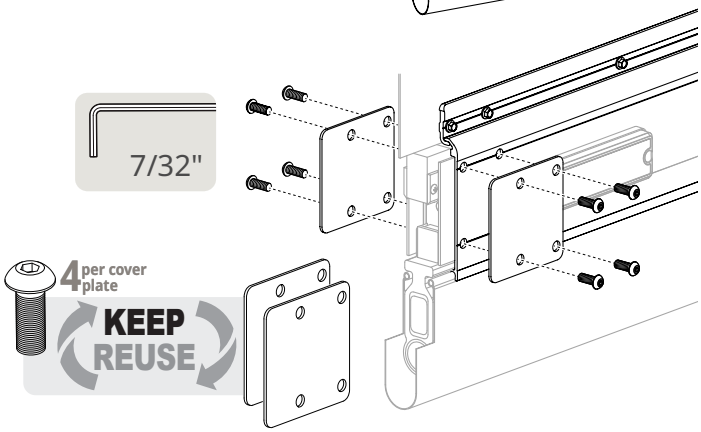
- The Fast-Seal was the **first door** to feature a door ajar breakaway system, and features the first design for a **breakaway bottom bar.**
- The end brackets **detach from the bottom bar** when the door panel is struck.
- The **bottom bar must be reassembled** before the door can return to service.

- The end brackets have a **z-shaped end block** that slots into the end block in the bottom bar.
- A **spring-loaded plunger** snaps into the notch in the end block to secure the end bracket in place.
- On contact, the end brackets **remain in the door track** while the rest of the bottom bar swings freely.
- A **magnetic sensor** in the bottom bar senses that the magnet in the end block has moved away and stops the door.



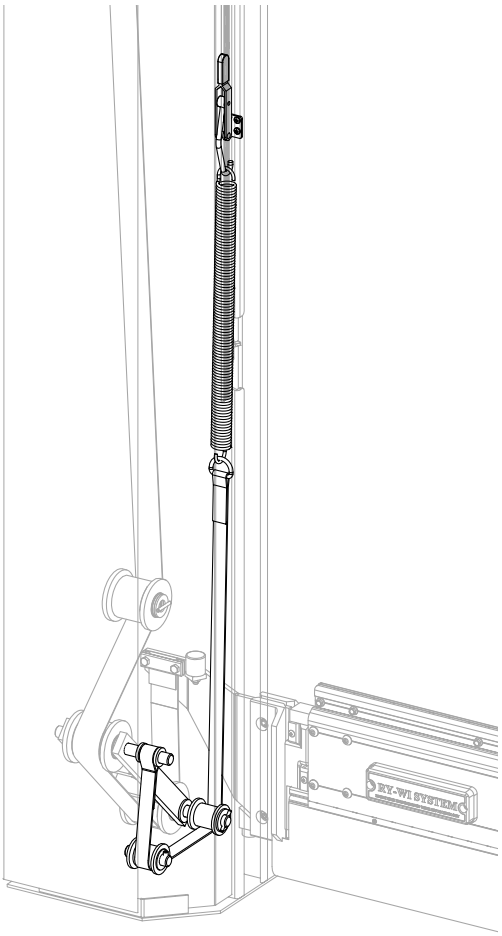
- The door ajar breakaway system is **deactivated** on doors that are >24' (twenty four feet) wide, or that have strapless windbars (see next section).
- Two **steel cover plates** prevent the end brackets from detaching on contact.
- On these doors, you will need to remove the cover plates in order to access the end bracket.





Before you begin: things to know about the end bracket tensioning system

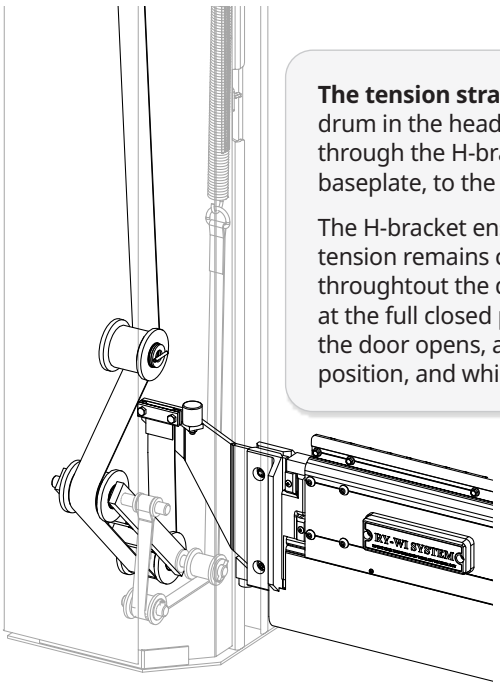
- The tensioning system attaches to the outer arm of the end brackets and applies downward tension on the door panel as the door moves up and down.
- This keeps the door panel taut and straight even when there is considerable difference in air pressure on either side of the door.
- It also keeps the end brackets in the door tracks if the door ajar breakaway system is activated by a strike.



The spring strap connects the tensioning spring to the H-bracket.

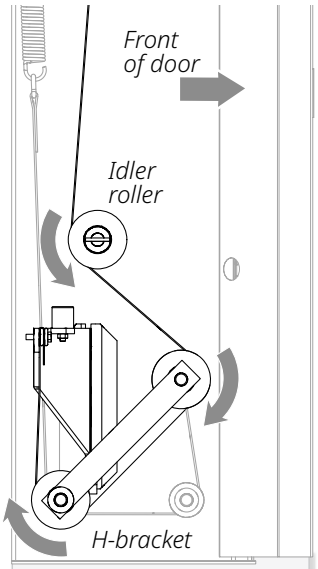
This provides the tension to the end bracket by pulling down on the H-bracket, which increases tension on the tension strap.

The spring release handle controls the spring tension. Pull the handle down to release tension so you can adjust the tension strap, then pull it back up when your adjustments are complete.

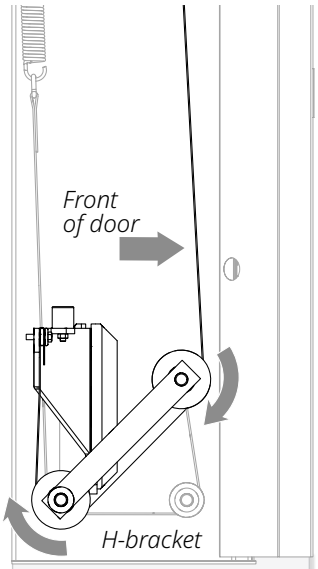


The tension strap runs from the drum in the head assembly, through the H-bracket at the baseplate, to the end bracket .

The H-bracket ensures that the tension remains constant throughtout the door cycle: at the full closed position, while the door opens, at the fully open position, and while the door closes.



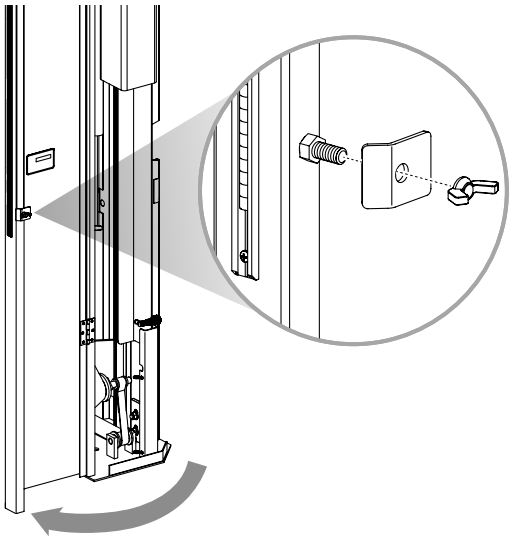
On taller doors: the strap is routed around the back of the idler roller, then the front of the H-bracket, then around the bottom to the end bracket.



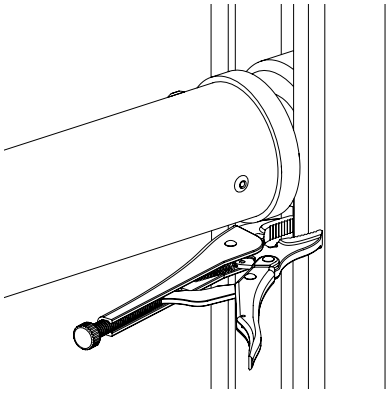
On shorter doors: there is no idler roller. The strap is routed around the front of the H-bracket, then around the bottom to the end bracket.

1 If the door has windbars that will prevent you from moving the bottom bar when it is at a comfortable working height, you will need to secure them so they are out of the way.

- First, **loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open so that you can access the windbar guides, then **replace** the latch and nut on the retaining screw so they are not misplaced. **Do this** in both side columns.
- Then **lift** the windbar so it is out of the way, and **use** a pair of vise grips to secure it in place.



(2) Vise grips

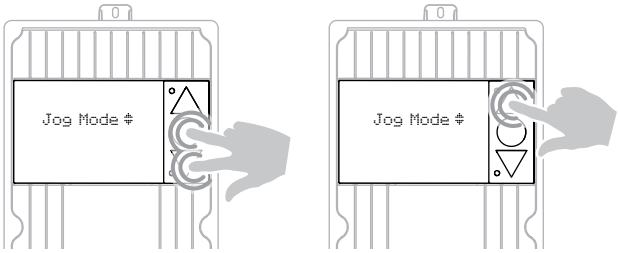


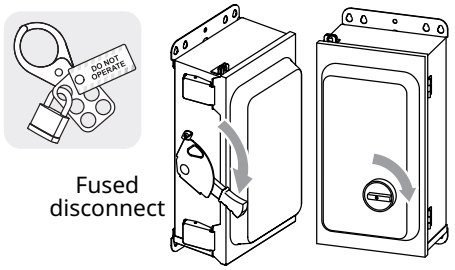
1 **Switch** the door to jog mode and **jog** the door up to a comfortable working height.

IMPORTANT

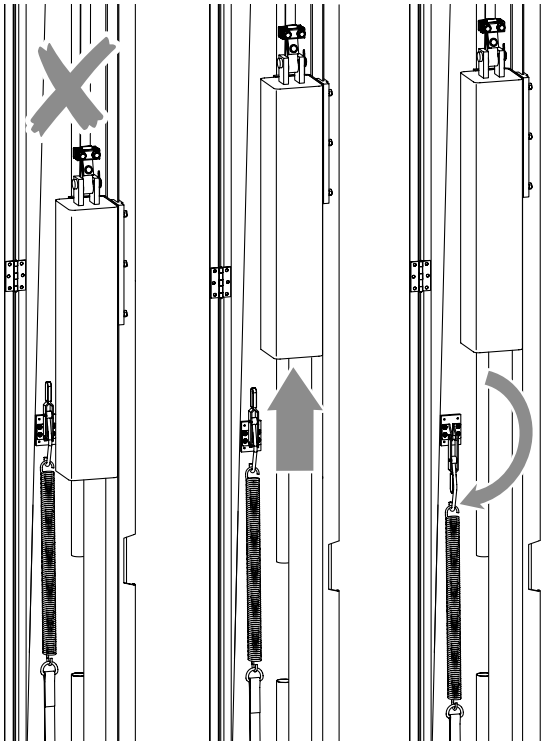
Check that the height of the door panel is set so that the counterweight does not block access to the spring release handle. You should be able to move the handle up and down without making contact with the counterweight.

Then **shut off power to the door** and perform a lockout/tagout.





Fused disconnect



2 If necessary, **remove the cover plates** so the bottom bar can be separated from the end brackets.

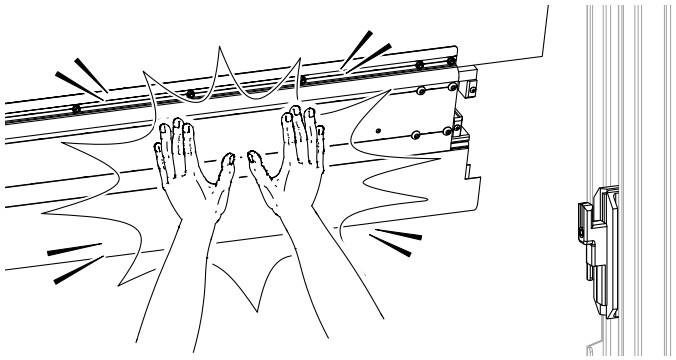
⚠ WARNING

This procedure requires you to strike the metal bottom bar hard enough to push the door panel out of the door track.

Do not attempt this procedure if you have a previous injury which might be aggravated by the force of the contact.

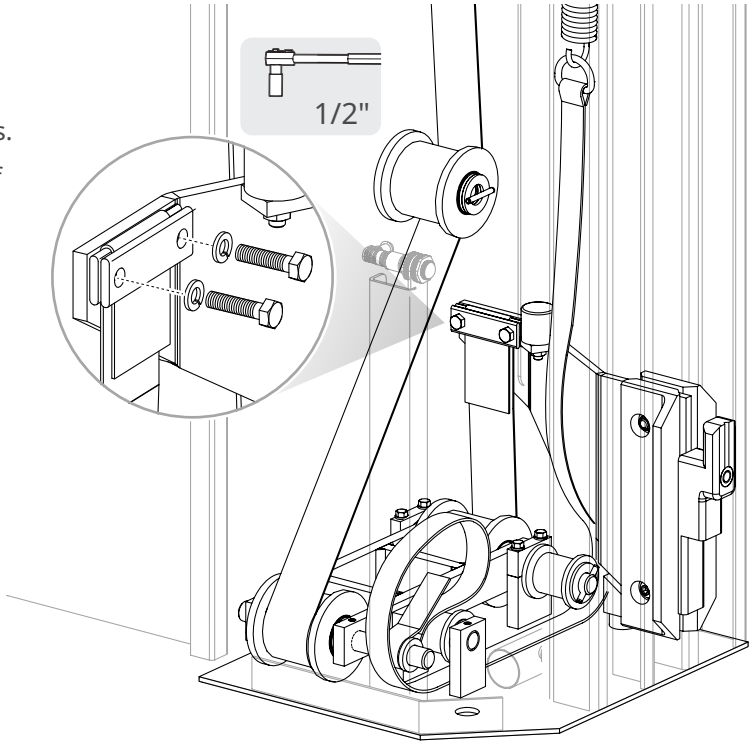
3 **Strike the bottom bar** hard enough to separate it from the end bracket you are going to replace.

- **This is most easily done** near the side column.
- **Allow** the end brackets to fall to the bottom of the side column.



4 **Loosen** the two bolts that secure the end bracket to the tension strap, then remove the bolts, locking washers and clamp plates.

Then **slide** the end bracket out of the door track.



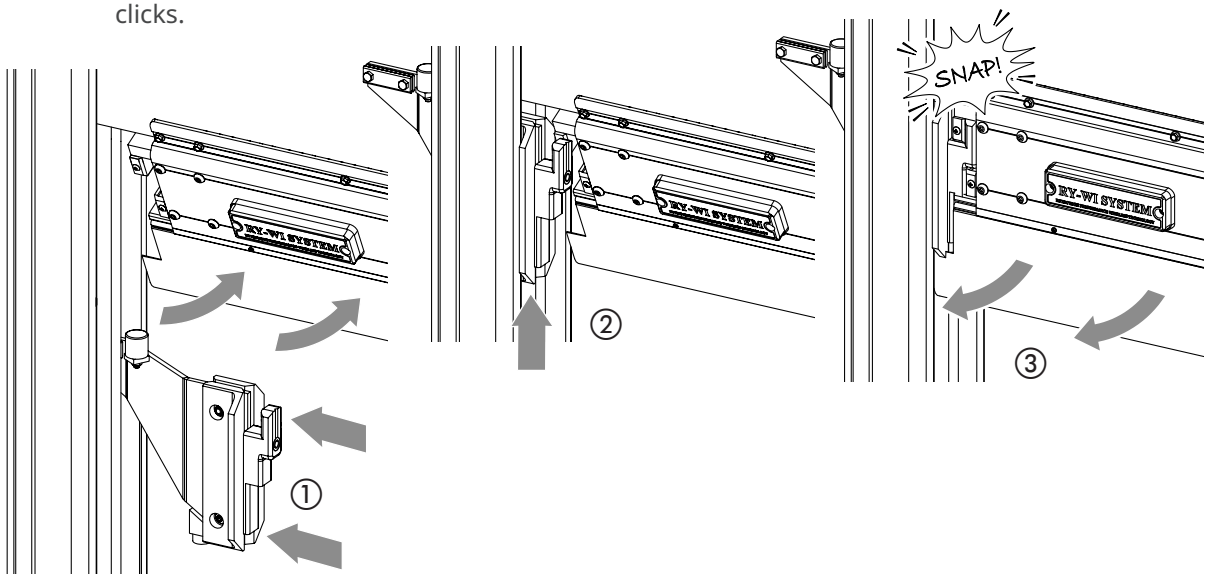
5

Install the new end brackets into the bottom bar.

① **Swing** the bottom bar back, then **slide** the end bracket into the door track.

② Raise the end bracket until it is level with the bottom bar and the z-shaped bracket is aligned with the slot in the bottom bar.

③ Swing the bottom bar forward and slot the end bracket into place until the spring plunger clicks.

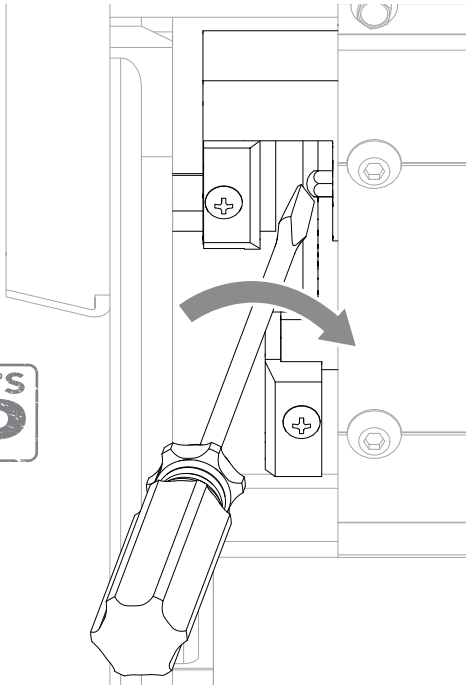


6

If the spring plunger is difficult to compress, **use** a large flathead screwdriver to lever it down enough to start sliding in the bottom bar without overshooting.

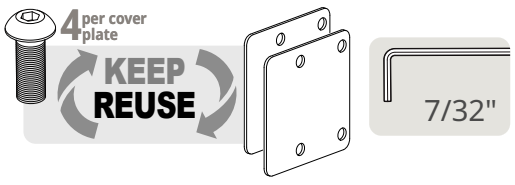
Then **push in** the bottom bar the rest of the way until you hear the spring plunger click into place.

INSIDER'S TIP



7

If the bottom bar had steel cover plates, **reinstall** them.

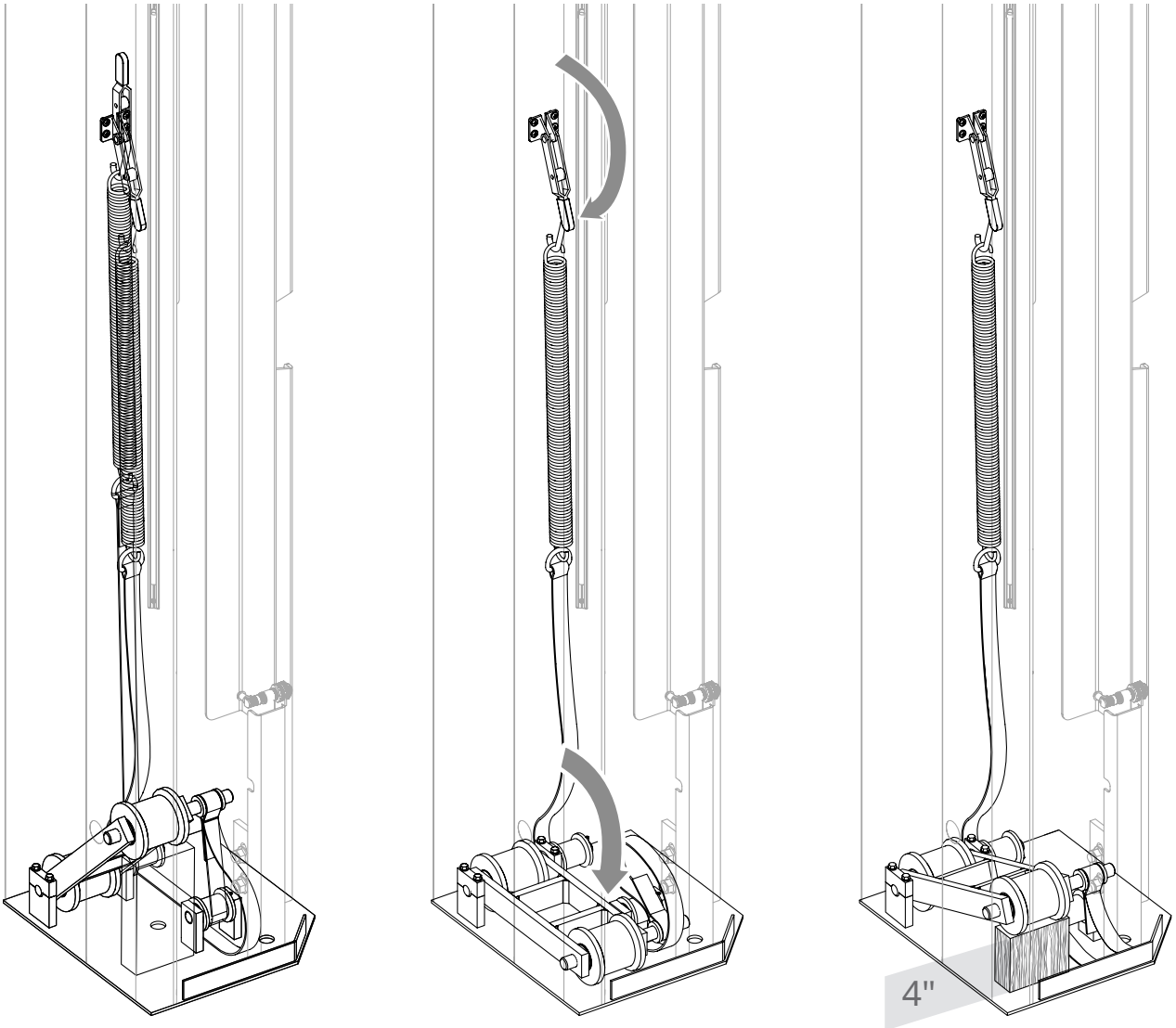


⚠WARNING	
	**CRUSH HAZARD** **The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.** ▪ **Make sure** you swing down the handle as slowly and gradually as possible. ▪ **Make sure** to keep hands away from the spring and the area below the handle. **FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.**

8 **Pull down** on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.

Then **block the front roller of the H-bracket** at a height of four inches (4") using a piece of wood.

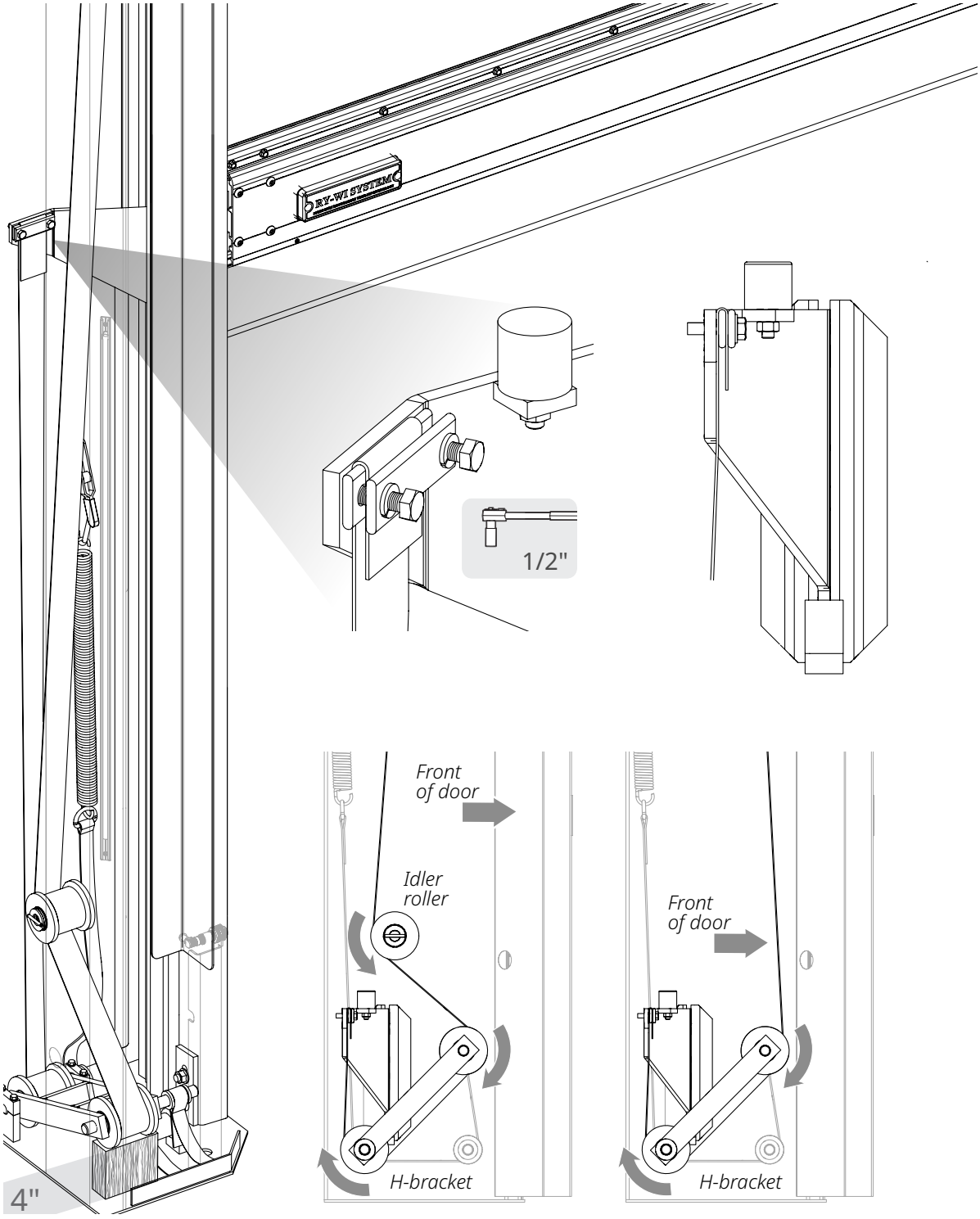
▪ With no tension applied, the H-bracket can now move freely up and down.



9 **Make sure** the tension strap from the head assembly is not twisted and has been pulled tight.

Route the strap around the H-bracket, then **loosen** the two bolts that secure the strap clamp in the end bracket and **thread** the strap through the clamp plates as shown here. **Pull the strap tight,** then secure the bolts.

DO NOT TRIM the strap.

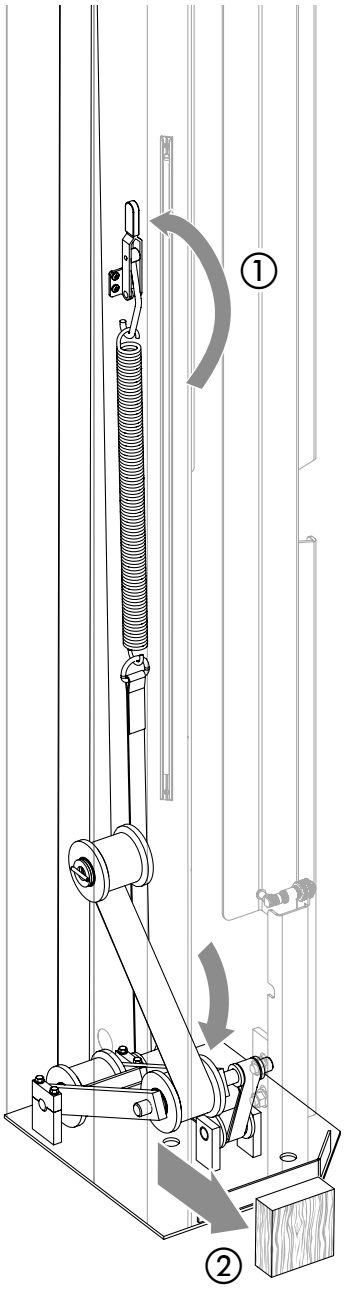


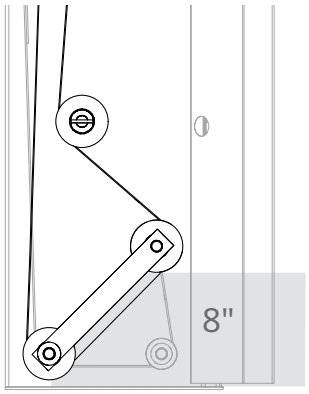
10 **Pull up** on the spring release handle until it latches in place and the spring is applying tension ①.

Make sure the spring strap does not twist or kink as tension is applied to it.

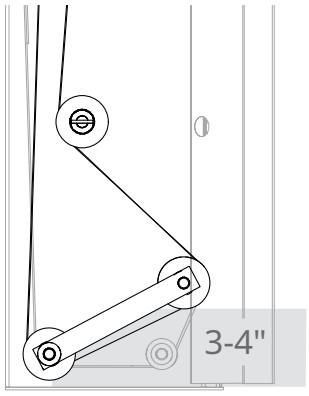
Then **remove** the wood block to free the H-bracket.

- The front roller of the H-bracket might **drop** an inches once the block is released.
- **When the tensioning system is operating correctly,** the front roller should be at a height of eight inches (8") when the door is in the fully open or closed position. It should gradually swing lower, then swing back up, as the door is in motion.

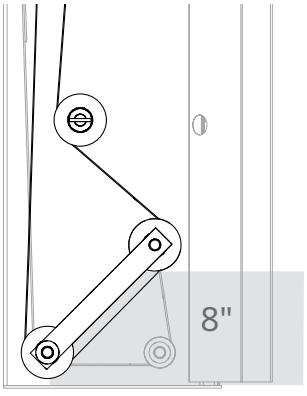




Door fully closed

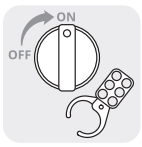


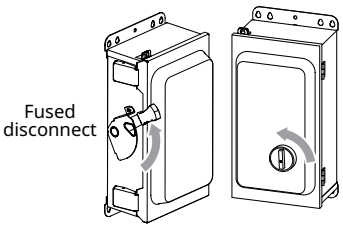
Door in motion



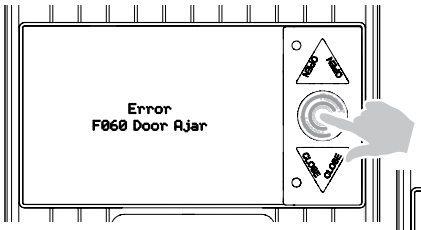
Door fully open

11 **Remove** the lockout/tagout and **restore** power to the door.



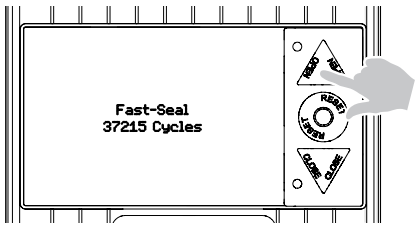


12 If the controller shows an F:060 (door ajar) error, **press and hold the RESET button** to clear the F:060 error.



Then **press** the UP Arrow and watch the door as it cycles through opening and closing

Watch the door through the cycle to make sure the door panel and bottom bar have been reset correctly and the tensioning system is operating correctly.

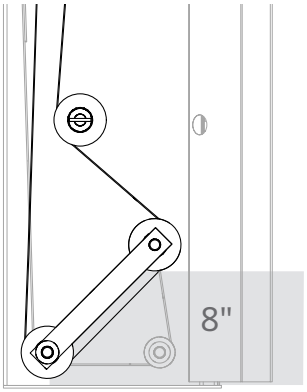


13 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

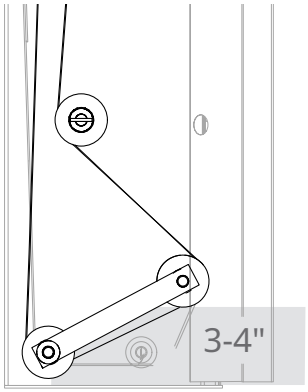
14 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles.

Make sure the door panel and the new end bracket are moving smoothly in the track.

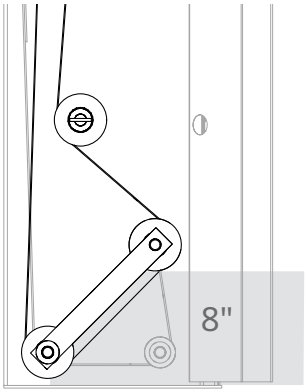
Also make sure the front roller of the H-bracket is **at the correct height** through the cycle.



Door fully closed



Door in motion



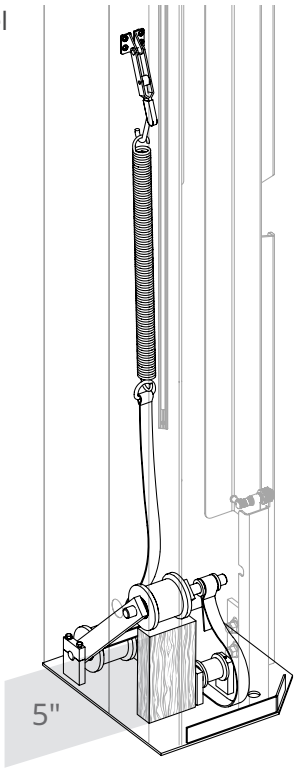
Door fully open

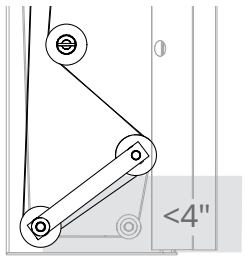
15 If the H-bracket swings too high or too low while the door is in motion, **set** the door panel at the vertical center of the door opening, **block** the front roller again, **release** the spring, and **adjust** the length of the strap to change the tension.

- **If the H-bracket does not drop low enough:**
  Loosen the clamp on the end bracket and **reset** the tension strap so there is a small amount of slack, to lower the tension. **Tighten** the clamp.
- **If the H-bracket drops too low:**
  Use a block of wood that is one inch (1") taller than the original block used, then loosen the clamp on the end bracket and pull the tension strap tight. **Tighten** the clamp.

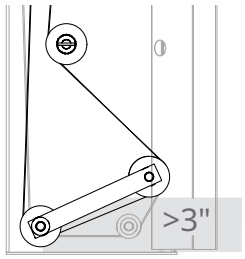
IMPORTANT

Test the door until the H-brackets in both side columns swing down to the same correct height.





H-bracket does not drop low enough:
SET TENSION LOWER

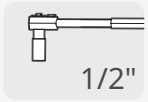


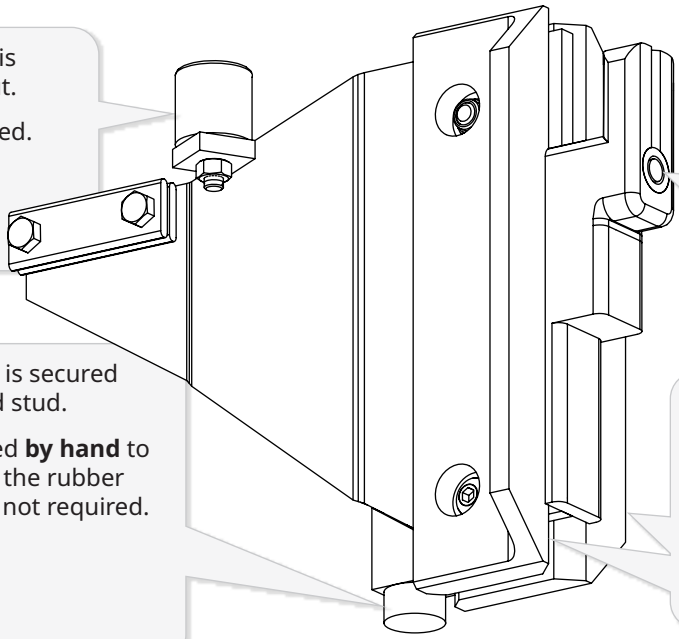
H-bracket drops too low:
SET TENSION HIGHER

How to remove and replace the parts of the end bracket

The **upper bumper** is secured by a 1/2" nut.

Loctite is not required.





The **door ajar kill switch magnet** is held in place by friction, so Loctite must be applied if it is loose or needs to be replaced.

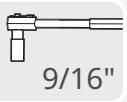
The **lower bumper** is secured by its own threaded stud.

It should be installed **by hand** to prevent damage to the rubber material. **Loctite** is not required.

Hand tight

The **two guides** are held in place by two bolt/nut combos.

Bolt



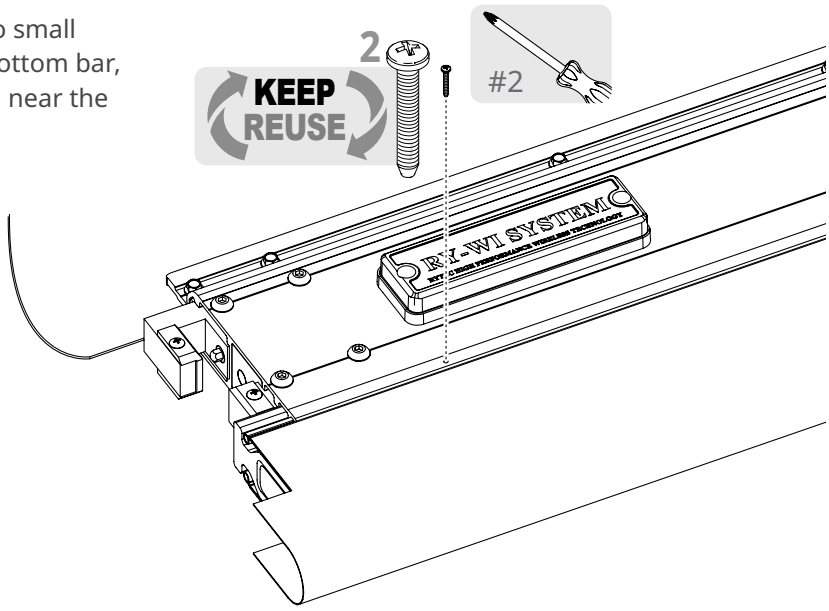
Nut

How to remove and replace the loop seal

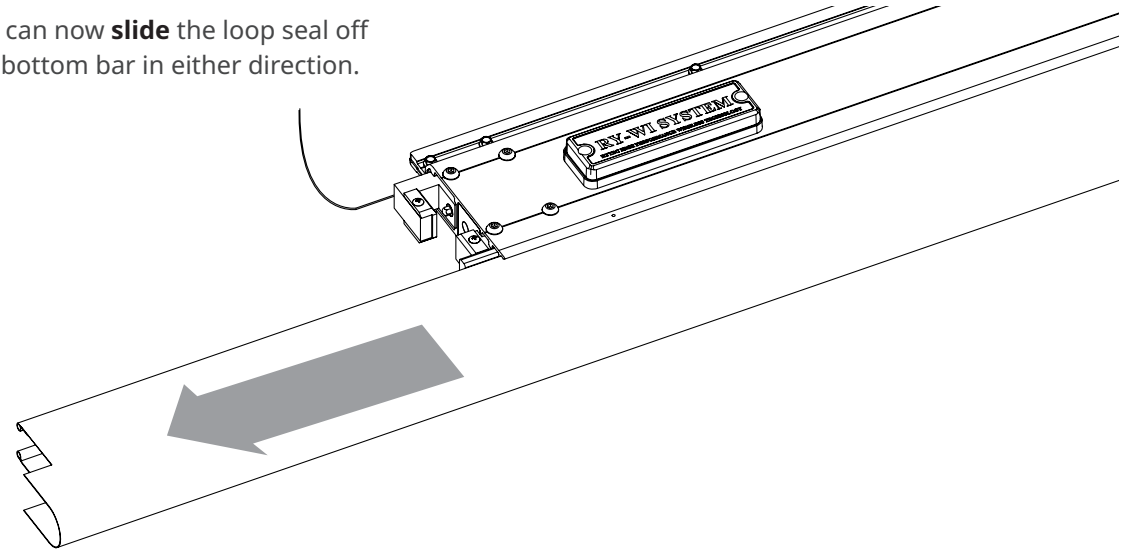
1 Follow the steps in *How to take the door panel out of the door track* starting on page 60 to move the bottom bar out of the door track.

2 **Locate and remove** the two small screws on the front of the bottom bar, just above the loop seal and near the end of each side of the bar.

Retain the screws.



3 You can now **slide** the loop seal off the bottom bar in either direction.

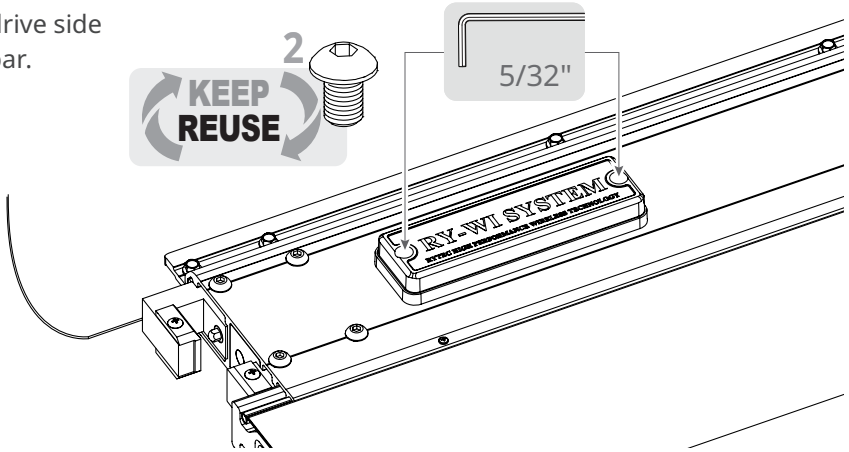


4 **Reverse** these steps to install the new loop seal.

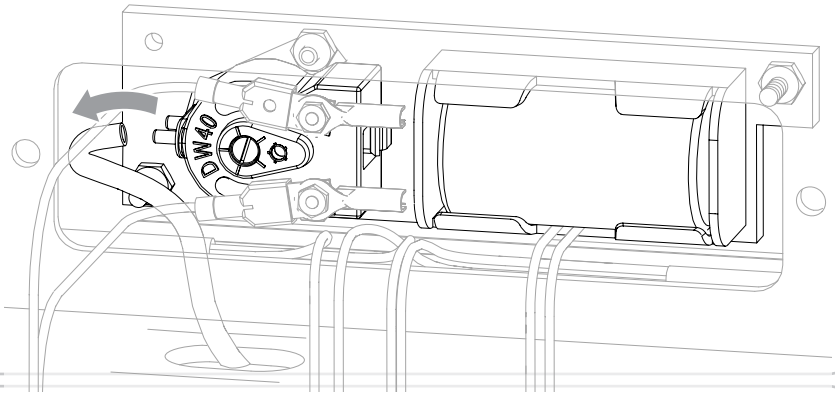
How to remove and replace the reversing edge

1 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

2 **Remove** the cover to the drive side enclosure on the bottom bar.



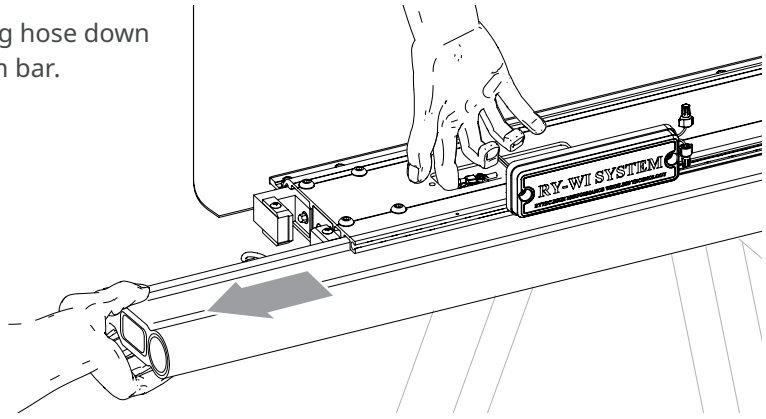
3 **Disconnect** the hose at the back of the reversing edge pneumatic switch.



4 **Reach** in and **push** the connecting hose down and out of the body of the bottom bar.

Pull the reversing edge out and to the side.

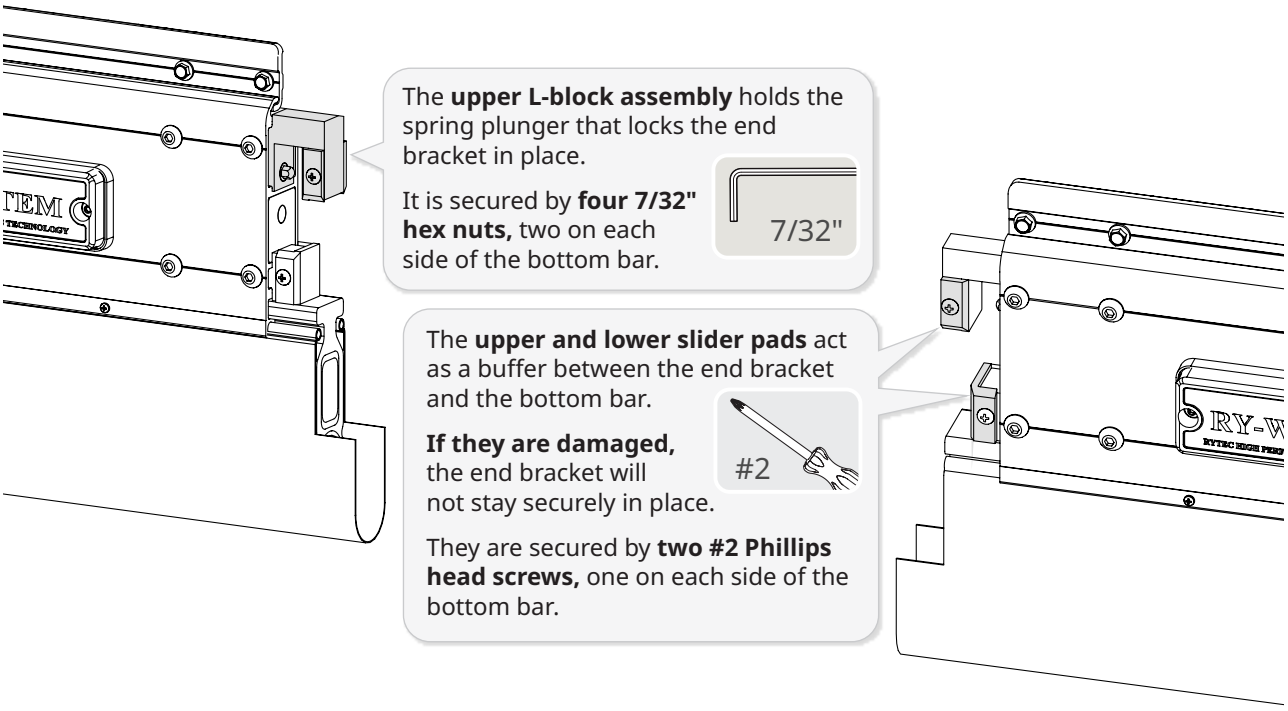
Reverse these steps to install the new reversing edge.



5 **Reverse** these steps to install the new reversing edge.

6 **Follow the steps** in *How to put the door panel back in the door track when you are finished* on page 65 to put the door panel back in the door track, set limits, and test the door.

How to remove and replace the upper L-block assembly or slider pads



How to remove and replace the bottom bar frame

1. **Follow the steps** in *How to remove and replace the entire bottom bar* starting on page 68 to remove the bottom bar from the door panel.

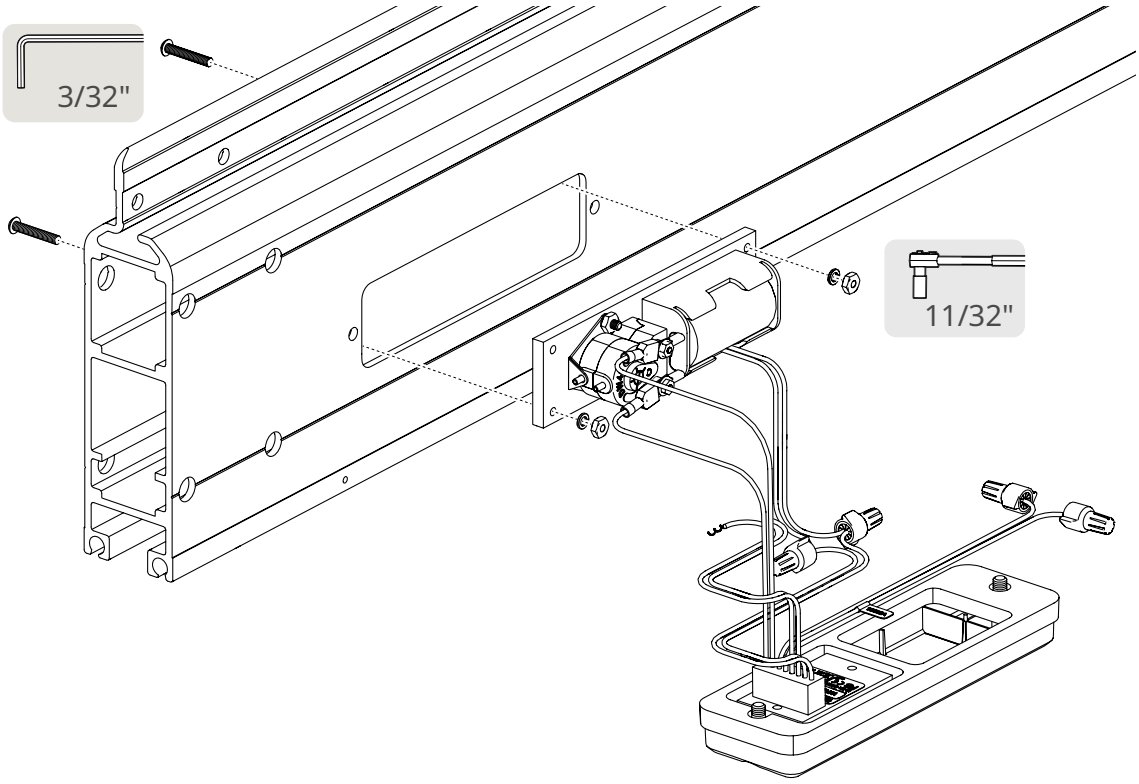
2. **Follow the steps** in *How to remove and replace the loop seal* starting on page 81 to remove the loop seal.

3. **Follow the steps** in *How to remove and replace the reversing edge* starting on page 82 to remove the reversing edge.

4. **Follow the steps** in *How to remove and replace the upper L-block assembly or slider pads* starting on page 83 to remove the upper L-block assembly. **Do this** on both sides of the bottom bar.

5. **Follow the steps** in *How to remove and replace the door ajar breakaway kill switch* starting on page 54 to remove the lower L-block assembly. **Do this** on both sides of the bottom bar.

6 **Loosen** the two bolt/nut combinations that secure the battery block assembly and **remove** the assembly.



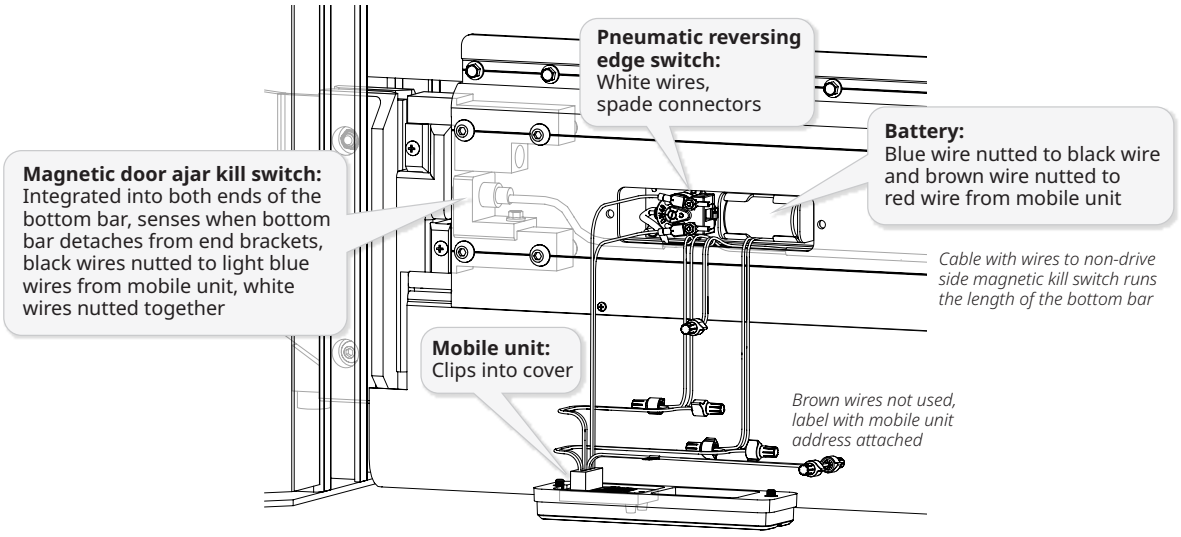
7 **Reverse steps 1-6** to install the new frame.

8 **Follow the steps** in *How to put the door panel back in the door track when you are finished* on page 65 to put the door panel back in the door track, set limits, and test the door.

The bottom bar components: repairs and replacements

The configurations of the Fast-Seal bottom bar

- The **mobile unit**, which sends signals from the reversing edge and the door ajar breakaway system to the controller via a wireless antenna in the head assembly, is attached to the **cover**. There are four pairs of wires.
- There is a **battery** and a **pneumatic switch (reversing edge sensor)** inside the bottom bar enclosure.
  - The **battery** connects to the mobile unit by a blue wire nutted to the black mobile unit wire and a brown wire nutted to the red mobile unit wire.
  - The **pneumatic switch** connects to the mobile unit by a pair of white wires with spade connectors
- The **magnetic door ajar kill switches,** which sense when the bottom bar has detached from the end brackets, are located at both ends of the bottom bar. They can only be reached when the bottom bar is detached from the end brackets.
  - They connect to the mobile unit by a pair of black wires nutted to the light blue mobile unit wires, and to each other by a nutted pair of white wires.



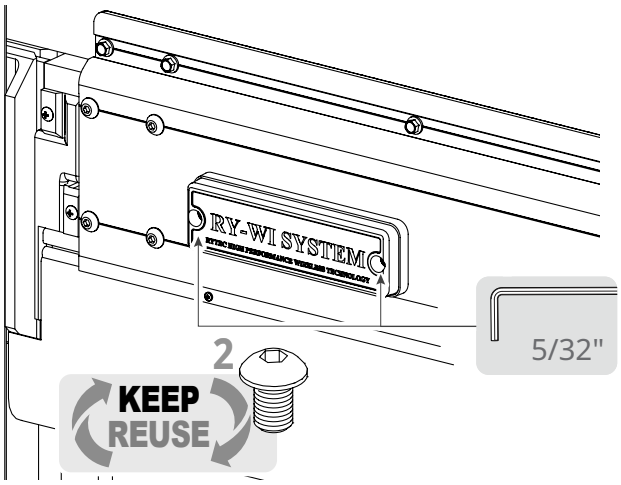
How to remove and replace the mobile unit

IMPORTANT

You must update the mobile unit address at parameter P:F07 to allow the controller to locate and communicate with the new mobile unit. The address is **a hexadecimal number (includes numbers and letters)** listed on a label attached to the brown wire at terminal 3 on the new mobile unit.

1 **Remove** the mobile unit cover.

Retain the screws.

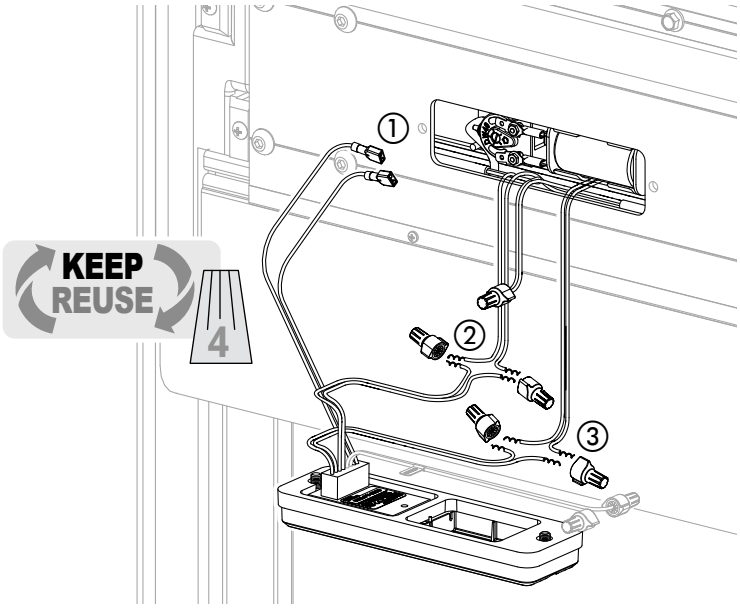


2 **Disconnect** the two spade connectors on the reversing edge pneumatic switch ①.

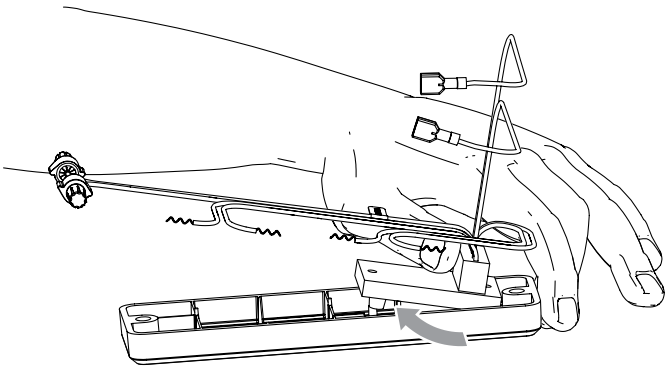
Disconnect the two light blue wires from the wire nut that connects them to the black wires that to the two door ajar breakaway kill switches ②. Leave the white kill switch wires connected.

Disconnect the red and black wires from the wire nut that connects them to the black and blue battery wires ③.

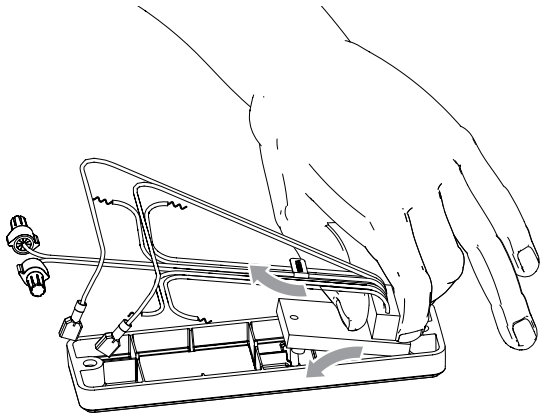
Retain the wire nuts.



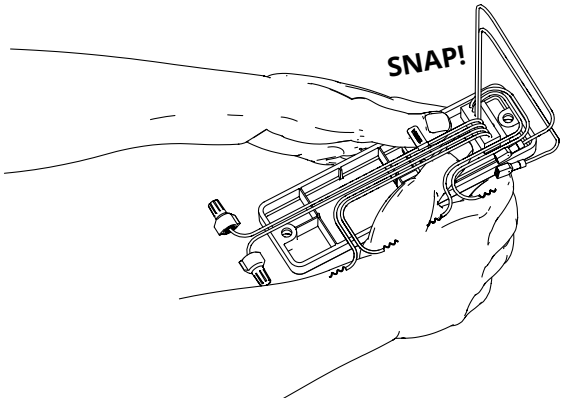
3 To remove the mobile unit without snapping the plastic clips that hold it in place, first **push with your thumb** against the terminal block, then **swing** the mobile unit up and off the bottom clip.



4 Then gently **twist the mobile unit** side to side until it slides off the top clip to remove it.



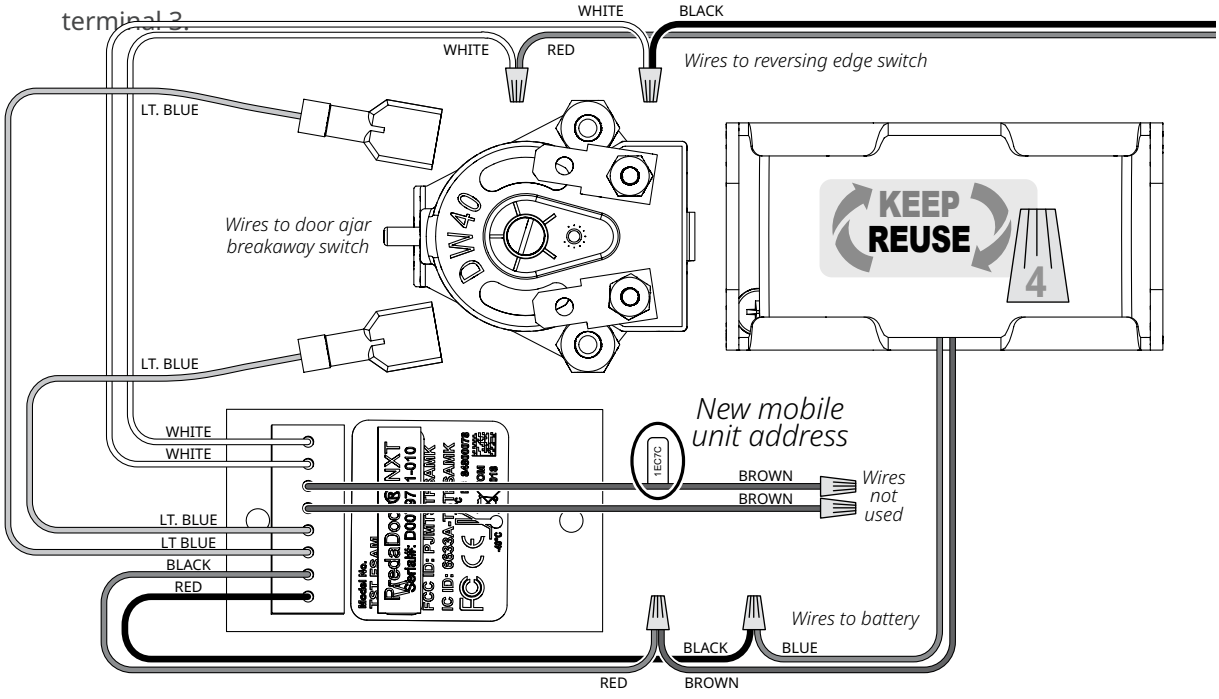
5 **Snap** the new mobile unit into place.



6 **Trim** the wires on the new mobile unit so you have **1/4" of clean copper.**

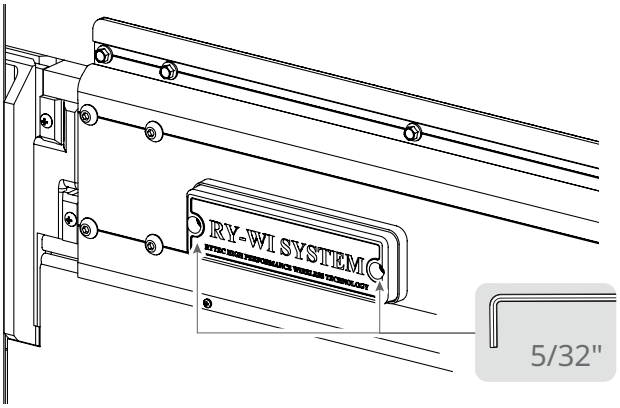
Connect or **plug in** the wires as shown here. **Make sure** wires are securely twisted together before using wire nuts.

Make sure to write down the new mobile address, on the label attached to the brown wire at terminal 3.



7 **Carefully wrap** the wires so they will not be pinched or crimped when the Ry-Wi cover is replaced.

Then **replace and secure** the cover.



8 To enter the new mobile unit address into the controller, **set the controller** into parameter mode and **enter the password** for Service level access.

If you don't know how to do this, **review** *How to set the controller to Parameter mode and access Service level parameters* on page 55.

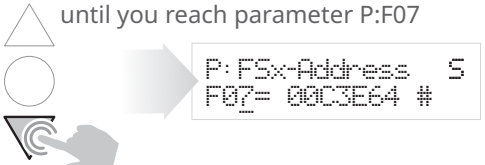
NOTE: The System 4 display uses hexadecimal numbers for some values, including the mobile unit address.

The display uses the ten numeric characters, from 0 through 9, plus six letters (A-F), which represent the values from 10 through 16.

The mobile unit address, which is a five-digit hexadecimal number, **is very large,** and you will have to hold down the UP ARROW for a substantial amount of time to update the value at parameter P:F07.

Do This *Result*

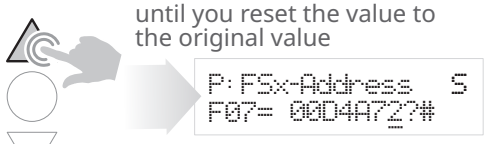
9 until you reach parameter P:F07



- This is the **mobile unit address** that you recorded earlier.

10 1X to move cursor to the right (edit value)

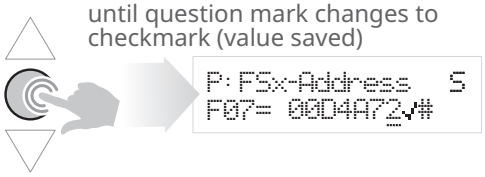
11 until you reset the value to the original value



- *The mobile address is a large number; for example, this value is 87,1026. So it will take a while to reach it.*
- *The speed of the change increases the longer you hold down the UP arrow.*

Do This *Result*

12 until question mark changes to checkmark (value saved)



13 1X to move cursor to left (parameters)

14 IMPORTANT If the mobile unit address is entered incorrectly, the controller will generate an F:856 error.

How to adjust the sensitivity of the door ajar breakaway system

1 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

2 **Locate** the spring plunger at each end of the bottom bar. Push it in, then release, to get a feel for the tension.

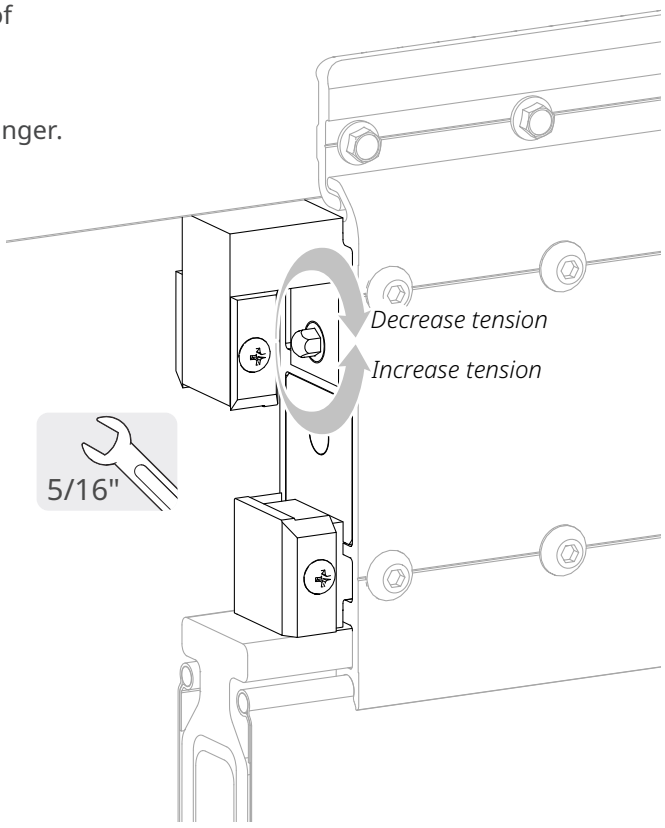
Use a 5/16" open wrench to turn the plunger.

- **Clockwise** decreases the tension, so the door panel will break away more easily.
- **Counterclockwise** increases the tension, so it will require a harder strike to break away the door panel.

IMPORTANT

Turn the plunger **one half-turn,** then reset the bottom bar and test the new tension.

Make sure the tension is the same for the spring plungers on both sides of the bottom bar

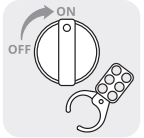


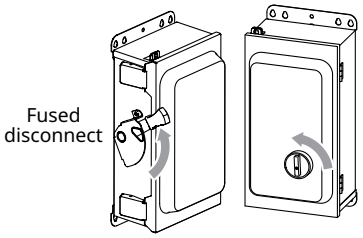
3 **Follow the steps** in *How to put the door panel back in the door track when you are finished* starting on page 65 to reattach both end brackets. **DO NOT restore power** until you are satisfied with the tension.

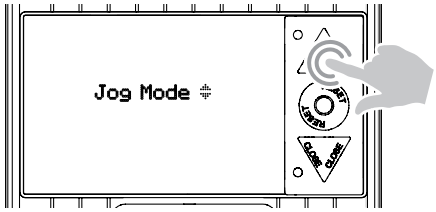
4 **Repeat** Steps 3-4 until the tension for the door ajar breakaway system is where you want it.

5 **Remove** the lockout/tagout and **restore** power to the door.

Jog the door to the fully open position, then **return the door to run mode** and test the new setting on the door ajar breakaway system while the door closes.







How to repair a loose door ajar breakaway kill switch

1 **Follow the steps** from the previous procedure to remove the kill switch from the bottom bar.

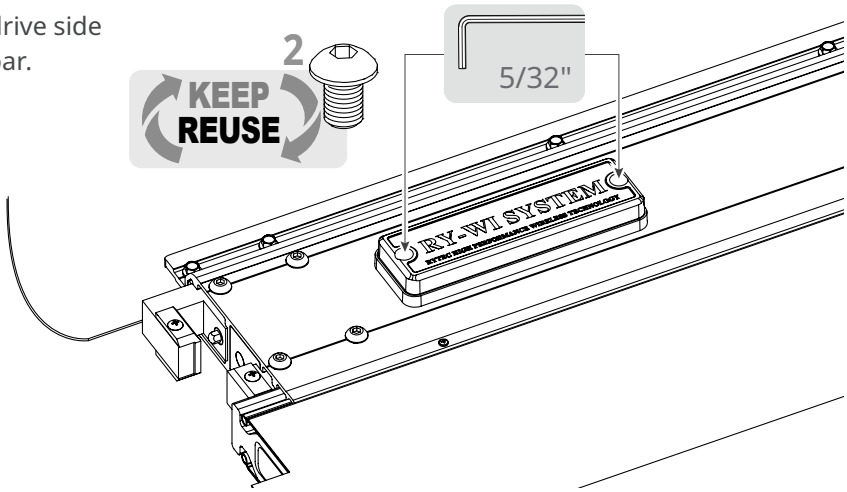
2 **Remove** the switch from the holder and **clean off** old adhesive using isopropyl alcohol. Then **apply** a thin, even bead of lock sealant around the entire circumference of the magnet and **press** it into place so that it is flush with the holder.

3 **Follow the steps** from the previous procedure to reinstall the switch.

How to remove and replace the door ajar breakaway kill switch

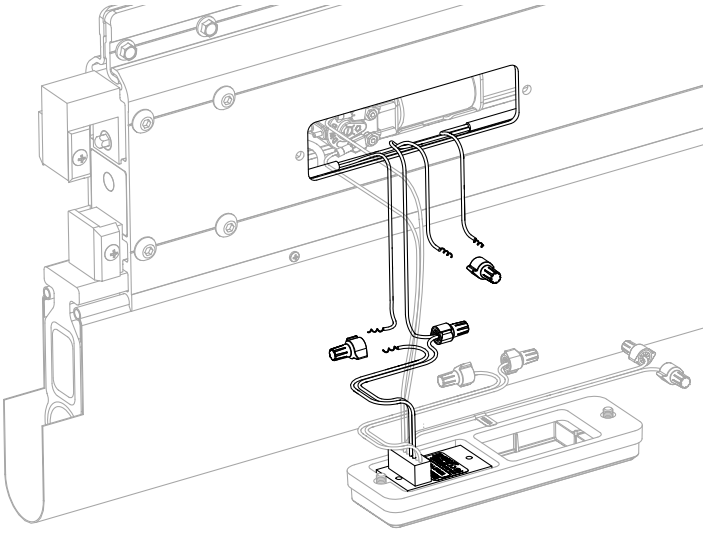
1 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

2 **Remove** the cover to the drive side enclosure on the bottom bar.

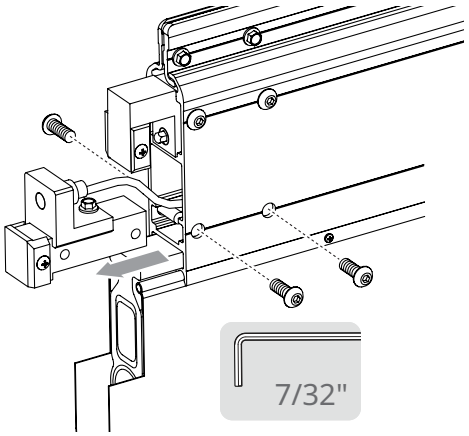


3 **Locate** the cables from the two kill switches inside the bottom bar enclosure, with the black and white wires.

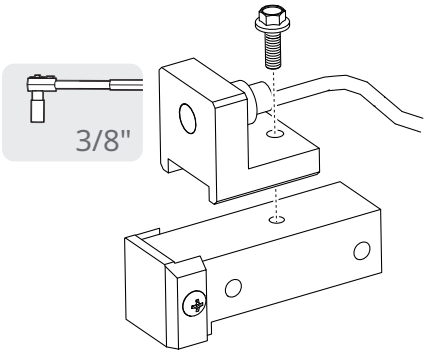
- **Remove** the wire nut that connects the two white wires and separate them.
- **Remove** the wire nut that connects the black wire from the kill switch you wish to replace to the light blue wire from the mobile unit (drive side kill switch shown here). Separate the wires.



4 **Remove** the four bolts that secure the lower L-block assembly at the end of the bottom bar, then slide out the bracket, along with the kill switch and its holder.

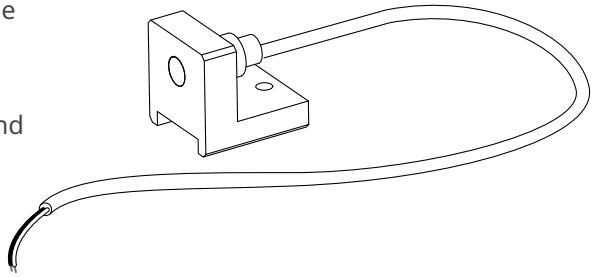


5 **Loosen** the bolt that secures the kill switch and holder to the bottom L-bracket.



6 **Trim** both the cable and the exposed wires on the replacement switch to match the lengths of the original switch.

Make sure there is 1/4" of clean copper at the end of the wires.

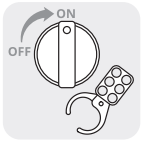


7 **Reverse** Steps 3-5 to install the new switch.

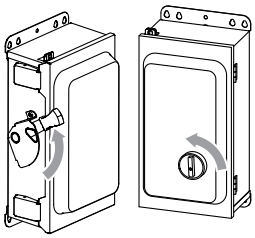
8 **Follow the steps** in *How to put the door panel back in the door track when you are finished* starting on page 65 to reattach both end brackets to the bottom bar.

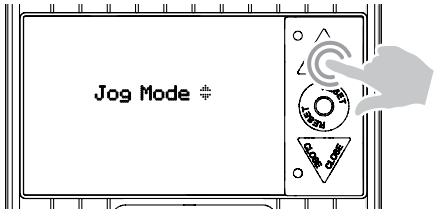
9 **Remove** the lockout/tagout and **restore** power to the door.

Jog the door to the fully open position, then **return the door to run mode** and test the new switch.



Fused disconnect

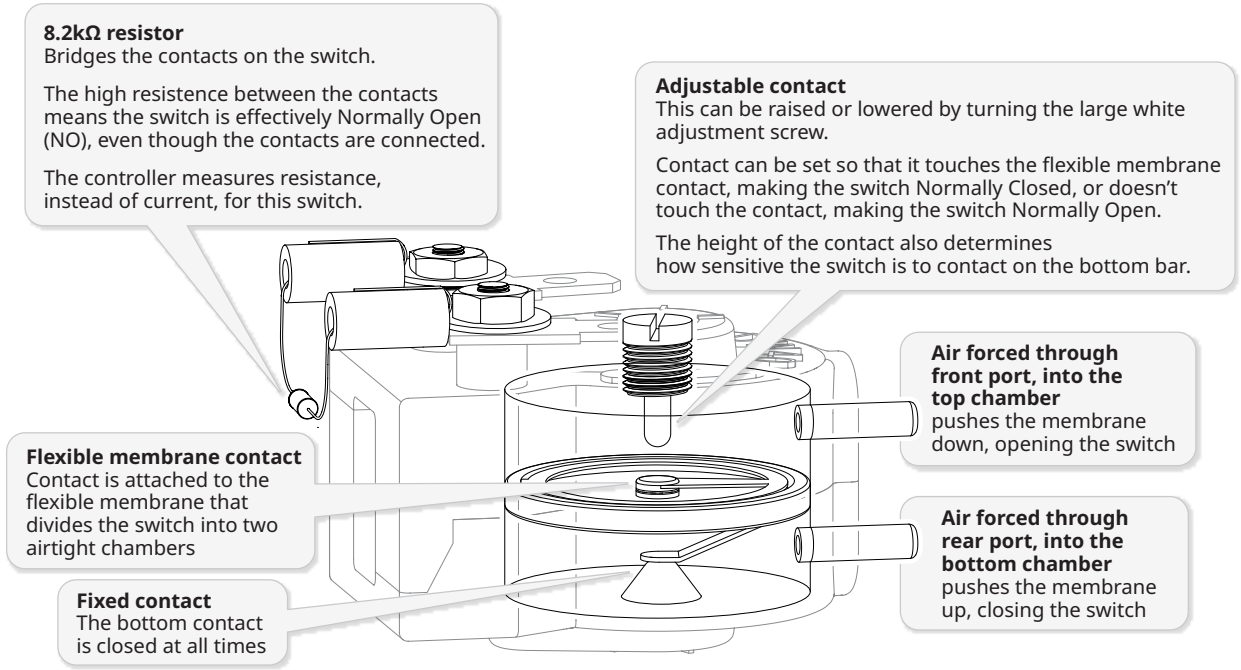




How to test, reset, and replace the reversing edge pneumatic switch

How the Bircher pneumatic switch works

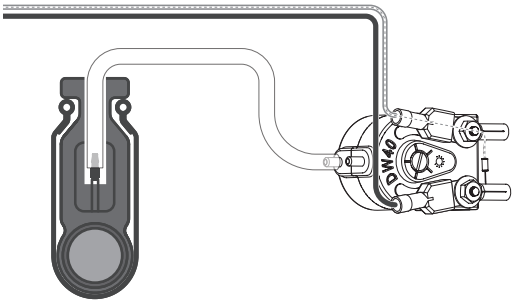
The Bircher pneumatic switch found in all Rytec doors can be used as both a Normally Open (NO) switch in the reversing edge system and a Normally Closed (NC) switch in the door ajar breakaway system. On Fast-Seal, it is only used for the reversing edge system.

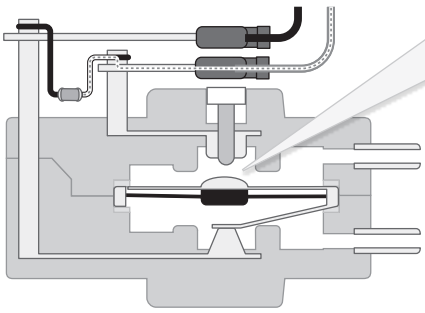


How the switch works in the reversing edge system

The controller monitors the NO switch for resistance, and reacts by stopping, then reversing the door if the switch closes and resistance drops to zero.

Normal operation
Current effectively stops at resistor.
Controller reads 8.2kΩ resistance on circuit.

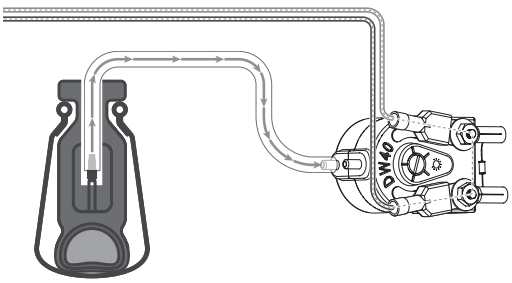


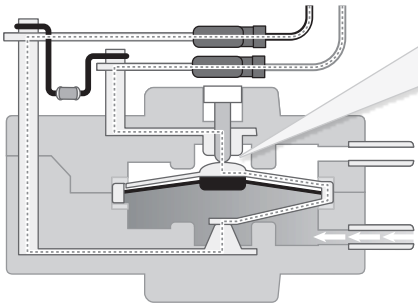


Inside switch:
Adjustable contact is set at a height that does not touch the flexible contact.

Current routes through the resistor, where it is effectively stopped, making the circuit effectively open.

Door is hit
Reversing edge compresses, forcing air into switch.





Inside switch:
Air flows into lower chamber, forces membrane up and creates contact.

Current flow passes momentarily through switch. Controller reads 0 resistance and stops, then reverses, door.

Before following these steps, it is assumed that you have done the following:

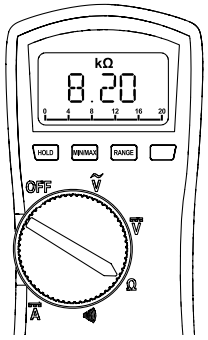
1. **Visually inspected** the switch, the bottom bar, the hose and reversing edge, and the wiring, as described in *Quarterly maintenance - visual inspections and tightening hardware,* and found no visible problems with parts other than the switch.

IMPORTANT

2. **Physically tested** the reversing edge as described in *How to test, reset, and replace the reversing edge pneumatic switch* starting on page 92 and found a problem in the door's response to contact.

3. **Checked** the error history of the door as described on page 55, in particular looking for error codes F:361, F:363, F:831 and F:f01 in the recent history of the door.

How to test the resistor, switch and wiring for resistance.



- **The multimeter** used must have a display that shows at least two decimal places, and has a range of at least 10kΩ (20kΩ is preferable)
- Multimeters that **show just one decimal place** may round up and give an incorrect reading.

INSIDER'S TIP

Using alligator clips, instead of probes, frees your hands to strike the reversing edge while monitoring the reaction of the multimeter.

1 **Locate the Ry-Wi cover** on the drive side of the bottom bar.

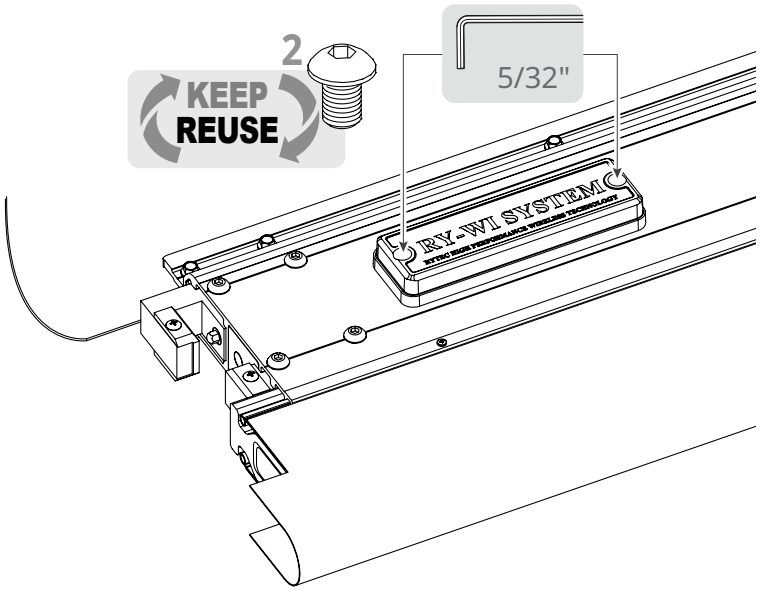
Remove the two hex screws and the cover.

IMPORTANT

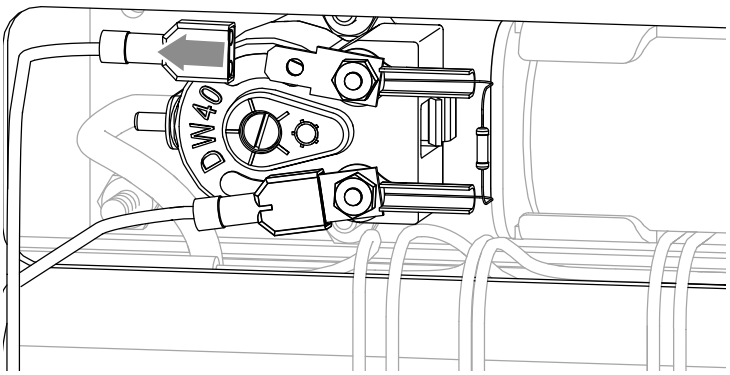
REMOVE CAREFULLY! There are eight long, thin wires wound up behind the cover that can easily be damaged or pulled out of their connections.

Locate the red pneumatic reversing edge switch in the bottom bar.

- The switch has a **small resistor** attached to it, and the attached wires are **white.**



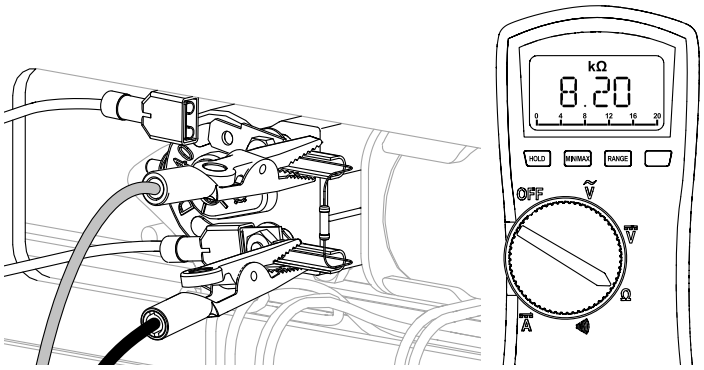
2 To isolate the switch and resistor, **remove** one of the spade connectors from the switch.



3 **Test** the resistor first.

Place the clips on the wires from the resistor without touching the contacts on the switch.

Acceptable readings are within 10% of 8.2kΩ, so any reading **between 7.4kΩ and 9.0kΩ** indicates the resistor is not broken.



If the reading is not within this range, **it will most likely be 0 (zero).**

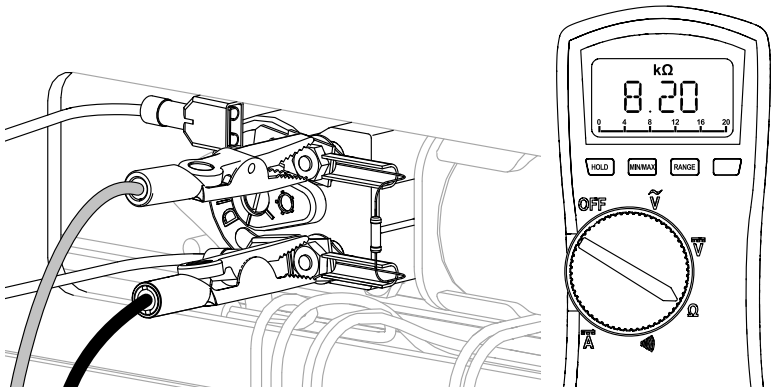
A reading outside of this range **indicates that the resistor needs to be replaced.**

4 **Test** the switch next.

Place the clips on the contacts on the switch.

Acceptable readings are within 10% of 8.2kΩ, so any reading **between 7.4kΩ and 9.0kΩ** is acceptable.

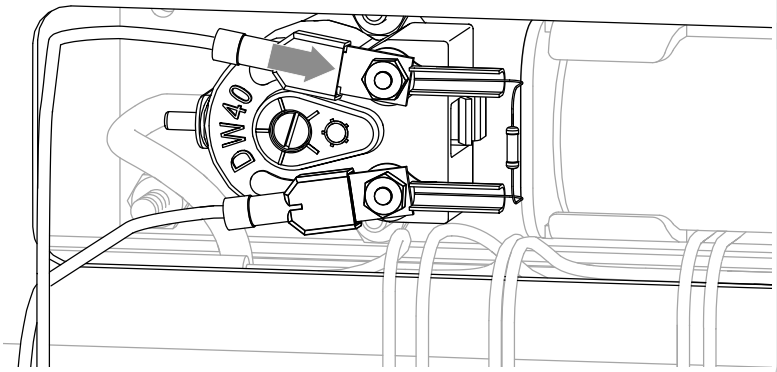
If the reading is not within this range, **it will most likely be 0 (zero).**



A reading outside of this range, coupled with an acceptable reading at the resistor, **indicates that the switch either needs to be replaced or adjusted.**

The switch **may need to be adjusted** even if both the resistor and switch are working.

5 **Replace** the spade connector.

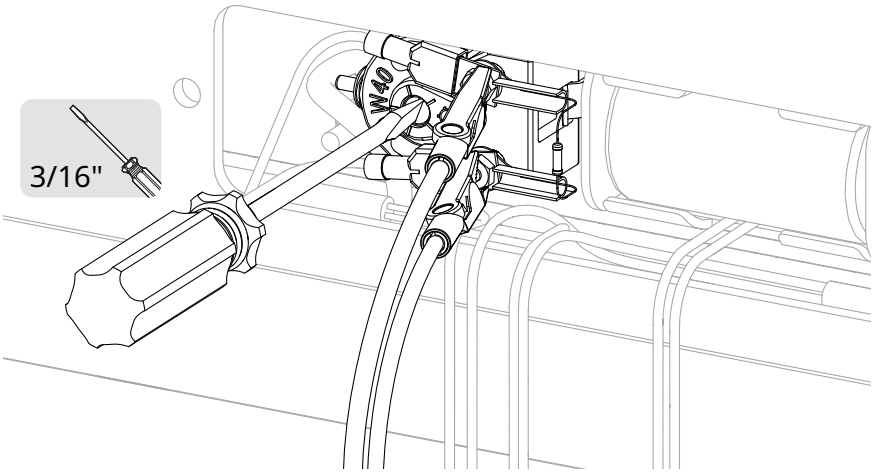


How to reset the sensitivity of the reversing edge pneumatic switch

1 If the switch is not still connected to the alligator clips, **connect** the clips to the terminals and **set** the multimeter to ohms.

To reset the sensitivity, you must first set the switch to the **base continuity point**

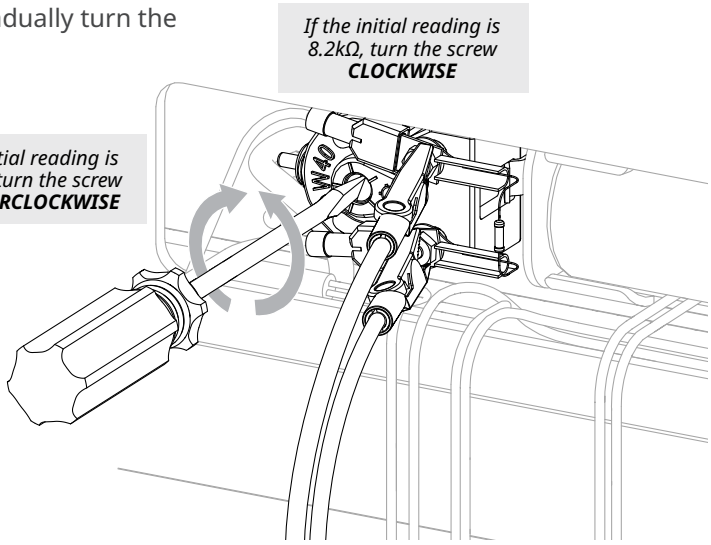
This is the point where the adjustable contact and the contact on the flexible membrane are just touching and the **resistance drops from 8.2kΩ to zero**.



2 **Use** a 3/16" flathead screwdriver to gradually turn the white adjustment screw on the switch.

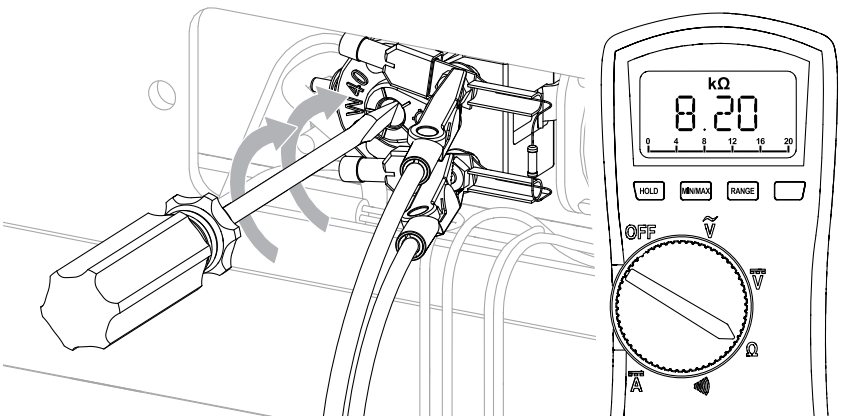
- **Stop** when the resistance jumps, either from zero to 8.2kΩ, or from 8.2kΩ to zero.
- **Turn** the screwdriver **back and forth** by incremental amounts to verify that you have reached the point where a small adjustment changes the switch from resistance to zero resistance.

You have set the switch to the **base continuity point**.



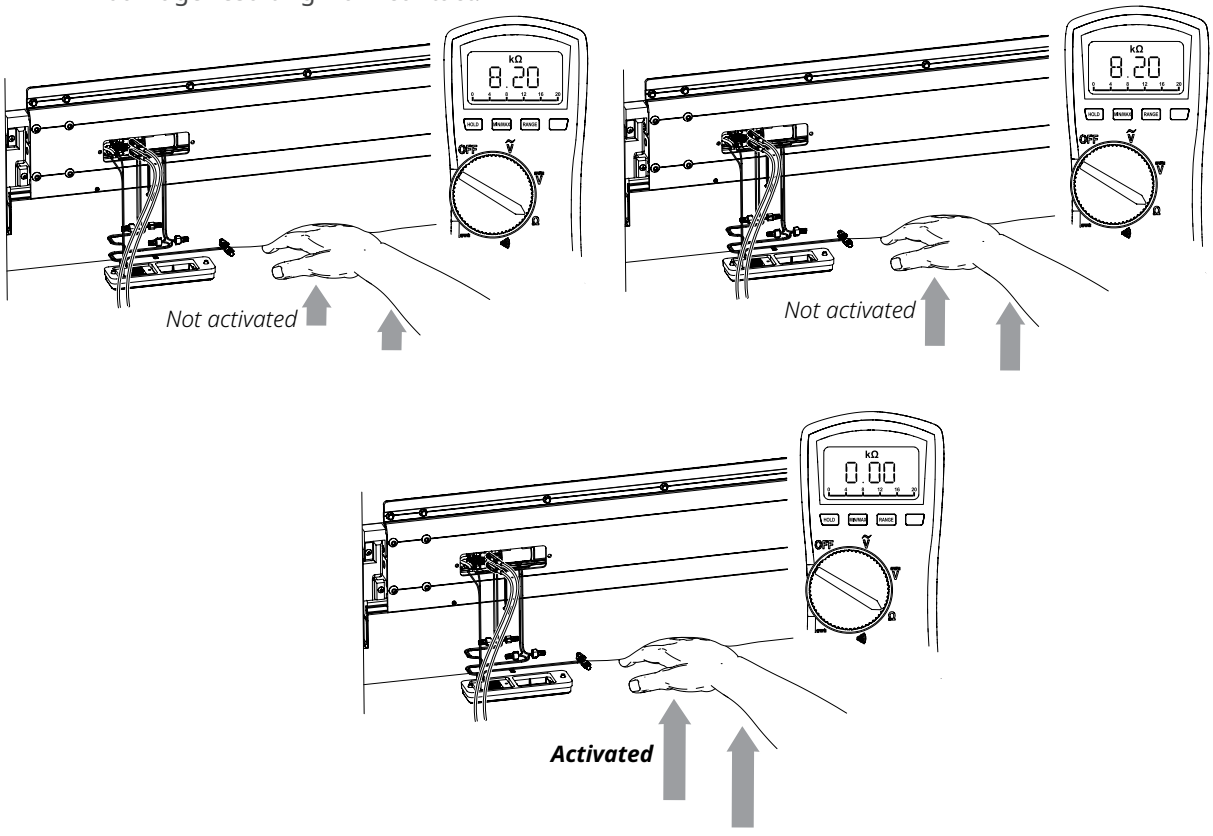
3 **Turn** the adjustment screw **two full turns (720°) COUNTERCLOCKWISE.**

This is the **default Rytec setting** for the switch.



4 You can test the sensitivity of the switch by **striking** the reversing edge, softly at first, then gradually harder, until the multimeter responds to the strike and momentarily indicates zero resistance.

- The Rytec default setting should respond to a fairly light strike, which minimizes the chance of damage resulting from contact.



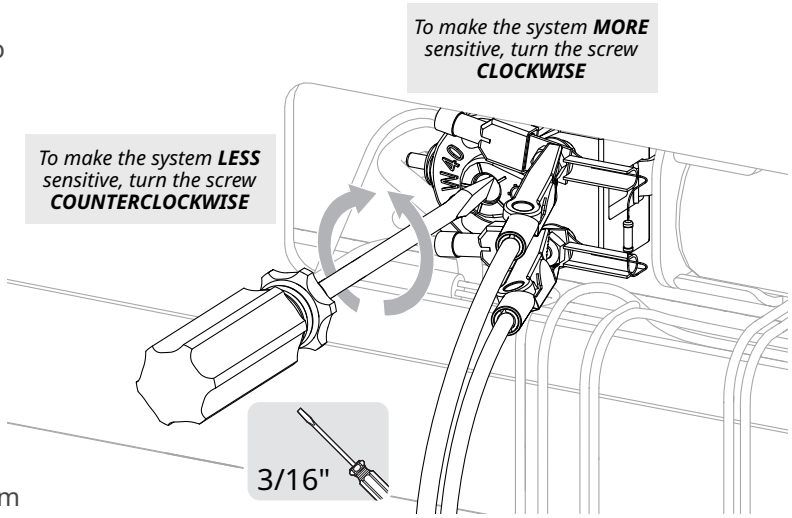
5 If necessary, **use** the flathead screwdriver to adjust the sensitivity from the Rytec default.

- **Counterclockwise** to make the system **LESS sensitive**, so harder contact is required to reverse the door.
- **Clockwise** to make the system **MORE sensitive**, so less contact is required to reverse the door.

IMPORTANT

Turn a half turn, then retest the door. **DO NOT** turn farther than half a turn before retesting.

Make sure to close up the bottom bar when the sensitivity is correct.

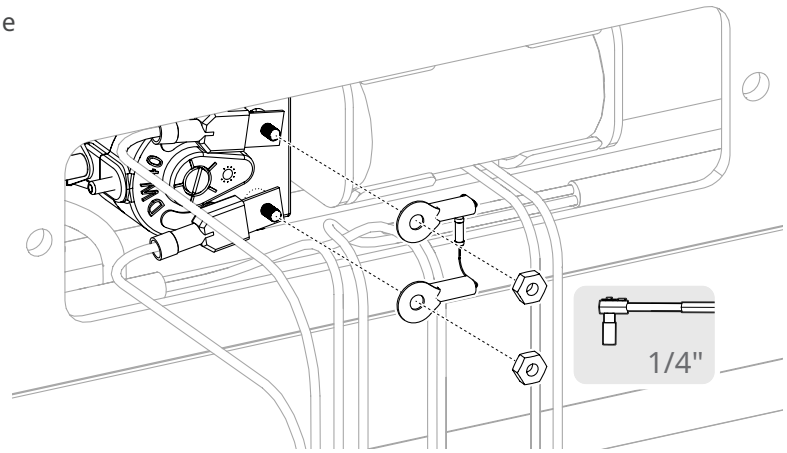


6 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the reversing edge is responding correctly and the controller is no longer generating errors.

How to replace the resistor on the reversing edge pneumatic switch

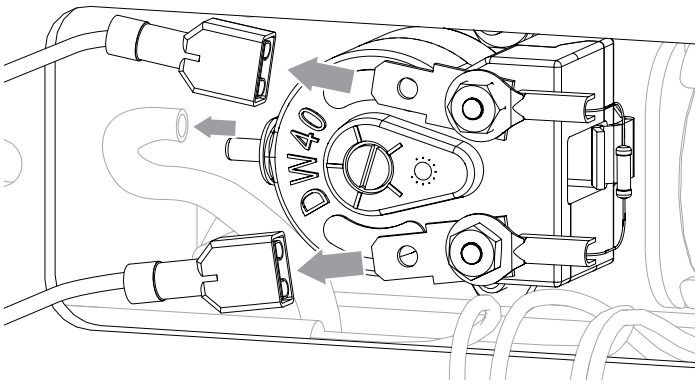
1 **Remove** the two nuts that hold the resistor assembly in place, then **slide off** the resistor assembly.

Slide in the new assembly, then **reinstall** and **tighten** the nuts.

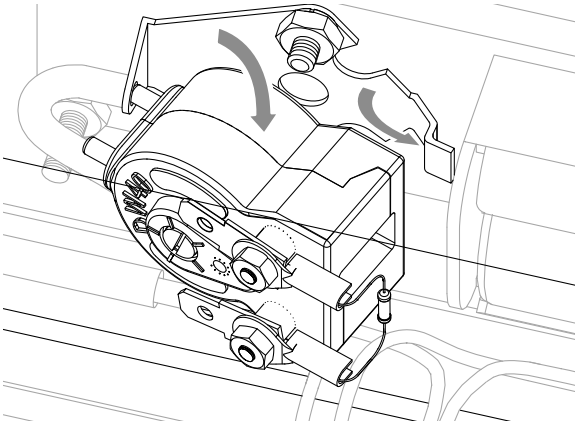


How to replace the reversing edge pneumatic switch

1 **Remove** both spade connectors from the terminals, as well as the hose connected to the reversing edge.



2 **Pull back** the tab on the mounting bracket and slide the switch out.



3 **Reverse** these steps to install the new switch.

Make sure to follow the steps in *How to reset the sensitivity of the reversing edge pneumatic switch* starting on page 95 once the new switch has been installed and connected.

The door panel: repairs and replacements

How to remove and replace the door panel

1 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

⚠ WARNING

This procedure requires you to set parameter P:980 to a value of 3. This allows you to jog the door beyond the close limit, but also deactivates the object detection and alert systems.

Do not use this setting at any other time without contacting Rytec Technical Support.

Navigate to parameter P:980, set the value to 3, then jog the door to the floor

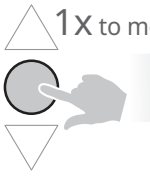
1 **Set the controller** into parameter mode and **enter the password** for Service level access.

If you don't know how to do this, **review** *How to set the controller to Parameter mode and access Service level parameters* on page 55.

Do This *Result*

2  until parameter displays

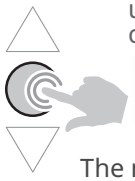
The default value is 0.

3  1x to move cursor to the right (edit value)

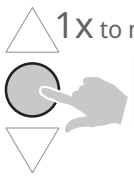
4  3x to change the value to 3

You can now change the value.

Do This *Result*

5  until question mark changes to checkmark (value saved)

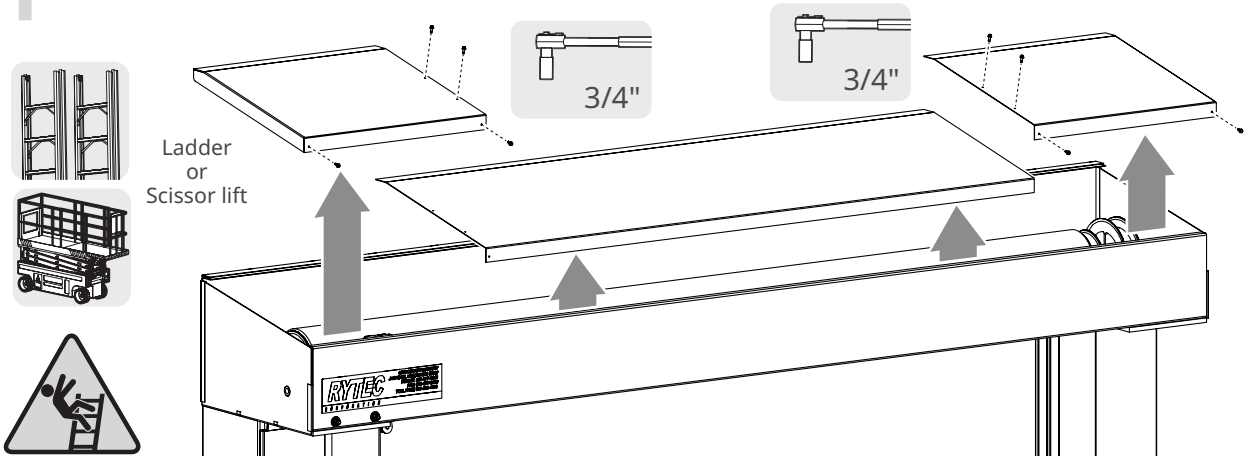
The new value is saved.

6  1x to move cursor to parameter side

7  until door opens in jog mode

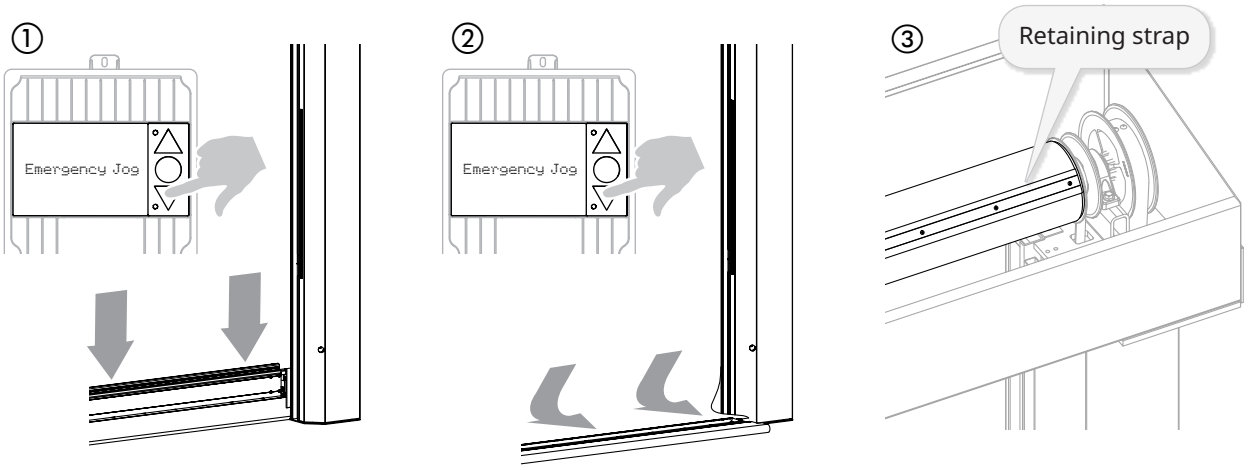
Before you begin, check that the old and new door panel are the same size

1 If the door has a top hood cover, **remove** the top panels and set them aside.



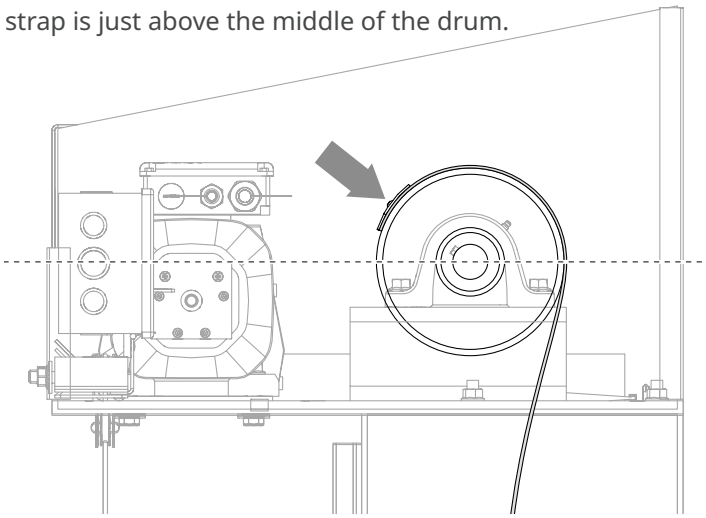
2 **Jog** the door down until the reversing edge touches the floor ①. Then **continue to slowly jog the door down** until the bottom bar lies flat on the floor ②, taking the weight off the door panel, and you can see the retaining strap for the door panel ③ on the drum up in the head assembly.

- **Make sure** the bottom bar does not scrape against the floor as the door lowers.



3 **Jog** the door panel so that the retaining strap is just above the middle of the drum.

- **This is the easiest height** for both removing and replacing the panel.

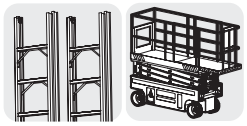


4 **Cut** the tie on the replacement panel, unroll it as much as space allows, and measure the height and width.

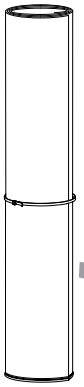
- **Then measure** the panel you are about to replace.
- **Make sure** the panel sizes match.
- **Make sure** to measure the height of the panel you are about to replace from the retaining strap, around the drum, to the bottom bar.
- You will need to **access the head assembly** to measure it.

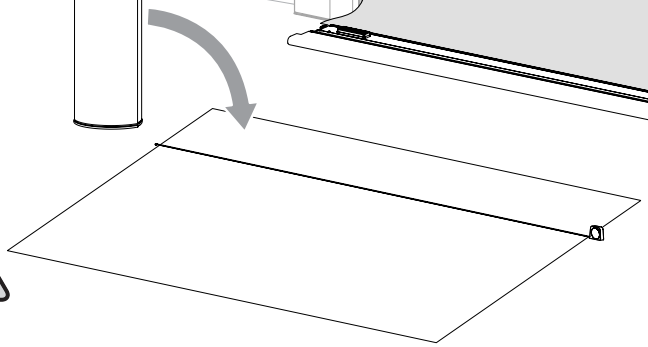
Cutting pliers

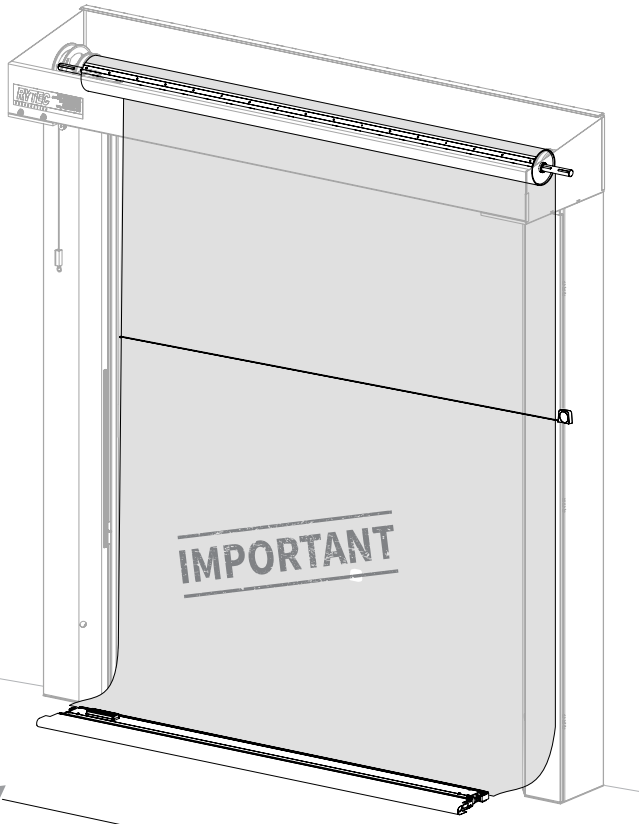
Measuring tape



Ladder or Scissor lift

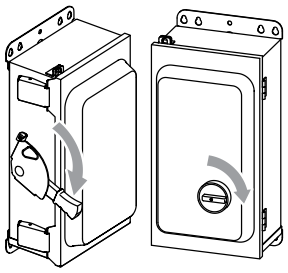






5 **Shut off power to the door** and perform a lockout/tagout.

Fused disconnect

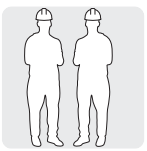


6 Follow the steps in *How to remove and replace the entire bottom bar* starting on page 68 to remove the bottom bar.

Remove the old door panel from the drum and install the new panel

INSIDER'S TIP

It is easier to manage the removal and replacement of the door panel if one service tech drills out the rivets and installs the new rivets, and a second service tech holds the panel and restraining strap in place.

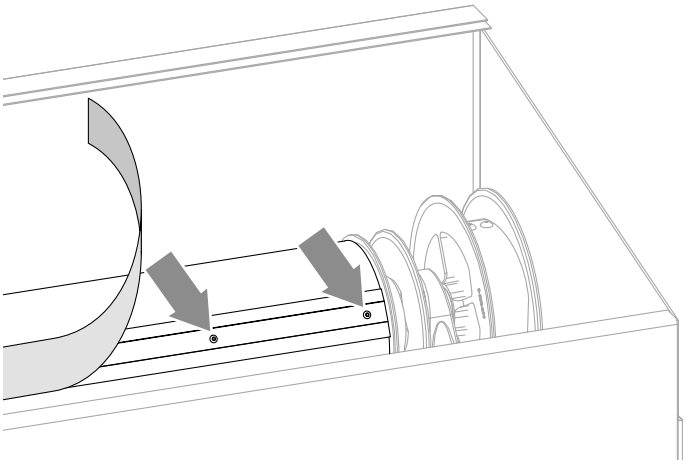


1 **Pop rivets** are installed into every hole in the retaining strap, to match the holes in the drum. The rivets hold the door panel in place.

On some doors, the retaining strap is covered by a Velcro strip to cushion the door panel when it rolls up onto the drum.

You will need to **peel off** the strip to access the retaining strap.

- If possible, **keep the strip intact** and **save** it to be reinstalled later.

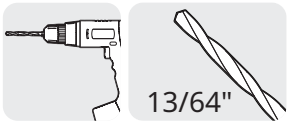


2 Starting at the outer edges, and working your way to the center, **drill out** the pop rivets.

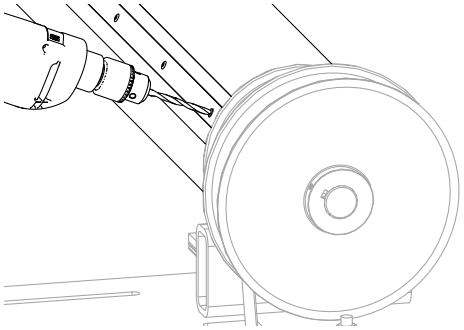
IMPORTANT

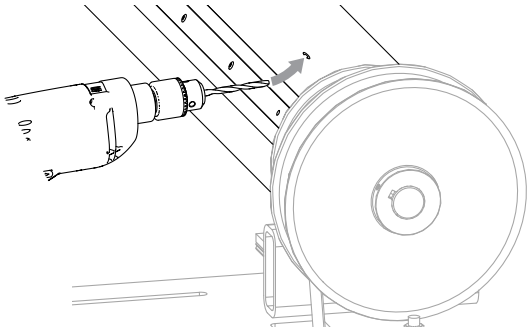
DO NOT drill past the head of the rivet, into the retaining strap or the drum. Stop as soon as the head of the rivet comes free.

The body of the rivet should **fall into the drum.** This will not interfere with the functioning of the door.



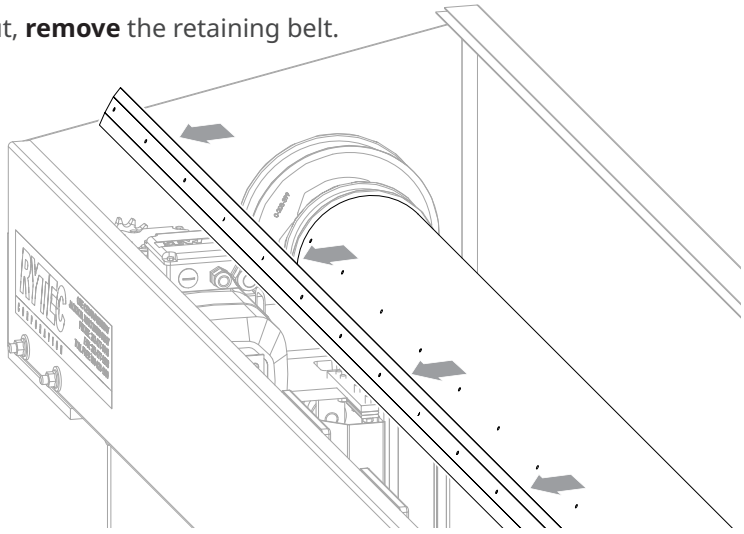
Power drill and 13/64" drill bit





3 When all rivets have been drilled out, **remove** the retaining belt.

Then control the door panel as it slides off the drum.



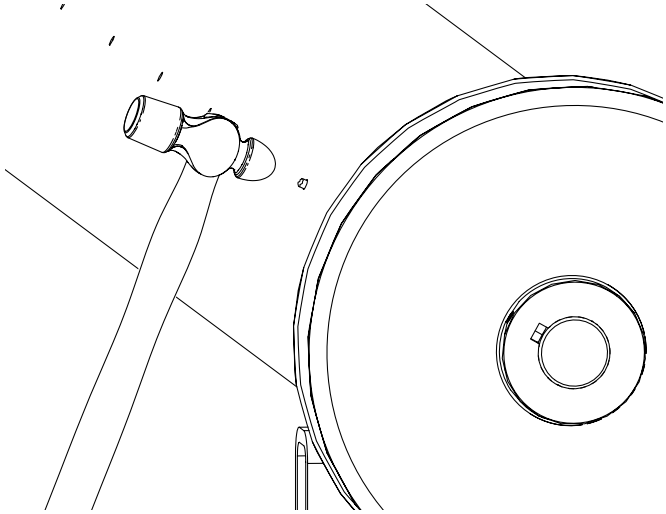
4

Check the drum and the retaining strap for rivet bodies that did not fall into the drum, or metal shavings from the drilling.

- **Tap** any rivet bodies into the drum using a hammer.
- **File down** an metal shavings or sharp edges with a metal file or emery paper.

Ball peen hammer

File or emery paper

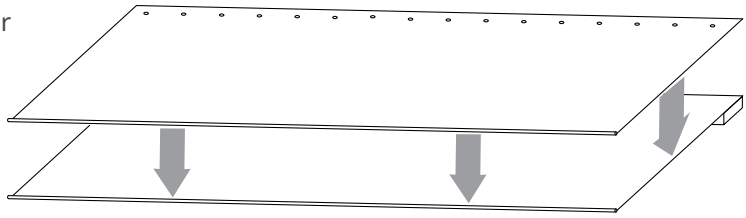


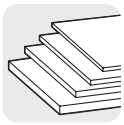
5

Place a piece of scrap wood under the top of the new door panel.

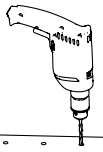
Line up the old panel on top of it.

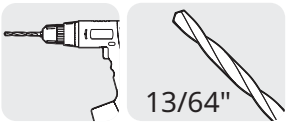
Drill holes in the new door panel using the old one as a template.



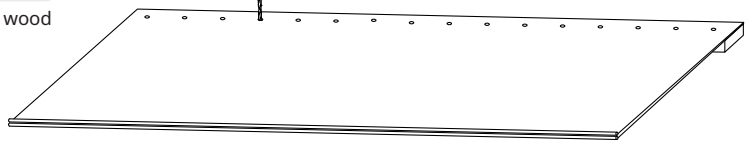


Scrap wood





Power drill and 13/64" drill bit

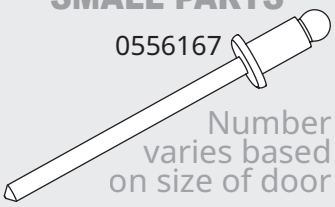


6

Locate the new pop rivets that came with the replacement door panel.

SMALL PARTS

0556167

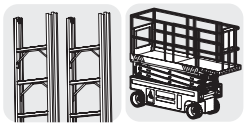


Number varies based on size of door

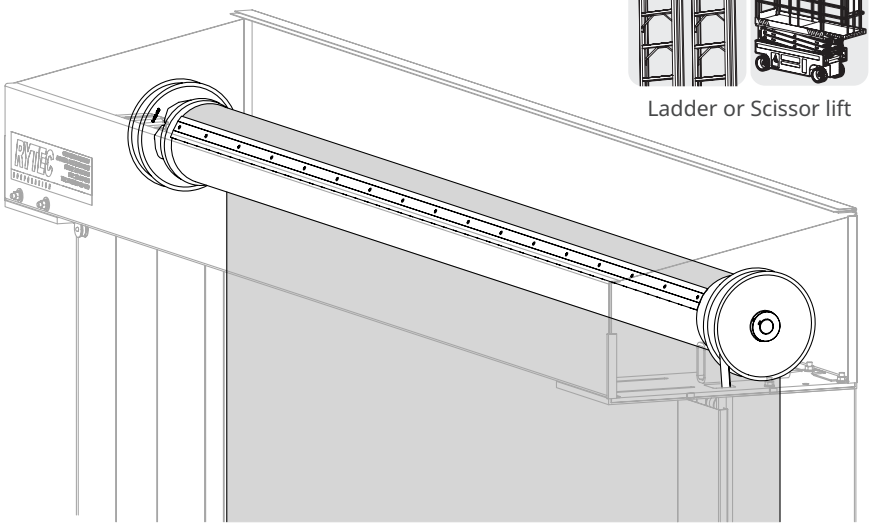
7 Back up in the head assembly, **roll** the new door panel **around** the back of the drum, then **over** the top.

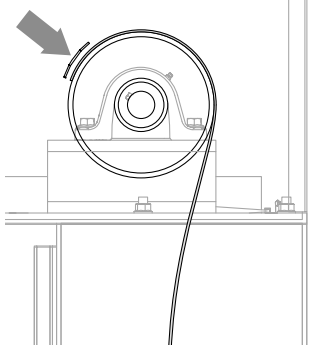
Line up the holes in the door panel with the holes in the drum and hold the panel in place until the restraining strap has been reinstalled.

Smooth down the door panel so it lies **flat against the drum** for the full width of the door and is **free of wrinkles, kinks and creases** for the full height of the door.



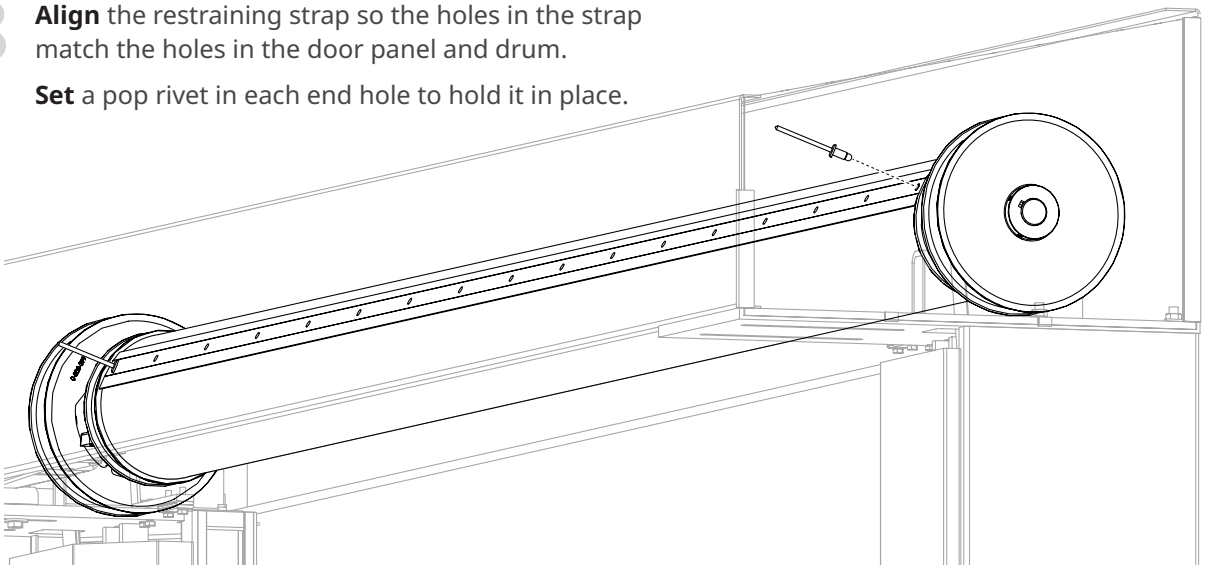
Ladder or Scissor lift



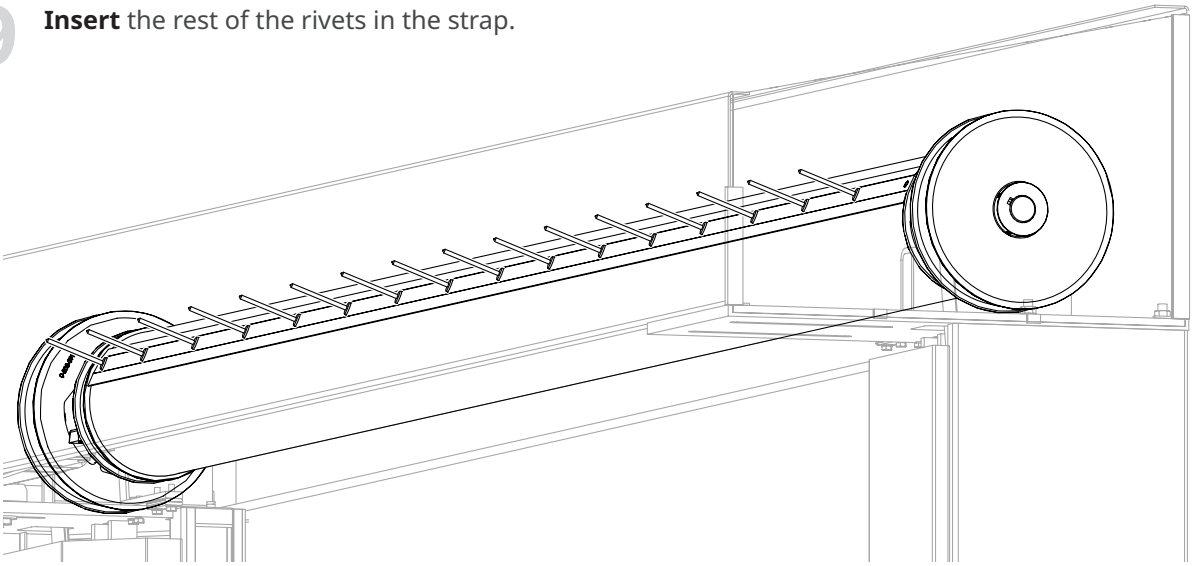


8 **Align** the restraining strap so the holes in the strap match the holes in the door panel and drum.

Set a pop rivet in each end hole to hold it in place.

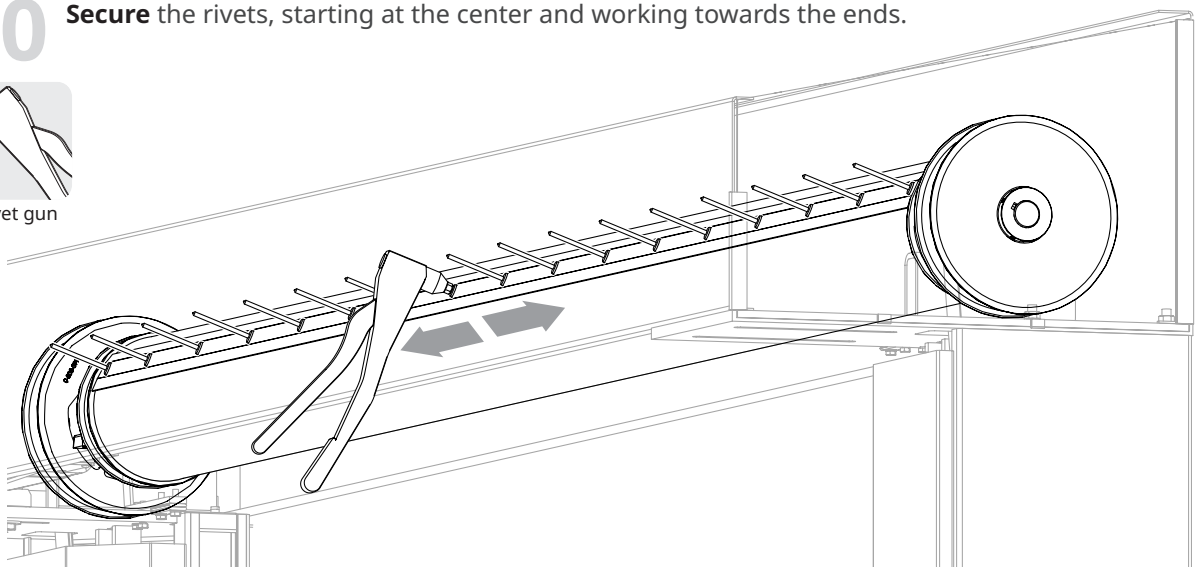


9 **Insert** the rest of the rivets in the strap.

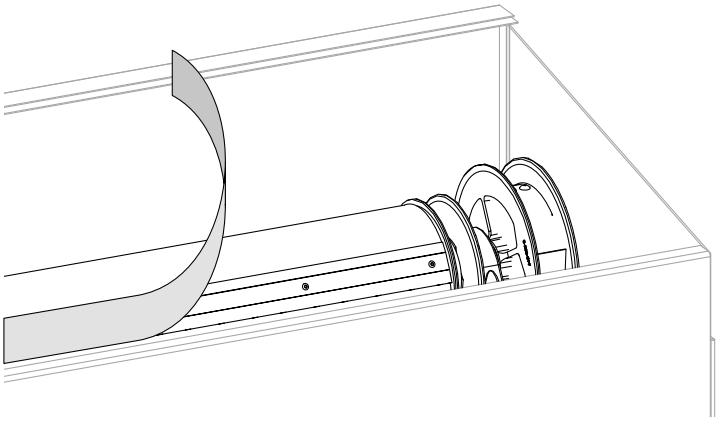


10 **Secure** the rivets, starting at the center and working towards the ends.

Rivet gun



11 If the retaining strap had a Velcro cover, and the adhesive is strong enough to hold it in place, **replace it.**

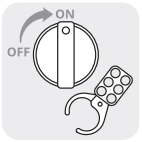


Refeed and test the new door panel

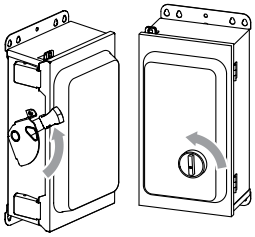
1 **Follow the steps** in *How to put the door panel back in the door track when you are finished* starting on page 65 to reattach both end brackets to the bottom bar.

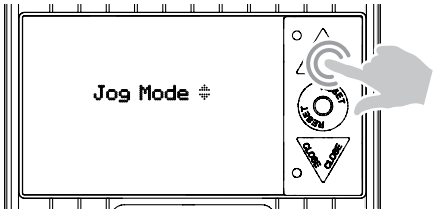
2 **Remove** the lockout/tagout and **restore** power to the door.

Jog the door once to the fully open position, then the fully closed position, before testing it through multiple cycles.



Fused disconnect





3 **Follow the steps** in *How to put he door into test mode* on page 56 to put the door into test mode, then let the door run through multiples cycles of opening and closing with the new panel.

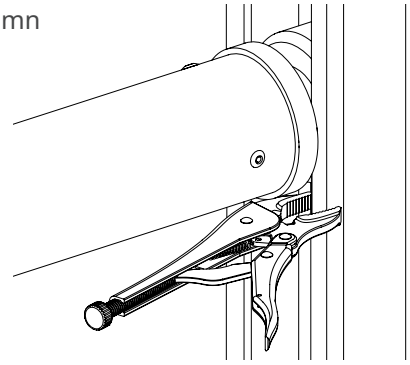
The windbars: repairs and replacements

How to remove and replace the bumpers, side column cushion assemblies, or rubber cushions on strapless windbar doors

1 **Secure** the windbar that rests on the bumper or the side column cushion assemblies at a height that allows you free access.

- **Lift** the windbar so it is out of the way, and **use** a pair of vise grips to secure it in place.

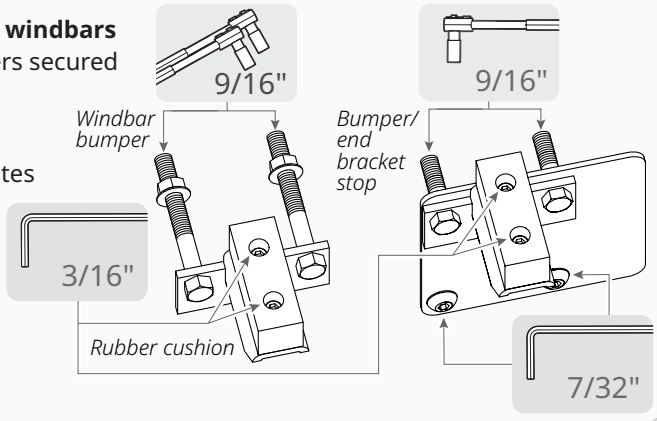
(2) Vise grips



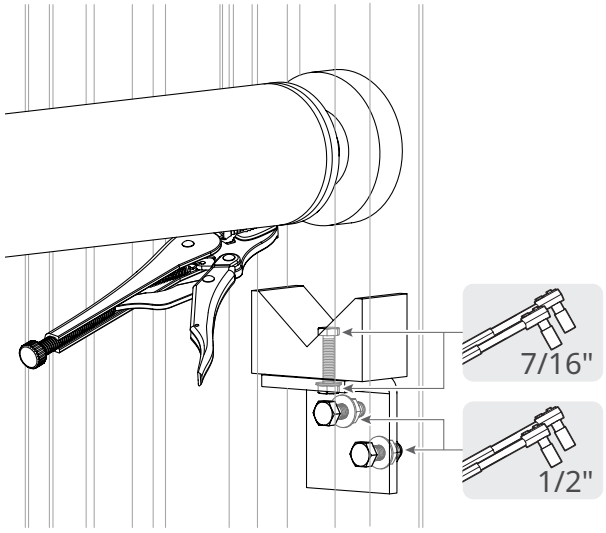
2 The **windbar bumpers** and rubber cushions on the bottom bar are secured by the hardware shown here.

Doors with **strapless windbars** have windbar bumpers secured to the bottom bar.

The bumpers at each end include cover plates (end bracket stops) that prevent the end brackets from detaching when the door is hit.

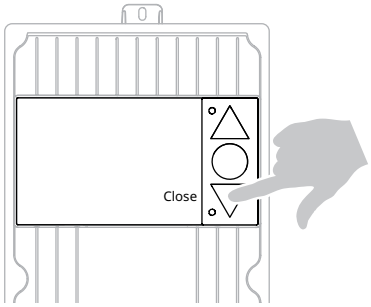


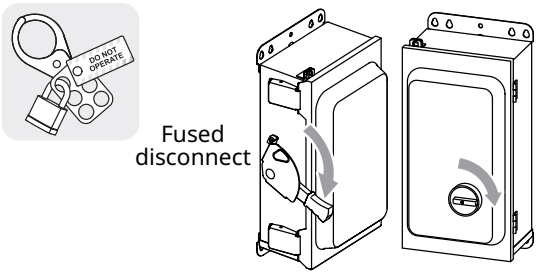
3 The **side column cushion assemblies** and rubber cushions are secured by the hardware shown here.



How to remove and replace a windbar

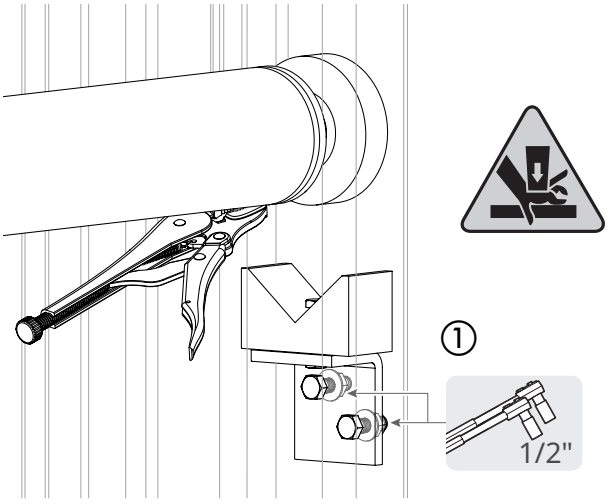
1 **Set** the door to the fully closed position, then **shut off power to the door** and perform a lockout/tagout.

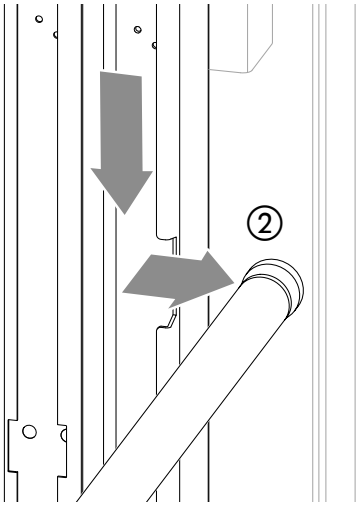




1 For the lower front windbar in a strapless door, **lift** the windbar to a height that allows you to access the side column cushion assemblies, **secure** it in place with vise grips, and **remove** the assemblies in both side columns ①.

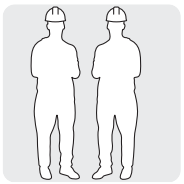
Then **remove** the vise grips and **slide** the windbar down the track and out the bevelled notch near the bottom ②.





2 **Reverse these steps** to install the new windbar.

3 For an upper or rear windbar, where there is not a notch in the windbar guide that allows you to slide the windbar out, **lift** the windbar up to the bevelled or square notch. Position it **toward the bottom** of the notch ①.



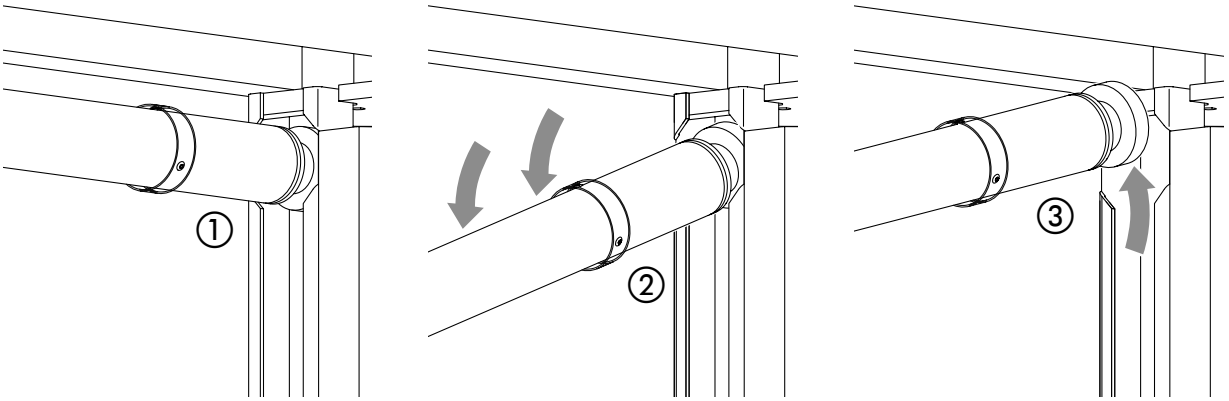
(2) Vise grips

IMPORTANT

You will need to have **two service techs present,** or use a pair of vise grips, to hold the windbar in place for the next two steps.

Hold one end of the windbar in place, and **slide** the other end down (upper windbar) or up (rear windbar) the track as far as you can ②. This will require **some force.**

Lift the end of the windbar out of the notch ③. This will also require **some force.**

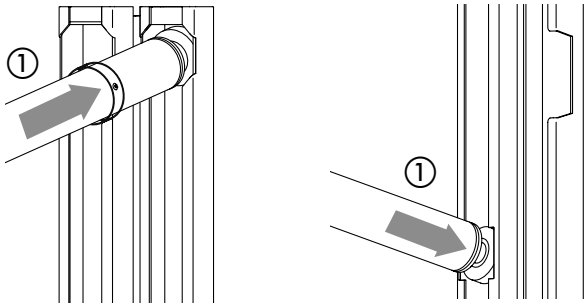


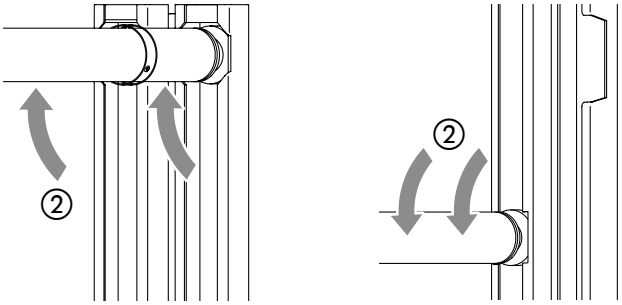
4 **Reverse these steps** to install the new windbar.

This can be done by **one service tech.**

Insert the windbar into the notch in the windbar guide in one side column ①, then **slide** the other end up (upper windbar) or down (rear windbar) along the outside of the guide until that end slips into the notch on that side ②.

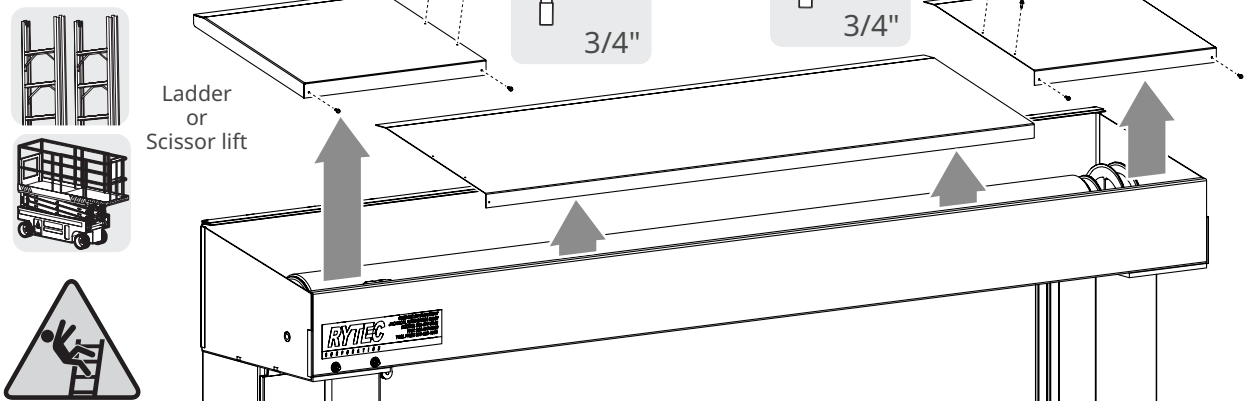
This will also require **some force.**



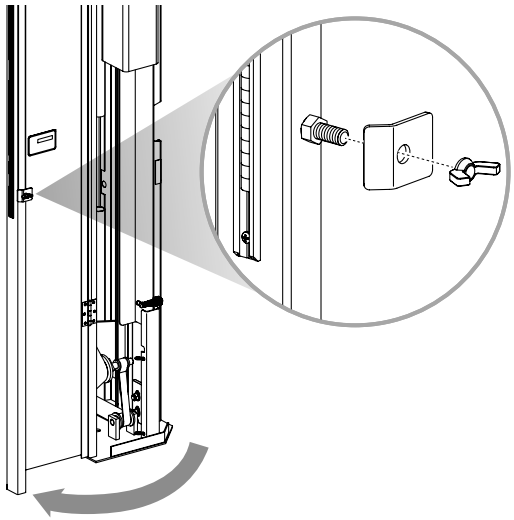


How to remove and replace a front windbar guide

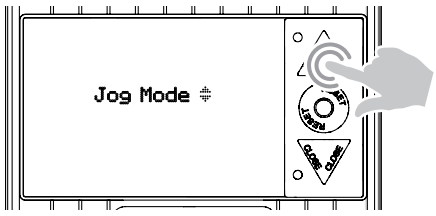
1 If the door has a top hood cover, **remove** the top panels and set them aside.



2 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



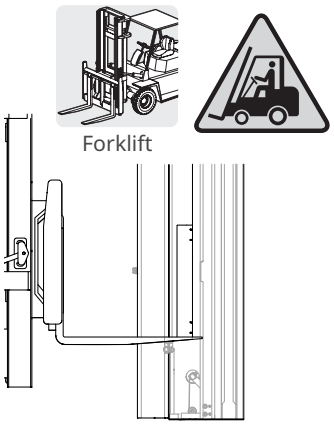
3 **Jog** the door to a height where you can easily access the counterweights.



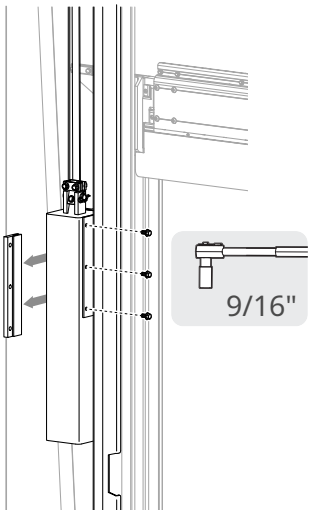
4 **Remove** the brackets that connect the counterweight to the counterweight guide that is welded to the windbar guide so that they are free of the guide.

- **For doors with a square counterweight: remove** the three bolts that secure the front bracket, then **slide off** the bracket. You will be able to slide the windbar guide out of the side column without removing the rear bracket.
- **For doors with a round counterweight:** remove the bolt/nut combinations that hold the two brackets in place ①. Then **move** the counterweight enough to **slide** the brackets off the counterweight guide ②.

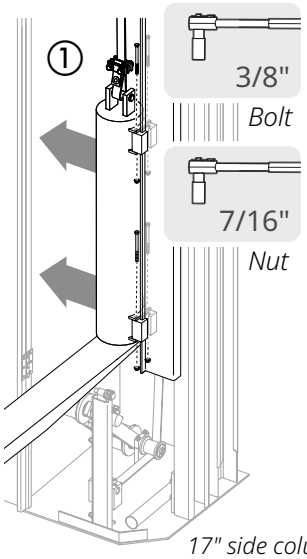
Retain the brackets and hardware.

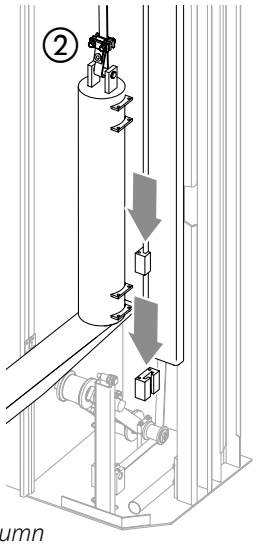


If necessary, use a forklift to hold the counterweight steady while you remove the bracket



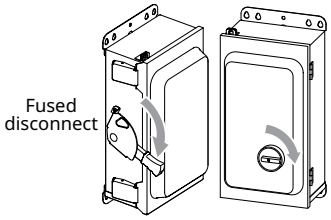
14" side column



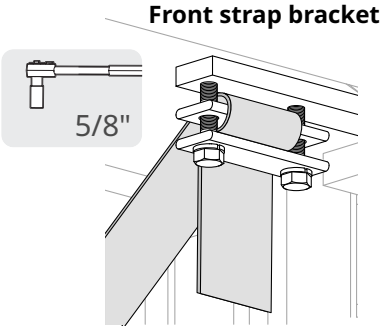


17" side column

5 **Shut off power to the door** and perform a lockout/tagout.
NOTE: leave the door panel at the current height.



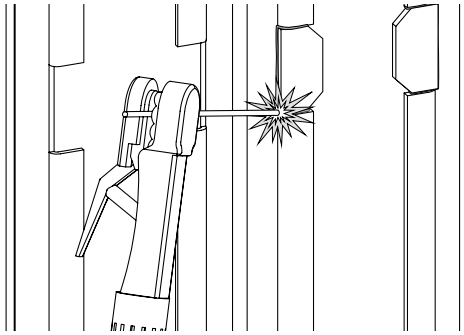
6 If the windbar is strapped, **locate** the strap brackets in the right and left side columns, loosen the securing bolts, and slide out the straps so they hang loose.



7 **Follow the steps** in *How to remove and replace a windbar* starting on page 107 to remove the front windbar or windbars.

8 If the door has **double strapless windbars** in the front, you will need to order windbar stops separately from the guide and field weld them into the square notch in the replacement guide.

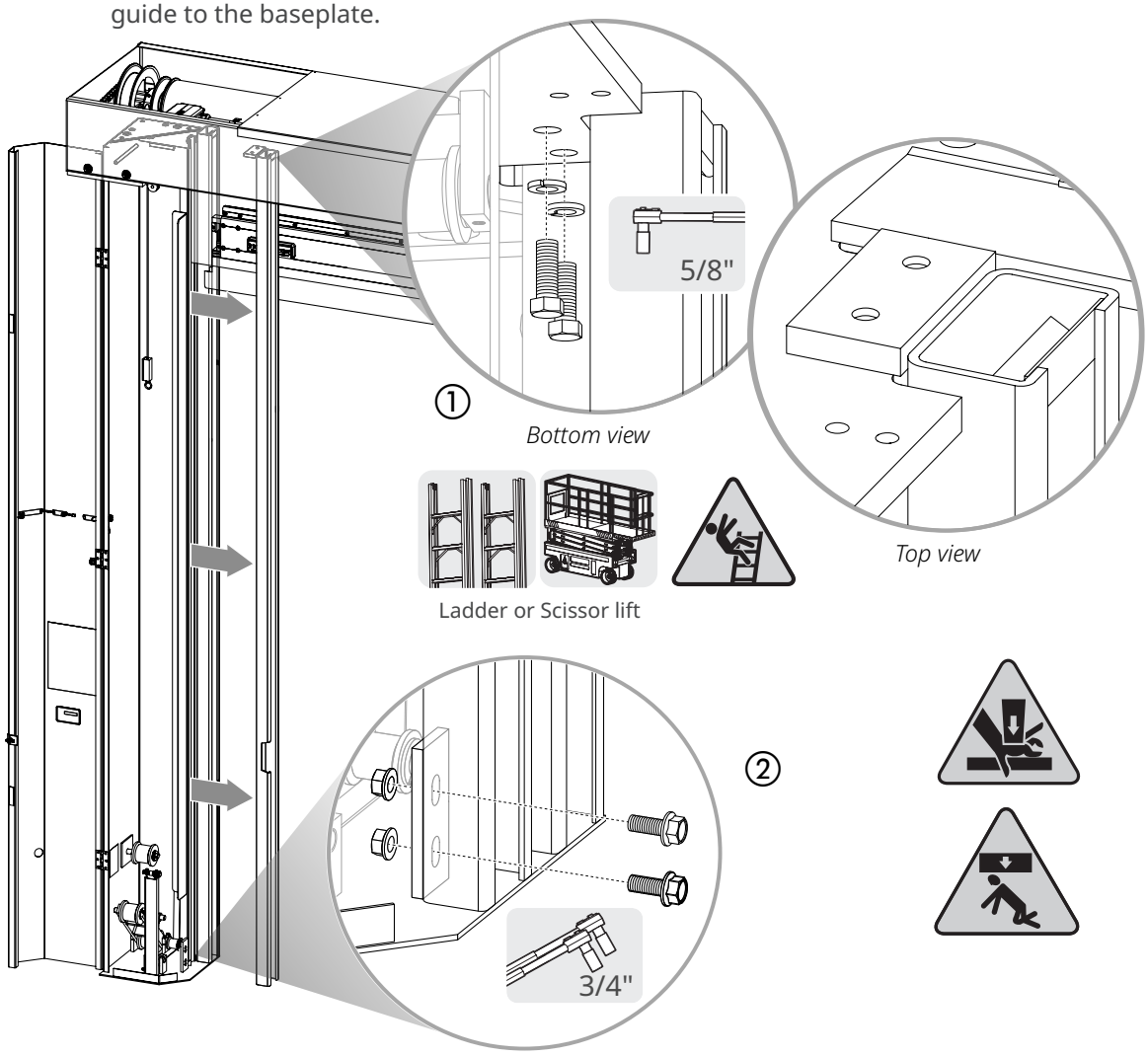
IMPORTANT



9 **Loosen and remove** the hardware that secures the front windbar guide at the top and bottom of the guide. Then **slide out** the windbar guide.

① At the top of the side column, **loosen and remove** the two bolts/locking washers that secure the top guide bracket to the baseplate of the head assembly.

② At the baseplate, **loosen and remove** the two bolt/nut combos that secure the windbar guide to the baseplate.

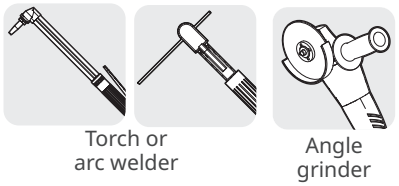


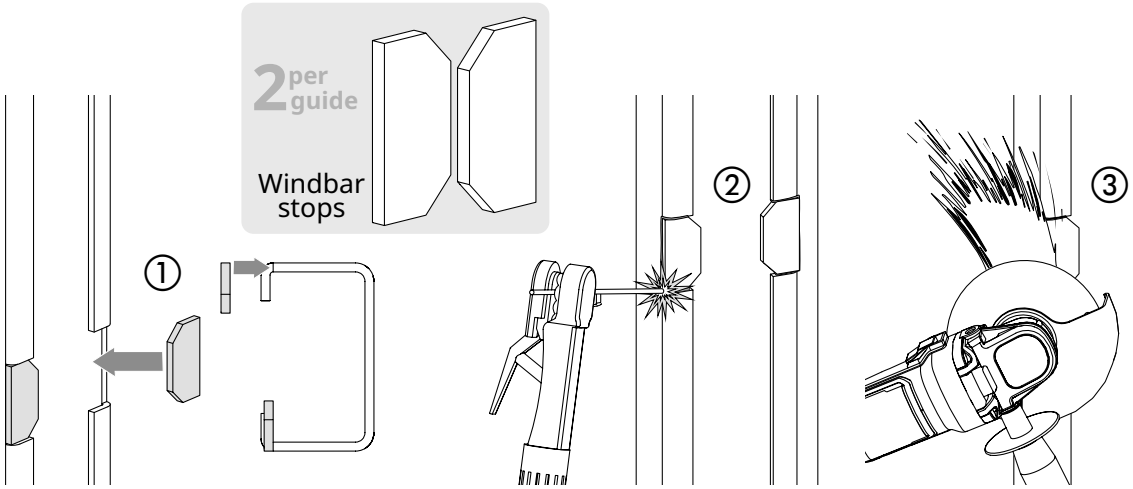
10 If the door has double strapless front windbars, **install** the metal stops that separate the upper and lower windbars before installing the replacement windbar guide.

① **Position** the stops so they are flush with the back and outside edge of the notches in the side column.

② **Weld** the stops securely on all sides to the edges of the notches.

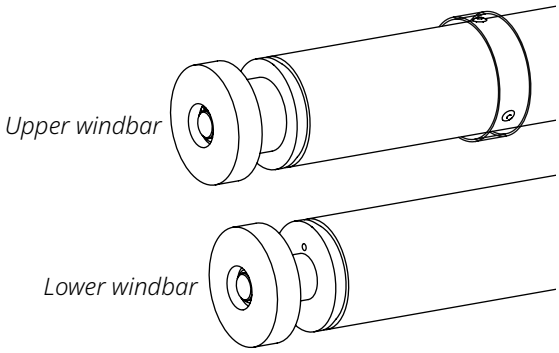
③ **Grind** any rough patches around the weld area until they are smooth.





11 **Reverse steps 1-9** to install the replacement front windbar guide.

12 If the door has double strapless front windbars, **make sure** the windbar with the thicker axle is installed in the upper position, above the windbar stops, and the windbar with the thinner axle is installed in the lower position.



13 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

14 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

How to remove and replace a rear windbar guide

IMPORTANT

Unlike front windbar guides, which are bolted into the side columns, rear windbar guides are **welded in place,** and will need to be cut out with a grinder or cutting torch. The weld points are at the top and bottom of the guide.

1 **Follow the steps** in *How to remove and replace a front windbar guide* starting on page 109 to remove the front windbar guide, giving you full access to the rear windbar guide.

IMPORTANT

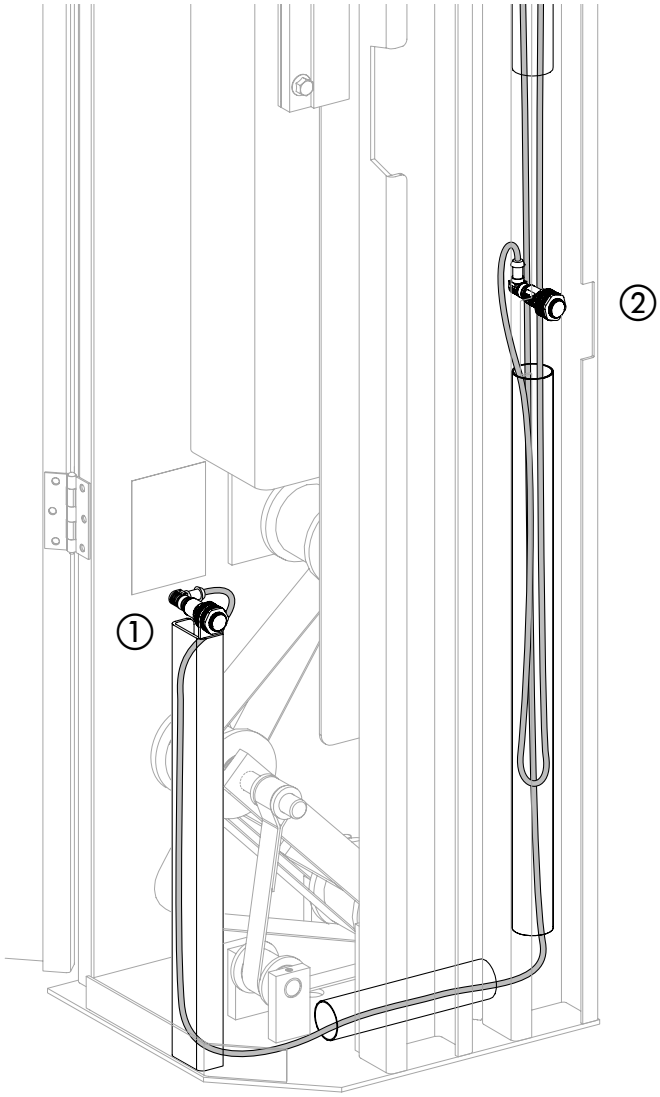
When you have removed the front windbar guide, **restore power** to the door, **jog** the door panel to the fully open position, then **shut off power** and do a lockout/tagout.

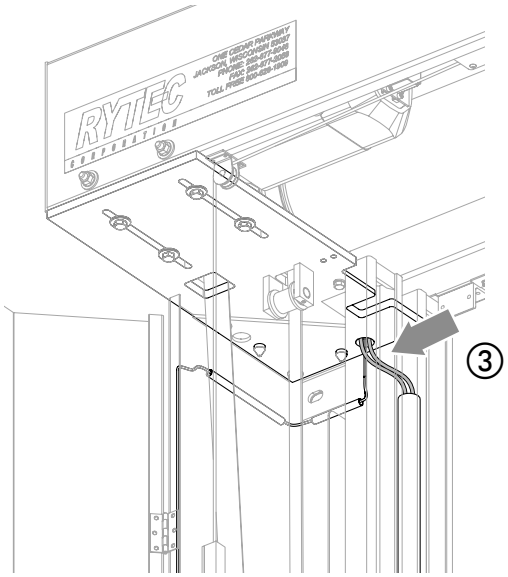
2 **Remove** the photo eye cables from the round wire chases that are welded to the back of the side column frame, right next to the rear windbar guide.

① **Disconnect** the front photo eye cable from the photo eye. You can leave the photo eye in place.

② **Remove** the rear photo eye and set aside.

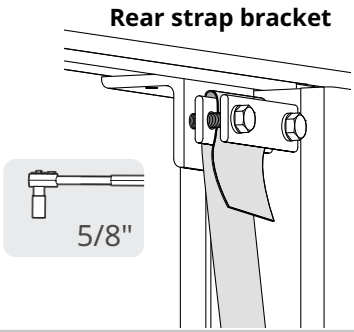
③ **Run** the cables up and out of the round wire chases to where they enter the head assembly. Coil them and tie them off so that they are **safely out of the way.**





Ladder or Scissor lift

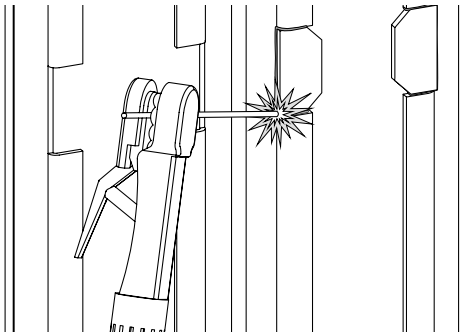
3 If the windbar is strapped, **locate** the strap brackets in the right and left side columns, loosen the securing bolts, and slide out the straps so they hang loose.



4 **Follow the steps** in *How to remove and replace a windbar* starting on page 107 to remove the rear windbar or windbars.

5 If the door has **double strapless windbars** in the rear, you will need to order windbar stops separately from the guide and field weld them into the square notch in the replacement guide.

IMPORTANT



⚠ WARNING

BURN, EYE, ELECTRICAL, CUT AND FUME HAZARD

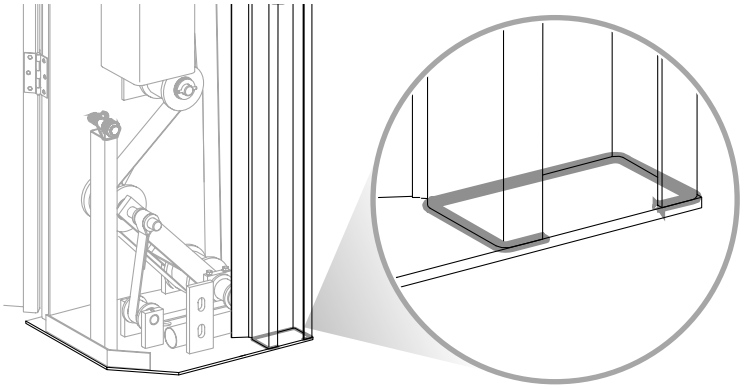
Welding or cutting taking place.

- **Make sure** there are no flammable materials in the weld area and that weld operators wear appropriate protective gear.
- **Make sure** no one looks at the weld area without wearing appropriate eye protection.
- **Make sure** people do not breathe in fumes.
- **Make sure** all safety procedures and standards are followed.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

6 **Cut through** the welds around the bottom of the windbar guide (gray area) until the bottom of the guide is clear of the baseplate.

Cutting torch or angle grinder



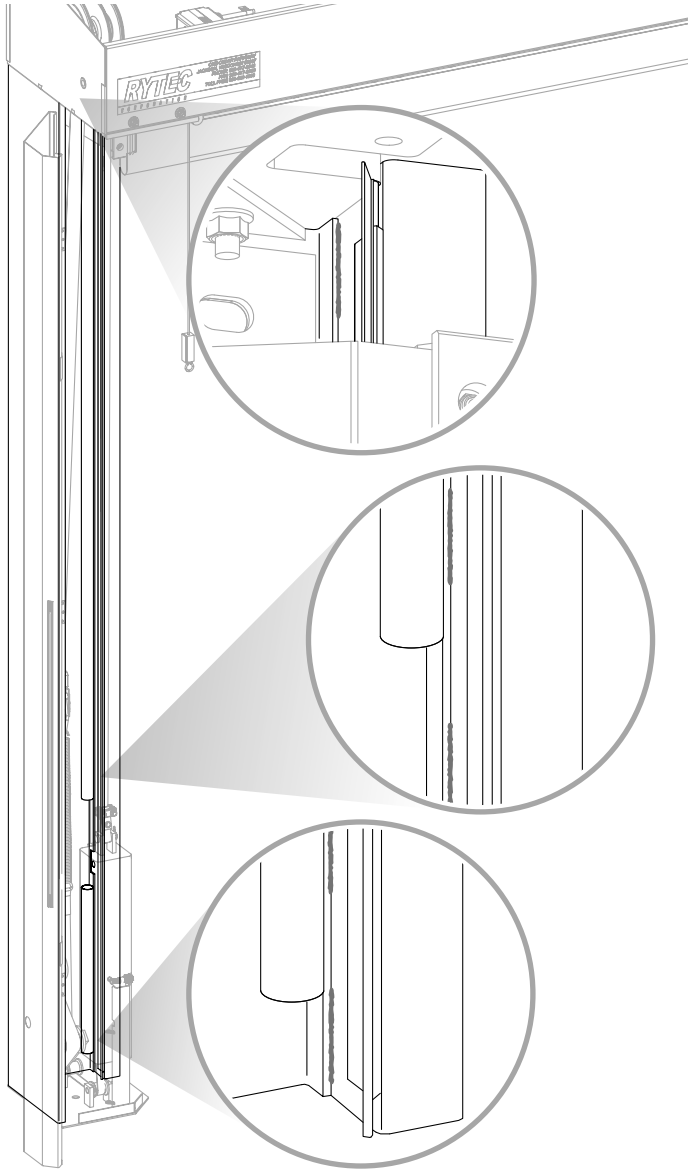
7

Cut through the all welds (gray areas) along the height of the windbar guide where it abuts the bend in the side column frame.

IMPORTANT

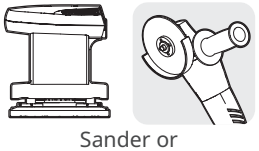
Based on the service history of the door, there will be **a different number of welds,** and they will be in different positions along the windbar guide.

Cutting torch or angle grinder

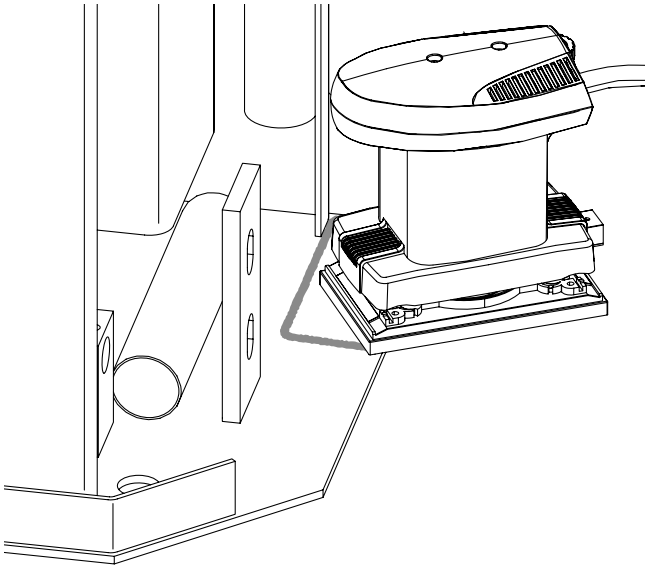


8

Sand or grind all weld points until they are smooth, and all weld material is removed.



Sander or angle grinder

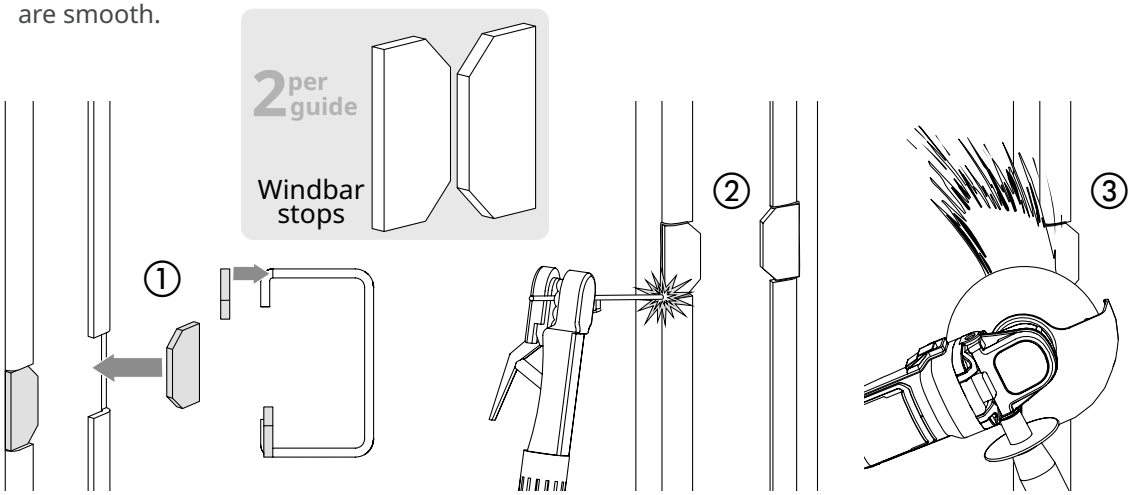


9 If the door has double strapless rear windbars, **install** the metal stops that separate the upper and lower windbars before installing the replacement windbar guide.

① **Position** the stops so they are flush with the back and outside edge of the notches in the side column.

② **Weld** the stops securely on all sides to the edges of the notches.

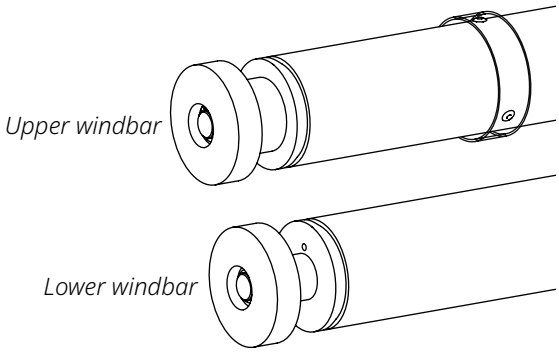
③ **Grind** any rough patches around the weld area until they are smooth.



10 **Install** the replacement windbar guide. **Weld** in the same spots as the original guide.

11 **Reverse steps 1-4** to reinstall the windbars, as well as the front windbar guide and its windbars.

12 If the door has double strapless front windbars, **make sure** the windbar with the thicker axle is installed in the upper position, above the windbar stops, and the windbar with the thinner axle is installed in the lower position.



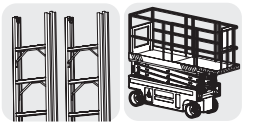
13 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

14 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

How to adjust the strap on a strapped windbar

1 **Check** the position of the windbar with the door in the fully open position.

- The windbar has been strapped **correctly** if it is half-way between the top of the windbar guide and the top of the bottom bar, and is free of contact.
- The windbar has been strapped **too low** if it is making contact with the bottom bar.
- The wind bar has been strapped **too high** if it is making contact with the strap bracket, the top of the windbar guide, or the rolled-up door panel.



Ladder or Scissor lift

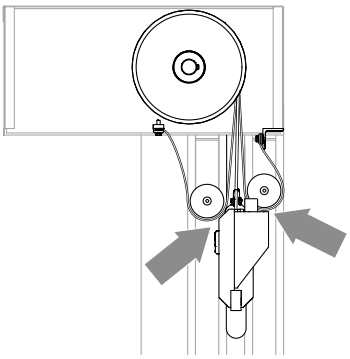
Measuring tape

IMPORTANT

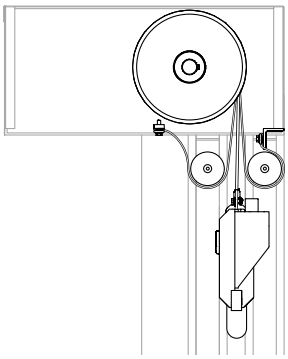
- If there are both front and rear strapped windbars, they **must be** at the same height.

Measure the distance between the **current position** of the windbar and the **correct position.**

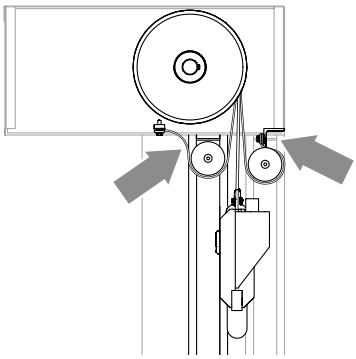
Too low
Windbars make contact with bottom bar



Correct
Windbars free of contact



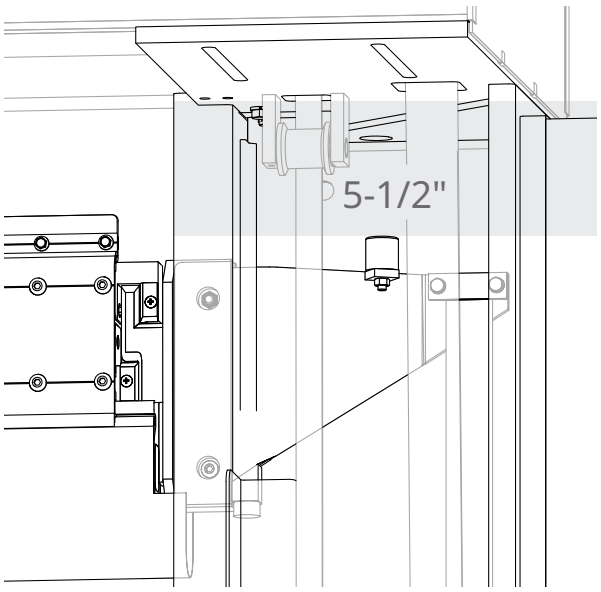
Too high
Windbars make contact with bracket or top of guides



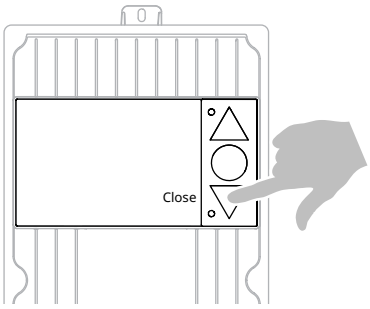
2 Also **check** the position of the bottom bar at the fully open position.

In the fully open position, the **bottom of the loop seal** is just above the top of the door opening, and the **upper bumper on the end brackets** are 5-1/2" below the top plates of the side columns.

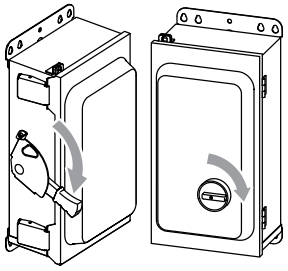
Measuring tape



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



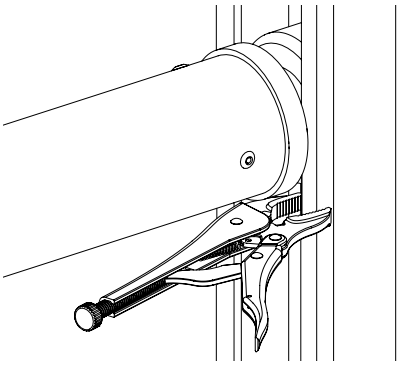
Fused disconnect



4 **Set** the windbar higher or lower in the track by **half the measurement** you took in Step 1.

- **Use** a pair of vise grips to secure it in place.
- It will be necessary to **loosen the strap first** if you want to set the windbar lower. See the next step.

(2) Vise grips



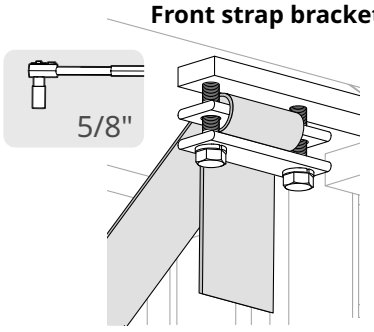
5 **Make sure** the windbar is level at its new position.

Loosen the bolts in the strap brackets for the strap, so you can adjust the strap.

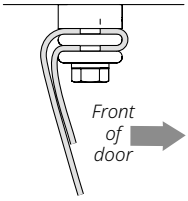
Pull the strap until it is taught (without lifting the windbar off the c-clamps) and **tighten** the bolts.

DO NOT trim the strap.

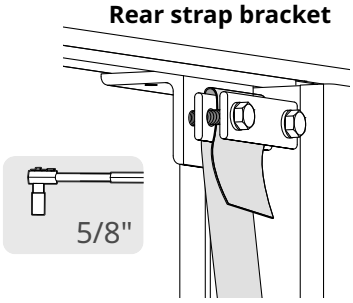
Front strap bracket



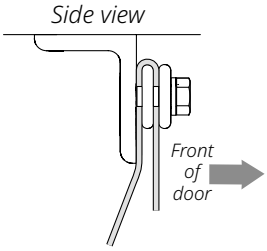
Side view

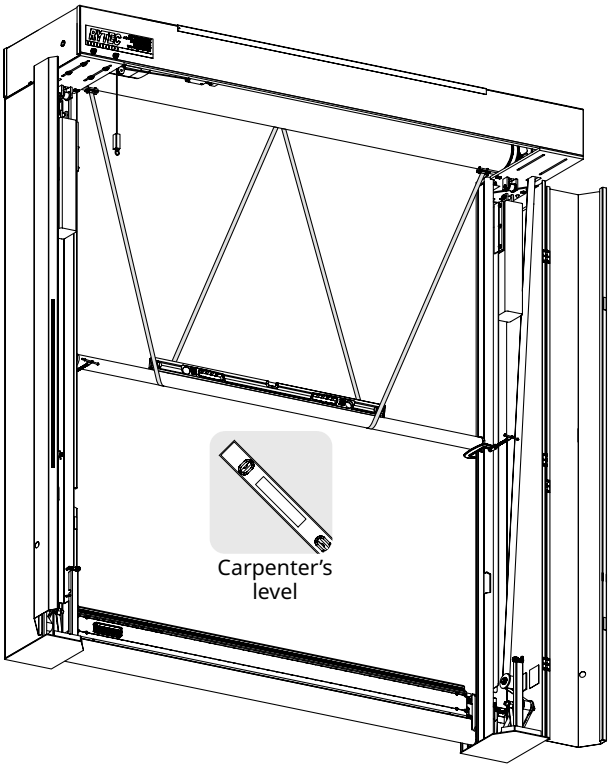


Rear strap bracket



Side view

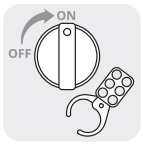


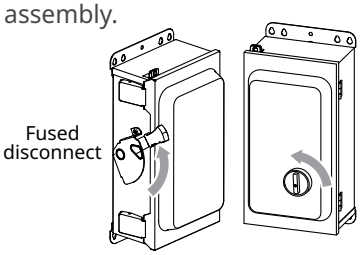


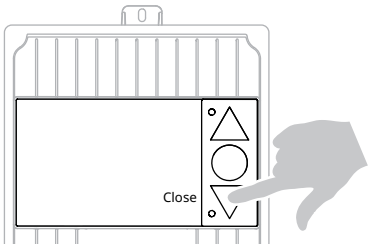
Carpenter's level

6 **Remove** the lockout/tagout and **restore** power to the door.

Then **set** the door to the fully open position and check the position of the windbar(s) in the head assembly.







7 If necessary, **measure again** and repeat the process.

How to remove and replace the straps on a strapped windbar

What to know about the windbar straps

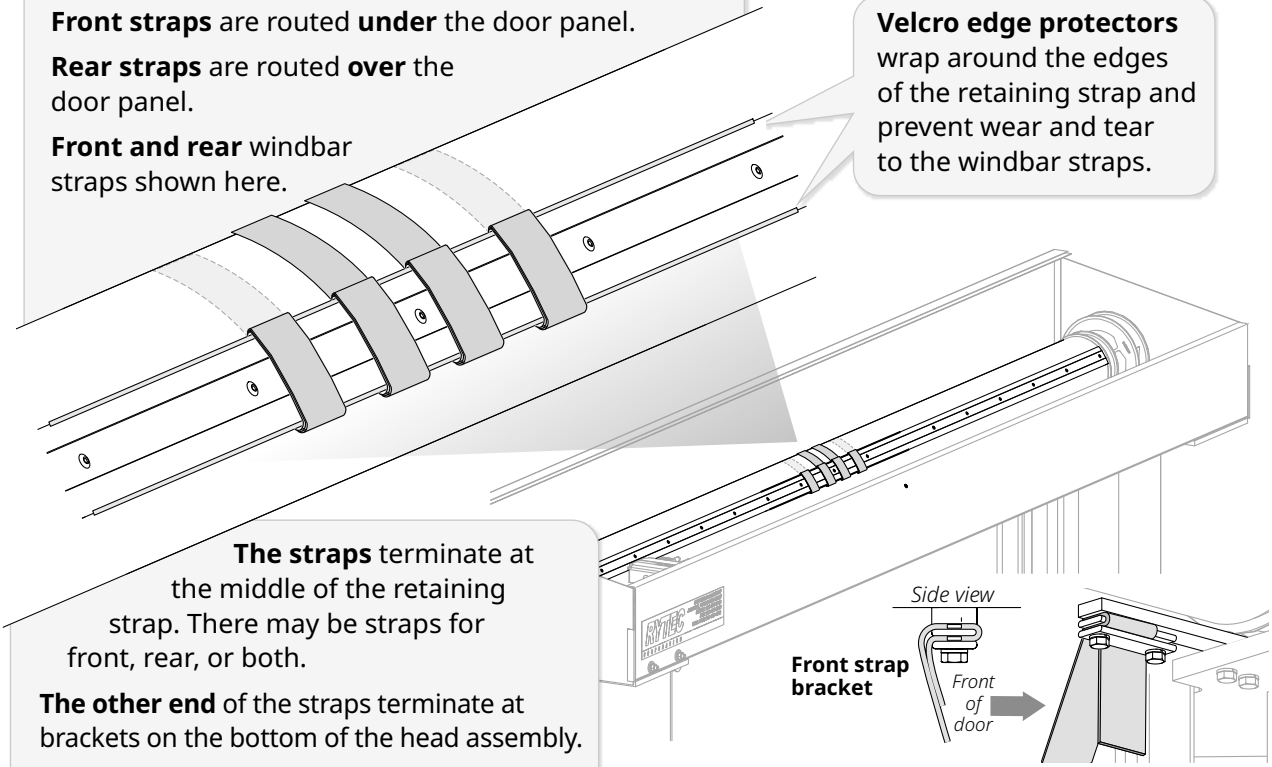
Windbar straps are wrapped around the retaining strap and secured in place by the retaining strap rivets.

Front straps are routed **under** the door panel.

Rear straps are routed **over** the door panel.

Front and rear windbar straps shown here.

Velcro edge protectors wrap around the edges of the retaining strap and prevent wear and tear to the windbar straps.

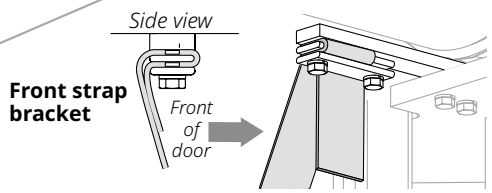


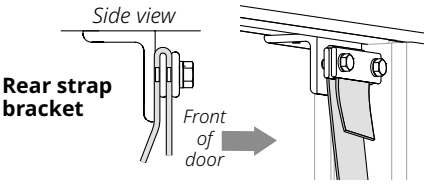
The straps terminate at the middle of the retaining strap. There may be straps for front, rear, or both.

The other end of the straps terminate at brackets on the bottom of the head assembly.

You should replace both front or rear straps at the same time.

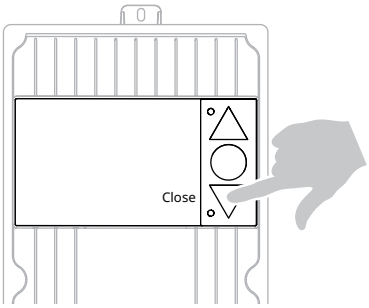
If there are both front and rear straps, **you should replace** both sets at the same time.

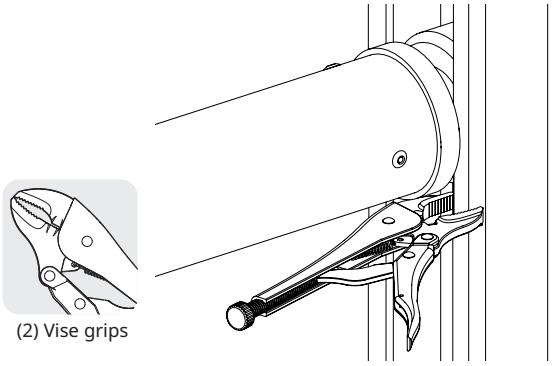




1 **Set the door** to the fully closed position.

Then **use** a pair of vise grips to secure each windbar in place at the closed position height.





2 Follow the steps in *How to take the door panel out of the door track* starting on page 63 to move the bottom bar out of the door track.

⚠ WARNING

This procedure requires you to set parameter P:980 to a value of 3. This allows you to jog the door beyond the close limit, but also deactivates the object detection and alert systems.

Do not use this setting at any other time without contacting Rytec Technical Support.

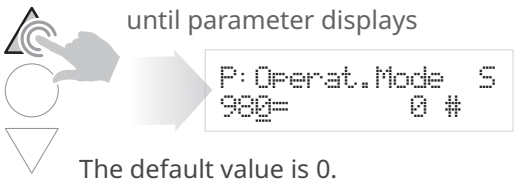
Navigate to parameter P:980, set the value to 3, then jog the door to the floor

1 **Set the controller** into parameter mode and **enter the password** for Service level access.

If you don't know how to do this, **review** *How to set the controller to Parameter mode and access Service level parameters* on page 55.

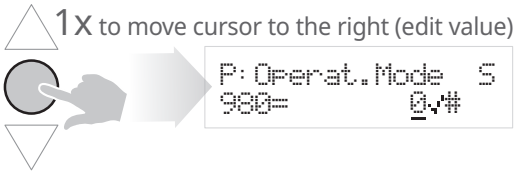
Do This *Result*

2 until parameter displays

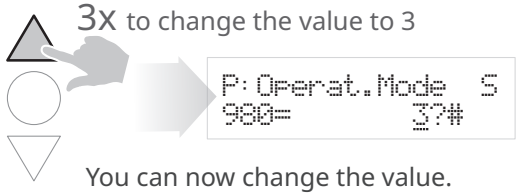


The default value is 0.

3 1x to move cursor to the right (edit value)



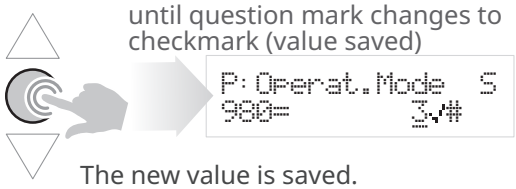
4 3x to change the value to 3



You can now change the value.

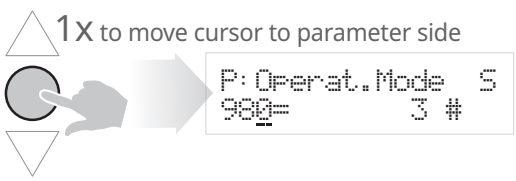
Do This *Result*

5 until question mark changes to checkmark (value saved)



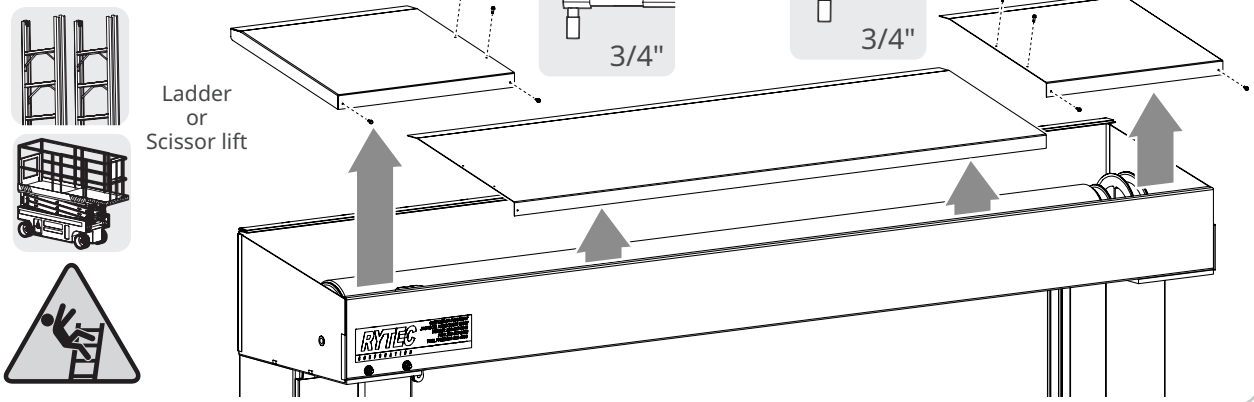
The new value is saved.

6 1x to move cursor to parameter side



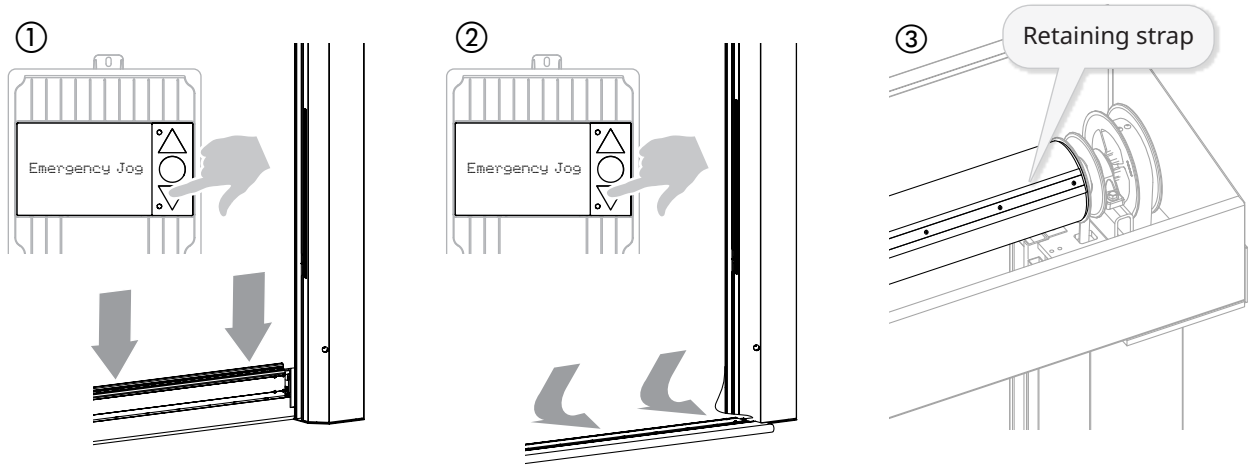
7 until door opens in jog mode

8 If the door has a top hood cover, **remove** the top panels and set them aside.



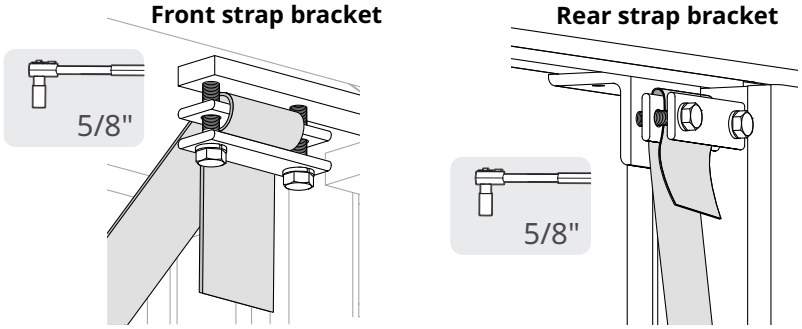
9 **Jog** the door down until the reversing edge touches the floor ①. Then **continue to slowly jog the door down** until the bottom bar lies flat on the floor ②, taking the weight off the door panel, and you can see the retaining strap for the door panel ③ on the drum up in the head assembly.

- **Make sure** the bottom bar does not scrape against the floor as the door lowers.



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

11 **Locate** the strap brackets, loosen the securing bolts, and slide out the straps so they hang loose.



12

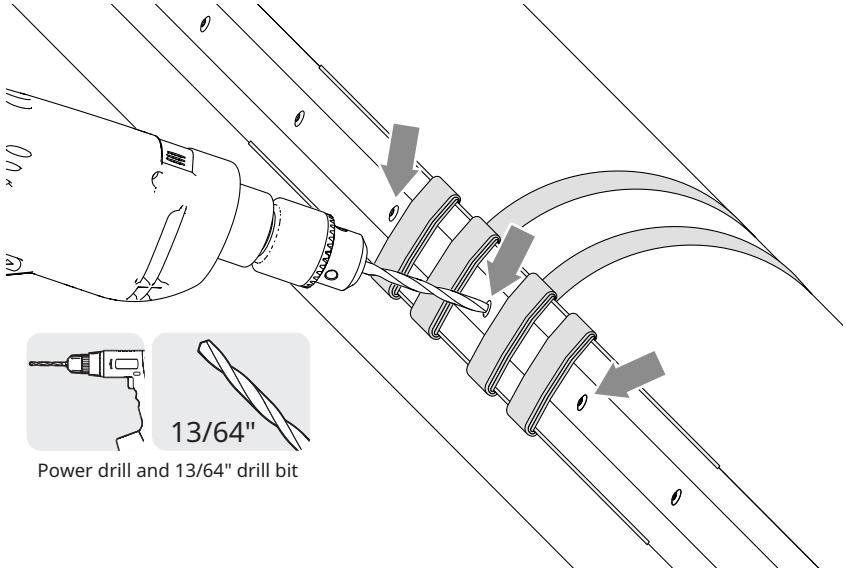
Drill out the rivets (gray arrows) that secure the straps in place.
DO NOT drill out any other rivets.

IMPORTANT

- **DO NOT drill** past the head of the rivet, into the retaining strap or the drum. Stop as soon as the head of the rivet comes free.
- The body of the rivet should fall into the drum. This will not interfere with the functioning of the door. If the rivet does not fall into the drum, **tap it in** using a ball peen hammer.
- **File down** an metal shavings or sharp edges with a metal file or emery paper.

Ball peen hammer

File or emery paper



Power drill and 13/64" drill bit

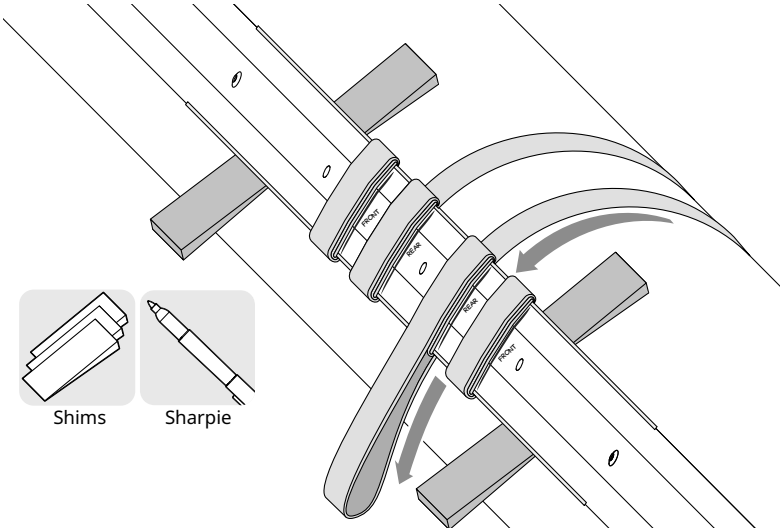
13

Place shims under the retaining strap on either side of the straps.

Mark the position of the windbar straps, indicating whether they are for the front windbar or rear windbar.

Then **loosen** the windbar straps enough to unwind them from the retaining strap and remove them.

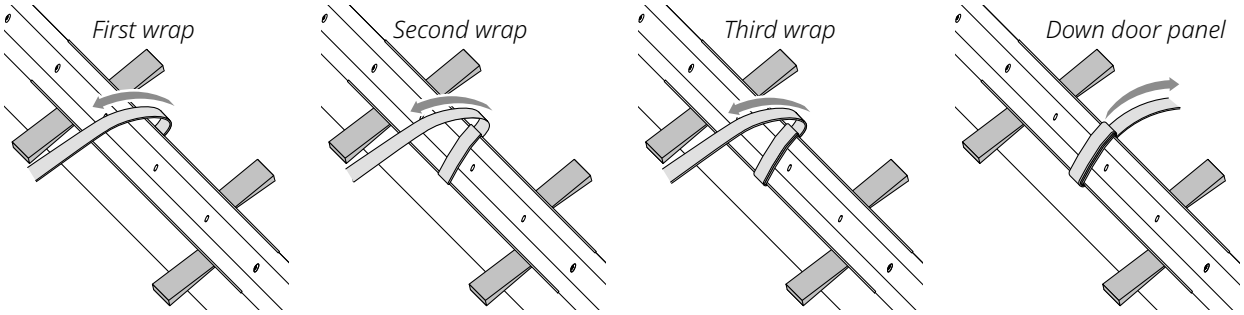
They should be wound around the strap **three times.**



Shims

Sharpie

14 **Install** the replacement straps.

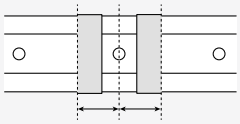


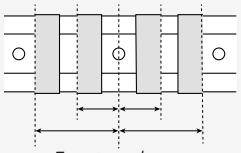
Wrap the windbar strap around the retaining strap and Velcro edge protectors three times, starting behind the top of the strap and wrapping over it towards the front of the door.

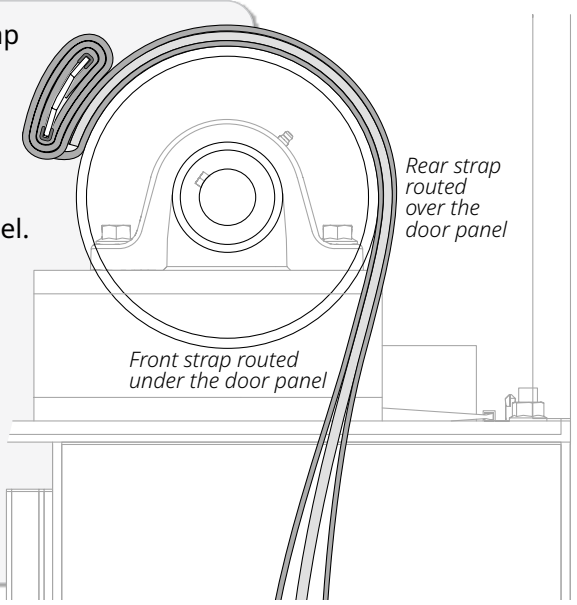
Then **route** the strap down the door panel.

- **Front straps** are routed **under** the door panel.
- **Rear straps** are routed **over** the door panel.

Make sure the straps are evenly spaced around the center rivet hole.


Front or rear only


Front and rear

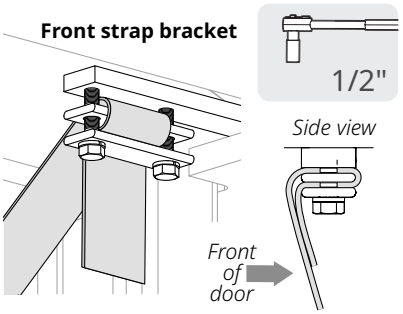


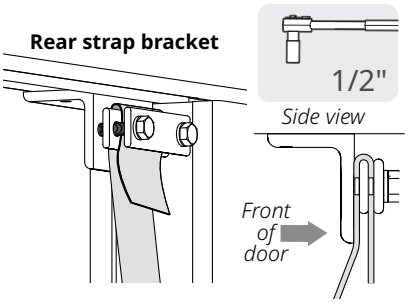
15 **Pull** the straps down and **slide** them between the windbar and the door panel.

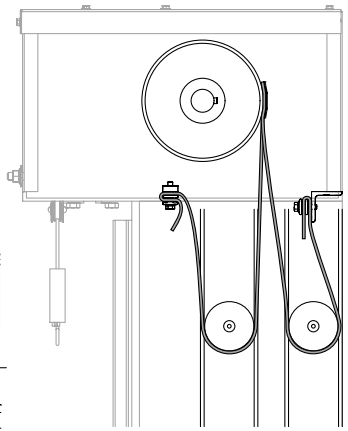
Then **loop** them around the windbars, up to the brackets.

Make sure there are no kinks or twists anywhere along the length of the straps.

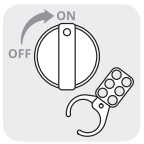
Loop the straps through the brackets as shown here, **pull** them tight, and **tighten** the bolts on the brackets.

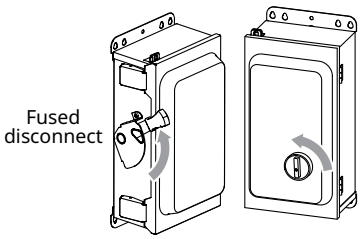





Drum side of strap on inside of windbar, bracket side of strap on outside of windbar

16 **Remove** the lockout/tagout and **restore** power to the door.





17 **Follow the steps** in *How to adjust the strap on a strapped windbar* starting on page 117 to check that the new strap is the correct length.

18 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

19 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

The side columns: repairs and replacements

⚠ WARNING

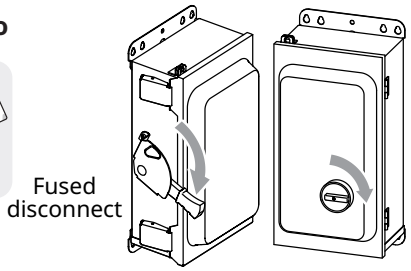
Set the disconnect switch to the OFF position and perform a lockout/tagout of the high-voltage disconnect before servicing the door when the side column covers have been removed.

Do not set the disconnect switch to the ON position until the side column cover is secured.

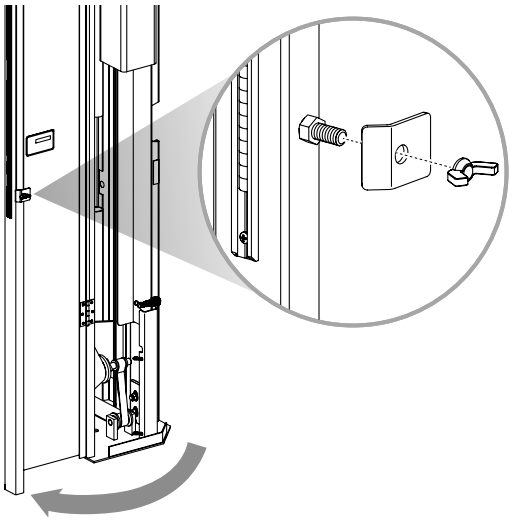
Failure to comply could result in serious injury if the counterweight or other internal components move unexpectedly

How to remove and replace a door panel EPDM seal

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



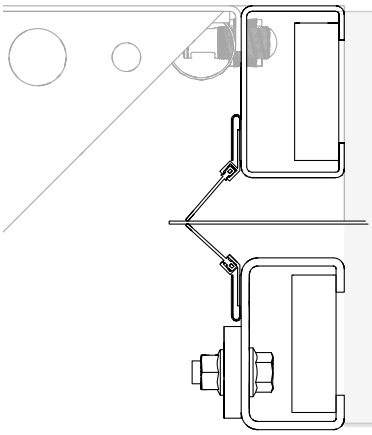
2 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



3 **Slide** the seal out of the top of the bracket that secures it.

Then **slide** the replacement seal into and down the length of the bracket.

- If necessary, use a putty knife or flathead screwdriver to loosen crimps in the retaining bracket.



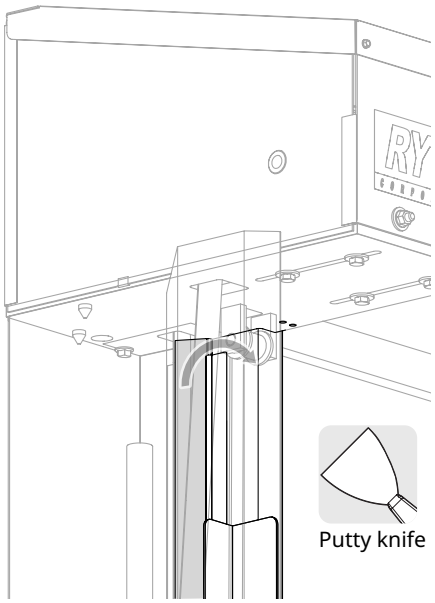
The seals on both side of the door panel are **flexible EPDM rubber flaps** secured by brackets that are welded to the back of the front and rear windbar guides.

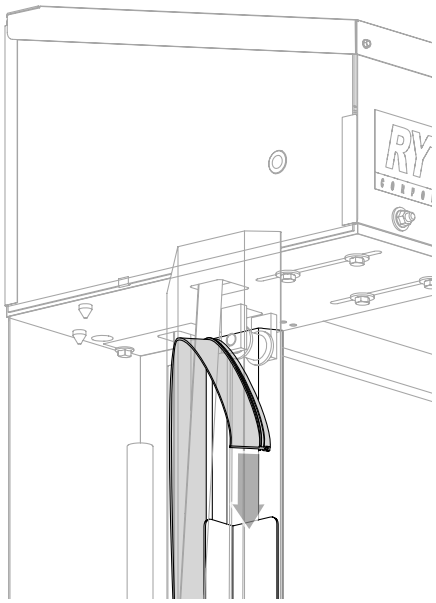
There is a **small space** between to top of the seal and the bottom of the head assembly.

You **remove and replace** the seals by bending and sliding them out of, or into, the top of the bracket in this small space.

This is a **slow process** that requires some force and patience.

If the door has been previously serviced, some **adhesive** may have been used, but it is not needed.





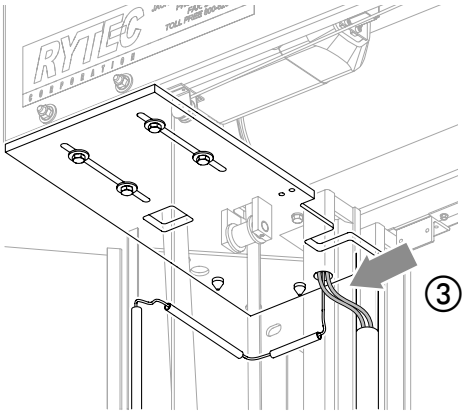
What to know about the side column cabling

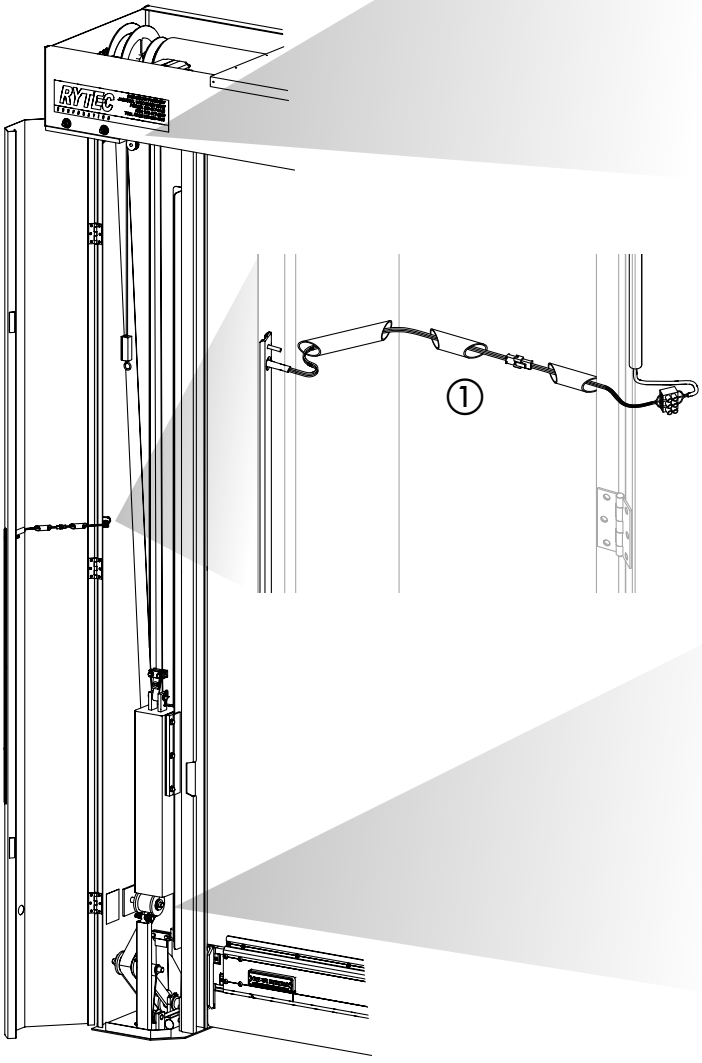
The **Pathwatch and photo eye cables** are routed through wire chases for the whole length of their run, to keep them clear of moving parts.

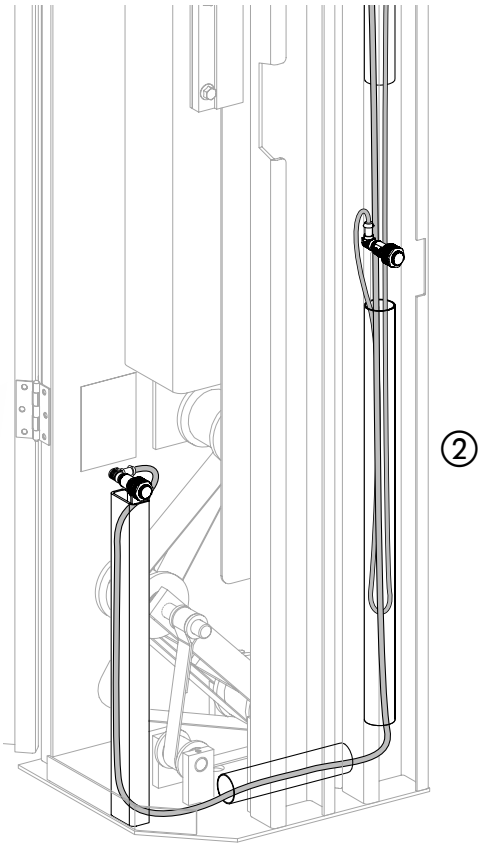
The Pathwatch cable runs across the side column cover and up the front of the column, behind the hinges ①.

The photo eye cables run up the back of the column, behing the windbar guides ②.

All cables enter the head assembly through **the same port ③.**

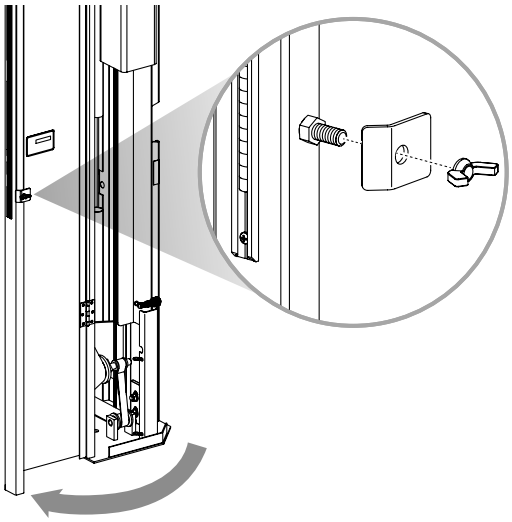






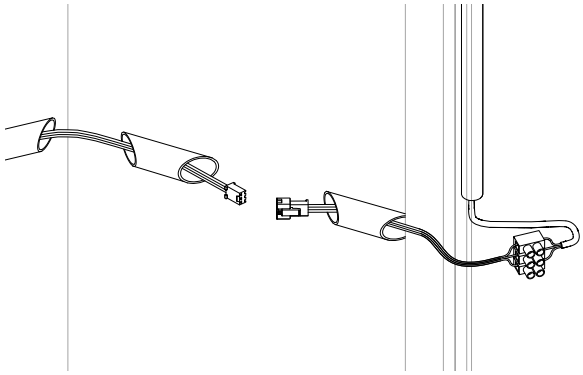
How to remove and replace a Pathwatch LED strip

1 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



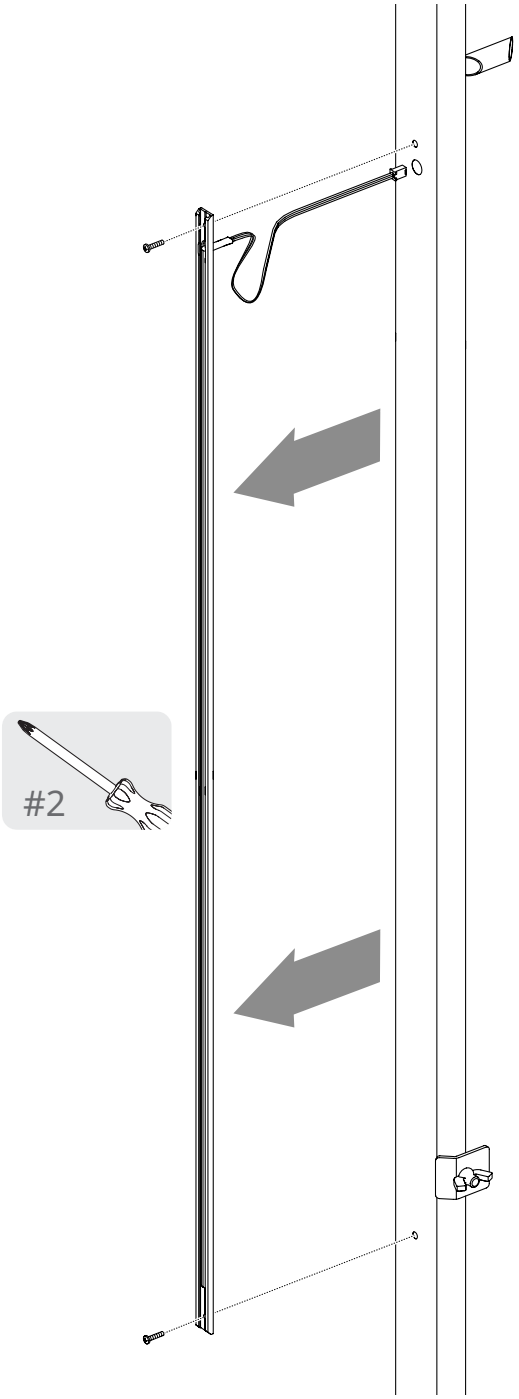
2 **Disconnect** the Molex connector that connects the Pathwatch wires to the terminal block in the side column.

The wires run in chases across the side column cover. See the previous page.



3 **The Pathwatch LED strips** are secured to the front and side of each side column by #2 Phillips head screws at the top and bottom.

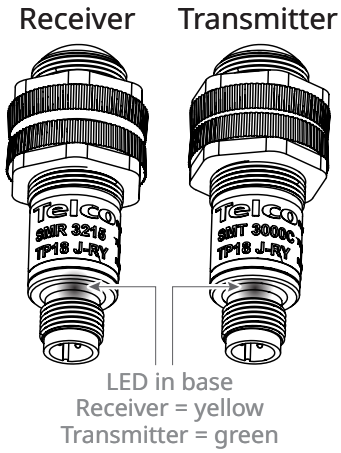
Reverse these steps to install the new strip.



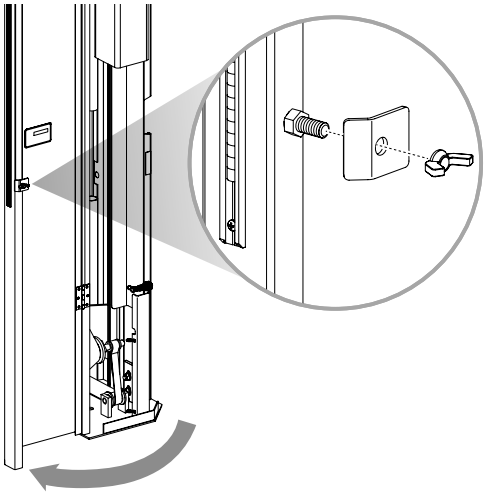
How to remove and replace a photo eye

IMPORTANT

Before installing the replacement photo eye, **make sure** it matches the photo eye you removed: transmitter for transmitter or receiver for receiver.

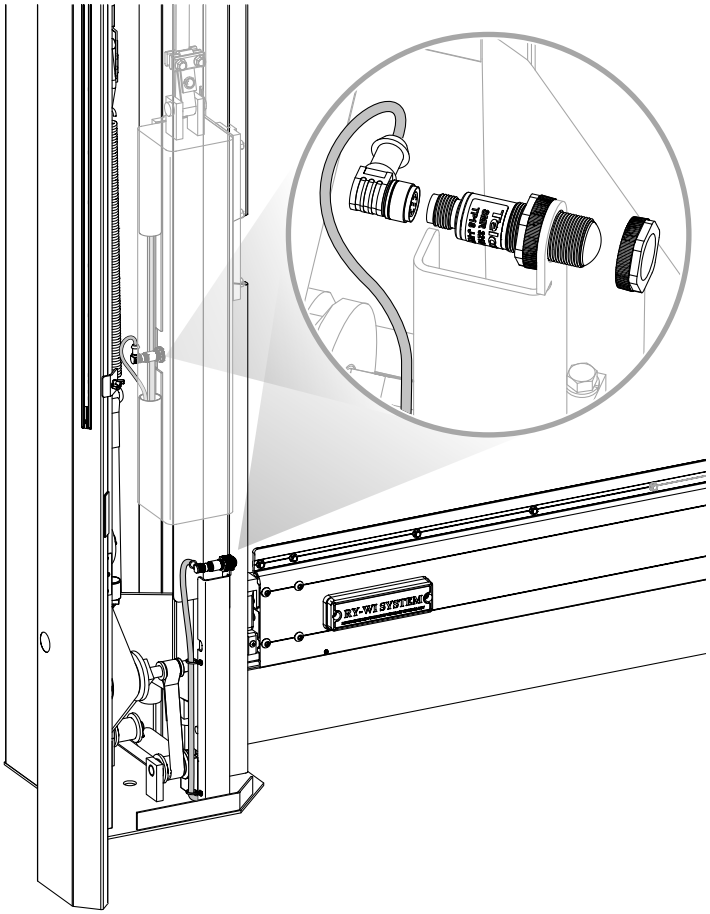


1 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



2 **Locate** the front and rear photo eyes. The **front** photo eye is mounted on a bracket at the front of the side column. The **rear** photo eye is mounted in the rear windbar guide, behind the counterweight.

The cable connection and retaining nut can be loosened and tightened by hand.



How to remove and replace, or adjust, the counterweight strap

You can also follow these steps, skipping steps 5-9, to **adjust the strap.**

IMPORTANT As a general rule, you should **replace or adjust both counterweight straps** during the same service call. The counterweights **must be at the same height** when the door is at the fully open and fully closed positions.

⚠ WARNING

CRUSH AND BODY CRUSH HAZARD

The counterweights for a Fast-Seal can weigh more than 100 pounds apiece.

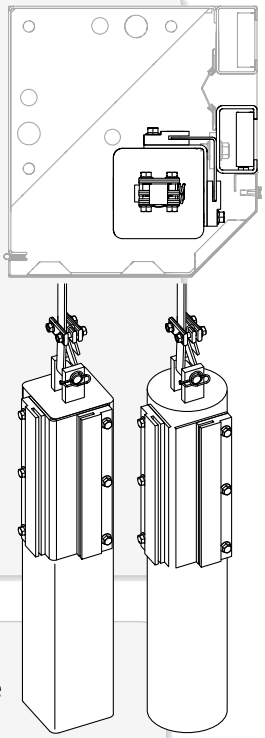
- **Make sure** they are secured or directly supported at all times.
- **Make sure** they are not put in a position where it is possible for them to topple over.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

Before you begin: what to know about the Fast-Seal counterweight

Fast-Seals with 14" side columns *(smaller size)*: counterweight is squared or cylindrical and has guide brackets on two sides, holding it in place in the L-shaped guide track welded to the back of the front windbar guide.

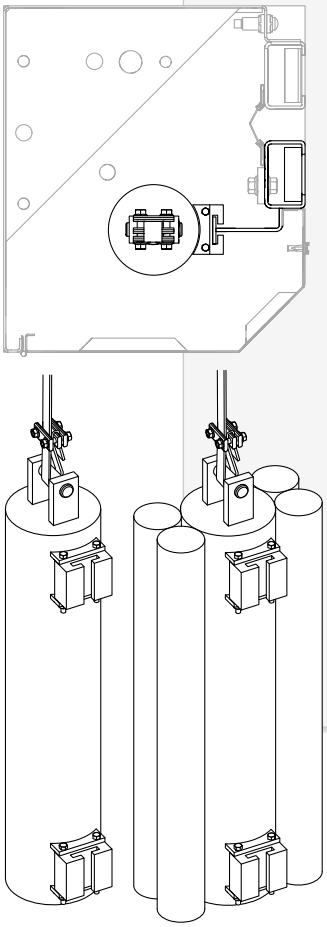
The counterweight is **fully assembled at Rytec** and must be partially disassembled during installation.



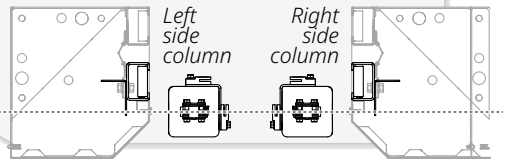
Fast-Seals with 17" side columns and larger 14" side column doors: counterweight is cylindrical and has a single set of guide brackets holding it in place in the T-shaped guide track welded to the back of the front windbar guide.

On larger, heavier doors, the counterweight may be made up of **multiple cylindrical weights.**

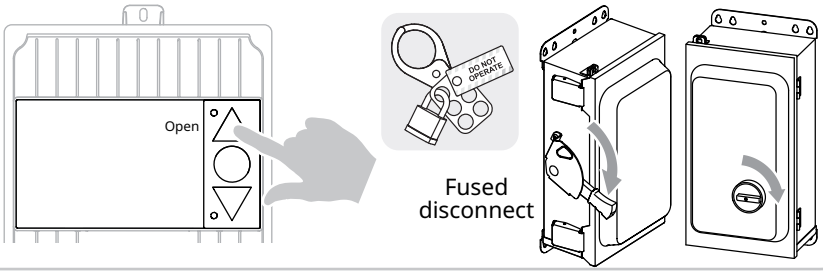
The guide brackets and hardware are in the **small parts box.**



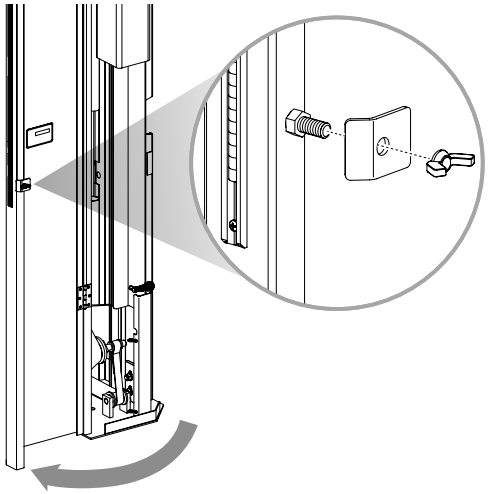
For these14" doors, make sure to place the counterweights in the side columns so that the brackets are to the rear and inside of the door, and the clevis pins are parallel to the door panel.



1 **Set** the door to the fully open position, which sends the counterweight to the bottom of its run, then **shut off power to the door** and perform a lockout/tagout.



2 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.

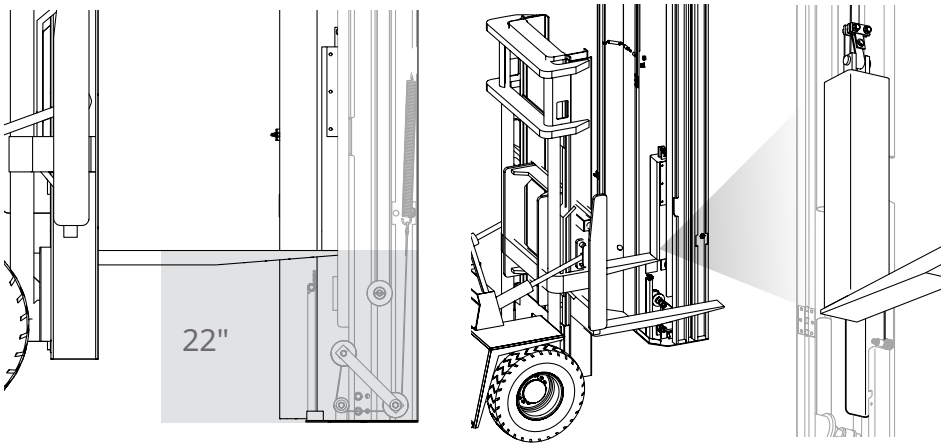


3 **Measure** the distance from the counterweight to the baseplate.

- If the height is roughly 22", the counterweight is configured correctly.

Use a forklift to hold the counterweight at its fully open height.

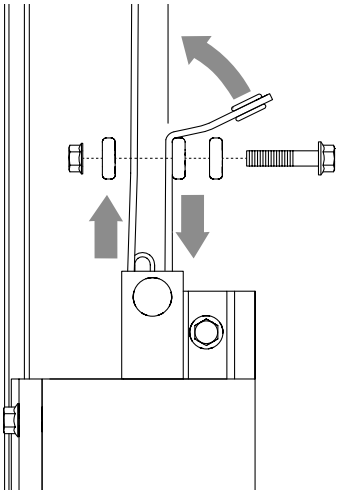
IMPORTANT **MAKE SURE** the counterweight is secured in place until the new strap has been installed. **Leave** the guide brackets in place so it does not tip over.

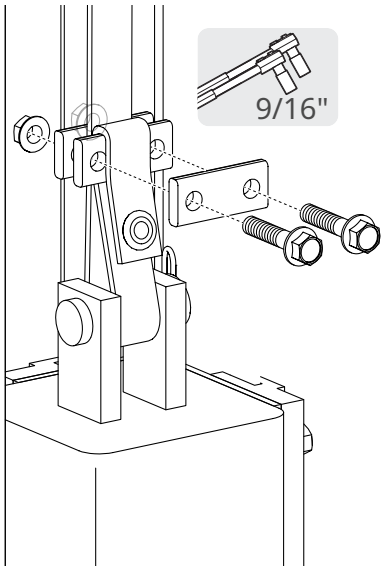


4

Loosen the bolts on the clamp plates at the top of the counterweight.

Slide off the plates and the strap.

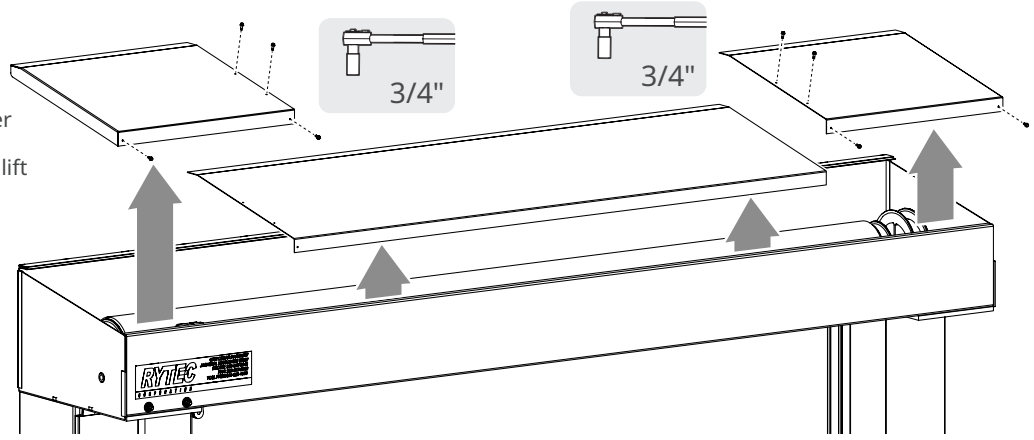




5

If the door has a top hood cover, **remove** the top panels and set them aside.

Ladder
or
Scissor lift



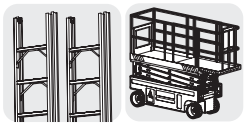
6

Go up into the head assembly.

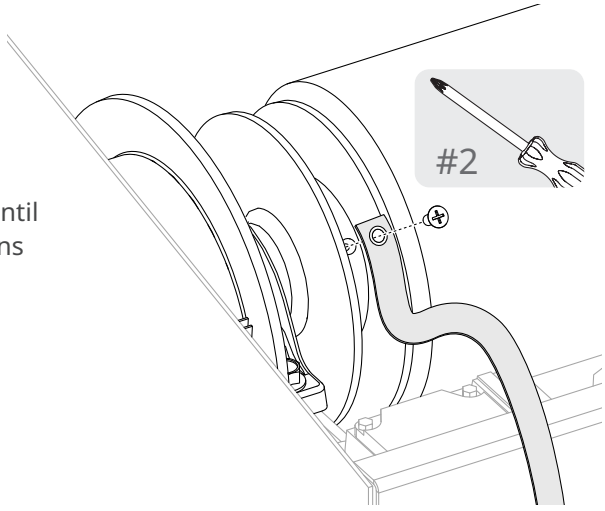
Locate the counterweight spool next to the drum. The larger spool for the tensioning assembly is located at the end of the drum assembly.

Pull up and unwrap the counterweight strap until you expose the hold screw on the spool that runs through the grommet at the end of the strap.

Loosen the screw, which should have Loctite applied to it, and **remove** the strap. Discard the strap.



Ladder or scissor lift



7 **Route** the hold screw through the grommet on the replacement strap and secure it to the spool.

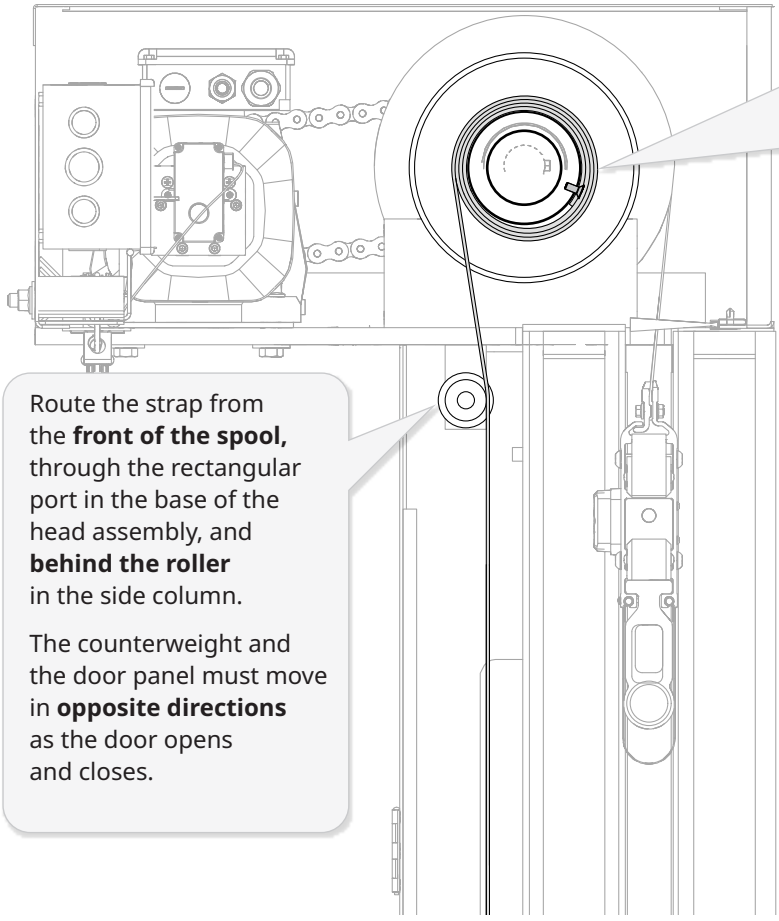
Apply Loctite to the screw before installing it.

The strap should hang down **from the front** of the spool.

8 **Wrap** the replacement strap around the spool three times.

Make sure to pull it tight with each wrap.

Route the strap **through** the rectangular hole in the base of the head assembly and down the side column.



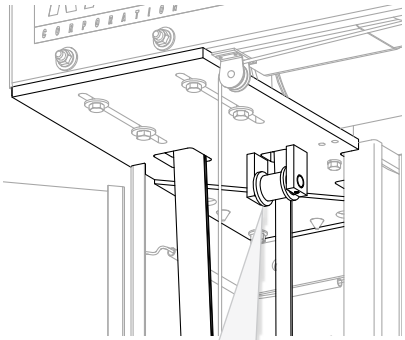
IMPORTANT

Wrap the strap around the spool three times.

The wraps **must be in place** for the counterweight to operate correctly.

Route the strap from the **front of the spool,** through the rectangular port in the base of the head assembly, and **behind the roller** in the side column.

The counterweight and the door panel must move in **opposite directions** as the door opens and closes.

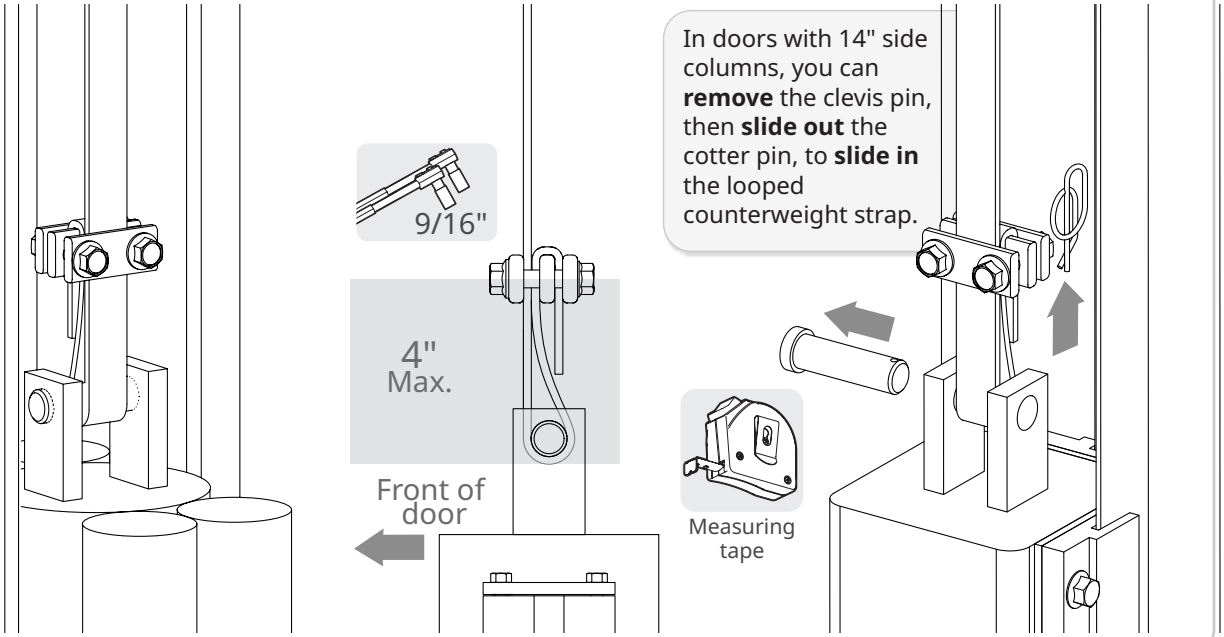


The counterweight strap routes behind the roller attached to the base of the head assembly, unlike the wider strap used by the tensioning system.

9 **Make sure** there are no twists in the length of the strap that hangs down the side column.

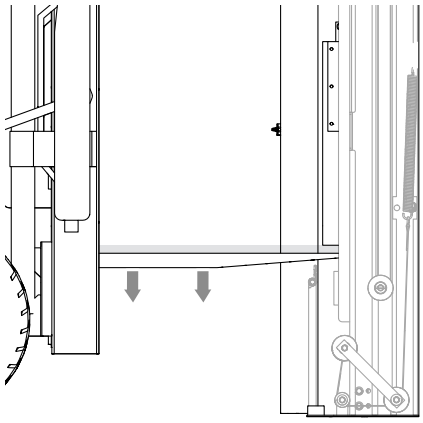
10 **Pull down** on the strap to make sure it is tight, then **loop** the counterweight strap around the clevis pin in the counterweight , starting at the front and looping under the pin to the back, and secure the strap with the clamp assembly as shown below.

- **Make sure** the height of the loop is limited to 4", and that the strap loops from the front of the pin to the back.
- **Make sure** to pull the strap tight before securing the clamp assembly.
- **DO NOT TRIM** excess strap length.



11 To test that there is no slack in the strap, **CAREFULLY lower** the fork under the counterweight and allow it to hang freely for one minute.

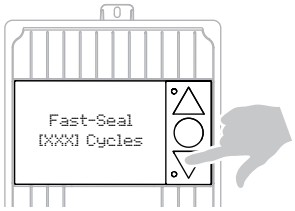
If the counterweight drops, **reblock** it and **retighten** the strap, then retest.

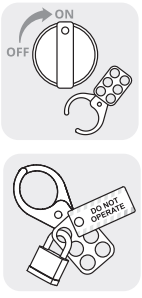


12 **Remove** the lockout/tagout and **restore** power to the door.

Then **press** the CLOSE button.

Once the door is in the fully closed position, **shut off power** and do a **lockout/tagout.**

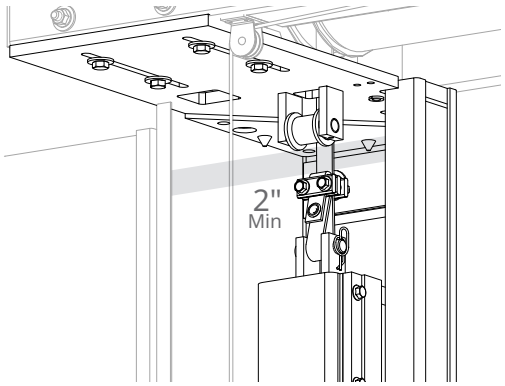




13 With the door panel at the fully closed position, **make sure** there is space between the strap clamp assembly and the counterweight strap roller mounted at the bottom of the head assembly.

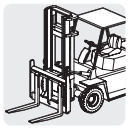
- The **minimum acceptable space** is 2" (two inches), though there should be more.

Measuring tape



14 If the counterweight assembly is too close, **measure and record** the amount of extra strap length needed to lower it to the minimum distance.

Measuring tape



Forklift

① **Return** the door to the fully open position and shut off power.

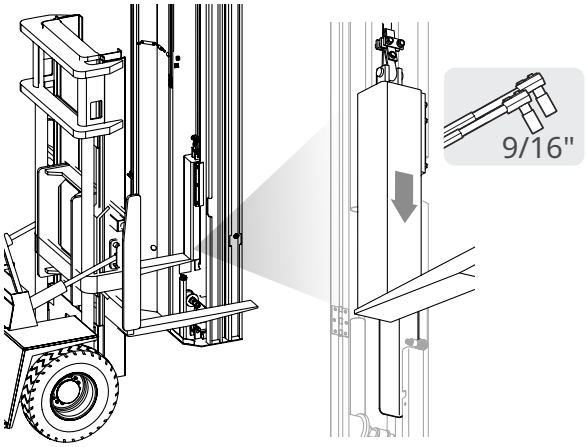
② **Set** the counterweight back on the forklift fork

③ **Loosen** the bolts on the clamp plates, then lower the fork to the new lower height.

④ **Adjust** the excess strap length the amount needed.

⑤ **Retighten** the bolts.

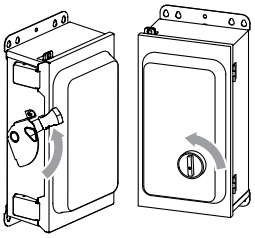
⑥ **Test** the space between the strap clamp assembly and the strap roller again with the door at the fully closed position.



IMPORTANT **Check** the counterweight in the other side column to make sure the height matches. If necessary, adjust the other strap.

⑦ Tape any excess length of strap to the main length of the strap. **DO NOT TRIM.**

15 **Remove** the lockout/tagout and **restore** power to the door.



Fused disconnect

16 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

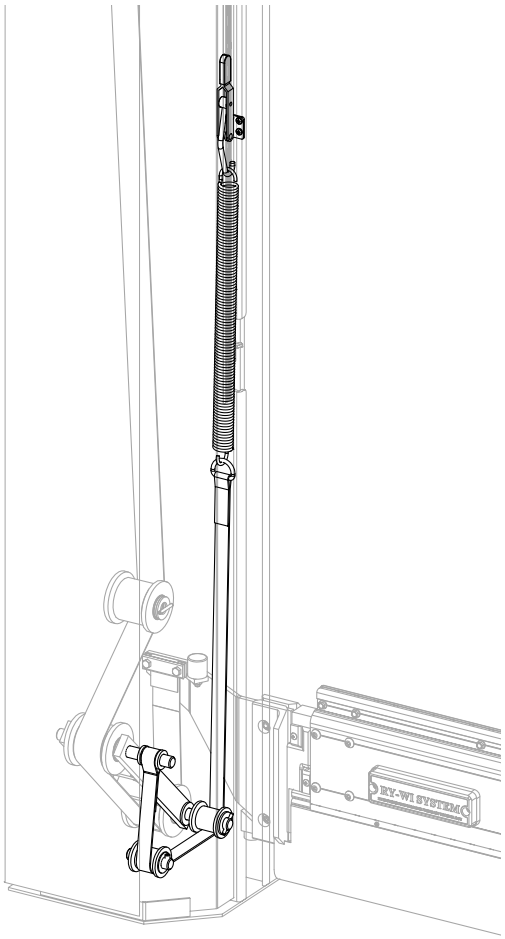
17 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

18 **Test the door** through multiple cycles to make sure the door panel is moving smoothly in the track.

How to remove and replace the parts of the tensioning assembly

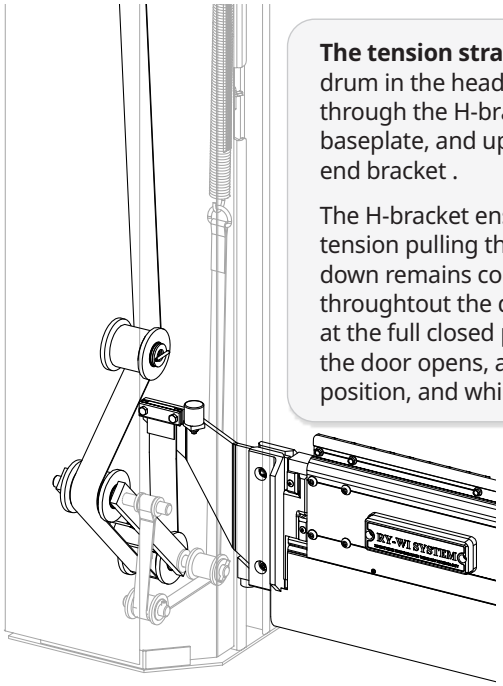
Before you begin: things to know about the end bracket tensioning system

- The **tensioning system** attaches to the bottom of the end brackets and applies downward tension on the door panel as the door moves up and down.
- This keeps the door panel **taut and straight** even when there is considerable difference in air pressure on either side of the door.
- It also keeps the end brackets **in the door tracks** if the door ajar breakaway system is activated by a strike.



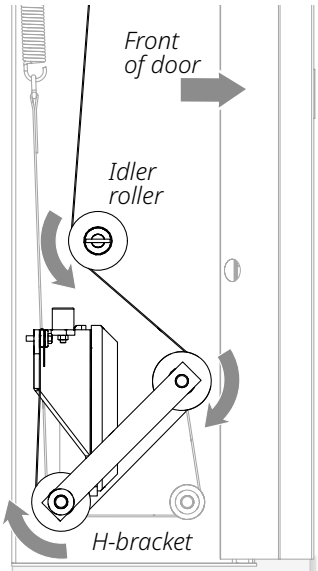
The spring strap connects the tensioning spring to the H-bracket.

This provides the tension to the end bracket by pulling down on the H-bracket, which increases tension on the strap.

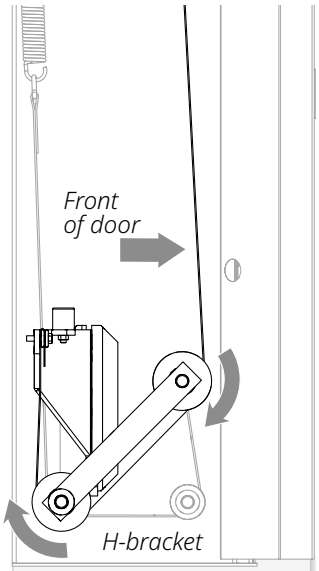


The tension strap runs from the drum in the head assembly, through the H-bracket at the baseplate, and up to the end bracket .

The H-bracket ensures that the tension pulling the bottom bar down remains constant throughtout the door cycle: at the full closed position, while the door opens, at the fully open position, and while the door closes.



On taller doors: the strap is routed around the back of the idler roller, then the front of the H-bracket, then around the bottom to the end bracket.



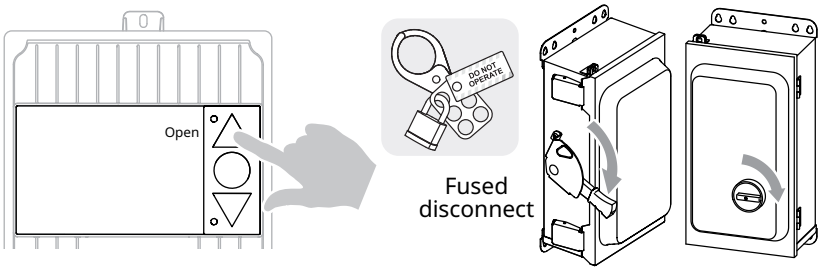
On shorter doors: there is no idler roller. The strap is routed around the front of the H-bracket, then around the bottom to the end bracket.

How to remove and replace, or adjust, the tension strap

Follow steps 15-16 to **adjust the strap.**

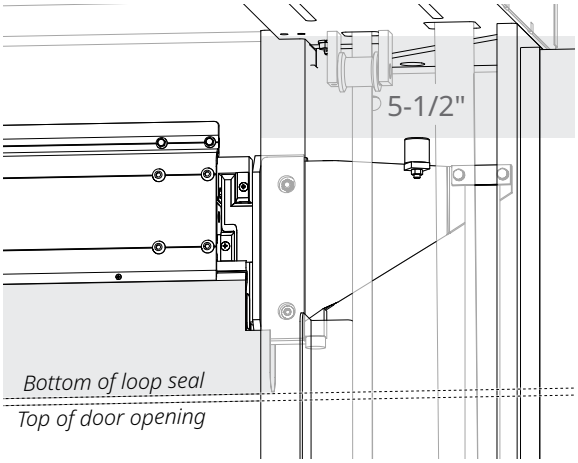
IMPORTANT As a general rule, you should **replace or adjust both tension straps** during the same service call. **Tension must be equal** on both sides of the bottom bar.

1 **Set** the door to the fully open position, which sends the counterweight to the bottom of its run, then **shut off power to the door** and perform a lockout/tagout.\

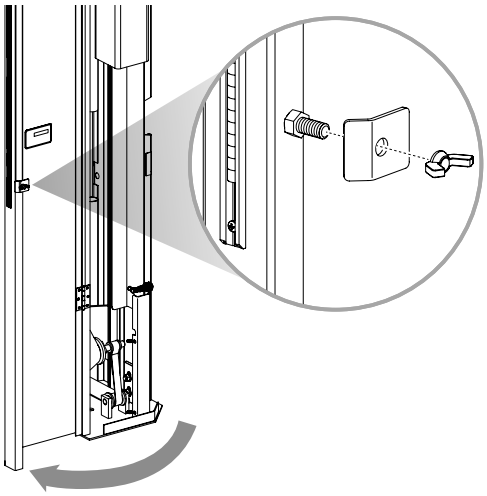


2 **Make sure** the open limit has been set correctly. **Reset** if necessary.

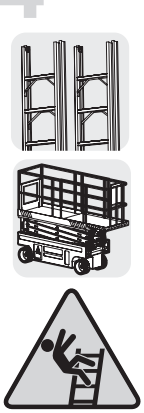
- The bottom of the loop seal should be just above the top of the door opening, and the upper bumper on the end brackets should be 5-1/2" below the top plates of the side columns.



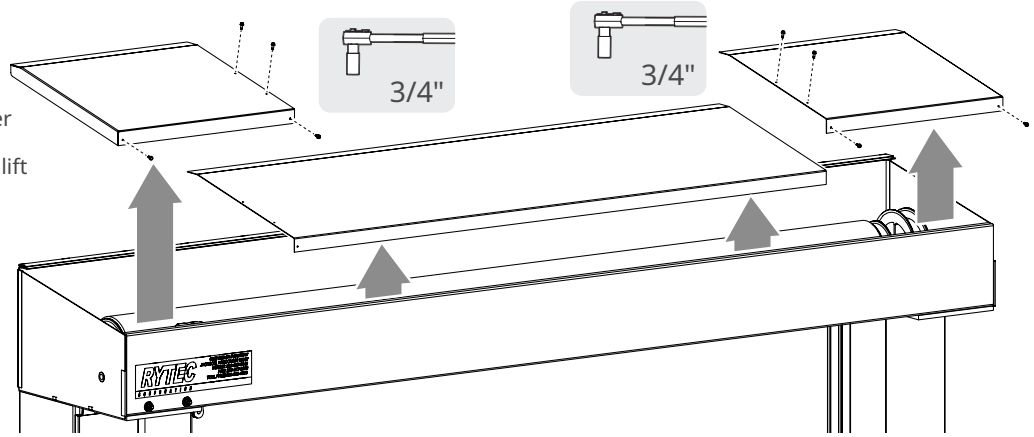
3 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



4 If the door has a top hood cover, **remove** the top panels and set them aside.



Ladder or Scissor lift



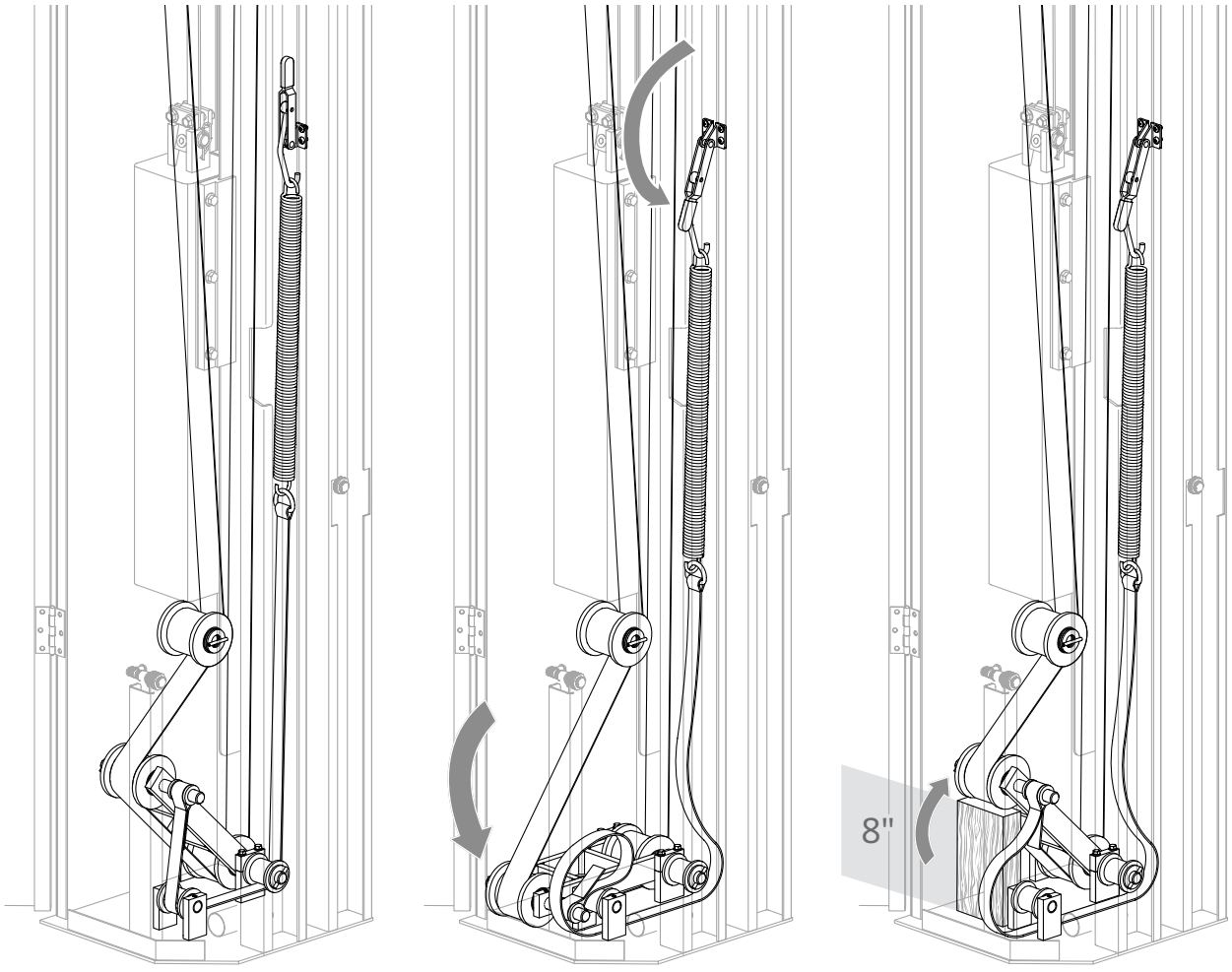
⚠WARNING

CRUSH HAZARD **The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.** ▪ **Make sure** you swing down the handle as slowly and gradually as possible. ▪ **Make sure** to keep hands away from the spring and the area below the handle. **FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.**

5 **Pull down** on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.

Then **block the front roller of the H-bracket** at a height of eight inches (8") using a piece of wood.

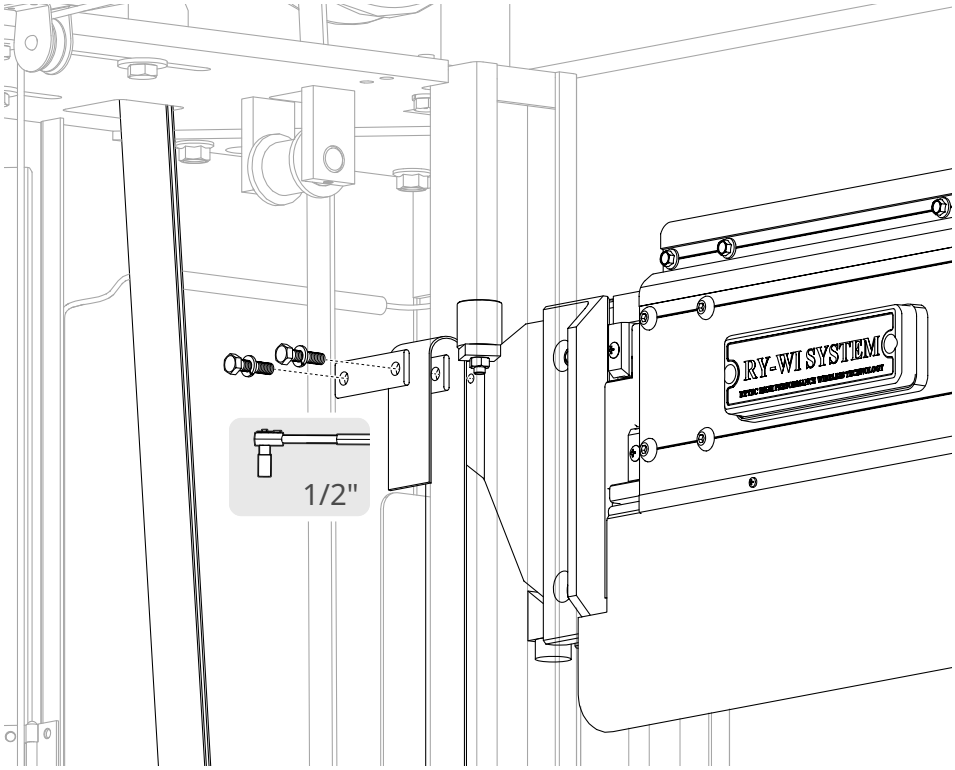
- With no tension applied, the H-bracket can now move freely up and down.
- The height of eight inches (8") is correct for when the door is in the fully open or fully closed position.



6 **Loosen** the two bolt/washer combinations that secure the tension strap clamp, remove the clamp from the end bracket, and release the tension strap.

Retain the clamp plates and hardware.

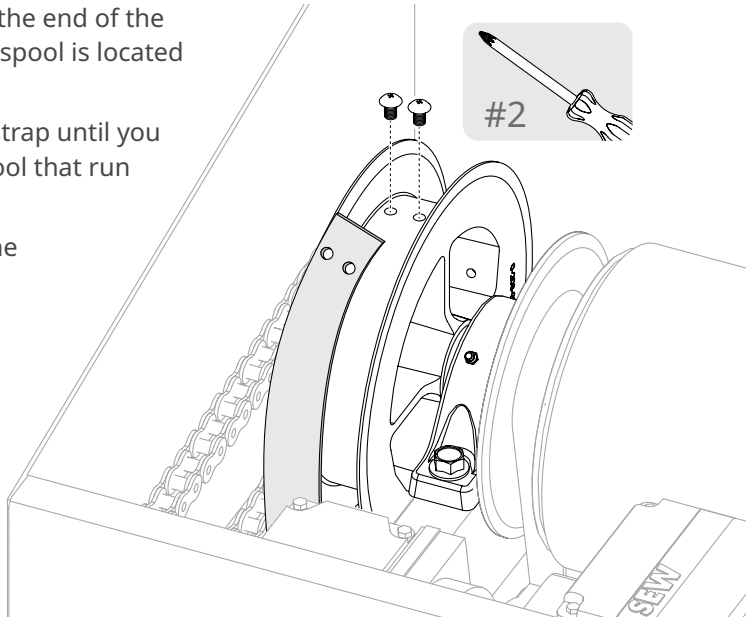
Ladder or Scissor lift



7 **Locate** the tension strap spool at the end of the drum. The thinner counterweight spool is located next to the body of the drum.

Pull up and unwrap the tension strap until you expose the hold screws on the spool that run through the end of the strap.

Loosen the screws and **remove** the strap. **Discard** the strap.



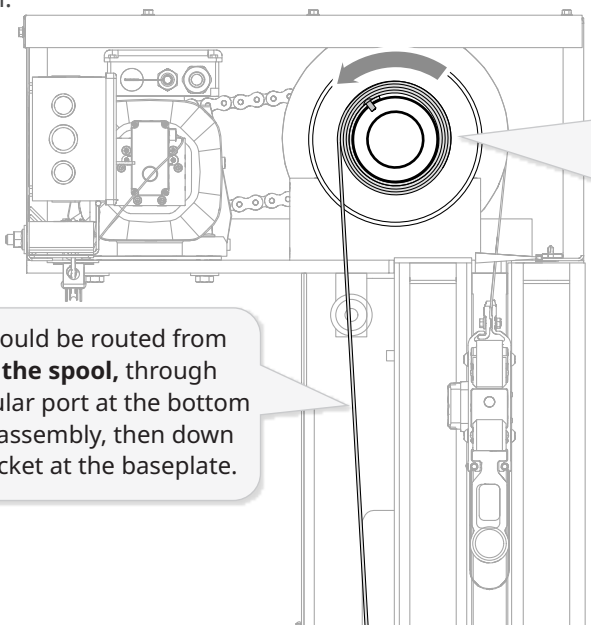
8 **Route** the hold screws through the replacement strap and secure it to the spool. The strap should hang down **from the front** of the spool.

9

Wrap the replacement strap around the spool the correct number of times for the height of the door.

Make sure to pull it tight with each wrap.

Route the strap **through** the rectangular hole in the base of the head assembly and down the side column.



The strap should be routed from the **front of the spool,** through the rectangular port at the bottom of the head assembly, then down to the H-bracket at the baseplate.

IMPORTANT

The tension strap must be **wrapped around the spool** a set number of times before routing it down the side column.

Door height (ft)	Wraps
Less than 14	4
14-22	6
More than 22	8

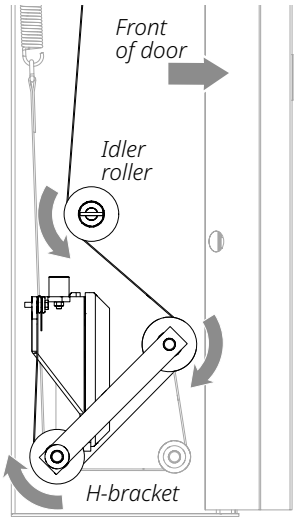
These wraps **are required** for the tensioning system to operate correctly.

10

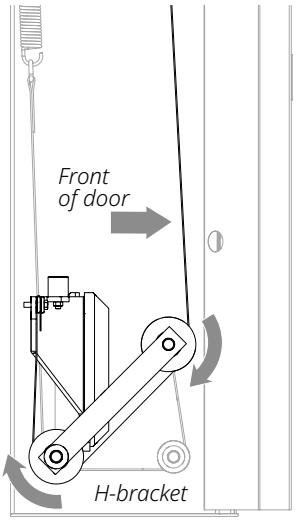
Make sure the tension strap from the head assembly is not twisted and has been pulled tight.

On taller doors, **route** the strap around the back of the idler roller.

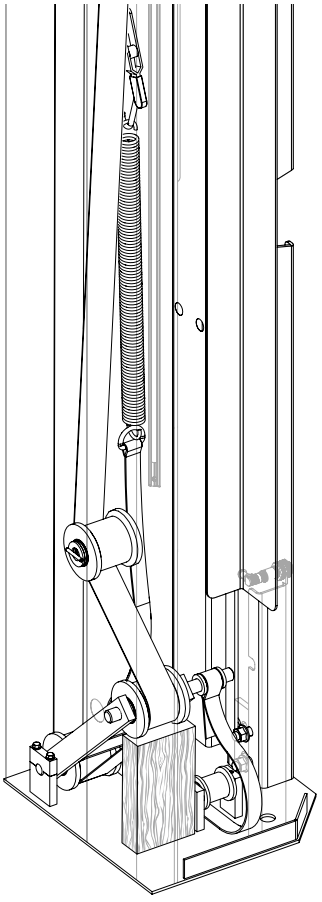
On all doors, **route** the strap around the front and rear rollers of the H-bracket and up the rear of the side column to the end bracket.



Strap routing on shorter doors



Strap routing on shorter doors



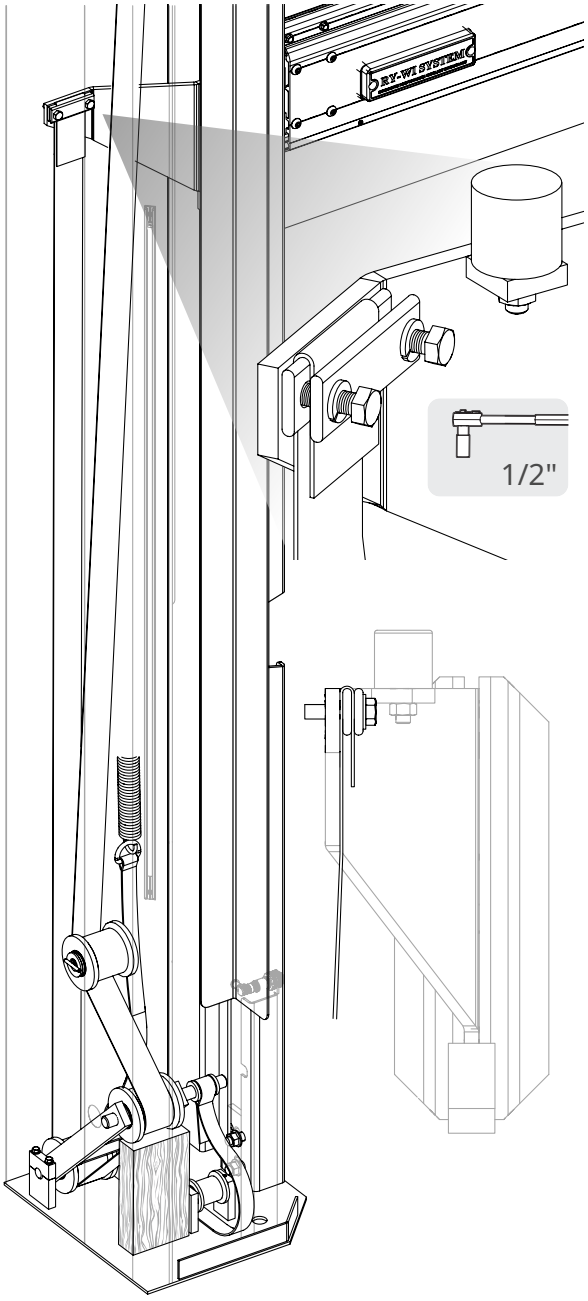
11

At the end bracket, **make sure** the strap hasn't twisted on the way up, then **route** it over the rear clamp plate and under the front plate.

Hand tighten the two bolt/washer combinations, **pull** the strap tight, then **tighten** the hardware.

Ladder or Scissor lift

DO NOT trim the strap.



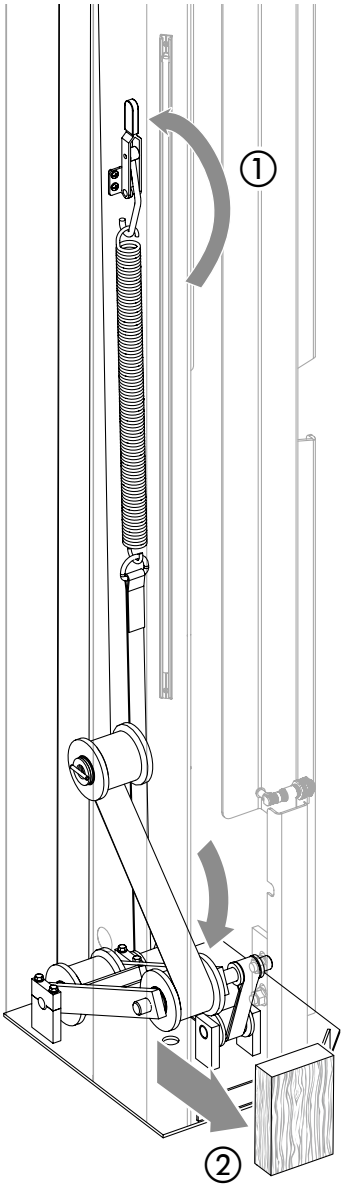
12

Pull up on the spring release handle until it latches in place and the spring is applying tension ①.

Make sure the spring strap does not twist or kink as tension is applied to it.

Then **remove** the wood block to free the H-bracket ②.

- The front roller of the H-bracket should **stay in place.**

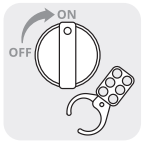


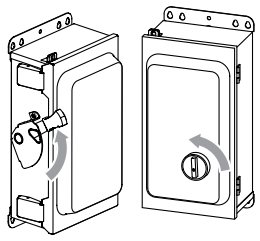
13

Repeat these steps with the tension strap in the other side column.

14

Remove the lockout/tagout and **restore** power to the door.

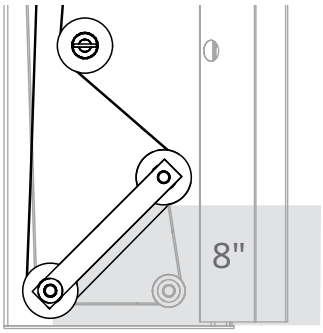




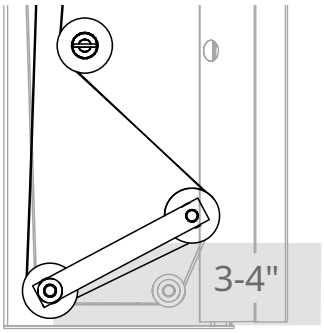
15

Follow the steps in *How to put he door into test mode* on page 56 and run the door through multiple cycles to make sure the door panel is moving smoothly in the track.

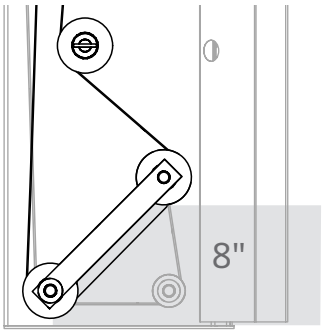
- **Watch the tension strap** to make sure it is taut even as the H-bracket swings up and down.
- **Watch the H-bracket** to make sure it starts with the front roller at a height of 8", swings down to 3-4" while the door is in motion, then returns to 8" as the door panel reaches the top or bottom of its run.



Door fully closed



Door in motion



Door fully open

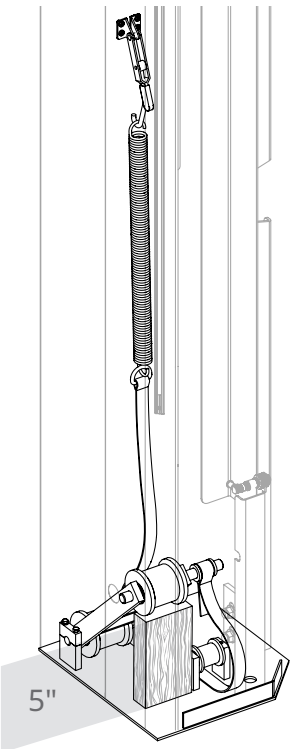
16

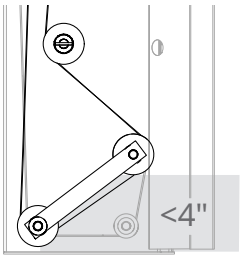
If the H-bracket swings too high or too low while the door is in motion, **set** the door panel at the vertical center of the door opening, **block** the front roller with a shorter, five inch (5") tall piece of wood, **release** the spring, and **adjust** the length of the strap to change the tension.

- **If the H-bracket does not drop low enough: Loosen** the clamp on the end bracket and **reset** the tension strap so there is a small amount of slack, to lower the tension. **Tighten** the clamp.
- **If the H-bracket drops too low:** with the shorter wood block in place, loosen the clamp on the end bracket and pull the tension strap tight. **Tighten** the clamp.

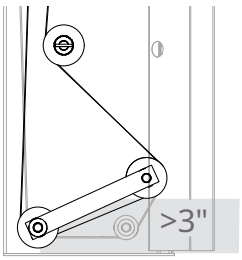
IMPORTANT

Test the door until the H-brackets in both side columns swing down to the same correct height.





H-bracket does not drop low enough:
SET TENSION LOWER

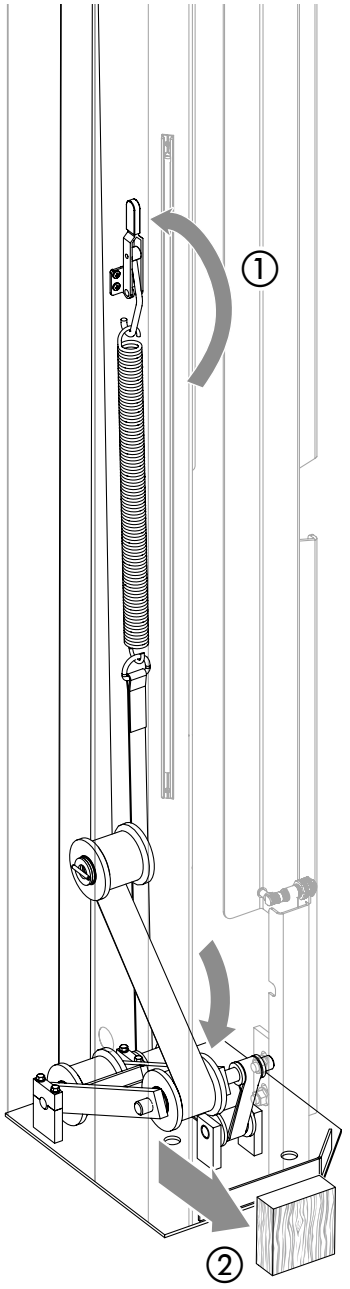


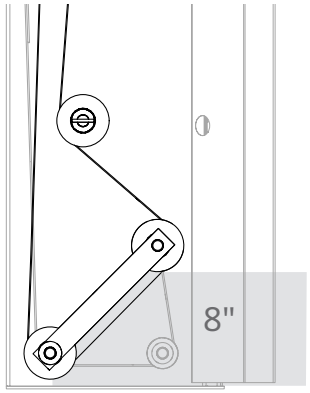
H-bracket drops too low:
SET TENSION HIGHER

17 **Pull up** on the spring release handle until it latches in place and the spring is applying tension ①. **Make sure** the spring strap does not twist or kink as tension is applied to it.

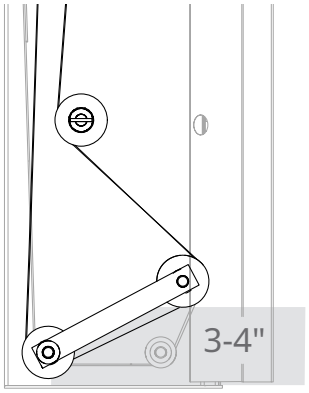
Then **remove** the wood block to free the H-bracket.

- The front roller of the H-bracket should **drop** a few inches once the block is released: **this should happen,** because the door panel is at the halfway point between open and closed.
- **When the tensioning system is operating correctly,** the front roller should be at a height of eight inches (8") when the door is in the fully open or closed position. It should gradually swing lower, then swing back up, as the door is in motion.

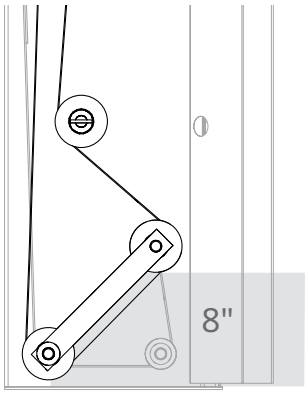




Door fully closed



Door in motion

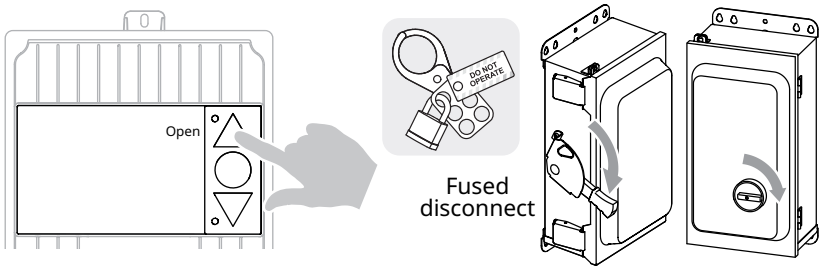


Door fully open

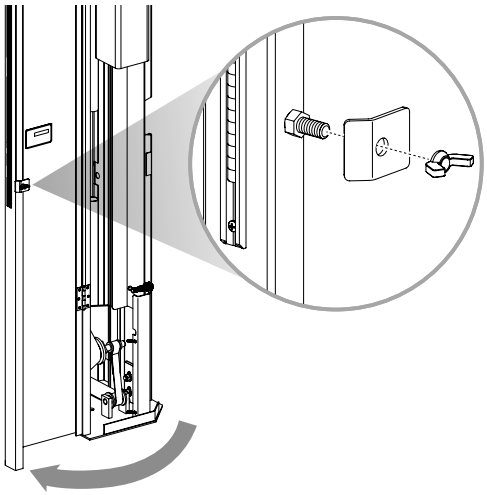
18 **Repeat these steps** with the tensioning system in the other side column.

How to remove and replace the parts of the tension strap H-bracket and tension spring assembly

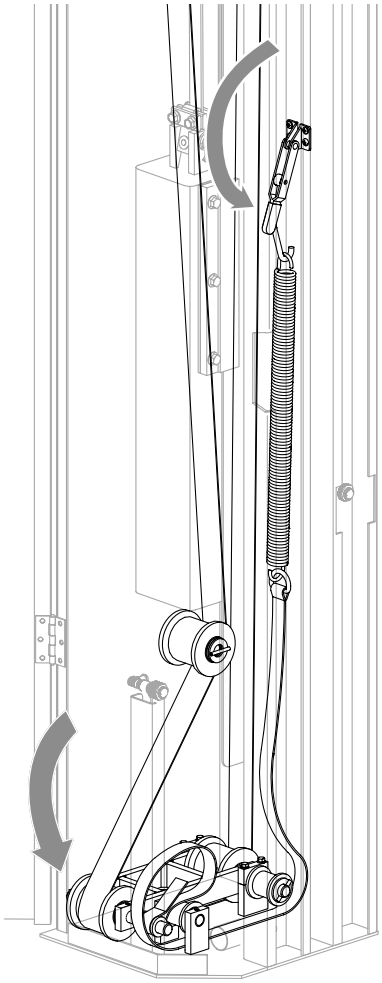
1 **Set** the door to the fully open position, which sends the counterweight to the bottom of its run, then **shut off power to the door** and perform a lockout/tagout.\



2 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



3 **Pull down** on the spring release handle. Carefully guide it down until it is fully released and the spring and spring strap are loose.



⚠WARNING

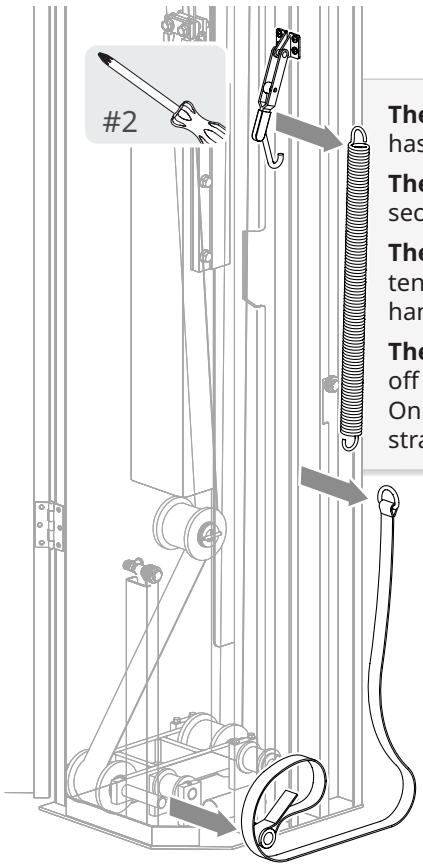
CRUSH HAZARD

The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

4 **All parts of the** spring assembly, H-bracket and rollers can be removed and replaced.

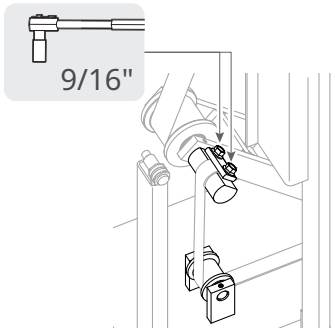


The spring tension assembly has three parts.

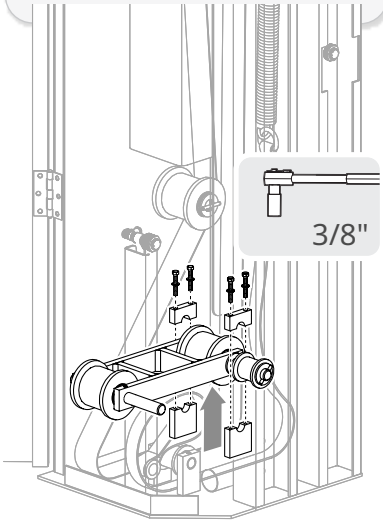
The spring release handle is secured by four Phillips-Head screws.

The spring is held in place by tension, and can slide off when the handle is down.

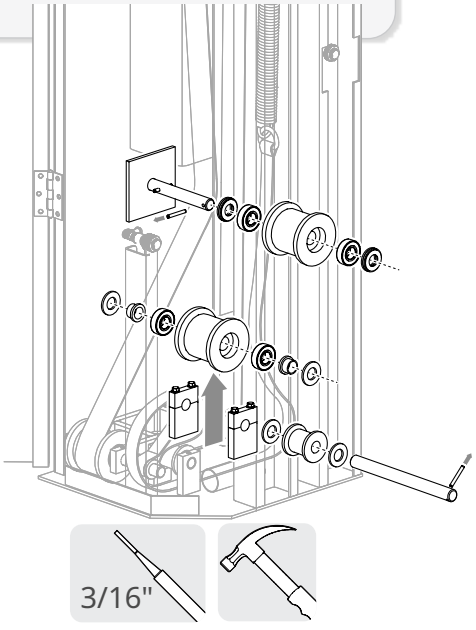
The spring tension strap also slides off on doors with 14" side columns. On doors with 17" side columns, the strap is secured by two 9/16" bolts.



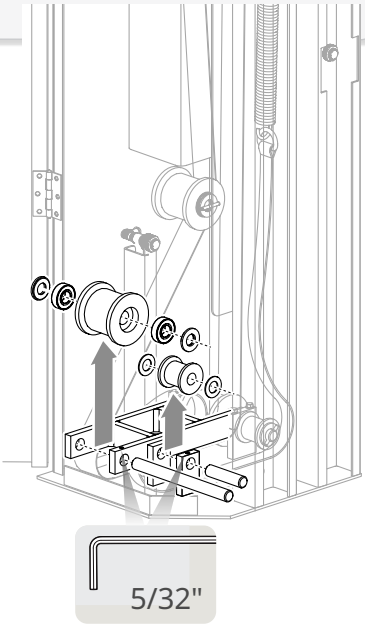
To remove and replace the H-bracket: loosen the four 3/8" bolts and separate the two halves of the mounting blocks and lift the top half off.



To remove and replace the rear or (optional) upper roller: these are secured by 3/16" roll pins. **Remove** the pins, and the rollers, bearings, washers,grommets and shaft slide out.



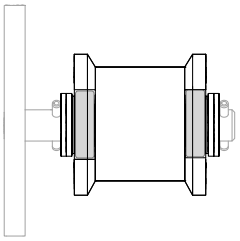
To remove and replace the front or spring roller: these are secured by 3/32" hex set screws. **Loosen** the screws, and the rollers, bearings, washers and shafts slide out.



5 **Make sure** to note the configuration of hardware so it is reinstalled correctly and all parts are aligned properly.

Configuration of the rollers and hardware in the tension assembly

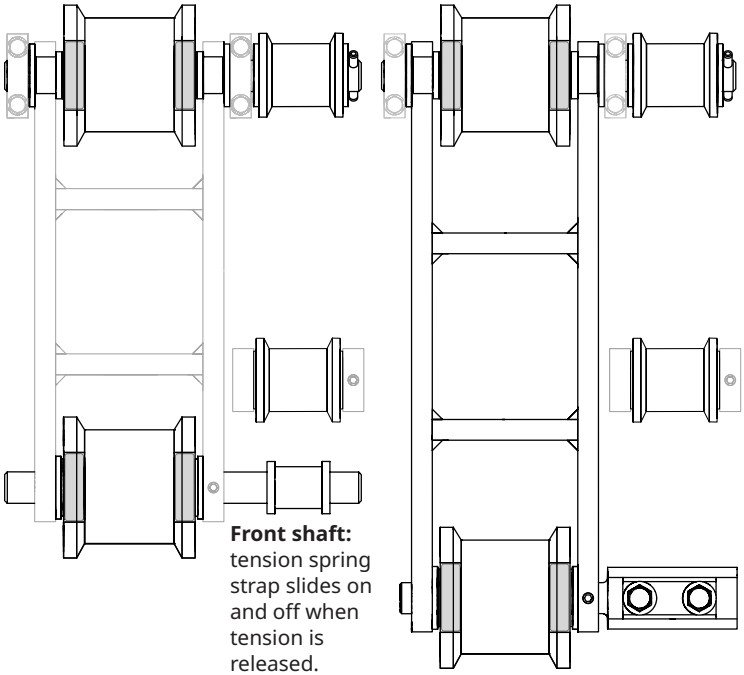
(Optional) upper roller: held in place by roll pins on both sides. Two large washers, one small washer and one bearing on each side.



14" side column ***17" side column***

Rear tension roller: held in place by grommets on both sides. One bearing on each side. One large washer on each side spaces H-bracket and mounting blocks.

Front tension roller: held in place by H-bracket. One bearing on each side. One large and one small washer on each side.



Front shaft: tension spring strap slides on and off when tension is released.

Rear spring roller: held in place by roll pin. One large washer on each side.

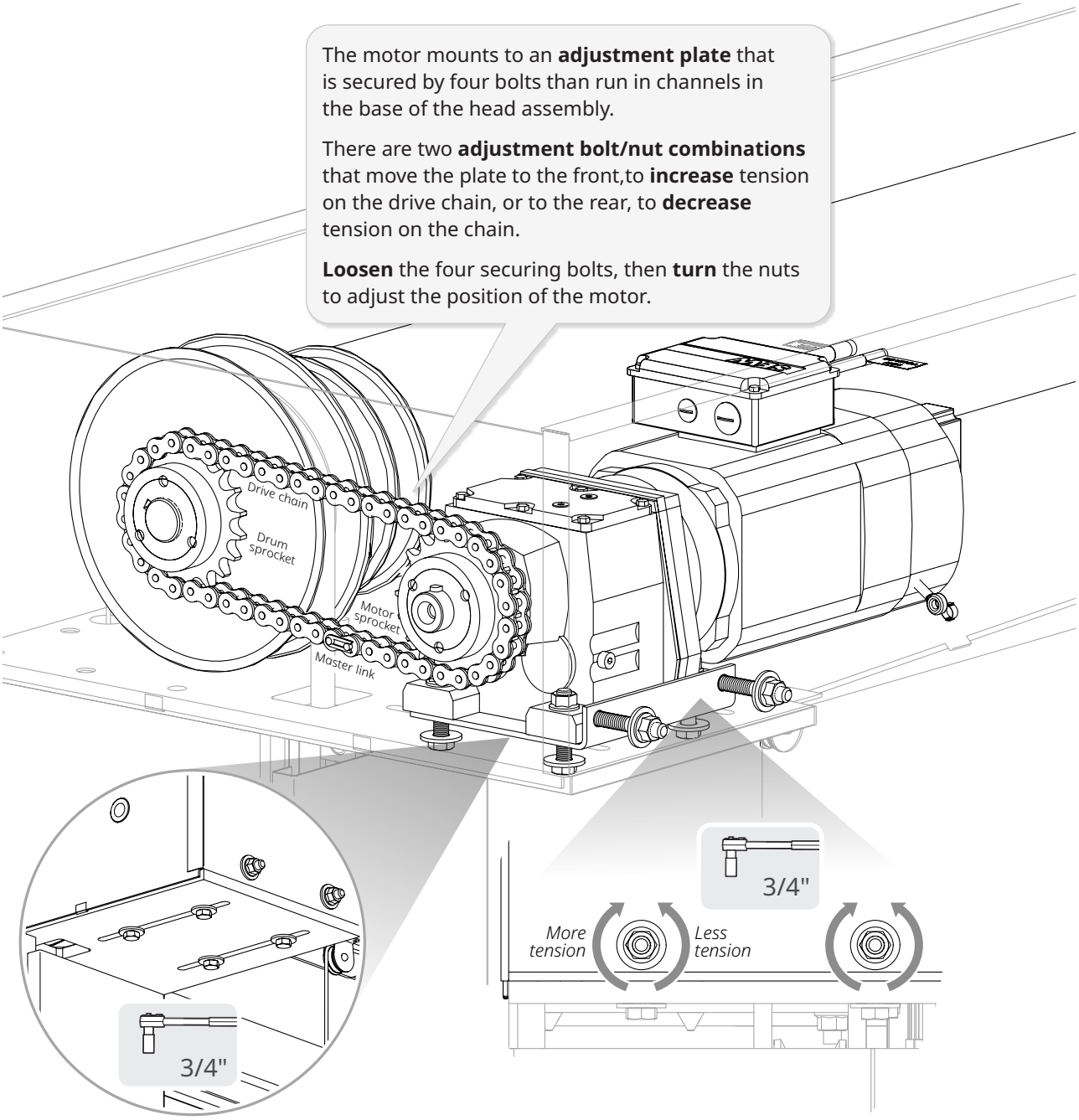
Front spring roller: held in place by mounting blocks. One large washer on each side.

Front shaft: tension spring strap secured under clamp plate by two bolts.

The head assembly components: repairs and replacements

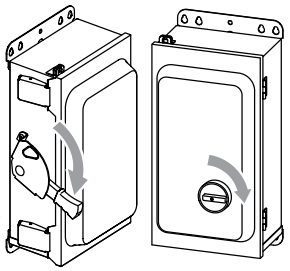
How to adjust the tension on the drive chain, or remove and replace the drive chain or drive sprockets

Before you begin: things to know about the drive chain and motor



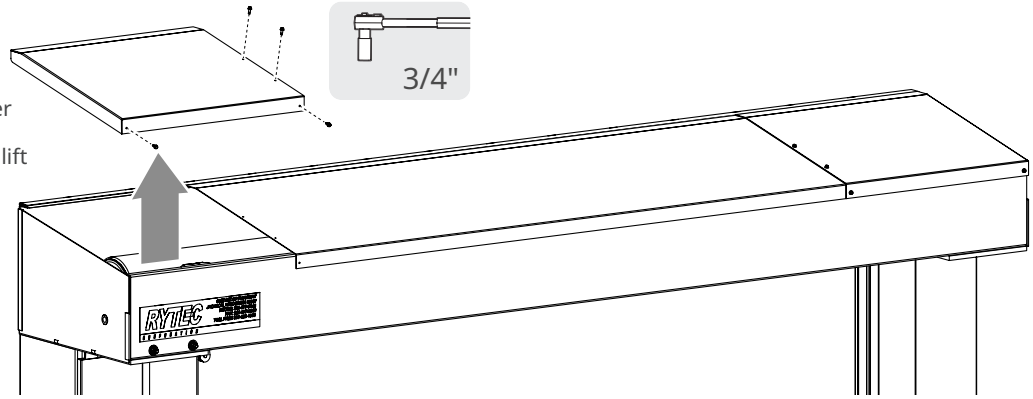
1 **Shut off power to the door** and perform a lockout/tagout.
The door can be **in any position** for this procedure.

Fused disconnect

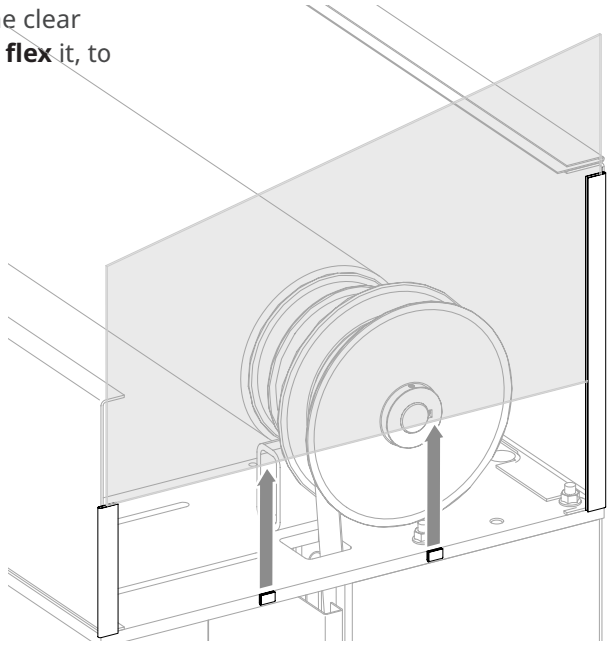


2 If the door has a top hood cover, **remove** the drive side top panel and set aside.

Ladder or Scissor lift



3 **Loosen** the two clips that secure the clear drive side end cover. Then **lift** it, or **flex** it, to **remove** it and set aside.



Putty knife or Flathead screwdriver

How to adjust the drive chain

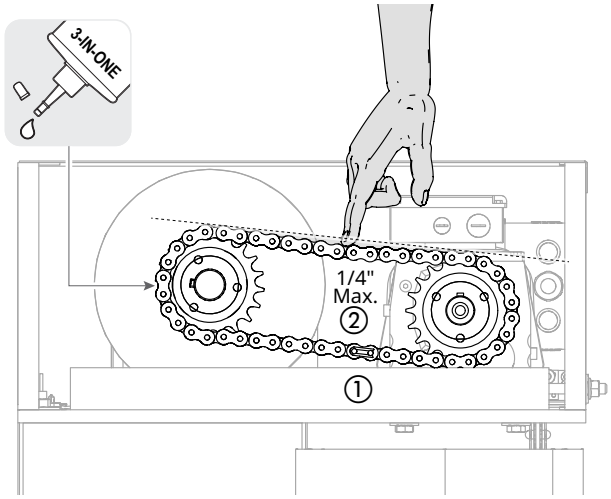
1 **Inspect** the drive chain.

Make sure the master link is secured with a retaining clip ①.

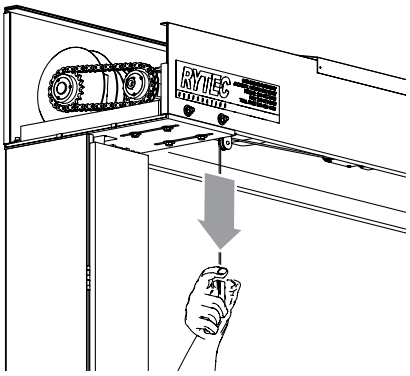
Press down on the chain. It should deflect no more than 1/4", which is roughly half the width of a finger.

If the chain has not been lubricated recently, **use a penetrating oil,** such as a 3-IN-ONE oil, to lubricate the chain and sprockets.

Clean off excess lubrication after applying the oil.



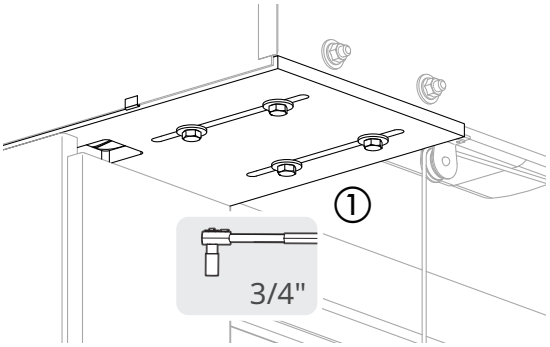
2 **Pull down** on the brake release handle to release the brake and take tension off the chain.

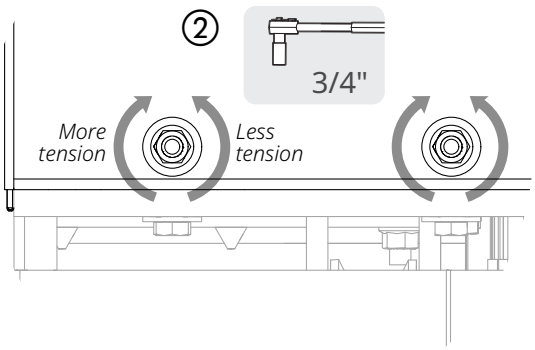


3 **Loosen** the four bolts that secure the adjustment plate enough so it can move freely ①. Then turn both adjustment nuts a quarter turn at a time ②.

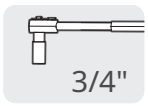
Release the brake release handle to engage the brake and return tension to the chain, then inspect it again.

Repeat the steps if necessary.





4 **Tighten** the four bolts that secure the adjustment plate when the chain tension is correct.

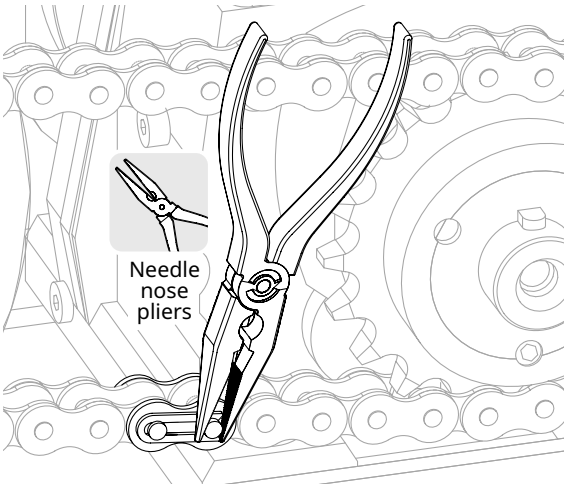


How to remove and replace the drive chain

1 **Read** *Before you begin: things to know about the drive chain and motor* beginning on page 146, then **follow the steps** in *How to adjust the drive chain* starting on the previous page to loosen the bolts that secure the adjustment plate and lower the tension on the drive chain.

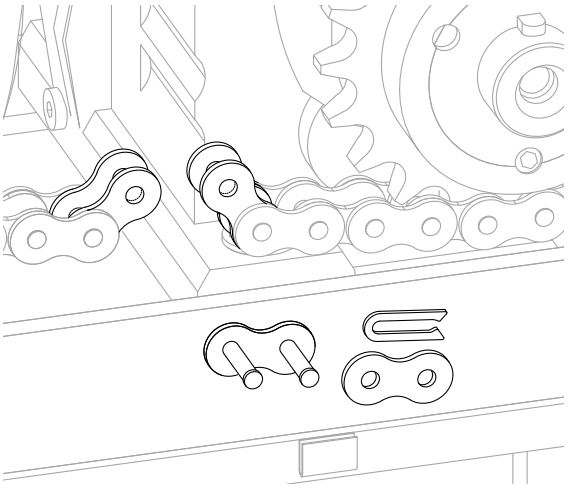
2 **Locate** the master link (with clip) on the chain.

Use a set of needle nose pliers to **push** the open end of the clip past the post in the link.



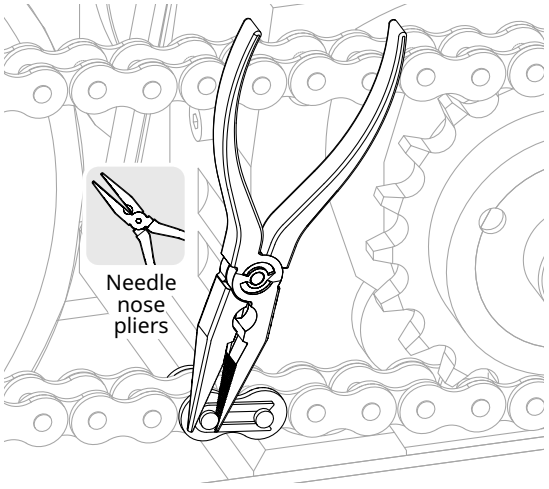
3 **Remove** the clip and both halves of the link.

Then **remove** the rest of the chain.



4 **Wrap** the replacement chain around the two sprockets so that the master link is located between them.

Use a set of needle nose pliers to **push** the closed end of the clip against the post in the link until the clip clicks into place



5 **Follow the steps** in *How to adjust the drive chain*, which is the previous procedure in this manual, to adjust the tension on the new chain to the proper level.

6 **Restore** power to the door and **follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

7 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles.

Make sure the motor and chain run smoothly throughout the cycle of opening and closing.

8 **Replace** the top and side hood covers when you are done.

How to remove and replace the drive sprockets

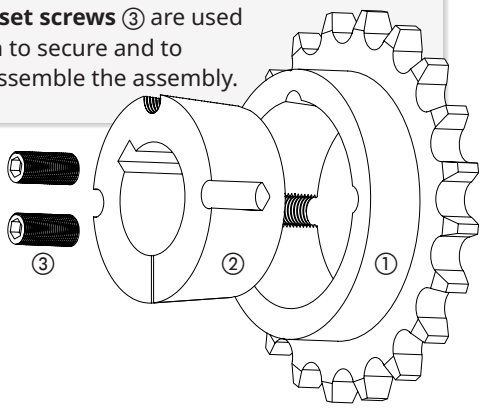
Before you begin: what to know about the drive sprocket assembly

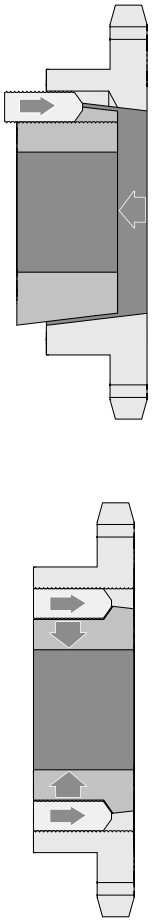
The assembly has three parts.

The **sprocket** ① has a tapered hub.

The **tapered bushing** ② is split, allowing it to expand and contract, and matches the taper of the hub. When fully assembled, it is flush with the outer edge of the sprocket.

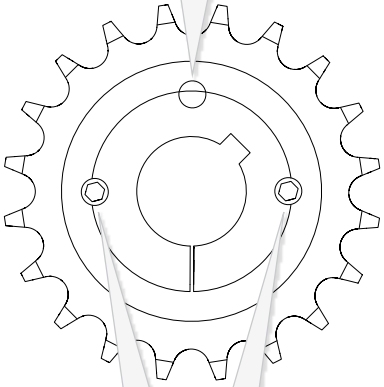
The **set screws** ③ are used both to secure and to disassemble the assembly.





The single **extraction bore** is threaded on the bushing side and set opposite the slit in the bushing.

When one of the **set screws** is screwed into the bore, it pushes outward, forcingthe bushing away from the sprocket.

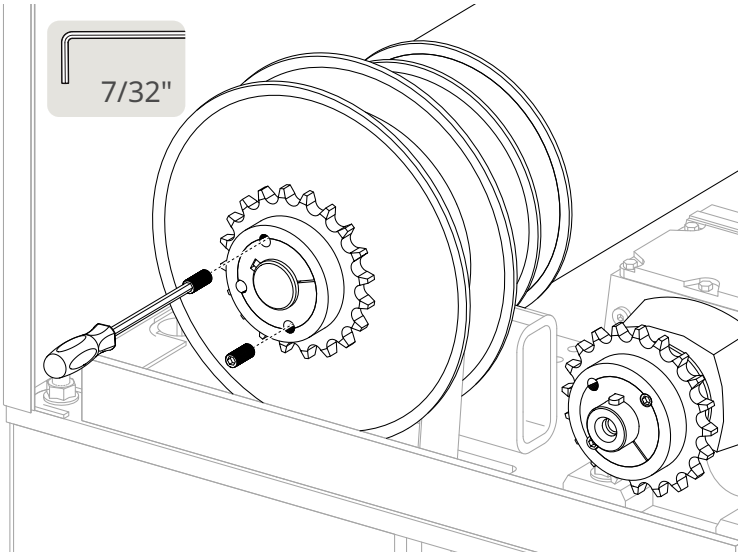


The two **fastening bores** are threaded on the sprocket side and are set on opposite sides of the assembly.

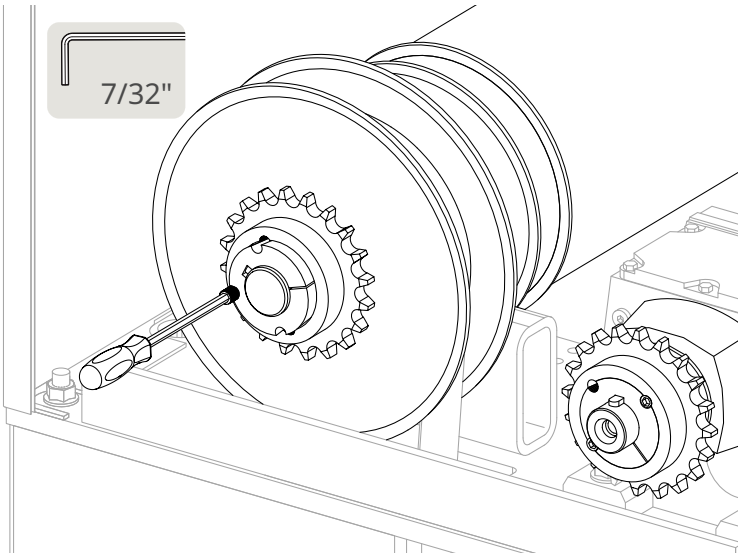
As the two **set screws** are screwed into the bores, they press inward on the bearing, closing the slot and securing the sprocket and the assembly in place.

1 **Read** *Before you begin: things to know about the drive chain and motor* beginning on page 146, then **follow the steps** in *How to remove and replace the drive chain* starting on the previous page to remove the drive chain from the sprockets.

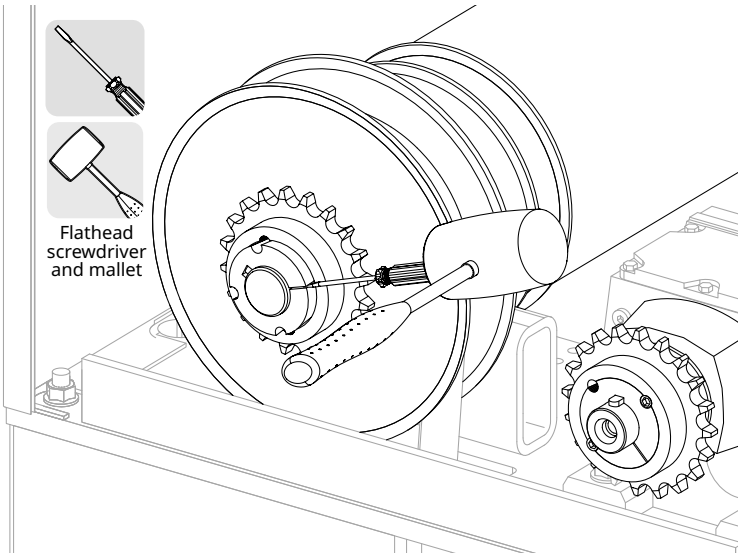
2 **Remove** the two set screws.



3 **Insert** one of the screws into the entrapment bore and tighten the screw until the spool has been pushed back enough that it is fully separated from the bushing.

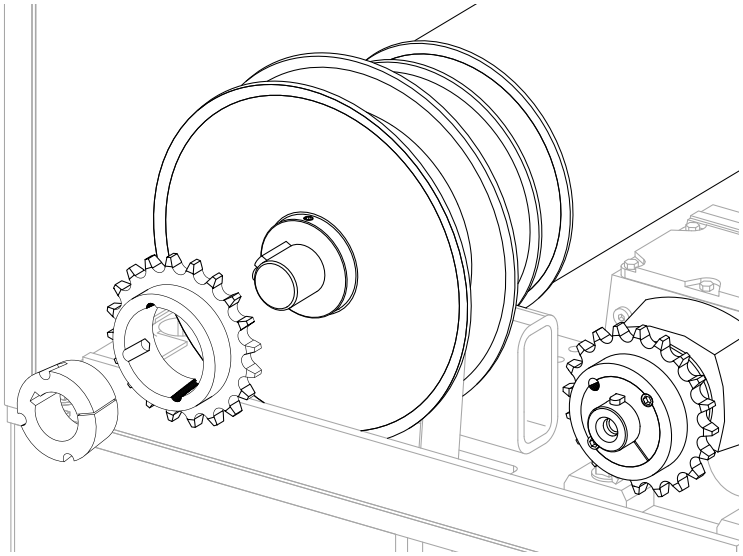


4 If necessary, **insert** a flathead screwdriver into the slot in the bushing and tap it in until the bushing loosens from the shaft.

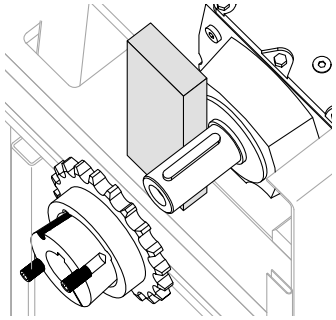


5 **Remove** the sprocket and bushing.

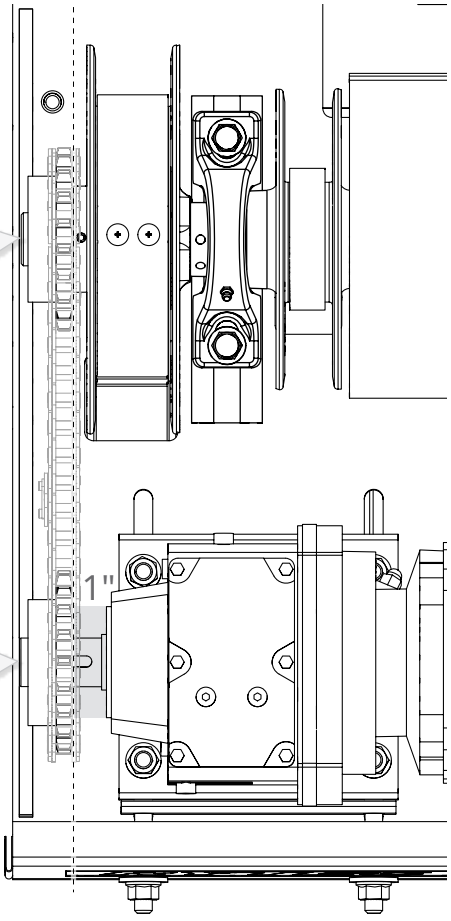
Repeat these steps, if necessary, for the other sprocket assembly.



6 **Place** a shim against the motor so the two sprocket assemblies will be aligned.



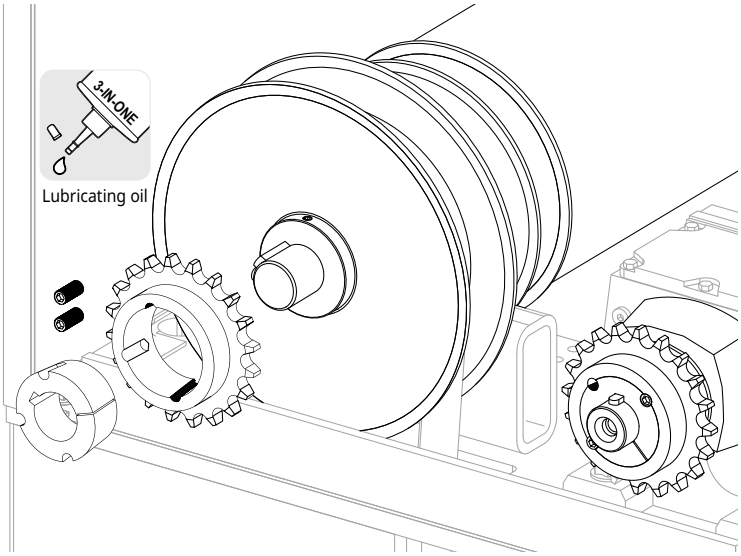
The **drum sprocket assembly** is flush with the collar for the tension spool.



The **motor sprocket assembly** should be mounted 1" from the motor so the two sprockets line up exactly.

This will require a **1" shim** against the motor to hold the sprocket assembly in place.

7 **Clean and lubricate** the replacement sprocket, bushing and set screws, as well as the drive shaft.

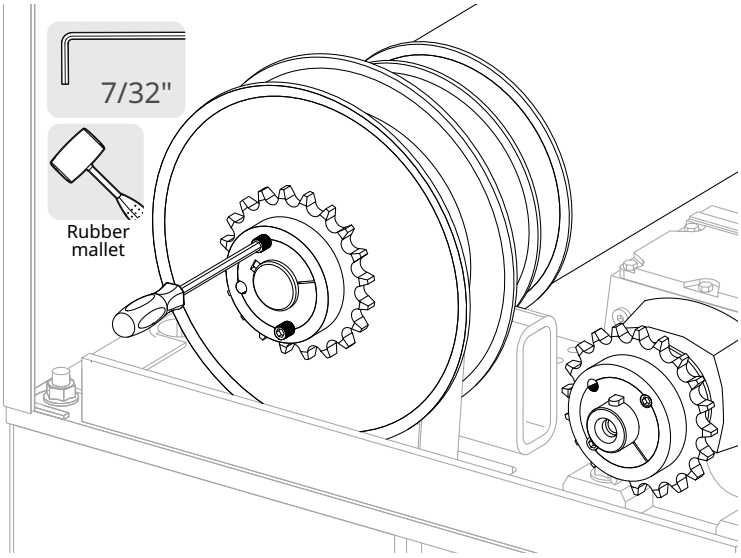


8 **Align** the bores in the sprocket and bushing, then align the key hole in the bushing with the key in the shaft.

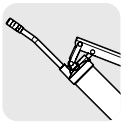
Press the assembly onto the shaft, **insert** the set screws into the two fastening bores, and **tighten** them, going back and forth to make sure the pressure from both sides is even.

Tighten the screws until they reach the bottom of the bores, where they will be below the surface of the assembly.

If necessary, **tap** the sprocket with a rubber mallet to make sure it says flush with the bushing.



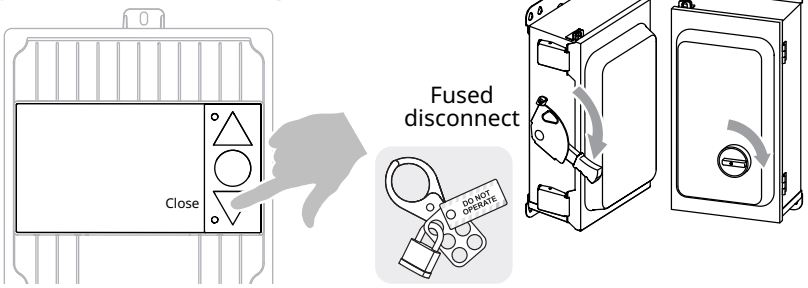
9 **Fill** the empty extraction bore with grease to keep out dirt and debris.


Grease gun

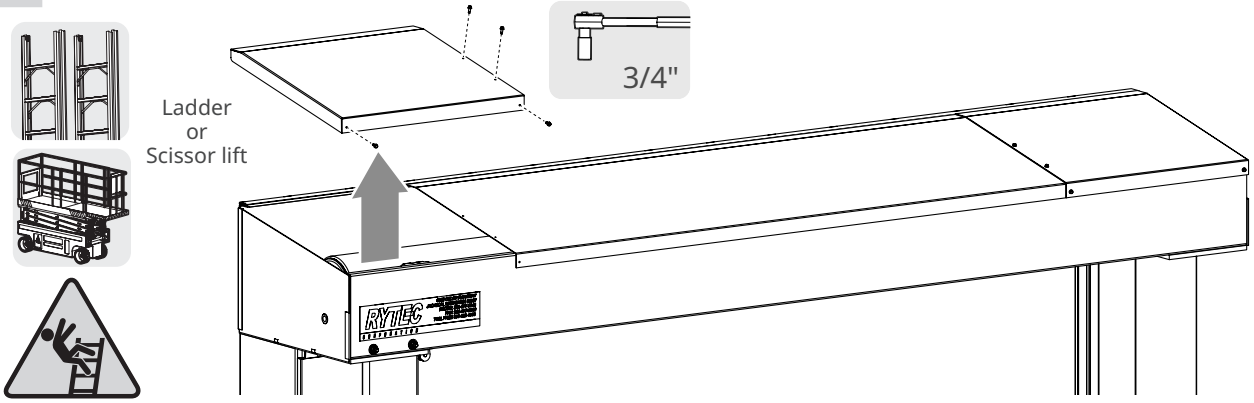
10 **Follow the steps** in *How to remove and replace the drive chain* starting on page 149 to replace the drive chain on the sprockets.

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.



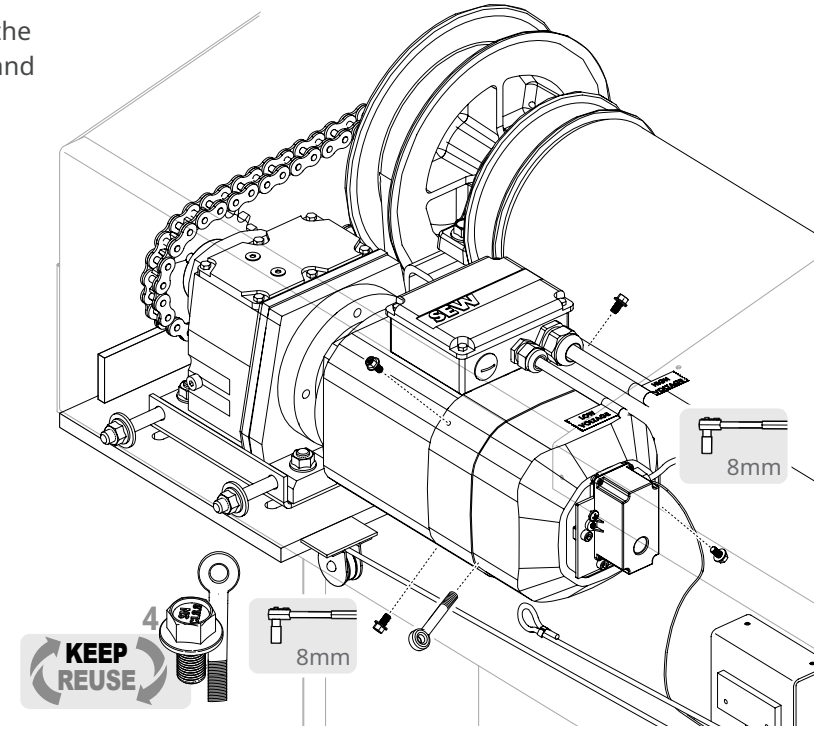
2 If the door has a top hood cover, **remove** the drive side top panel and set aside.



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

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

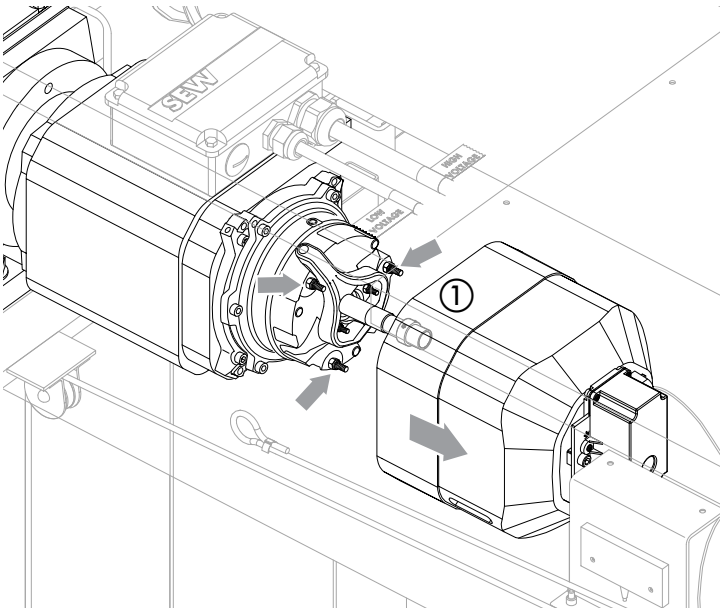
Retain the lever and bolts.



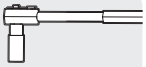
4 **Slowly slide** off the brake cover.

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.

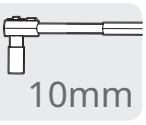


1: Use a 10mm socket to turn all three nuts **CLOCKWISE** until they are fully set and you encounter resistance to turning them. **DO NOT turn past this point.**

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.

3 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.

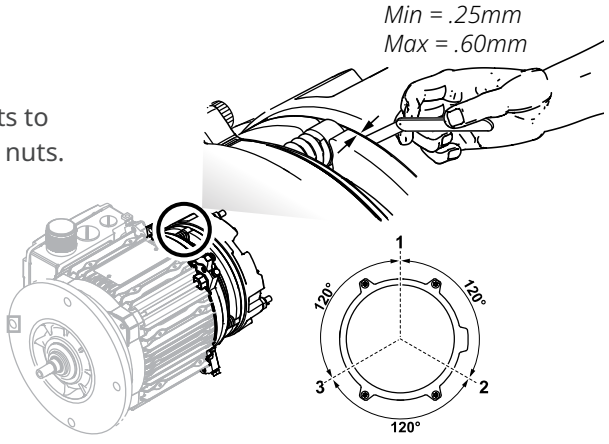
2: Measure the air gap next to each adjustment nut.

- **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.

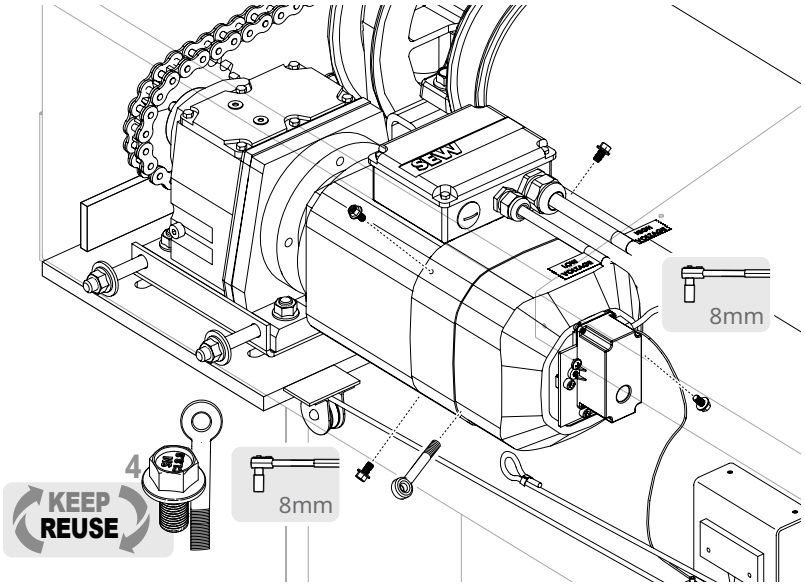
IMPORTANT The nuts must be **adjusted equally** or the brake mechanism will wear unevenly, which will put excess wear on the motor.



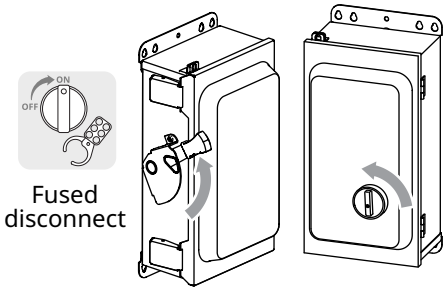
5 **Slide** the cover back into place. **Make sure** it does not catch on the encoder magnet.

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.



6 **Restore** power to the door.



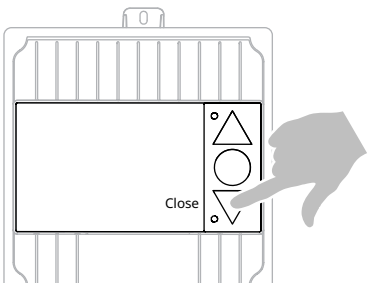
7 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles.

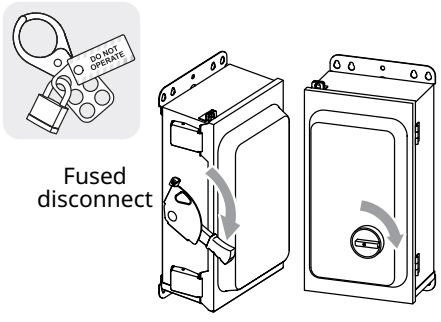
Look and listen for any indication that opening or closing is not running smoothly, and that the door comes to a complete stop and holds position at both ends of the cycle.

8 **Replace** the top hood cover panel when you are done.

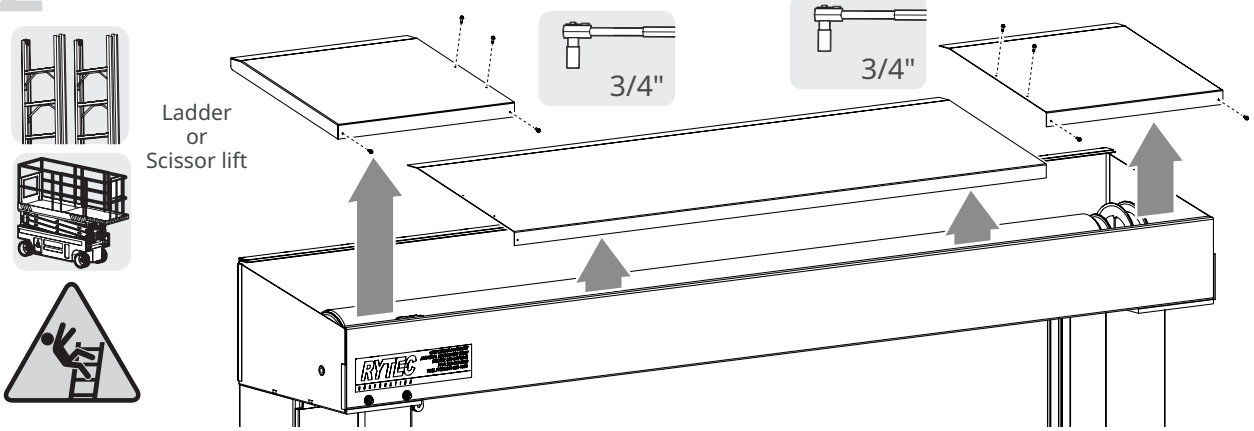
How to remove and replace the head assembly rear brush seal

1 **Set** the door to the fully closed position, so as much of the door panel as possible is not rolled around the drum, then **shut off power to the door** and perform a lockout/tagout.

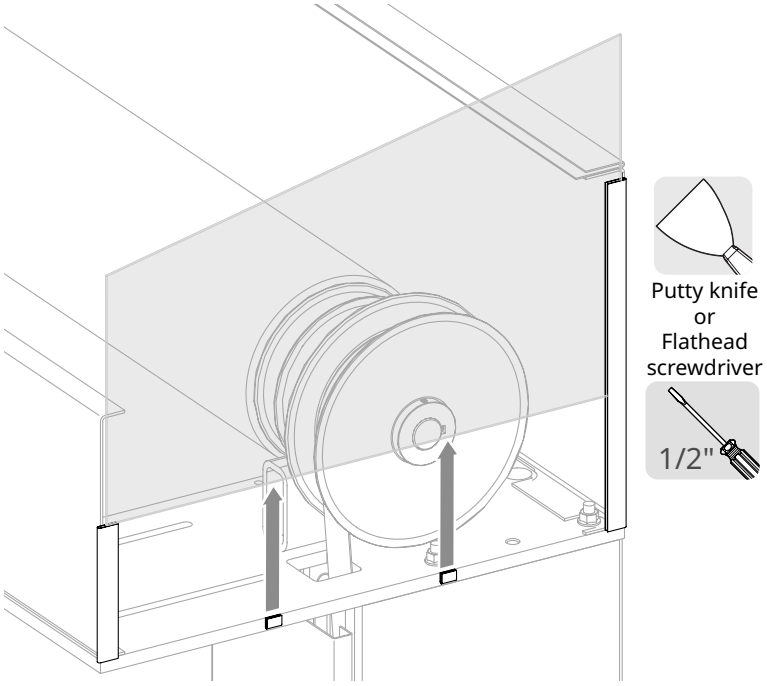




2 If the door has a top hood cover, **remove** the top panels and set them aside.

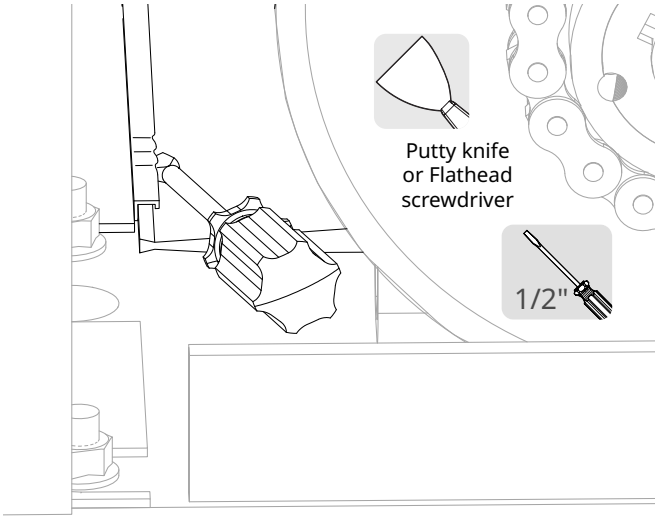


3 **Loosen** the two clips that secure the clear non-drive side end cover. Then **lift** it, or **flex** it, to **remove** it and set aside.



4 The rear brush seal is secured in place by a retaining track that is **crimped on both ends.**

Use a putty knife or flathead screwdriver to **loosen the crimps** on both sides until you can slide the seal back and forth freely.

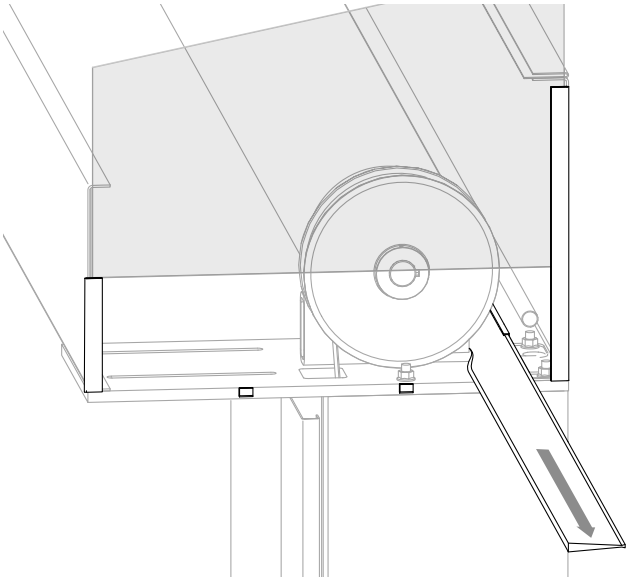


5 **Slide out** the seal.

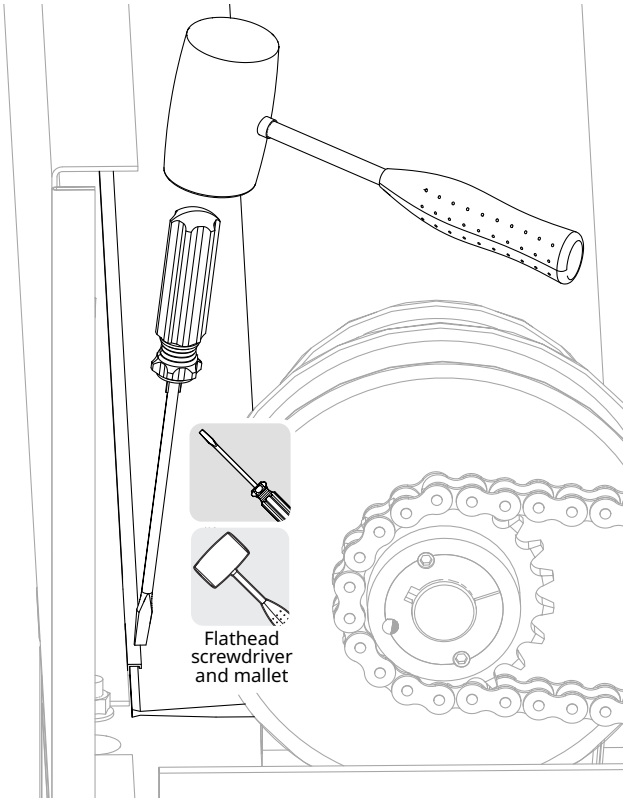
It is flexible enough that you can bend it around obstacles or to fit in a tight space.

Slide in the replacement seal the same way.

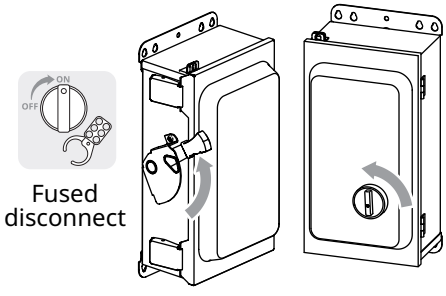
Make sure it is centered across the width of the door.



6 **Crimp** the retaining track on both ends of the brush seal.



7 **Restore** power to the door.



8 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles.

Look to see that the rear brush seal forms a solid seal against the rear of the door panel through the complete cycle.

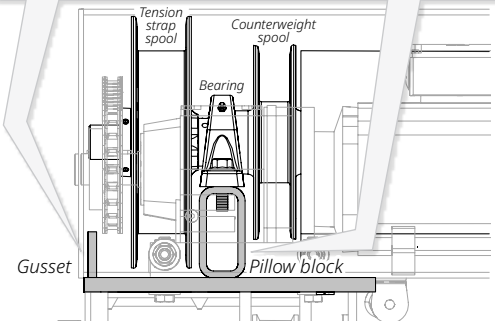
9 **Replace** the top and side hood covers when you are done.

How to remove and replace the spools or bearing on the drum

Before you begin: what to know about lifting the drum

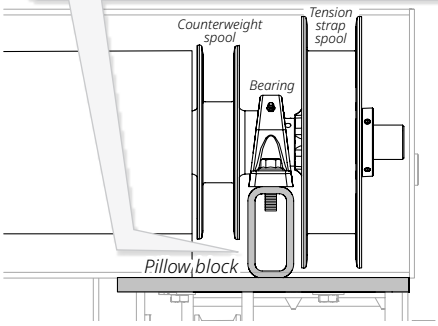
On the **drive side,** to remove the **tension strap spool or the bearing,** the drum assembly must be raised two inches (2") to lift the tension strap spool above the gusset.

To remove the **counterweight spool,** the assembly must be raised four inches (4") to lift the spool above the pillow block bearing support.



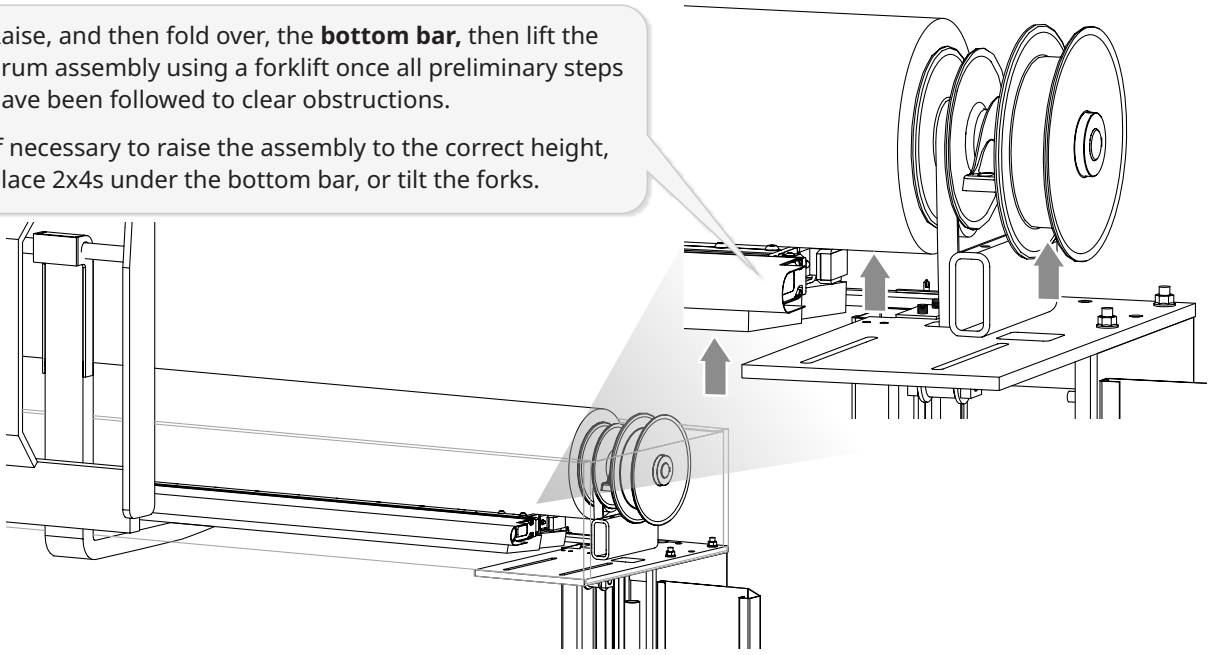
On the **non-drive side,** the assembly does not need to be raised to remove the **tension strap spool,** and only slightly to remove the **bearing.**

To remove the **counterweight spool,** the assembly must be raised four inches (4") to lift the spool above the pillow block bearing support.

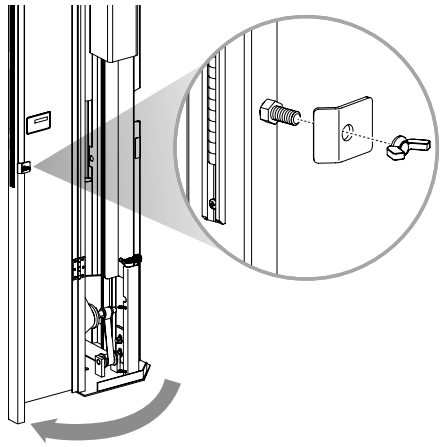


Raise, and then fold over, the **bottom bar,** then lift the drum assembly using a forklift once all preliminary steps have been followed to clear obstructions.

If necessary to raise the assembly to the correct height, place 2x4s under the bottom bar, or tilt the forks.



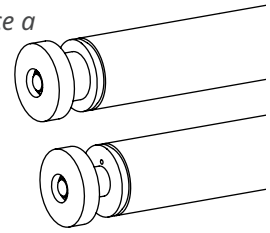
1 **Loosen and remove** the latch and wingnut on the side column cover, **swing** the cover open, then **replace** the latch and nut on the retaining screw so they are not misplaced.



If necessary, remove the windbars

2 If the door has windbars, **follow the steps** in *How to remove and replace a windbar* starting on page 107 and set aside the windbars.

Mark the windbars so they can be returned to their original configuration.



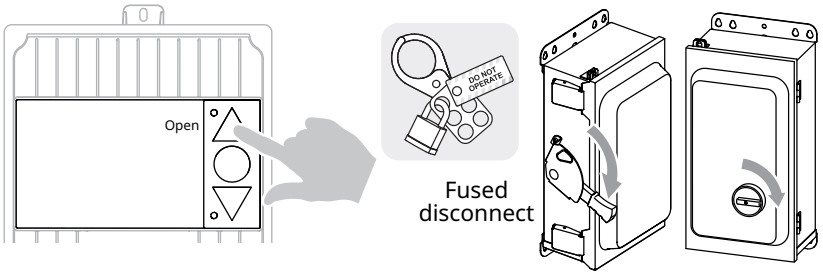
If you are replacing a counterweight spool, remove the counterweight strap

3 **Follow the steps** in *How to remove and replace, or adjust, the counterweight strap* starting on page 129 to remove the counterweight strap. Set aside the counterweight until the procedure is complete.

IMPORTANT

Remove and set aside both counterweights, so the drum is not out of balance when it is lifted.

4 If you are not replacing a counterweight spool, **set** the door to the fully open position, then **shut off power to the door** and perform a lockout/tagout.



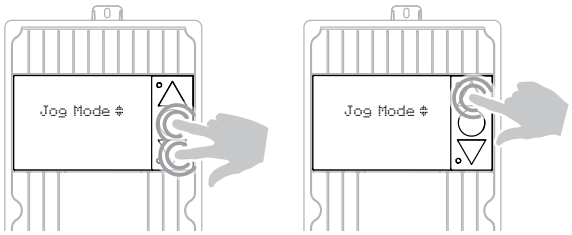
Release the end brackets to put slack in the tension strap, or remove the strap if you are replacing the tension strap spool

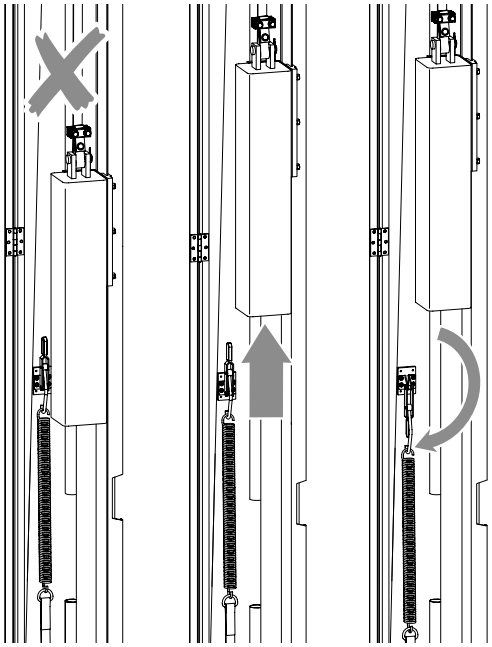
5 If you are replacing the tension strap spool, **follow the steps** in *How to remove and replace, or adjust, the tension strap* starting on page 136 to remove the tension strap. Otherwise, follow the next steps to release the end brackets.

6 **Switch** the door to jog mode and **jog** the door up to a comfortable working height.

IMPORTANT

Check that the height of the door panel is set so that the counterweight does not block access to the spring release handle.





⚠WARNING

CRUSH HAZARD

The tension springs for a Fast-Seal exert considerable force, which can cause the release handle to swing down unexpectedly.

- **Make sure** you swing down the handle as slowly and gradually as possible.
- **Make sure** to keep hands away from the spring and the area below the handle.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DAMAGE TO THE DOOR.

7 **Pull down** on the spring release handle to release tension on the strap.

8 If necessary, **remove the cover plates** so the bottom bar can be separated from the end brackets.

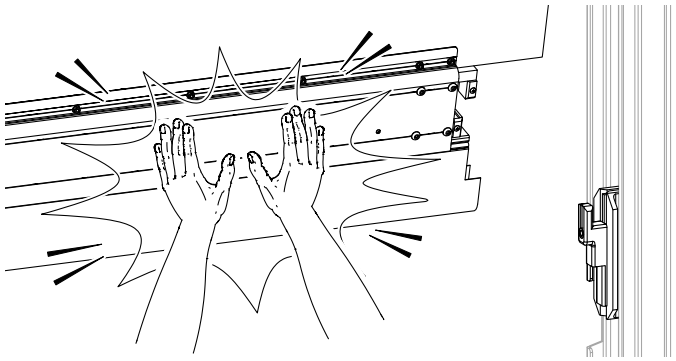
⚠WARNING

This procedure requires you to strike the metal bottom bar hard enough to push the door panel out of the door track.

Do not attempt this procedure if you have a previous injury which might be aggravated by the force of the contact.

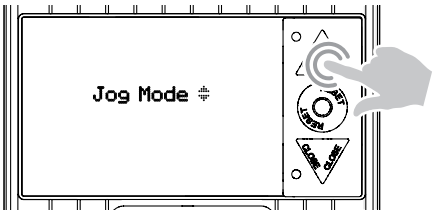
9 **Strike the bottom bar** hard enough to separate it from the end bracket you are going to replace.

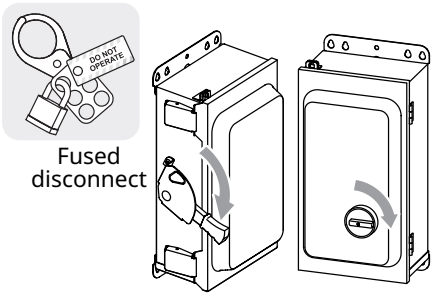
- **This is most easily done** near the side column.
- **Allow** the end brackets to fall to the bottom of the side column.



Position the forklift

10 **Jog** the door to the fully open position, then **shut off power to the door** and perform a lockout/ tagout.





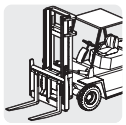
Fused disconnect

11 **Position** the forklift at the center of the door opening.

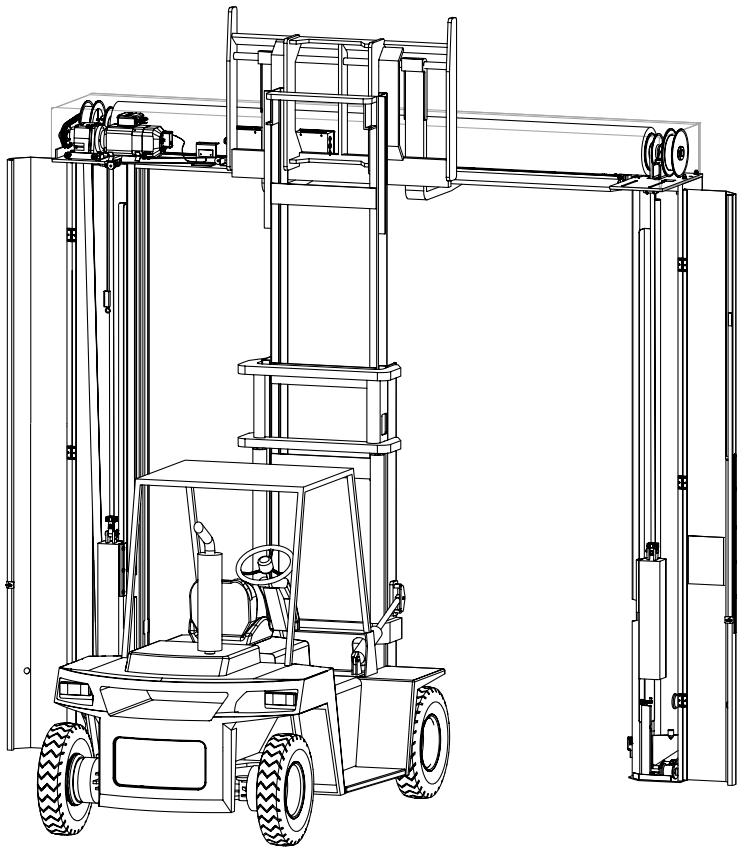
If necessary, **place** 2x4s on the forks to give additional lift. Then **raise** the forks until they touch the bottom of the bottom bar.

Flip the bar on its side, then **raise** the forks until the bottom bar is flush with the door panel rolled around the drum.

Don't raise it higher until you have removed the obstacles in the head assembly.



Forklift



In the head assembly, remove the drive chain

12 **Follow the steps** in *How to remove and replace the drive chain* starting on page 149 to remove the drive chain.

If you are replacing a part on the drive side, remove the sprocket on the drum

13 **Follow the steps** in *How to remove and replace the drive sprockets* starting on page 150 to remove the drive chain sprocket on the drum. You can leave the motor sprocket in place.

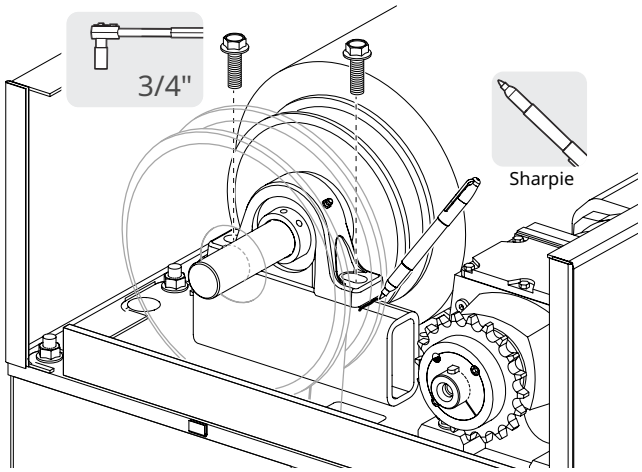
Lift the drum enough to remove the part you are replacing

14 **Loosen and remove** the two bolts that secure the bearing.

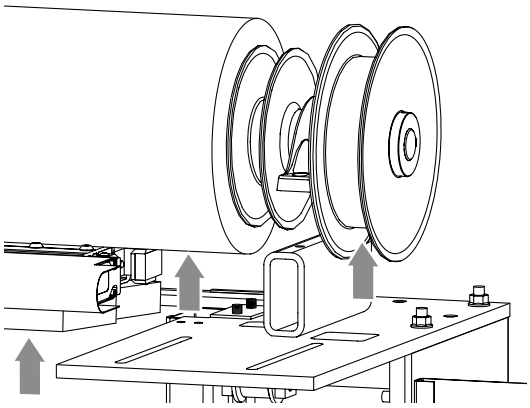
Do this on both sides of the drum.

IMPORTANT

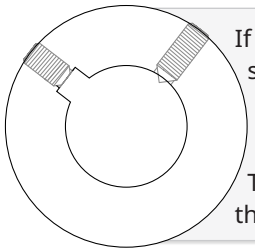
Mark the position of the bearings on their pillow block supports so you can line the drum up correctly when you are done.



15 **Raise** the drum high enough to give clear access to the part you are going to replace.

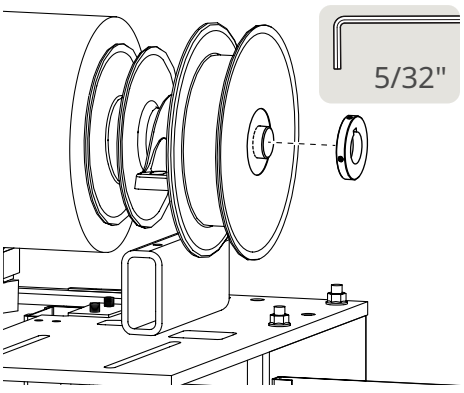


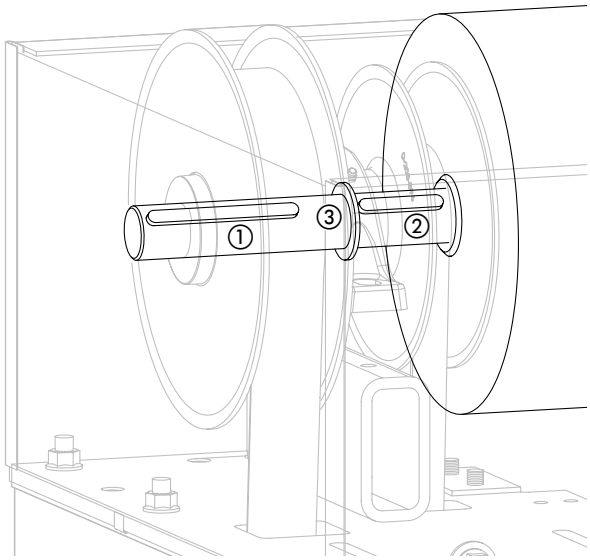
16 **Loosen** the two set screws on the tension spool locking collar and remove the collar.



If you're replacing the collar, **remove** the shorter set screws that are preinstalled in the replacement collar and install the longer set screws included in the kit.

The flat-bottomed screw aligns with the notch for the locking key





IMPORTANT

There are two **locking keys** that hold the tension strap spool ① and the counterweight strap spool ② in place.

Make sure they are secured, and not allowed to fall to the floor, if you remove that spool.

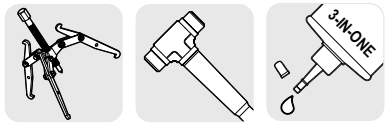
There is also a **washer** ③ acting as a spacer between the counterweight strap spool and the bearing. Make sure it is retained and replaced if you replace that spool.

17 **Use** a penetrating oil to lubricate the shaft.

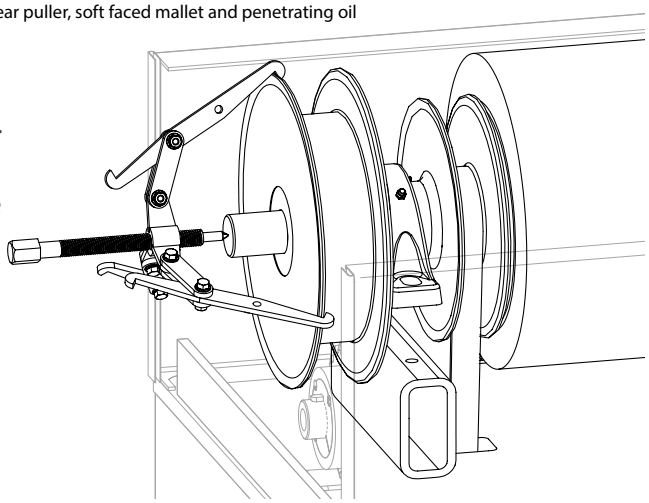
Then **use** a gear puller to remove the spool of bearing.

If necessary, **tap** the shaft and part being removed with a mallet, or use additional oil, to loosen it from the shaft.

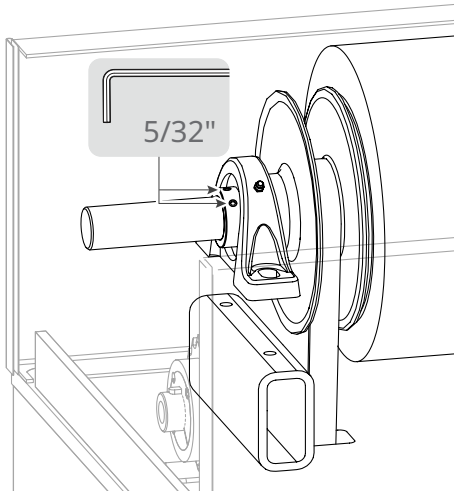
NOTE: You will need a gear puller is at least an **eight inch (8") reach** to remove the counterweight spool.



Gear puller, soft faced mallet and penetrating oil



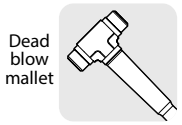
18 If you need to remove one of the bearing, you will need to **loosen** the two set screws first.



19 Thoroughly **clean and lubricate** the drum shaft before installing the replacement part and, if necessary, the parts you removed to access the replaced part.

20 **Install** the replacement parts on the drum.

If necessary, use a soft faced or mallet to tap the part into place.
DO NOT USE a metal faced mallet, as this may damage the new part.



21 Once all parts have been reinstalled, **follow the steps** to lower and reassemble the drum assembly.

① **Replace** the locking collar on the tension spool which was removed in Step 16.

② **Lower** the drum assembly.

- **Make sure** the bearing line up with their original position on the pillow block supports.

③ **Reinstall** the bolts on the bearings.

④ If you removed the drum sprocket in Step 13, **follow the steps** in *How to remove and replace the drive sprockets* starting on page 150 to reinstall it.

⑤ If you removed the drive chain in Step 12, **follow the steps** in *How to remove and replace the drive chain* starting on page 149 to reinstall the chain.

⑥ If you replaced the counterweight spool, **follow the steps** in *How to remove and replace, or adjust, the counterweight strap* starting on page 129 to replace the counterweight straps and counterweights.

⑦ At this point, you can **lower** the forks and **remove** the forklift.

⑧ **Restore** power to the door and **jog** it to a comfortable working height.

- If you did not remove the tension straps, **make sure** they do not get snagged as the door panel lowers.

⑨ **Follow the steps** in *How to remove and replace, or adjust, the tension strap* starting on page 136 to replace or reset the tension straps and reinstall the end brackets.

⑩ If you removed the windbars in Step 2, **follow the steps** in *How to remove and replace a windbar* starting on page 107 to replace the windbars

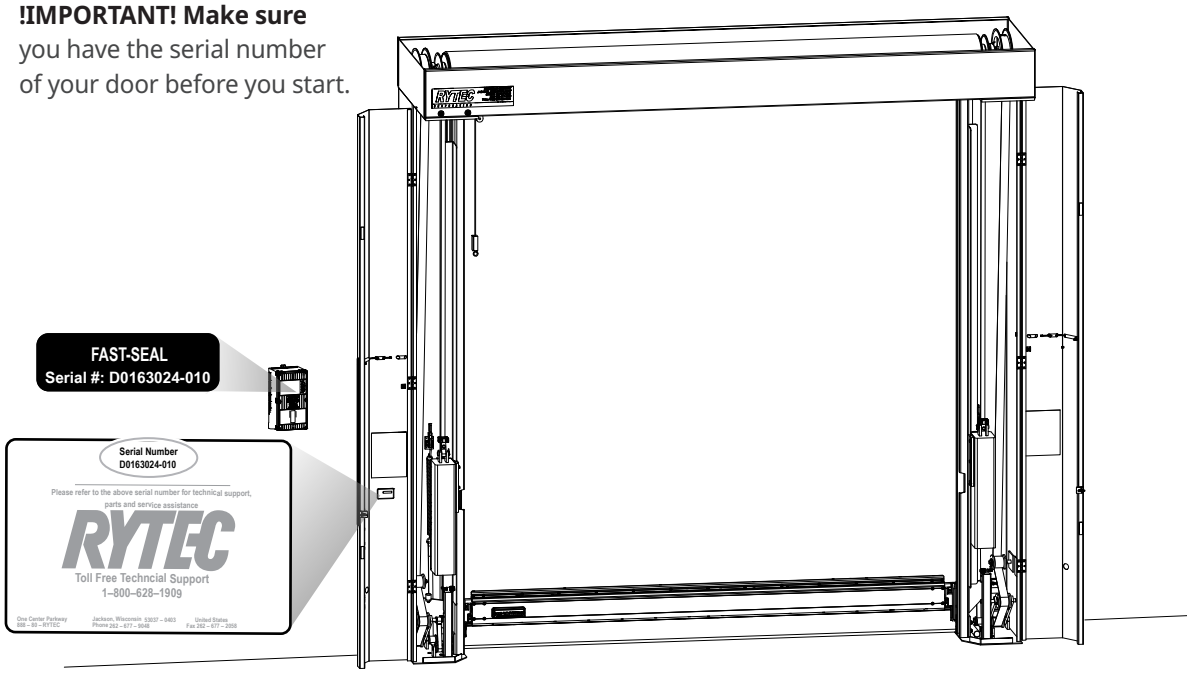
22 **Follow the steps** in *How to set limits* starting on page 56 to reset the limits for the door.

23 **Follow the steps** in *How to put he door into test mode* on page 56 and run the door through multiple cycles.

Make sure the door moves smoothly up and down, there is no unexpected noise from the door panel or motor, and the counterweight and tensioning system are moving correctly throughout the cycle.

How to order parts

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



Check on the inside of the covers for both side columns, 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 **Unlike** other Rytec doors, all Fast-Seal are LH, with the motor on the left side of the head assembly.

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 dealer or Rytec at **800-628-1909**.

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

You can also e-mail the parts department at **rytec.parts@nucor.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.rytecdoors.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 such as bearings, spools and encoders, as well as straps at precut lengths. Parts listed as "configured" in this manual **are not available** on the site.

PARTS

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 **rytec.parts@nucor.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.

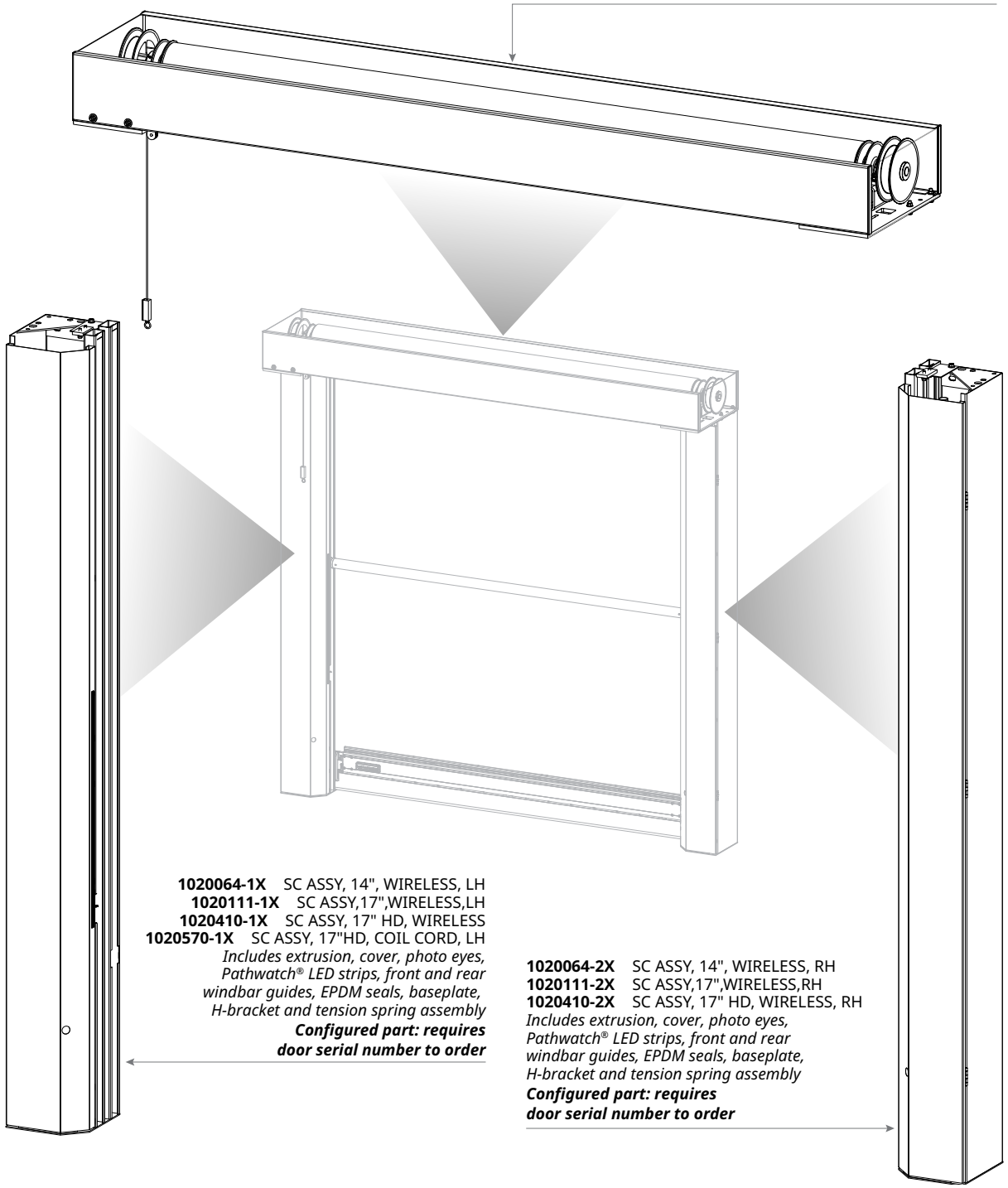
If a part has been improved or updated since your installation, the new part will be substituted for the part ordered. The new part may have a revised part number.

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.

Main Assemblies

1020245-1X ASSY,HEAD,WIRELESS,14"SC,LH,FS,FLAT HOOD
1020246-1X ASSY,HEAD,WIRELESS,14"SC,FS,SLANT HOOD
1020249-1X ASSY,HEAD,WIRELESS,17"SC,LH,FS,FLAT/NO HOOD
1020250-1 HEAD ASSY,WIREELSS,17"HD,LH,FS,SLANT HOOD
1020411-1X HEAD ASSY, WIRELESS, 17"SC (Heavy Duty)
Includes door panel, bottom bar, motor, drum assmbly, hood cover, junction boxes, additional brackets and hardware
Configured part: requires door serial number to order

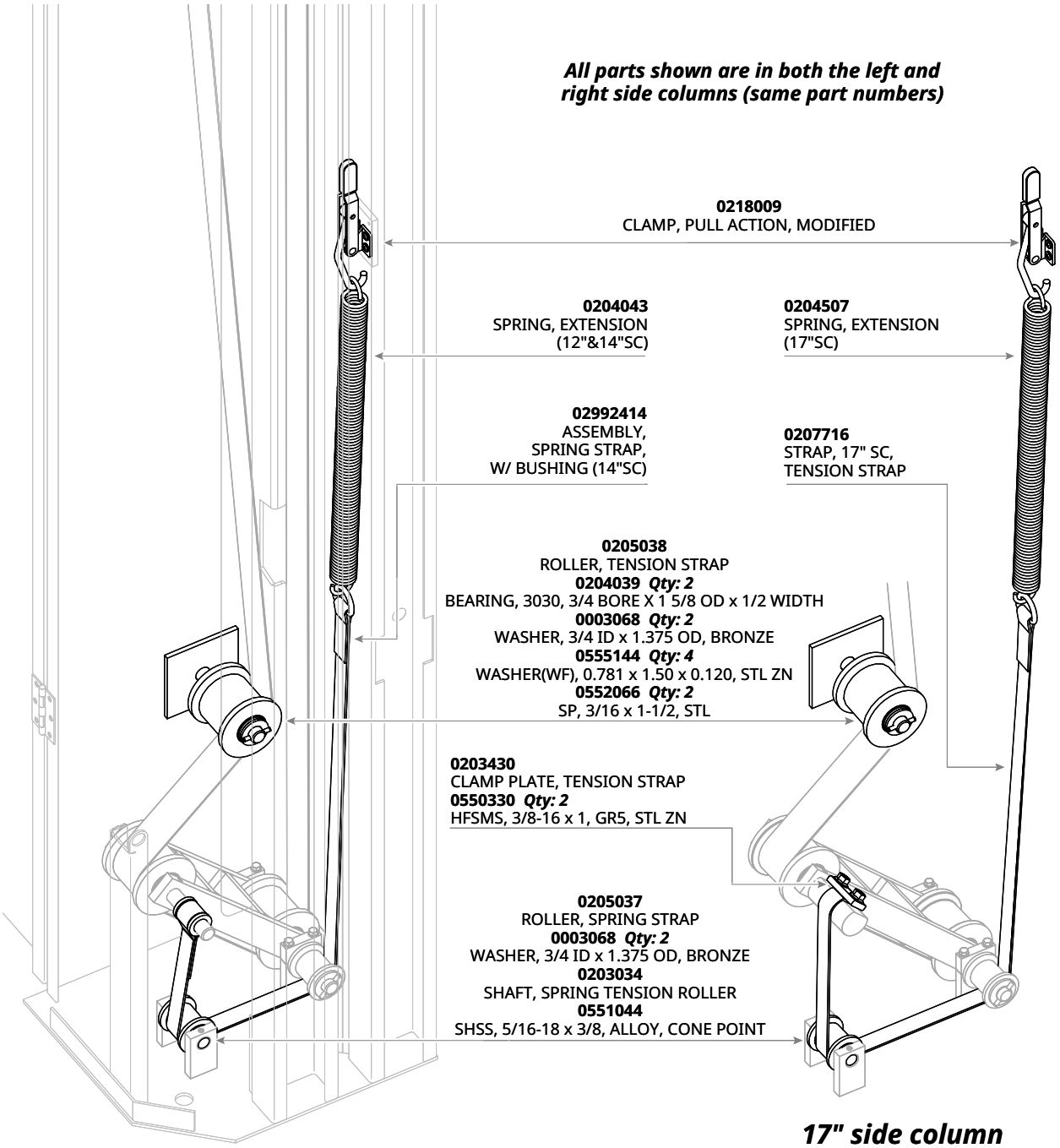


1020064-1X SC ASSY, 14", WIRELESS, LH
1020111-1X SC ASSY,17",WIRELESS,LH
1020410-1X SC ASSY, 17" HD, WIRELESS
1020570-1X SC ASSY, 17"HD, COIL CORD, LH
Includes extrusion, cover, photo eyes, Pathwatch® LED strips, front and rear windbar guides, EPDM seals, baseplate, H-bracket and tension spring assembly
Configured part: requires door serial number to order

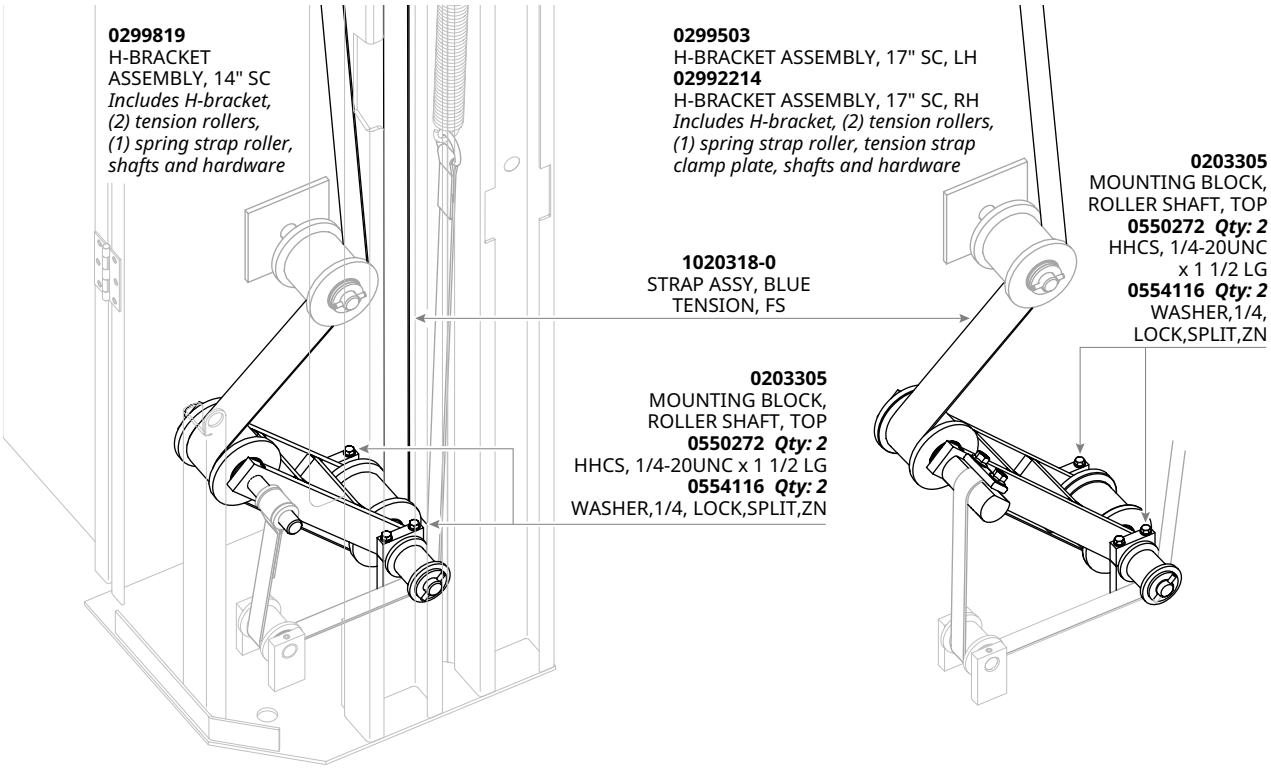
1020064-2X SC ASSY, 14", WIRELESS, RH
1020111-2X SC ASSY,17",WIRELESS,RH
1020410-2X SC ASSY, 17" HD, WIRELESS, RH
Includes extrusion, cover, photo eyes, Pathwatch® LED strips, front and rear windbar guides, EPDM seals, baseplate, H-bracket and tension spring assembly
Configured part: requires door serial number to order

Side Columns - Frame

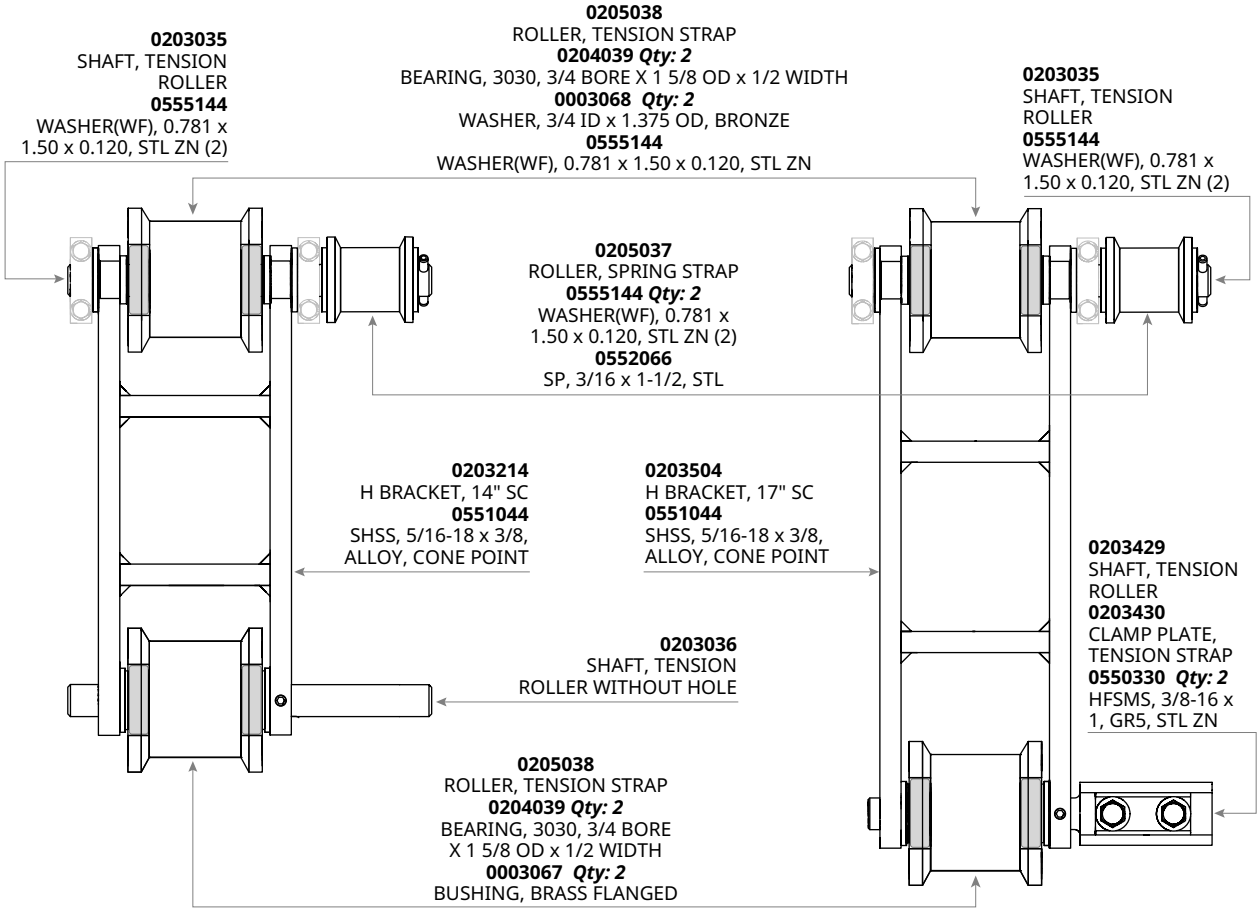
Side Columns - Tension Strap and Tensioning Assemblies



Side Columns - H-Bracket Assemblies



14" side column ***17" side column***



Side Columns - Counterweights

02991176
COUNTERWEIGHT WELDMENT, 5" SQUARE, LH 14" SC
02991177
COUNTERWEIGHT WELDMENT, 5" SQUARE, RH 14" SC

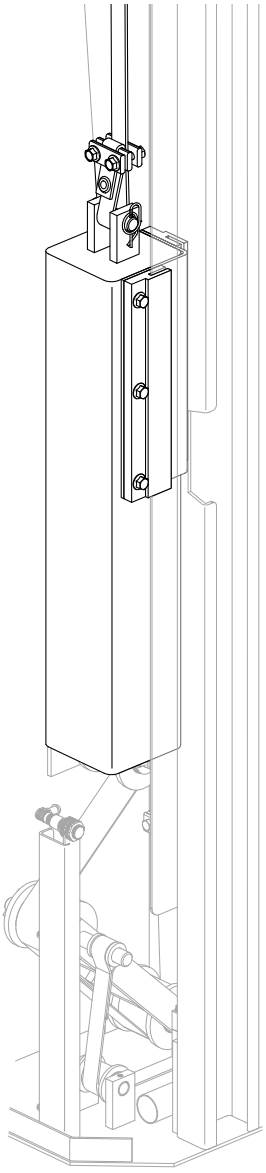
0299580
COUNTERWEIGHT WELDMENT, 5" DIA., LH 14" SC
0299575
COUNTERWEIGHT WELDMENT, 5" DIA, RH (14" SC)

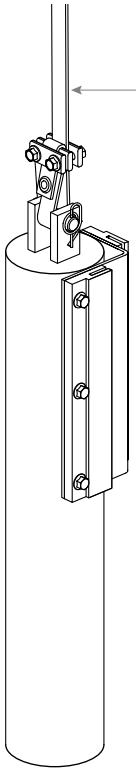
Counterweights and straps are configured parts, and require door serial number to order

1020319-0
STRAP ASSY, COUNTERWEIGHT, FS *(14",17" SC)*
08082540
SPRING BELT, BLUE, POLYESTER, 40mm WIDE *(17" SC HD)*
Includes 02992412 ASSEMBLY, CLAMP PLATE, COUNTERWEIGHT STRAP

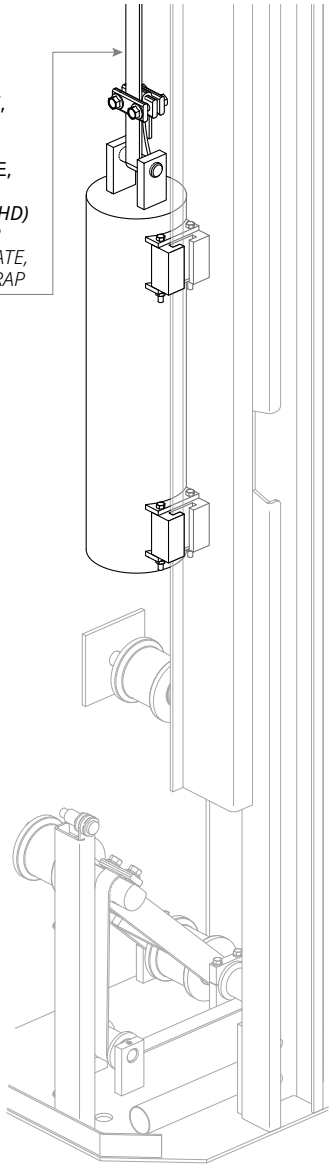
0299808
COUNTERWEIGHT WELDMENT, 17" SC

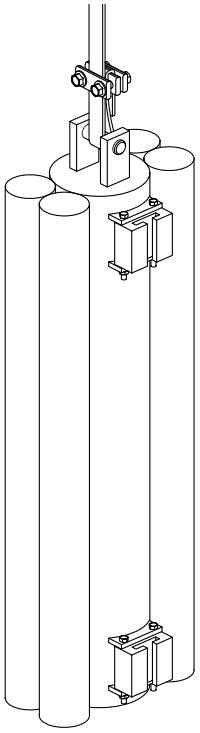
0299284
COUNTERWEIGHT WELDMENT 17" SC (SHORT)





14" side column





17" side column

02991189
ASSEMBLY COUNTERWEIGHT L.H. 14" SC 5" SQUARE
02991188
ASSEMBLY COUNTERWEIGHT R.H. 14" SC 5" SQUARE

0299577
COUNTERWEIGHT ASSEMBLY, L.H. 14" SC
0299576
COUNTERWEIGHT ASSEMBLY, R.H. 14" SC

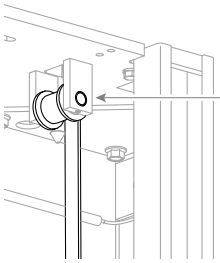
Includes:
0205004 GUIDE, COUNTERWEIGHT, 14" SC (2)
0550254 LG.SCREW, 3/8-16UNC X 3/4 SERR FLG (6)
0552160 CLEVIS PIN, .75 DIA. X 2.50
0552001 PIN, RUE RING COTTER

0299165
COUNTERWEIGHT ASSEMBLY, 17" SC

0299568
COUNTERWEIGHT ASSEMBLY, 17" SC (SHORT)

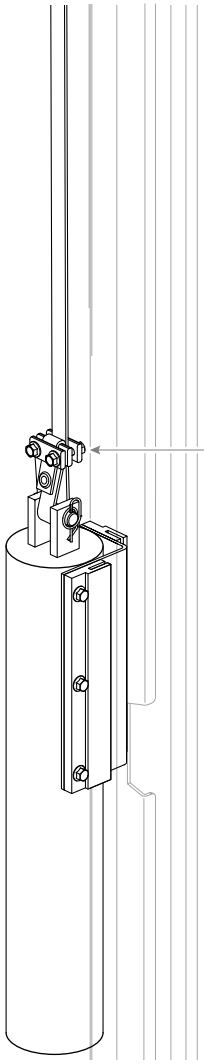
Includes:
0205506 SLIDE, COUNTERWEIGHT 17"SC (2)
0550153 SCREW .25-20UNC X 3.50 LG, HHCS (4)
0553103 NUT,1/4-20,HEX,FLNG,LOCK,ZN (4)

Side Columns - Counterweight Straps

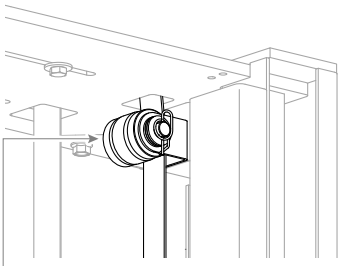


0205037
ROLLER, SPRING STRAP
0203034
SHAFT, SPRING
TENSION ROLLER
0003068
WASHER, 3/4 ID x
1.375 OD, BRONZE
Qty: 2

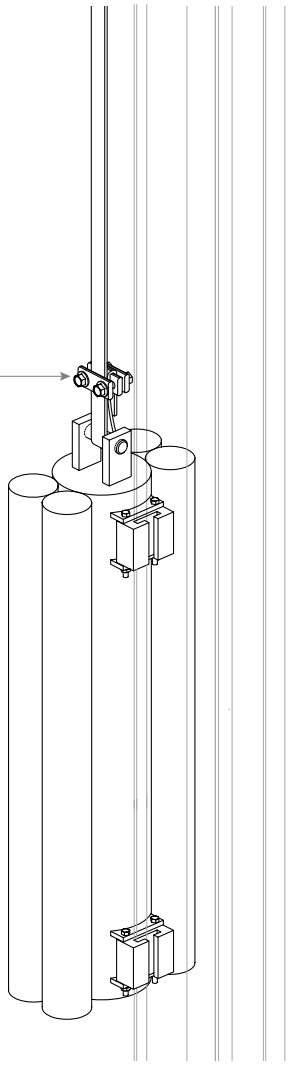
14" and 17"
Side Columns



02992658
ASSEMBLY, IDLER
PULLEY, 40mm STRAP
0205058
IDLER PULLEY,
COUNTERWEIGHT, WIDE STRAP
0204039
BEARING, 3030, 3/4 BORE X
1 5/8 OD x 1/2 WIDTH
Qty: 2
0205058
WASHER(WF), 0.781 x
1.50 x 0.120, STL ZNP
Qty: 5
0003068
WASHER, 3/4 ID x
1.375 OD, BRONZE
Qty: 2
0552003
CLEVIS PIN 3/4 DIA. X 3.75 Lg.
0552001
PIN, RUE RING COTTER (#RUE-40).
02992686
WELDMENT, IDLER PULLEY
ADJUST BRACKET, SLOTTED,
40mm STRAP
Hardware listed below



Heavy Duty 17"
Side Columns

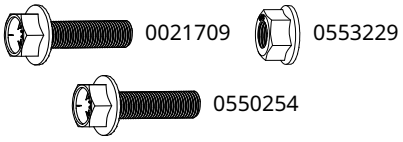


1020319-0
STRAP ASSY,
COUNTERWEIGHT, FS
Configured part: requires door serial number to order
0007088
STRAP, COUNTERWEIGHT
Configured part: requires door serial number to order
0004007
GROMMET,228-2100-207
02992412
ASSEMBLY, CLAMP PLATE,
COUNTERWEIGHT STRAP
Hardware listed below

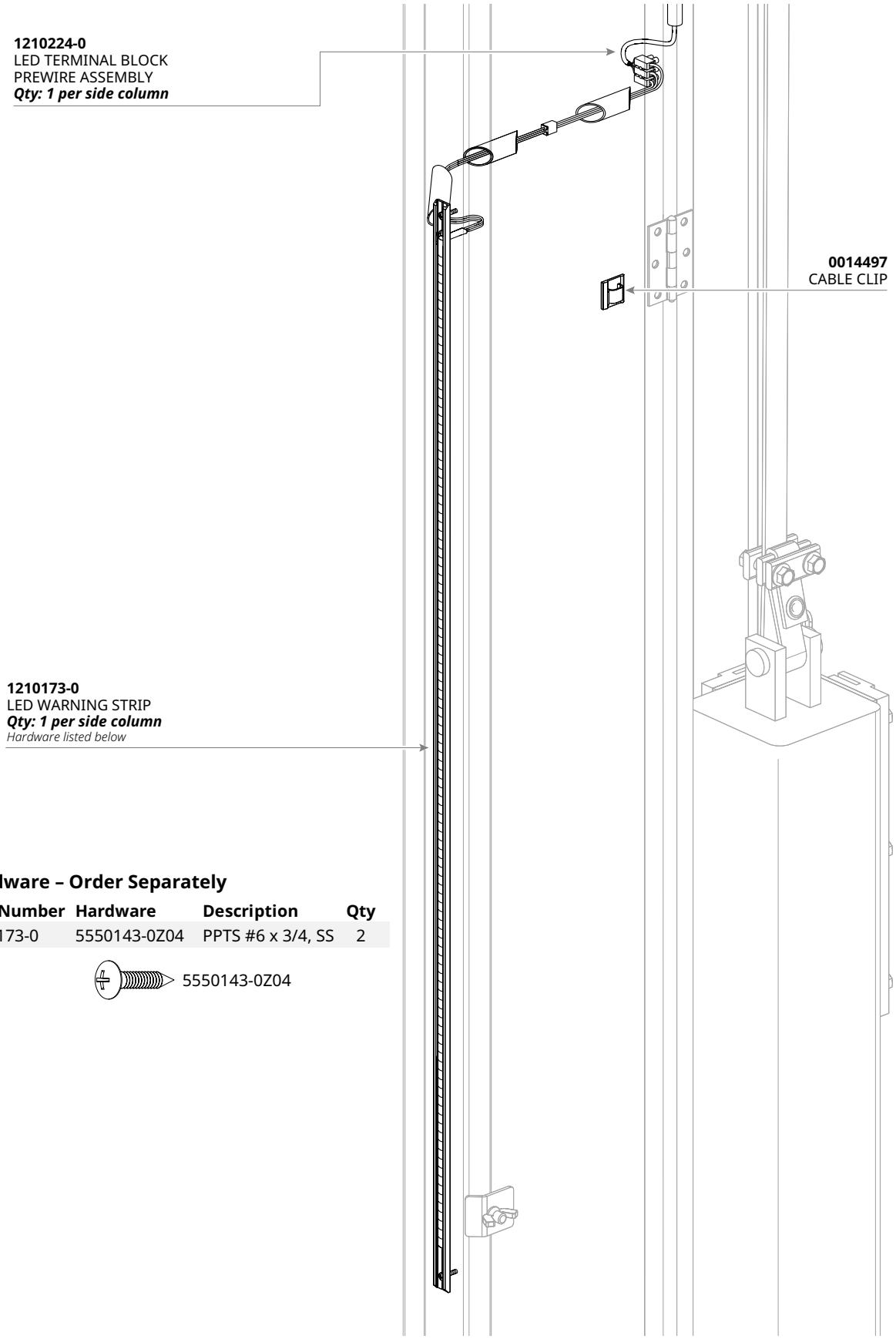
1020437-0
STRAP ASSY, COUNTERWEIGHT,
40mm, FS
Configured part: requires door serial number to order
08082540
SPRING BELT, BLUE,
POLYESTER, 40mm WIDE
Configured part: requires door serial number to order
1020253-0
ASSEMBLY, CLAMP PLATE,
COUNTERWEIGHT STRAP, 17"
Hardware listed below

Hardware – Order Separately

Part Number	Hardware	Description	Qty
02992412,	0021709	HFSMS, 3/8-16 x 1 3/4, GR5, STL ZN	2
1020253-0	0553229	HLNSF, 3/8-16, STL ZN	2
02992682	0550254	HFSMS, 3/8-16 x 3/4, GR5 ZN	2



Side Columns - Pathwatch® LED Strips



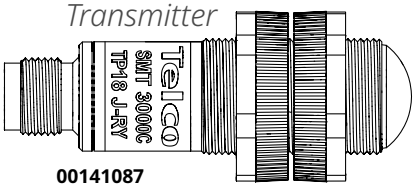
Hardware – Order Separately

Part Number	Hardware	Description	Qty
1210173-0	5550143-0Z04	PPTS #6 x 3/4, SS	2

5550143-0Z04

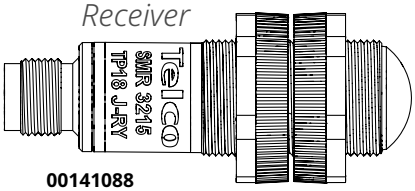
Side Columns - Photo Eyes

Transmitter



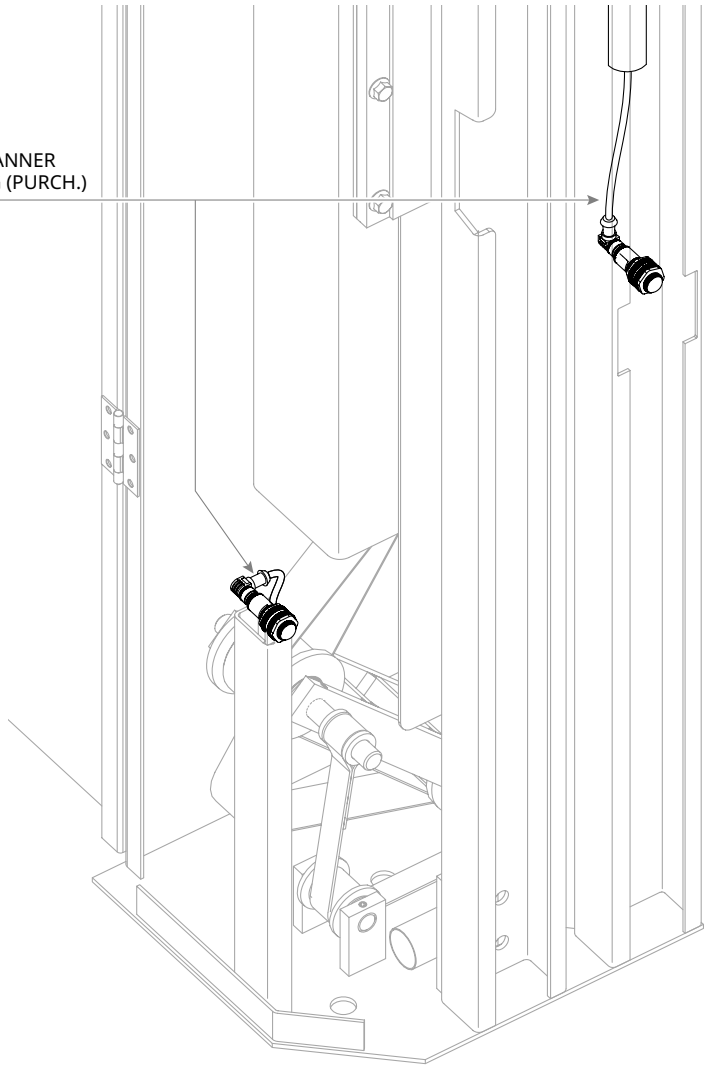
00141087
PE,TELCO 3000,18MM,TX

Receiver

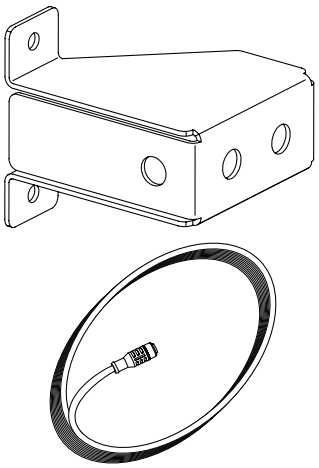


00141088
PE,TELCO 3215,18MM,RX

0012053
CABLE, 4 POLE, BANNER
MINIBEAM, 50' LG (PURCH.)



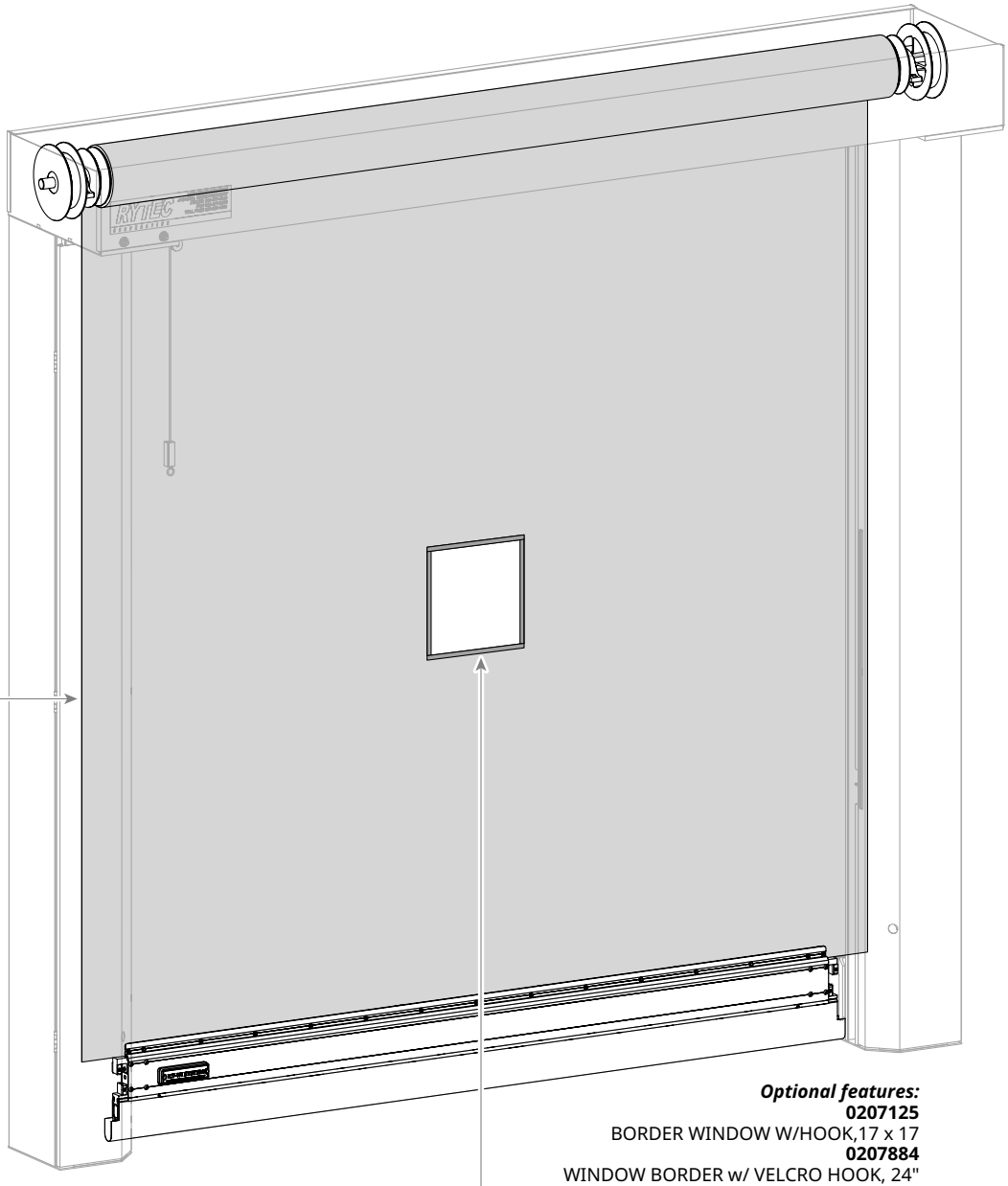
0303447
PHOTOEYE MOUNTING BRACKET,
TELCO, SHEET METAL
0012154
PHOTOEYE CABLE, PEPPERL
FUCHS V1-G-15M-PVC-Y201301
(1020474 17"SC HEAVY DUTY only)



Drum Assembly - Door Panel

1020237-1X
ASSY,DRUM,PANEL,BB,WIRELESS,14"SC,LH
Includes
02992589 14"SC drum,
door panel, bottom bar,
0208399 tension strap spool (2),
0208396 14" SC counterweight strap spooL (2),
1210732-0 bearing (2)
Configured part: requires door serial number to order

1020239-1X
ASSY,DRUM,PANEL,BB,WIRELESS,17"SC,LH
1020412-1X
ASSY,DRUM,PANEL,BB,17"HD,LH,SUSPENDED ESP EDGE
Includes
02992561 17"SC drum,
door panel, bottom bar,
0208399 tension strap spool (2),
0218001 17" SC counterweight strap spooL (2),
0204002 bearing (2)
Configured part: requires door serial number to order



1020227-1X
ASSY,DOOR PANEL, 14"SC,RILON
1020353-0
PANEL ASSEMBLY, FAST SEAL (14" SC), 1/8" SBR & PET

1020228-0X
ASSY,DOOR PANEL, 17"SC,RILON
1020356-0
PANEL ASSEMBLY, FAST SEAL (17" SC), 1/8" SBR & PET

Configured part: requires door serial number to order

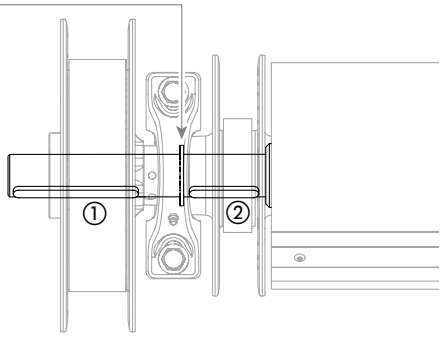
Optional features:
0207125
BORDER WINDOW W/HOOK,17 x 17
0207884
WINDOW BORDER w/ VELCRO HOOK, 24"
1060141-0X
WINDOW W/VELCRO LOOP, SCREEN
1210729-0
SCREEN,CONTAMINANT RESISTANT,BLACK

Drum Assembly - Drum

5550346-0
SHIM,ROUND,1.5" ID X .125" THK *(14" SC)*
Qty: 1 per side of drum

Keys

	① *Drive Side*	② *Drive Side*
(14" SC)	**02031092** KEY, 3/8 X 3/8 X 4.375" LG, ROUND END	**02031092** KEY, 3/8 X 3/8 X 4.375" LG, ROUND END
(17" SC)	**02031092** KEY, 3/8 X 3/8 X 4.375" LG, ROUND END	**0203075** KEY, 3/8 X 3/8 X 2" LG, ROUND END
(17" SC HD)	**02031092** KEY, 3/8 X 3/8 X 4.375" LG, ROUND END	**N/A**
	Non-Drive Side	***Non-Drive Side***
(14" SC)	**0203359** KEY, 3/8 X 3/8 X 2-15/16" LG, ROUND END	**0203359** KEY, 3/8 X 3/8 X 2-15/16" LG, ROUND END
(17" SC)	**0203359** KEY, 3/8 X 3/8 X 2-15/16" LG, ROUND END	**0203376** KEY, 3/8 X 3/8 X 2-7/16" LG, ROUND END
(17" SC HD)	**0203359** KEY, 3/8 X 3/8 X 2-15/16" LG, ROUND END	**0203075** KEY, 3/8 X 3/8 X 2" LG, ROUND END

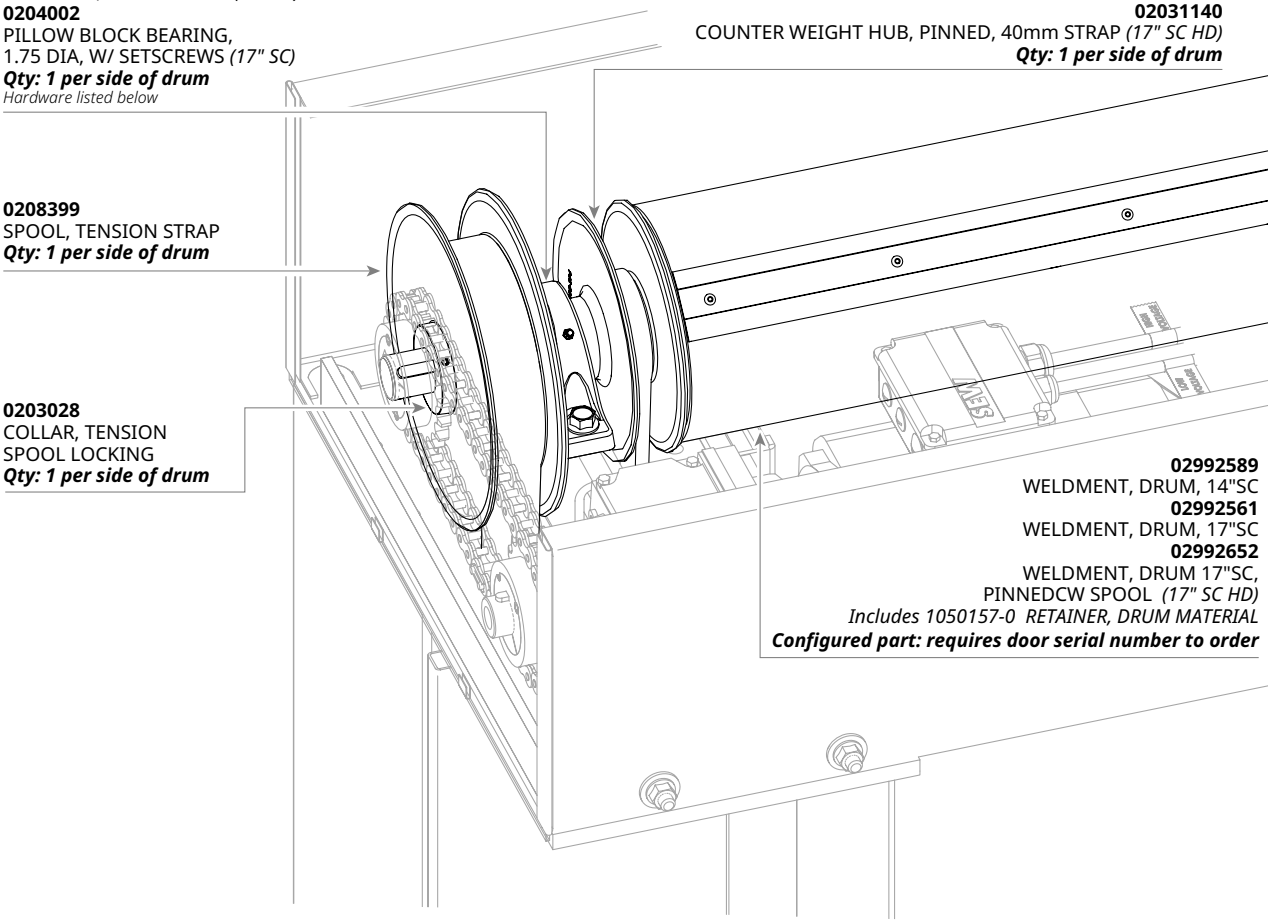


1210732-0
BEARING,PILLOW BLOCK,
1.50 BORE,w/SETSCREWS *(14" SC)*
0204002
PILLOW BLOCK BEARING,
1.75 DIA, W/ SETSCREWS *(17" SC)*
Qty: 1 per side of drum
Hardware listed below

0208396
SPOOL, 14" SC, COUNTERWEIGHT STRAP
0218001
SPOOL, 17" SC, COUNTERWEIGHT STRAP
02031140
COUNTER WEIGHT HUB, PINNED, 40mm STRAP *(17" SC HD)*
Qty: 1 per side of drum

0208399
SPOOL, TENSION STRAP
Qty: 1 per side of drum

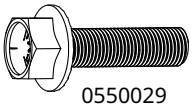
0203028
COLLAR, TENSION
SPOOL LOCKING
Qty: 1 per side of drum



02992589
WELDMENT, DRUM, 14"SC
02992561
WELDMENT, DRUM, 17"SC
02992652
WELDMENT, DRUM 17"SC,
PINNEDCW SPOOL *(17" SC HD)*
Includes 1050157-0 RETAINER, DRUM MATERIAL
Configured part: requires door serial number to order

Hardware – Order Separately

Part Number	Hardware	Description	Qty
1210732-0/0204002	0550029	HEX CAP SCR 1/2 - 13UNC x 1-3/4	2



0550029

Drum Assembly - Bottom Bar, Strapless Doors

Strapless door, extruded foam edge

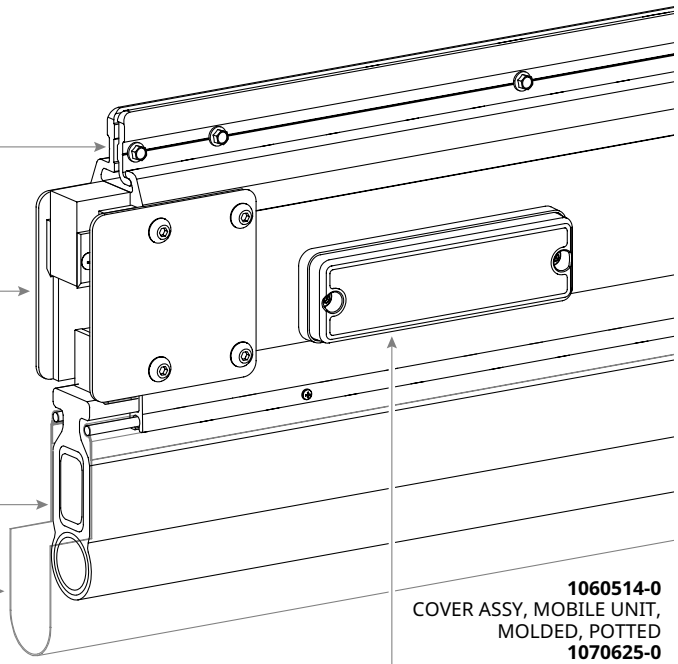
1020076-1
BB ASSY, WIRELESS FOAM EDGE, STRAPLESS
Configured part: requires door serial number to order
Hardware listed below

1020058-1
HOLE LAYOUT, BOTTOM BAR, STRAPLESS
1020340-0
EXTRUSION, BOTTOM BAR, ALUMINUM
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: require door serial number to order

0202718
STOP, NON BREAKAWAY END BRACKET
Qty: 2 per side
Hardware listed below

07991755
SUB-ASSEMBLY, AIR FOAM
EDGE, 5.44" TALL, FAST SEAL

1020713-0A
ASSY,LOOP SEAL,BB,FOAM EDGE
Hardware listed below



1060514-0
COVER ASSY, MOBILE UNIT, MOLDED, POTTED
1070625-0
GASKET,WIRELSS COVER
Hardware listed below

Strapless door, suspended air edge

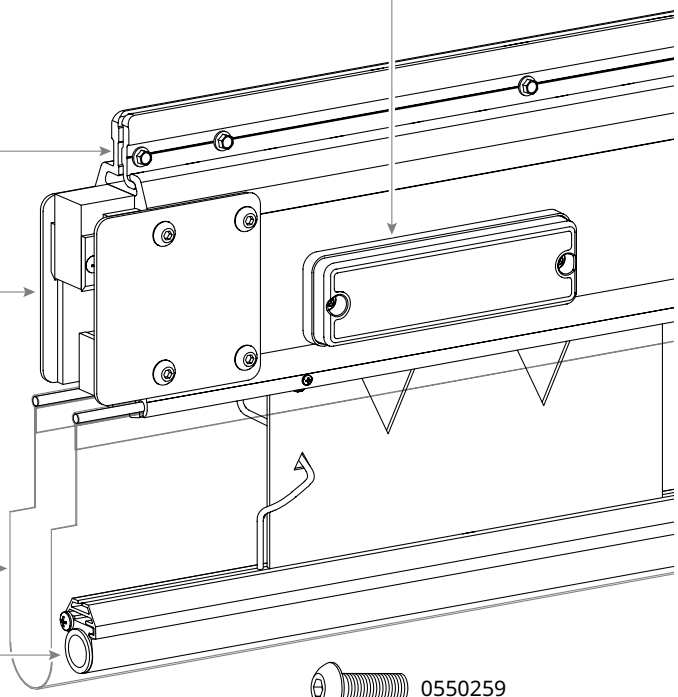
1020080-1
BB ASSY, WIRELESS SUSPN'D ESP EDGE
Configured part: requires door serial number to order
Hardware listed below

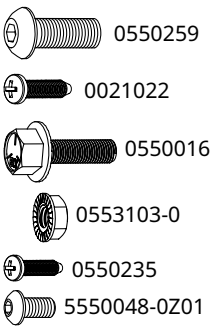
1020048-1
HOLE LAYOUT - LIGHT BOTTOM BAR EXTRUSION, STRAPLESS, WIRELESS
1020341-0
LIGHT BOTTOM BAR EXTRUSION, FAST SEAL
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: require door serial number to order

0202718
STOP, NON BREAKAWAY END BRACKET
Qty: 2 per side
Hardware listed below

1020713-0C
LOOP SEAL,BB, SUSPENDED EDGE
Hardware listed below

02991674
AIR EDGE ASSEMBLY, SUSPENDED, ESP
Hardware listed below





Hardware – Order Separately

Part Number	Hardware	Description	Qty
0202718	0550259	SCREW, 3/8-16UNC x 1.00, BUTTON HEAD, ZINC	2
02991674	0021022	PPTS, #14-10 x 1-1/4, STL ZN	7
1020076-1	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	*varies*
1020080-1	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	*varies*
1020713-0X	0550235	#6-18 x 5/8 PHIL PAN TYPE "A" TAPPING	7
1060514-0	5550048-0Z01	BSCS, .25-20 X .625, ZINC	2

Drum Assembly - Bottom Bar, Non-Strapless Doors, Extruded Reversing Edge

Non-strapless door, extruded foam edge

1020075-1
BB ASSY, WIRELESS FOAM EDGE
Configured part: requires door serial number to order
Hardware listed below

1020058-1
HOLE LAYOUT, BOTTOM BAR, STRAPLESS
1020340-0
EXTRUSION, BOTTOM BAR, ALUMINUM
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: requires door serial number to order

1060514-0
COVER ASSY, MOBILE UNIT, MOLDED, POTTED
1070625-0
GASKET,WIRELSS COVER
Hardware listed below

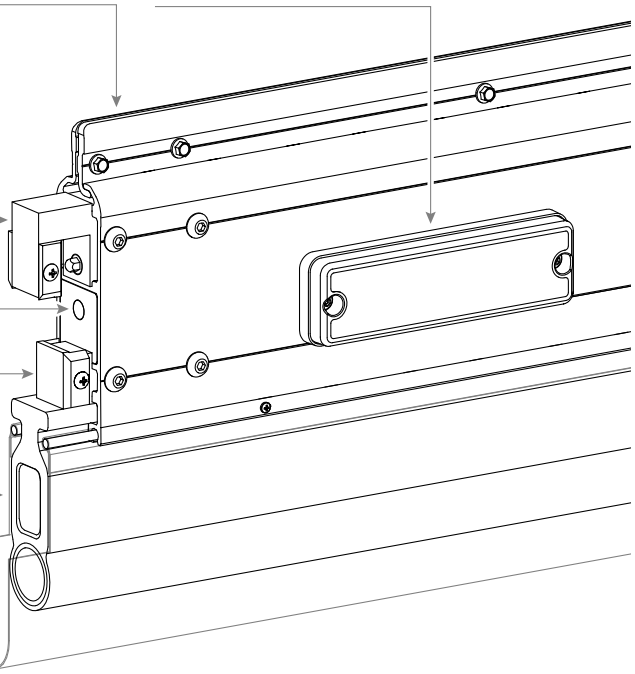
02991922
L BLOCK ASSEMBLY, UPPER
Includes 0203131 L BLOCK ASSEMBLY, UPPER
0205017 PAD, SLIDER
0204034 SPRING PLUNGER, PLATED
Hardware listed below

0204018
SWITCH, KILL, 3 WIRE SHORT
Hardware listed below

02992745
L BLOCK ASSEMBLY, LOWER
Includes 0203132 L BLOCK, LOWER
0205017 PAD, SLIDER
0205061 HOLDER, MAGNETIC SWITCH
Hardware listed below

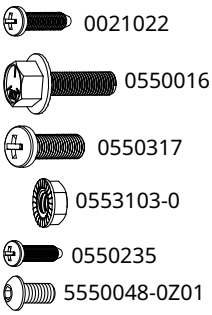
07991755
SUB-ASSEMBLY, AIR FOAM EDGE, 5.44" TALL, FAST SEAL

1020713-0A
ASSY,LOOP SEAL,BB,FOAM EDGE
Hardware listed below



Hardware – Order Separately

Part Number	Hardware	Description	Qty
0205061	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	1
0205017	0550317	SCREW, 10-24 UNC x 1/2, PHILIPS TRUSS HEAD	2
1020075-1	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	*varies*
	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	
1020713-0X	0550235	#6-18 x 5/8 PHIL PAN TYPE "A" TAPPING	7
1060514-0	5550048-0Z01	BSCS, .25-20 X .625, ZINC	2



Drum Assembly - Bottom Bar, Non-Strapless Doors, Suspended Reversing Edge

Non-strapless door, suspended air edge

1020078-1
BB ASSY, WIRELESS SUSPENDED ESP EDGE, STRAPLESS
Configured part: requires door serial number to order
Hardware listed below

1020048-1
HOLE LAYOUT - LIGHT BOTTOM BAR EXTRUSION, STRAPLESS, WIRELESS
1020341-0
LIGHT BOTTOM BAR EXTRUSION, FAST SEAL
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: require door serial number to order

1060514-0
COVER ASSY, MOBILE UNIT, MOLDED, POTTED
1070625-0
GASKET,WIRELSS COVER
Hardware listed below

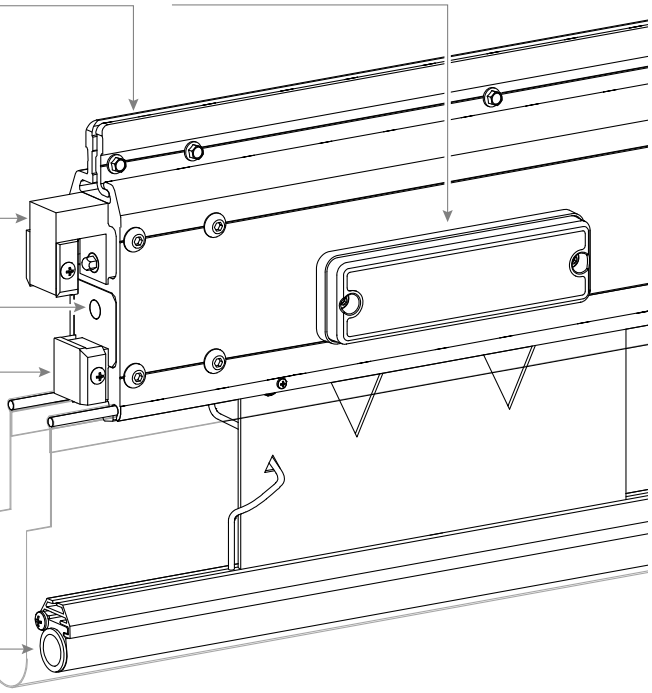
02991922
L BLOCK ASSEMBLY, UPPER
Includes 0203131 L BLOCK ASSEMBLY, UPPER
0205017 PAD, SLIDER
0204034 SPRING PLUNGER, PLATED
Hardware listed below

0204018
SWITCH, KILL, 3 WIRE SHORT

02992745
L BLOCK ASSEMBLY, LOWER
Includes 0203132 L BLOCK, LOWER
0205017 PAD, SLIDER
0205061 HOLDER, MAGNETIC SWITCH
Hardware listed below

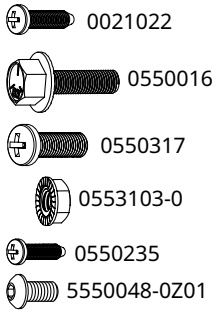
1020713-0C
LOOP SEAL,BB, SUSPENDED EDGE
Hardware listed below

02991674
AIR EDGE ASSEMBLY, SUSPENDED, ESP
Hardware listed below



Hardware – Order Separately

Part Number	Hardware	Description	Qty
0205061	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	1
0205017	0550317	SCREW, 10-24 UNC x 1/2, PHILIPS TRUSS HEAD	2
02991674	0021022	PPTS, #14-10 x 1-1/4, STL ZN	7
1020078-1	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	*varies*
	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	*varies*
1020713-0X	0550235	#6-18 x 5/8 PHIL PAN TYPE "A" TAPPING	1
1060514-0	5550048-0Z01	BSCS, .25-20 X .625, ZINC	2



Drum Assembly - Bottom Bar, Heavy Duty Doors

Heavy duty, wireless

1020076-1
BB ASSY, WIRELESS FOAM EDGE, STRAPLESS
Configured part: requires door serial number to order
Hardware listed below

1020058-1
HOLE LAYOUT, BOTTOM BAR, STRAPLESS
1020340-0
EXTRUSION, BOTTOM BAR, ALUMINUM
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: require door serial number to order

0202718
STOP, NON BREAKAWAY END BRACKET
Qty: 2 per side
Hardware listed below

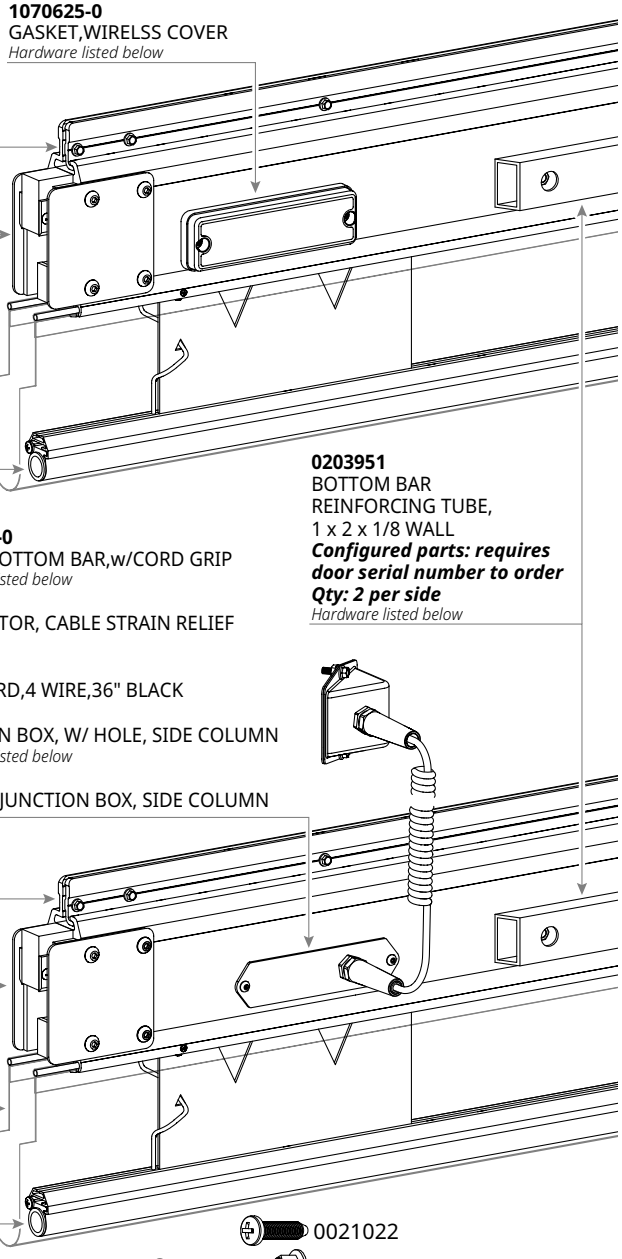
1020713-0C
LOOP SEAL,BB, SUSPENDED EDGE
Hardware listed below

02991674
AIR EDGE ASSEMBLY, SUSPENDED, ESP
Hardware listed below

1060514-0
COVER ASSY, MOBILE UNIT, MOLDED, POTTED
1070625-0
GASKET,WIRELSS COVER
Hardware listed below

0203951
BOTTOM BAR REINFORCING TUBE, 1 x 2 x 1/8 WALL
Configured parts: requires door serial number to order
Qty: 2 per side
Hardware listed below

1060061-0
COVER,BOTTOM BAR,w/CORD GRIP
Hardware listed below
0204048
CONNECTOR, CABLE STRAIN RELIEF
Qty: 2
0704075
COIL CORD,4 WIRE,36" BLACK
0218013
JUNCTION BOX, W/ HOLE, SIDE COLUMN
Hardware listed below
0204047
GASKET, JUNCTION BOX, SIDE COLUMN



Heavy duty, coil cord

1020080-1
BB ASSY, WIRELESS SUSPN'D ESP EDGE
Configured part: require door serial number to order
Hardware listed below

1020048-1
HOLE LAYOUT - LIGHT BOTTOM BAR EXTRUSION, STRAPLESS, WIRELESS
1020341-0
LIGHT BOTTOM BAR EXTRUSION, FAST SEAL
1020339-0
EXTRUSION, ALUMINUM, CLAMP STRIP
Configured parts: requires door serial number to order

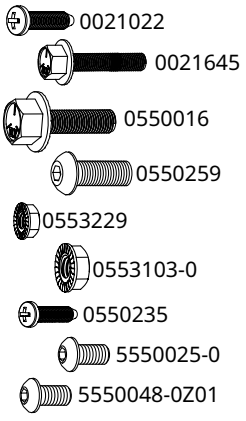
0202718
STOP, NON BREAKAWAY END BRACKET
Qty: 2 per side
Hardware listed below

1020713-0C
LOOP SEAL,BB, SUSPENDED EDGE
Hardware listed below

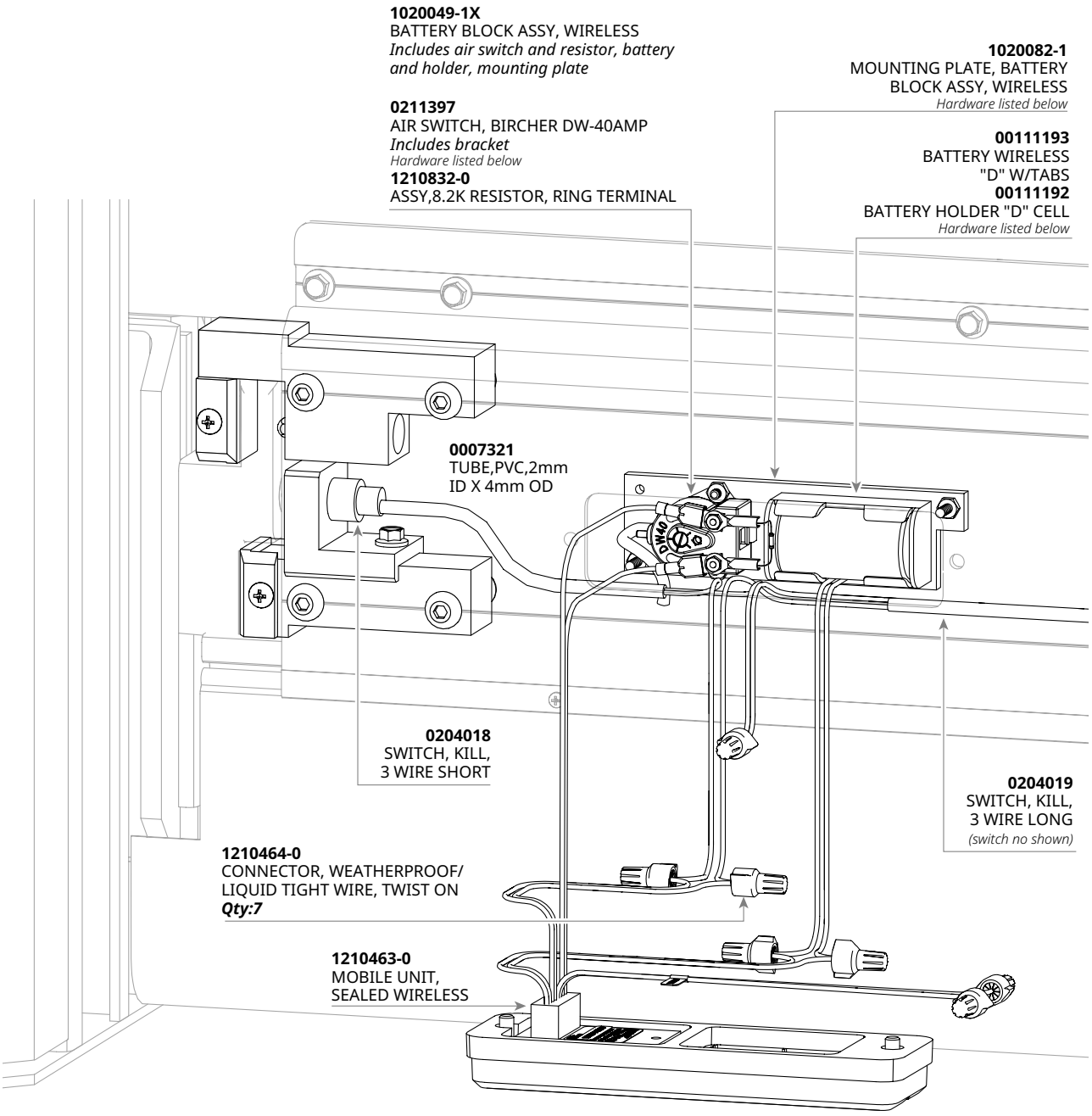
02991674
AIR EDGE ASSEMBLY, SUSPENDED, ESP
Hardware listed below

Hardware – Order Separately

Part Number	Hardware	Description	Qty
0202718	0550259	SCREW, 3/8-16UNC x 1.00, BUTTON HEAD, ZINC	2
0203951	0021645	HFSMS, 3/8-16 x 3.00 LG, GR5 ZN	*varies*
	0553229	HLNSF, 3/8-16, STL ZN	*varies*
0218013	0550016	HFSMS, 1/4-20 x 3/4, GR5 ZN	2
	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	2
02991674	0021022	PPTS, #14-10 x 1-1/4, STL ZN	7
1020076-1,	0550016	HFSMS, 1/4-20 x 3/4, GR5.2 ZN	*varies*
1020080-1	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	*varies*
1020713-0X	0550235	#6-18 x 5/8 PHIL PAN TYPE "A" TAPPING	7
1060061-0	5550025-0	BSCS,1/4-20 X 3/8,ZINC	2
1060514-0	5550048-0Z01	BSCS, .25-20 X .625, ZINC	2

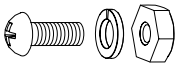


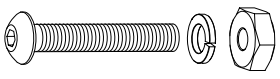
Drum Assembly - Bottom Bar Internal Parts, Wireless Door



Hardware – Order Separately

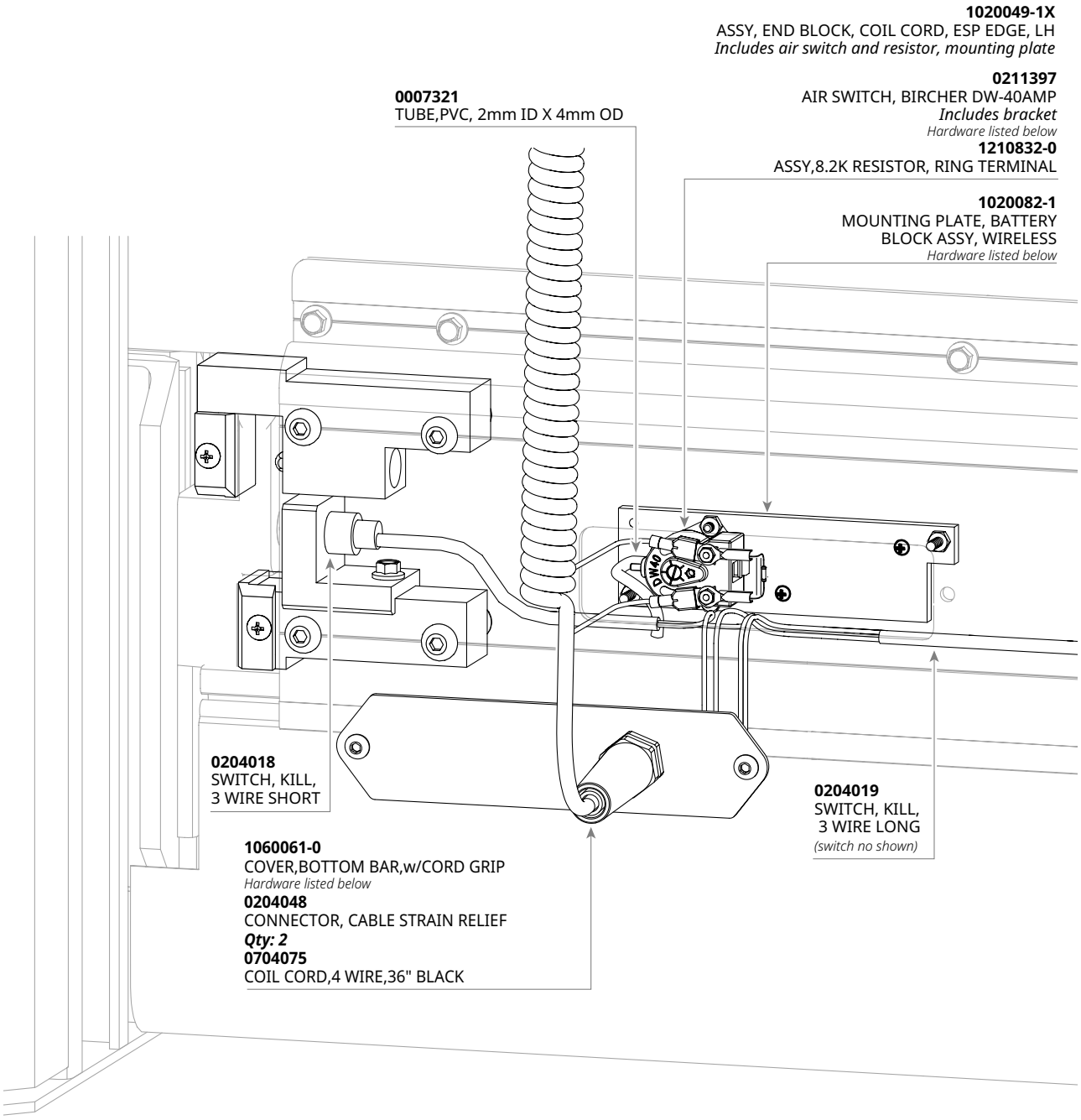
Part Number	Hardware	Description	Qty
0211397	0021029	PPMS, #8-32 X 1/2, STL ZN	2
	0553180	HEX NUT, #8-32, STL ZN	2
	0554179	WASHER, #8 SPLIT LOCK, STL ZN	2
1020082-1	S021064	SCREW, #8-32UNC X 1.00 LG, BHCS, 18-8 S.S.	2
	0553180	HEX NUT, #8-32, STL ZN	2
	0554179	WASHER, #8 SPLIT LOCK, STL ZN	2
00111192	0021807	NUT, #6-32UNC, ZINC	2
	0554179	WASHER, #8 SPLIT LOCK, STL ZN	2
	5550045-0	PPMS,#6-32UNC X .375,ZN	2


0021029/05541790553180


S021064/0554179/0553180

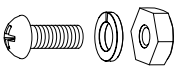

5550045-0/0554179/0021807

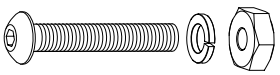
Drum Assembly - Bottom Bar Internal Parts, Coil Cord Door



Hardware – Order Separately

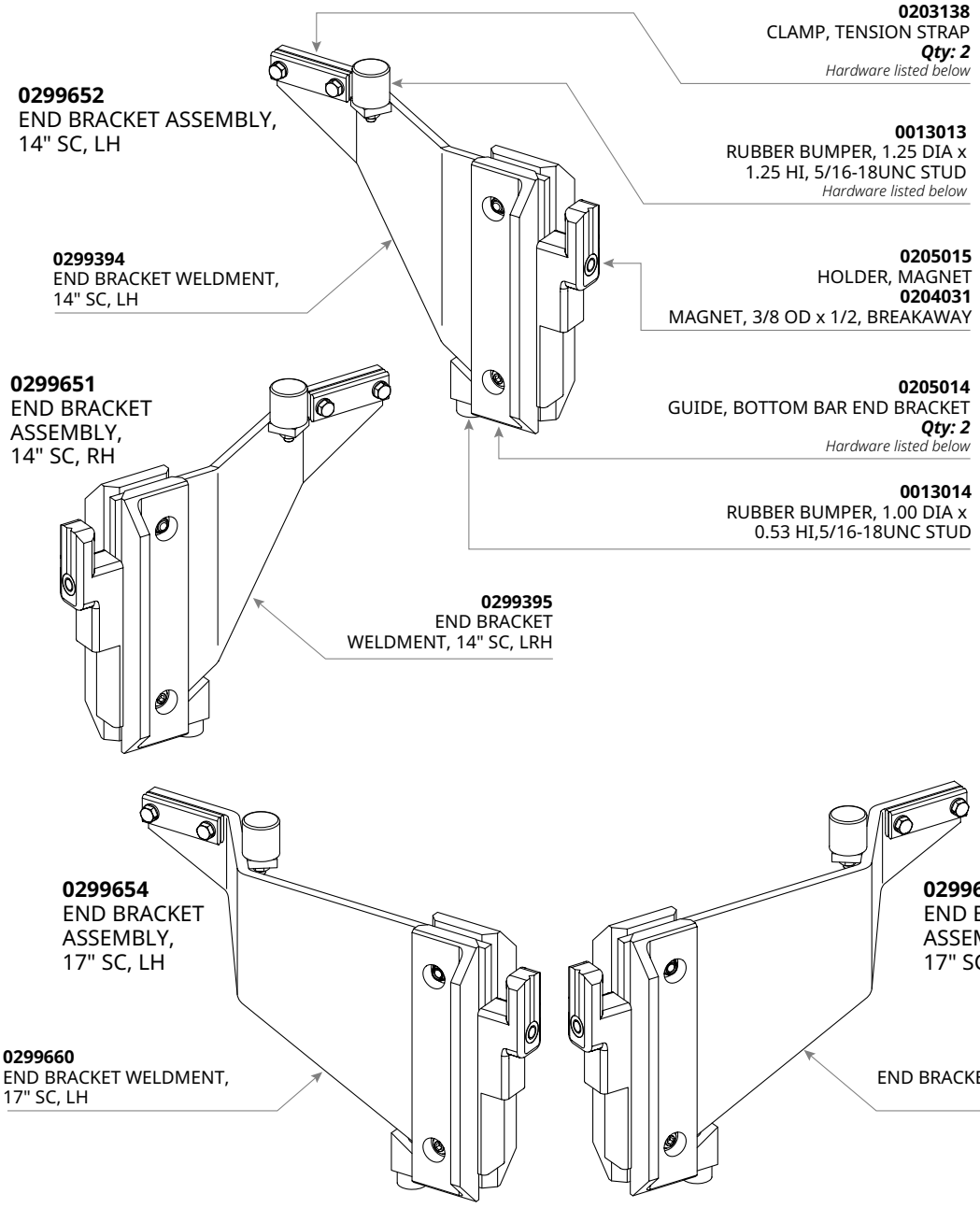
Part Number	Hardware	Description	Qty
0211397	0021029	PPMS, #8-32 X 1/2, STL ZN	2
	0553180	HEX NUT, #8-32, STL ZN	2
	0554179	WASHER, #8 SPLIT LOCK, STL ZN	2
1020082-1	S021064	SCREW, #8-32UNC X 1.00 LG, BHCS, 18-8 S.S.	2
	0553180	HEX NUT, #8-32, STL ZN	2
	0554179	WASHER, #8 SPLIT LOCK, STL ZN	2
1060061-0	5550025-0	BSCS,1/4-20 X 3/8,ZINC	2


0021029/05541790553180


S021064/0554179/0553180


5550025-0

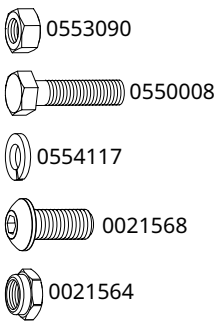
Drum Assembly - Bottom Bar, End Brackets



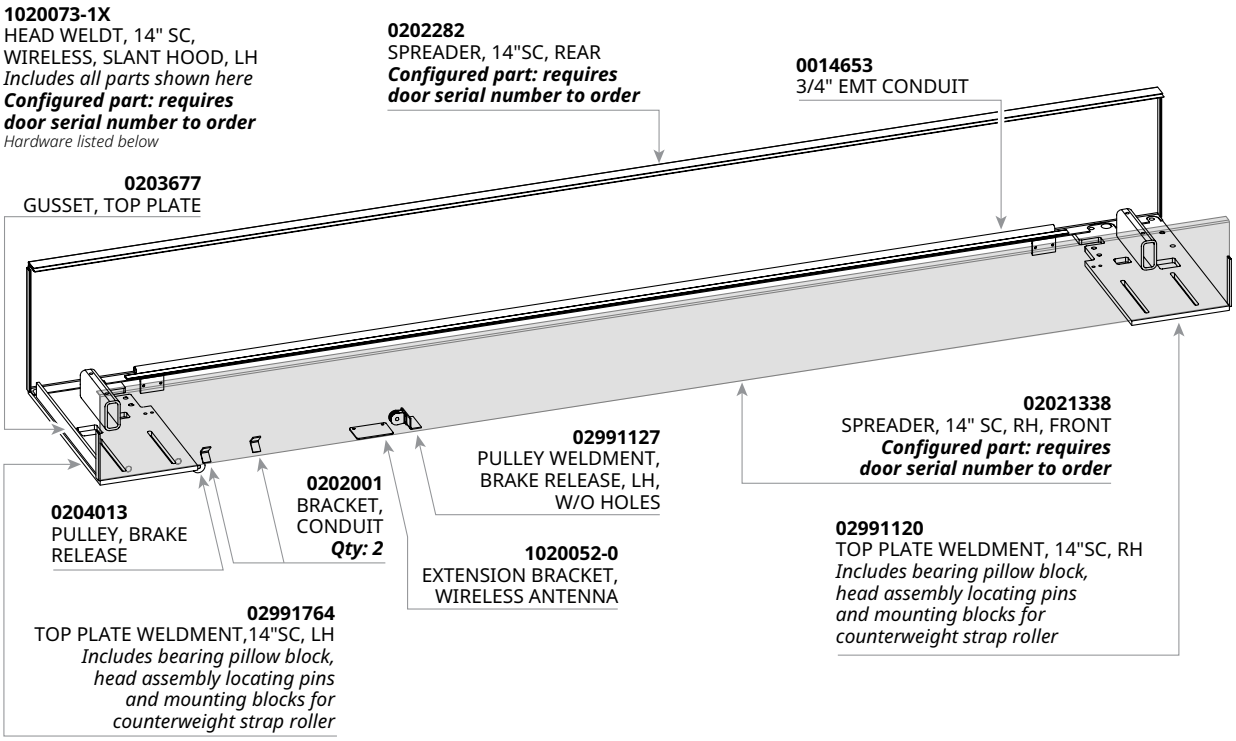
These parts are common to all end brackets

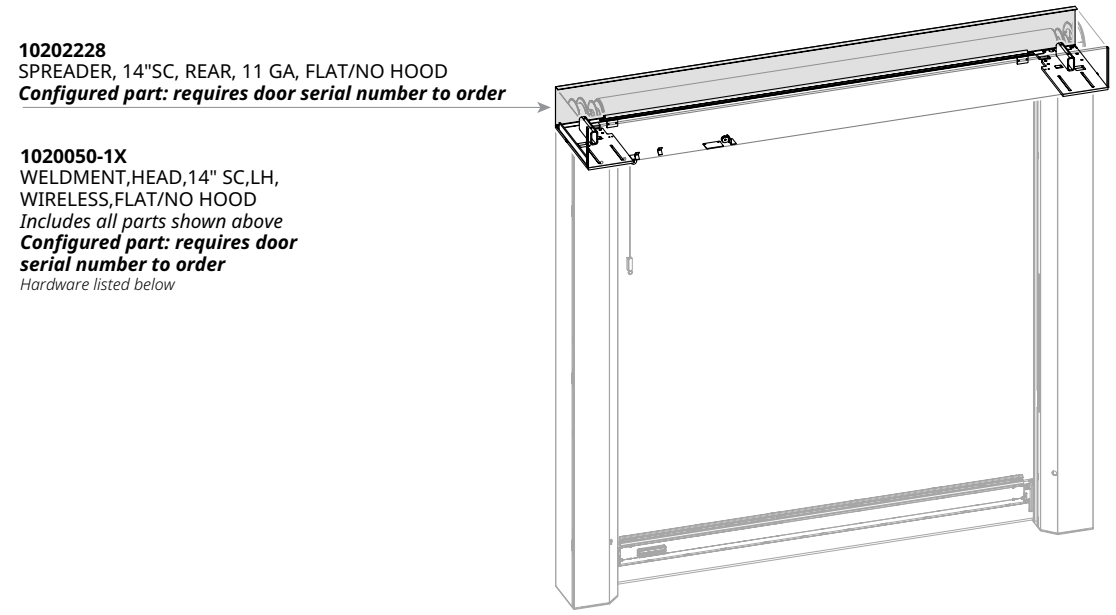
Hardware – Order Separately

Part Number	Hardware	Description	Qty
0013013	0553090	HN, 5/16-18, STL ZN	1
0203138	0550008	HHCS, 5/16-18 x 1-1/4, GR5 ZN	2
	0554117	WSR, 5/16, STL ZN	2
0205014	0021568	BHCS, 3/8-16 x 7/8, AY ZN	2
	0021564	NUT, 3/18-16UNC X HEX NYLOCK THIN NUT	2



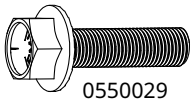
Head Assembly - Frame and Spreaders, 14" Side Columns





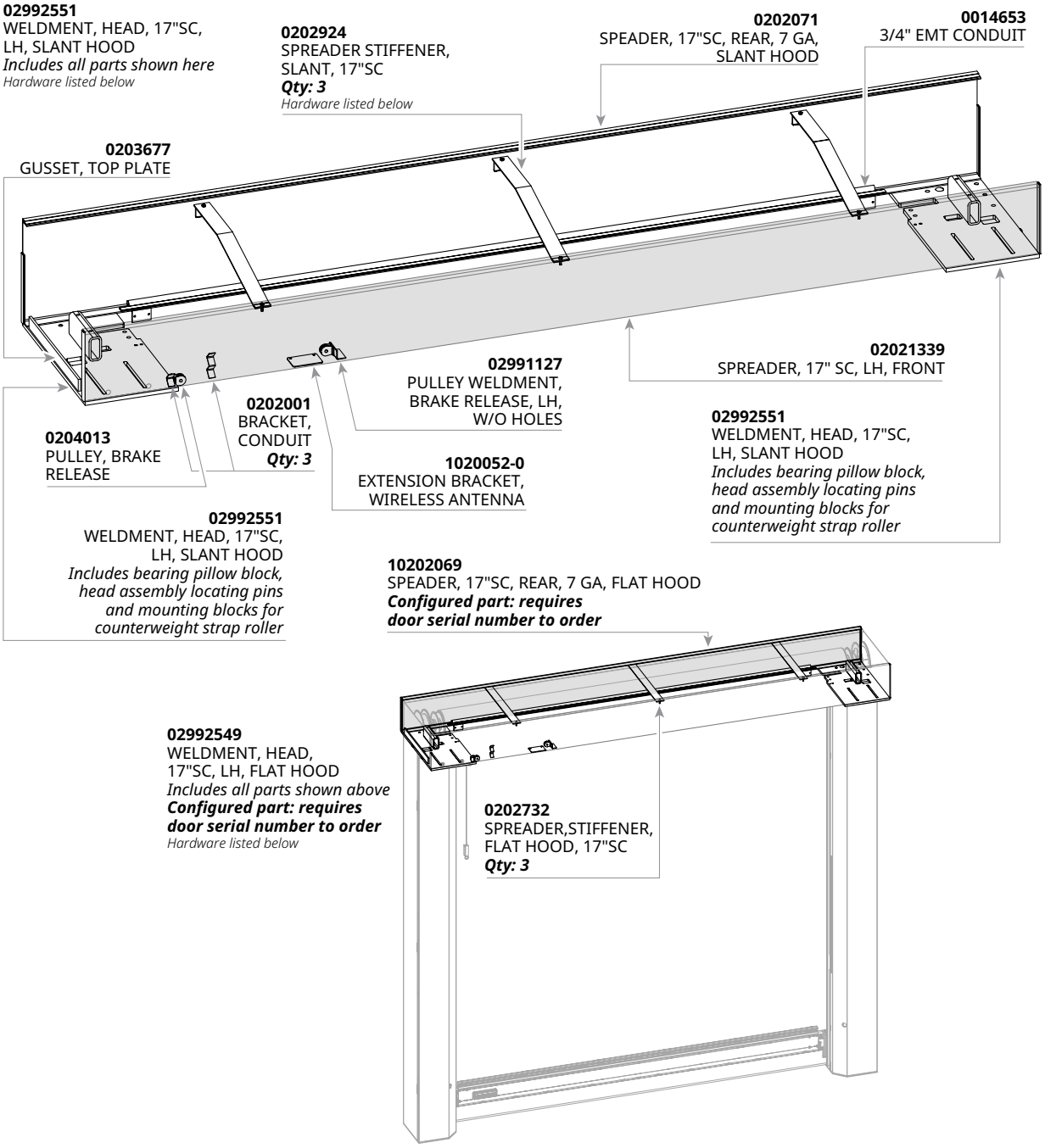
Hardware – Order Separately

Part Number	Hardware	Description	Qty
1020050-1X,	0550029	HEX CAP SCR 1/2 - 13UNC x 1-3/4	10
1020073-1X	0553100	NUT,1/2-13,HEX,FLNG,LOCK,ZN	10


0550029

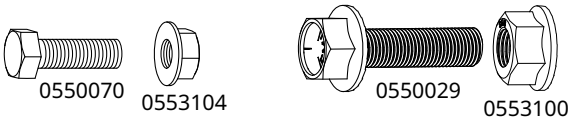

0553100

Head Assembly - Frame and Spreaders, 17" Side Columns



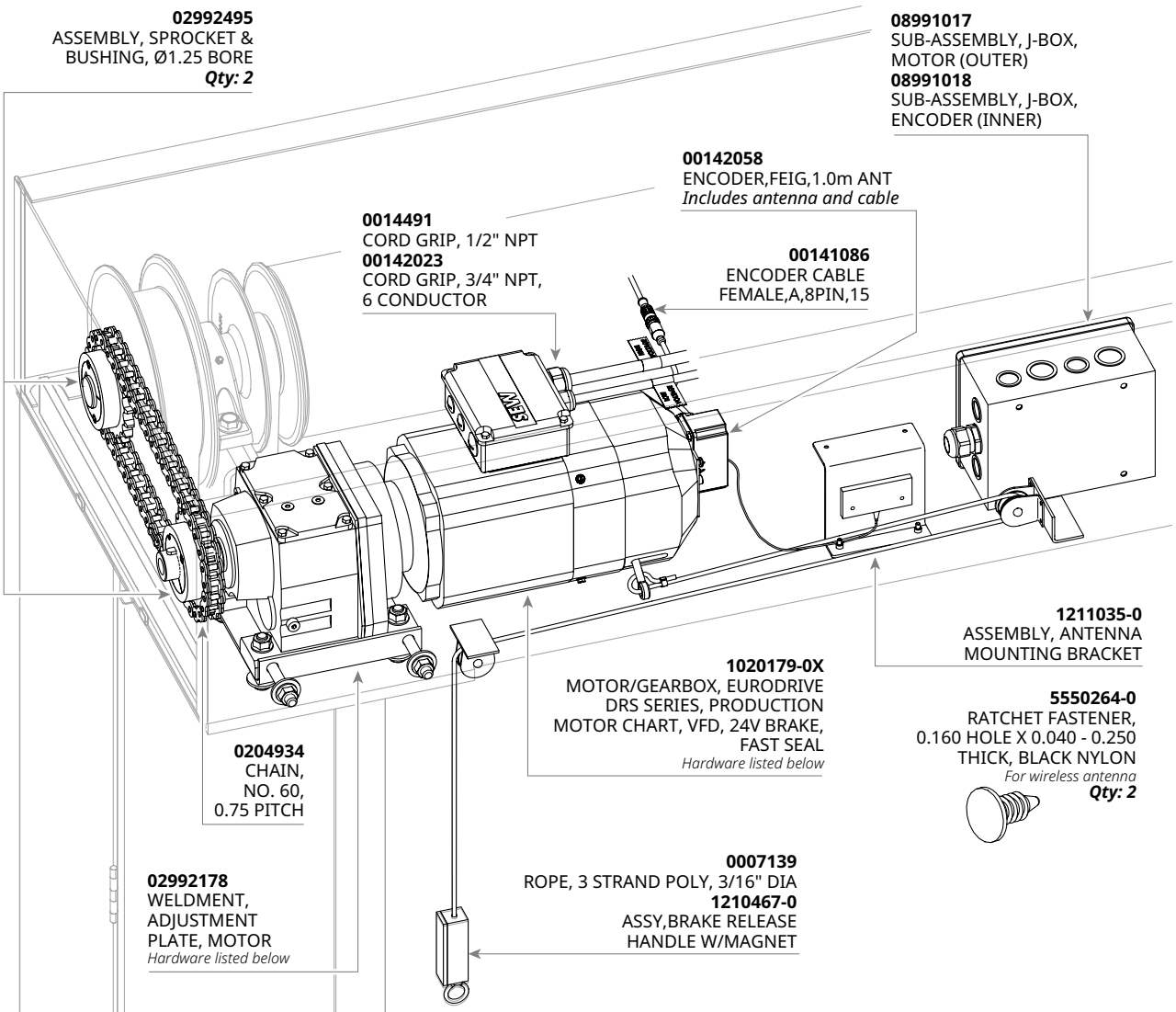
Hardware – Order Separately

Part Number	Hardware	Description	Qty
0202924,	0550070	HHCS, 5/16-18 x 1, STL ZN	2
0202732	0553104	HLNSF, 5/16-18, STL ZN	2
1020050-1X,	0550029	HEX CAP SCR 1/2 - 13UNC x 1-3/4	10
1020073-1X	0553100	NUT,1/2-13,HEX,FLNG,LOCK,ZN	10



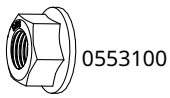
Head Assembly - Motor and Encoder

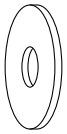
1020215-1X
ASSEMBLY, SEW DRS MOTOR, SYSTEM 4, FAST SEAL
Includes 00142058 encoder and 09229495 sprocket

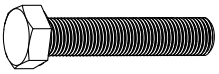


Hardware – Order Separately

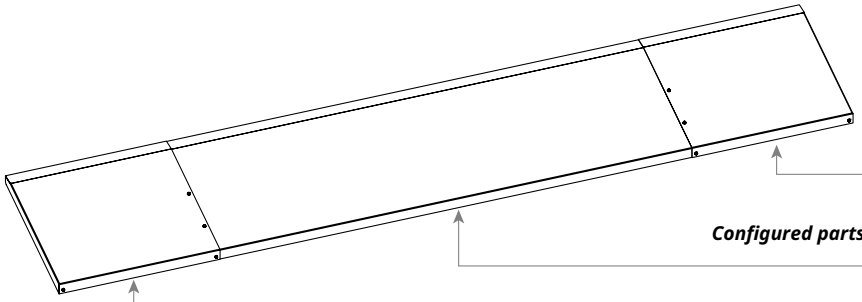
Part Number	Hardware	Description	Qty
02992178	0553100	NUT,1/2-13,HEX,FLNG,LOCK,ZN	2+4
	0555145	WASHER, 1/2" FLAT,USS,ZN	2+4
	S551062	SCREW, 1/2-13UNC X 2 1/2 LG, HHCS	4
1020179-0X	0553100	NUT,1/2-13,HEX,FLNG,LOCK,ZN	4


0553100


0555145


S551062

Head Assembly - Hood Covers and Rear Brush Seal, 14" Side Column Doors



02992439
ASSEMBLY, HOOD, SLANT, 14" SC
Includes all parts shown here
Hardware listed below

02021342
HOOD, SLANT, RH, 14" SC
Hardware listed below

02021341
HOOD, SLANT, CENTER, 14" SC
Configured parts: requires doorserial number to order
Hardware listed below

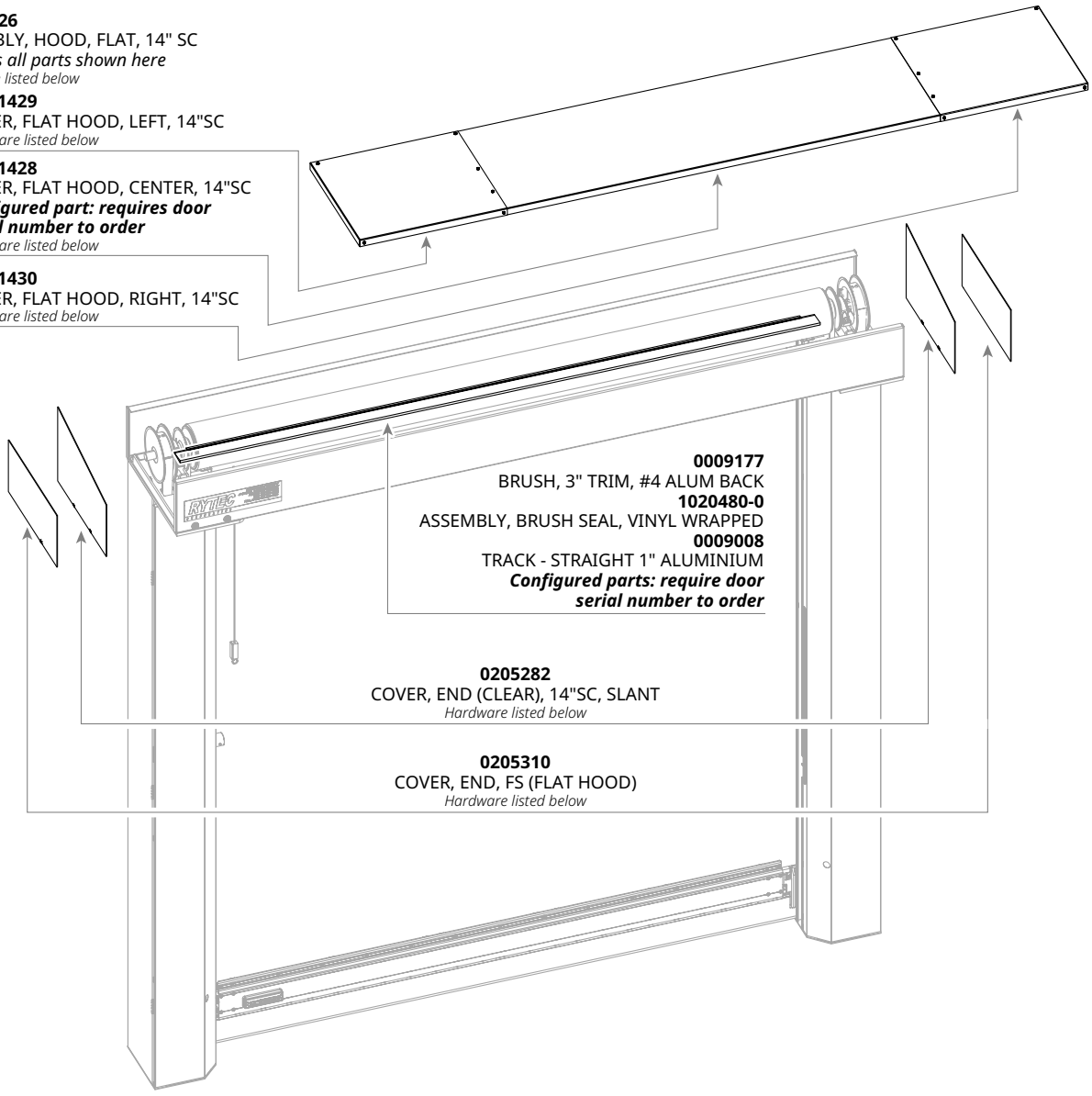
02021340
HOOD, SLANT, LH, 14" SC
Hardware listed below

02992626
ASSEMBLY, HOOD, FLAT, 14" SC
Includes all parts shown here
Hardware listed below

02021429
COVER, FLAT HOOD, LEFT, 14"SC
Hardware listed below

02021428
COVER, FLAT HOOD, CENTER, 14"SC
Configured part: requires door serial number to order
Hardware listed below

02021430
COVER, FLAT HOOD, RIGHT, 14"SC
Hardware listed below



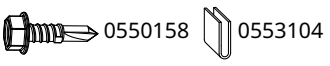
0009177
BRUSH, 3" TRIM, #4 ALUM BACK
1020480-0
ASSEMBLY, BRUSH SEAL, VINYL WRAPPED
0009008
TRACK - STRAIGHT 1" ALUMINIUM
Configured parts: require door serial number to order

0205282
COVER, END (CLEAR), 14"SC, SLANT
Hardware listed below

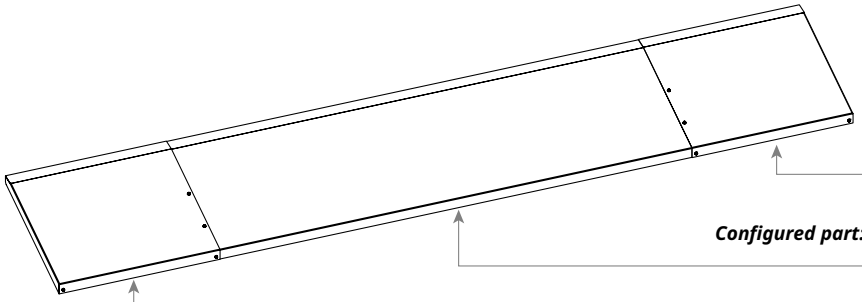
0205310
COVER, END, FS (FLAT HOOD)
Hardware listed below

Hardware – Order Separately

Part Number	Hardware	Description	Qty
All panels	0550158	SCREW, 1/4-14 X 3/4 LG HH SELF DRILLING TEK	*Varies*
All end covers	0553104	HLNSF, 5/16-18, STL ZN	*Varies*



Head Assembly - Hood Covers and Rear Brush Seal, 17" Side Column Doors



02992439
ASSY, HOOD, SLANT, 17" SC
Includes all parts shown here
Hardware listed below

02021342
HOOD, SLANT, RH, 17" SC
Hardware listed below

02021341
HOOD, SLANT, CENTER, 17" SC
Configured part: requires door serial number to order
Hardware listed below

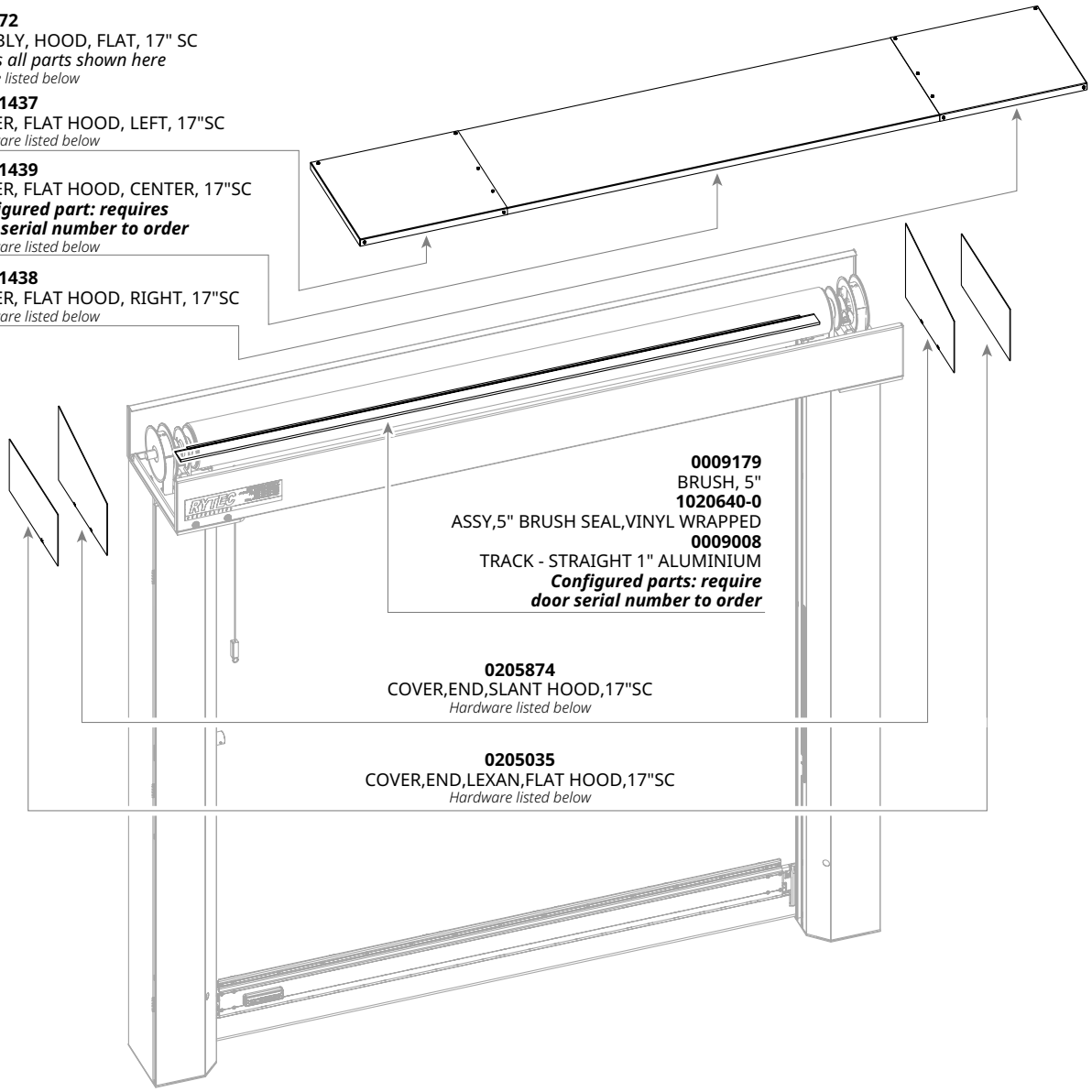
02021340
HOOD, SLANT, LH, 17" SC
Hardware listed below

02992572
ASSEMBLY, HOOD, FLAT, 17" SC
Includes all parts shown here
Hardware listed below

02021437
COVER, FLAT HOOD, LEFT, 17"SC
Hardware listed below

02021439
COVER, FLAT HOOD, CENTER, 17"SC
Configured part: requires door serial number to order
Hardware listed below

02021438
COVER, FLAT HOOD, RIGHT, 17"SC
Hardware listed below



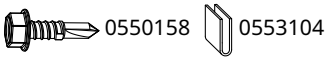
0009179
BRUSH, 5"
1020640-0
ASSY,5" BRUSH SEAL,VINYL WRAPPED
0009008
TRACK - STRAIGHT 1" ALUMINIUM
Configured parts: require door serial number to order

0205874
COVER,END,SLANT HOOD,17"SC
Hardware listed below

0205035
COVER,END,LEXAN,FLAT HOOD,17"SC
Hardware listed below

Hardware – Order Separately

Part Number	Hardware	Description	Qty
All panels	0550158	SCREW, 1/4-14 X 3/4 LG HH SELF DRILLING TEK	*Varies*
All end covers	0553104	HLNSF, 5/16-18, STL ZN	*Varies*



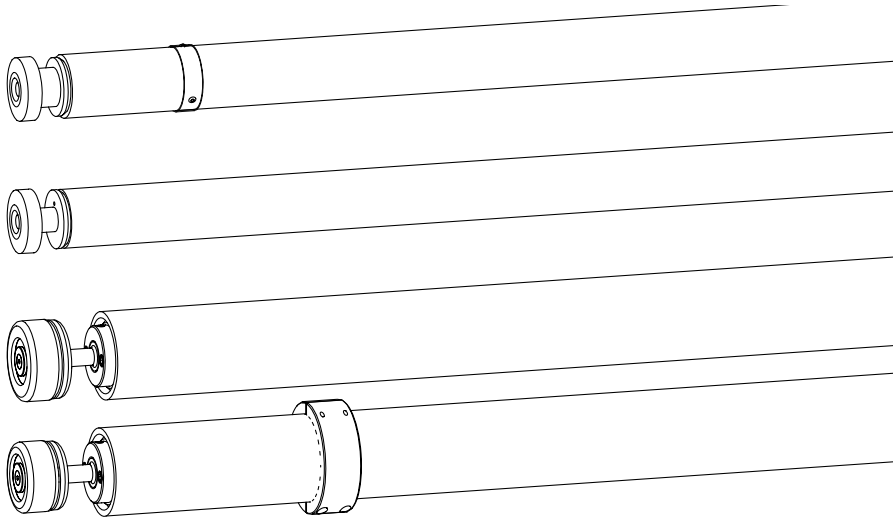
Strapless Windbars (Optional)

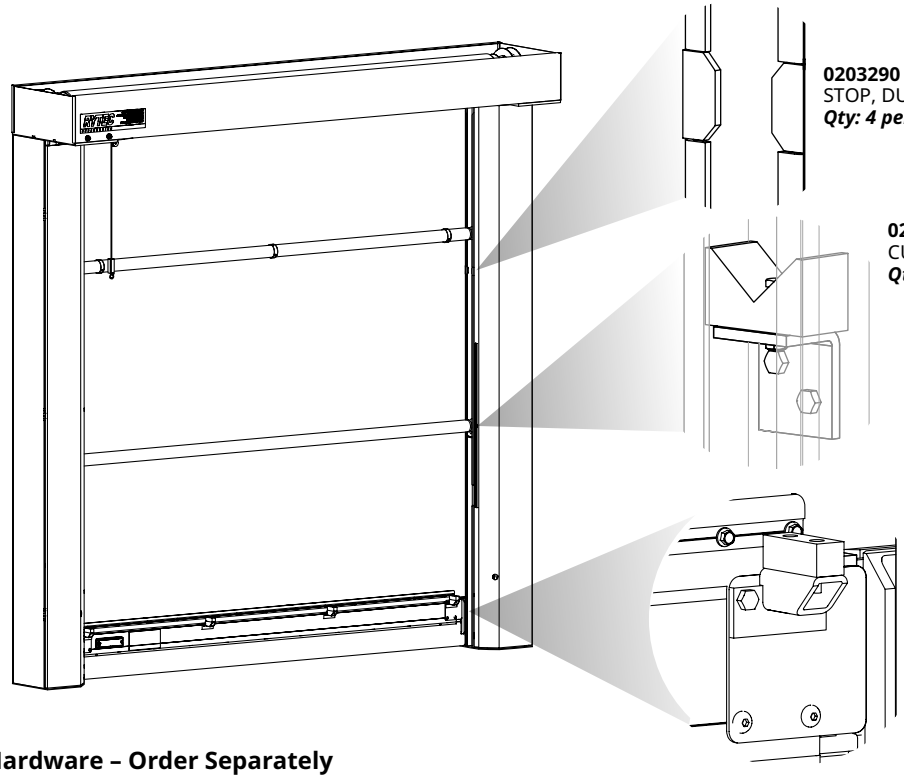
02991980
WINDBAR ASSEMBLY, STRAPLESS, 14"SC, UPPER
0299098
WINDBAR ASSEMBLY, STRAPLESS, 17"SC, UPPER

02991981
WINDBAR ASSY STRAPLESS, 14" LOWER OR SINGLE
0299097
WINDBAR ASSY,STRAPLESS, 17"SC,LOWER AND SINGLE

0299217
ASSEMBLY, UPPER/SINGLE WINDBAR, 17" HD

0299218
ASSEMBLY, LOWER WINDBAR, 17" HD





0203290
STOP, DUAL STRAPLESS WINDBAR
Qty: 4 per upper windbar

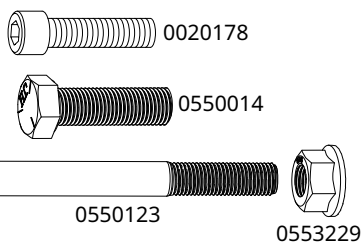
02992164
CUSHION ASSY., WINDBAR STOP
Qty: 2 per lower windbar
0213361
CUSHION, STRAPLESS WINDBAR
Hardware listed below
0203411
BRACKET, STRAPLESS WINDBAR GUIDE
Hardware listed below

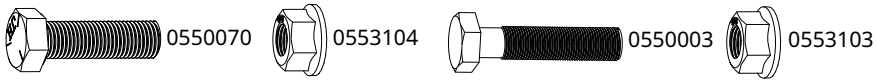
02992077
BUMPER BRACKET ASSY
Qty: 4 per side
1020769-0
RUBBER CUSHION, STRAPLESS WINDBAR
Hardware listed below
1020771-0
WELDMENT, STRAPLESS WINDBAR PICK-UP BRKT
Hardware listed below

0202718
STOP, NON BREAKAWAY END BRACKET
Qty: 4

Hardware – Order Separately

Part Number	Hardware	Description	Qty
0203411	0550070	HHCS, 5/16-18 x 1, STL ZN	2
	0553104	HLNSF, 5/16-18, STL ZN	2
0213361	0550003	SCREW, 1/4-20UNC X 1 1/4LG, HEX HD	1
	0553103	NUT,1/4-20,HEX,FLNG,LOCK,ZN	1
1020769-0	0021078	SHCS, 1/4-20UNC X 1, AY	2
1020771-0 *(ends)*	0550014	HHCS, 3/8-16UNC x 1-1/4	2
1020771-0 *(middle)*	0550123	HHCS, 3/8-16UNC X 3 1/4" LG GR5 ZN	2
	0553229	HLNSF, 3/8-16, STL ZN	2

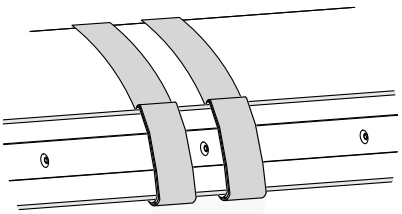




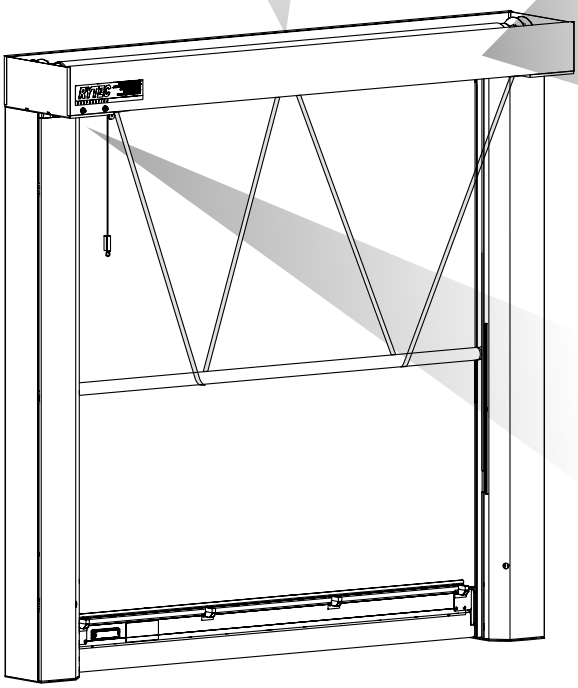
Strapped Windbars (Optional)

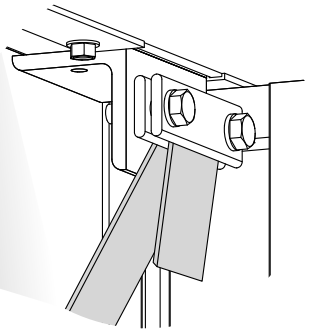
02991295
WINDBAR ASSEMBLY,
STRAPPED, 14"SC
02991296
WINDBAR ASSEMBLY,
STRAPPED, 17"SC

02992177
ASSEMBLY,
WINDBAR, 4.5" DIA. 17" HD

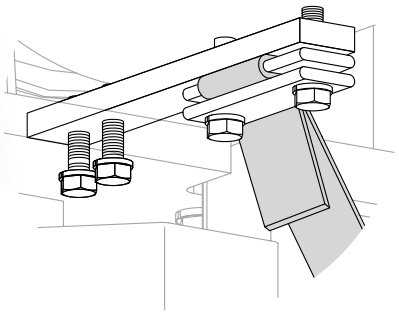


0007089-0X
STRAP 1.5" BLACK WINDBAR
Qty: 2 per strap
0007138
VELCRO, LOOP, 1.5" ADHESIVE BACK
Qty: 2





0203280
BRACKET, REAR WINDBAR,
ANGLE
Qty: 2
Welded in place
0203280
CLAMP, TENSION STRAP
Qty: 4
Hardware listed below



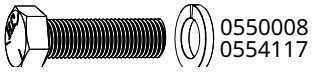
0203279
BRACKET, WINDBAR
STRAP W\TAP HOLES
Qty: 2
Hardware listed below
0203280
CLAMP, TENSION STRAP
Qty: 4
Hardware listed below

Heavy duty doors

02992165
WINDBAR STRAP BRACKET
ASSY., FRONT
Qty: 2
0203279
BRACKET, WINDBAR STRAP
W\TAP HOLES
Hardware listed below
0203280
CLAMP, TENSION STRAP
Qty: 2
Hardware listed below

Hardware – Order Separately

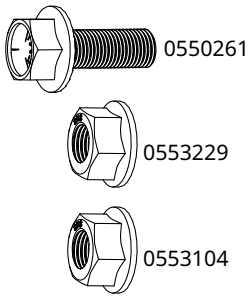
Part Number	Hardware	Description	Qty
0203279,	0550008	HHCS, 5/16-18 x 1-1/4, GR5 ZN	2
0203280	0554117	WSR, 5/16, STL ZN	2

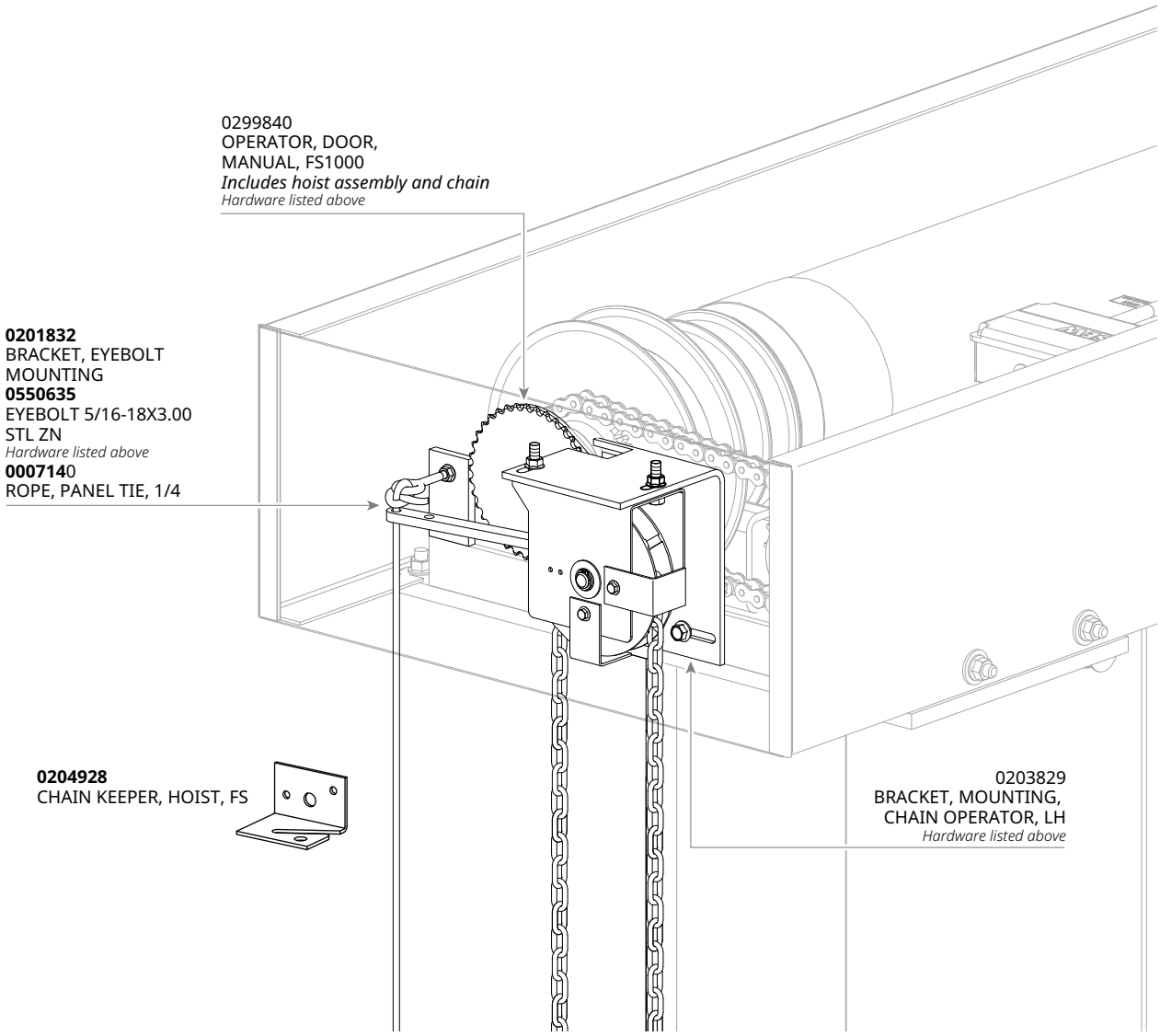


Chain Hoist (Optional)

Hardware – Order Separately

Part Number	Hardware	Description	Qty
0203829	0550261	HFSMS, 3/8-16 x 1-1/4, GR5 ZN	2
	0553229	HLNSF, 3/8-16, STL ZN	2
0299840	0550261	HFSMS, 3/8-16 x 1-1/4, GR5 ZN	2
	0553104	HLNSF, 5/16-18, STL ZN	2
0550635	0553104	HLNSF, 5/16-18, STL ZN	2





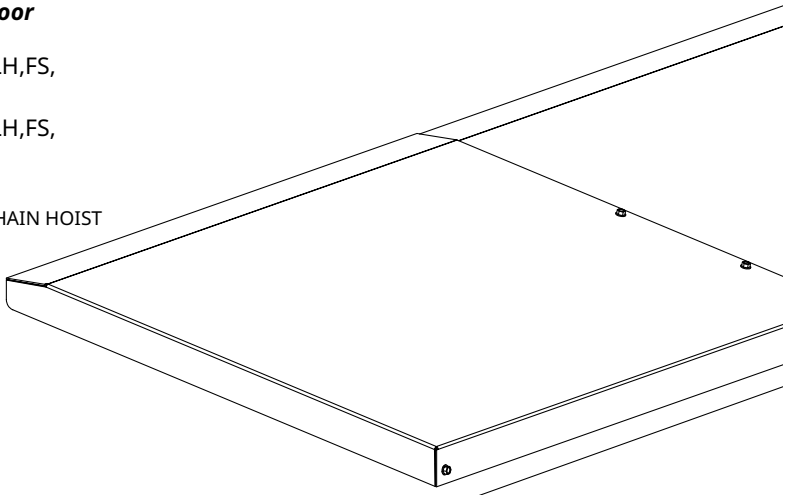
Chain Hoist (Optional)

These parts and assemblies have part number variations when an optional chain hoist is included with the door

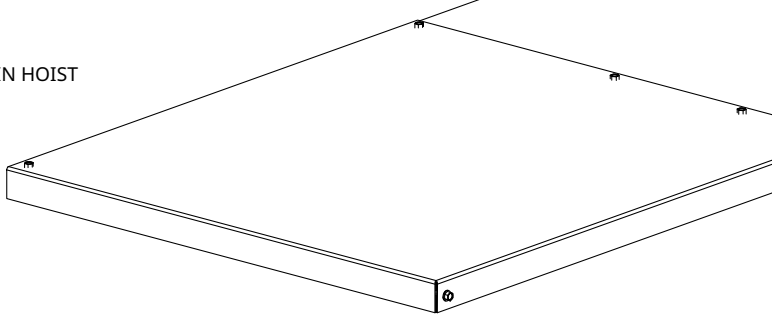
1020248-1X ASSY,HEAD,WIRELESS,14"SC,LH,FS, CHAIN HOIST,SLANT HOOD

1020247-1X ASSY,HEAD,WIRELESS,14"SC,LH,FS, CHAIN HOIST,FLAT/NO HOOD

02992629 ASSY, SLANT HOOD, 14" SC, CHAIN HOIST
- **02021340** HOOD, SLANT, LH, 14" SC & CHAIN HOIST
- **02021436** HOOD, SLANT, CENTER, 14" SC CHAIN HOIST
  Configured part: requires door serial number to order
- **02021342** HOOD, SLANT, RH, 14" SC



0299257 ASSEMBLY, FLAT HOOD,14" SC CHAIN HOIST
- **02021429** COVER, FLAT HOOD, LEFT, 14"SC & CHAIN HOIST
- **02021433** COVER, FLAT HOOD, CENTER, 14"SC CHAINHOIST
  Configured part: requires door serial number to order
- **02021430** COVER, FLAT HOOD, RIGHT, 14"SC AND CHAIN HOIST

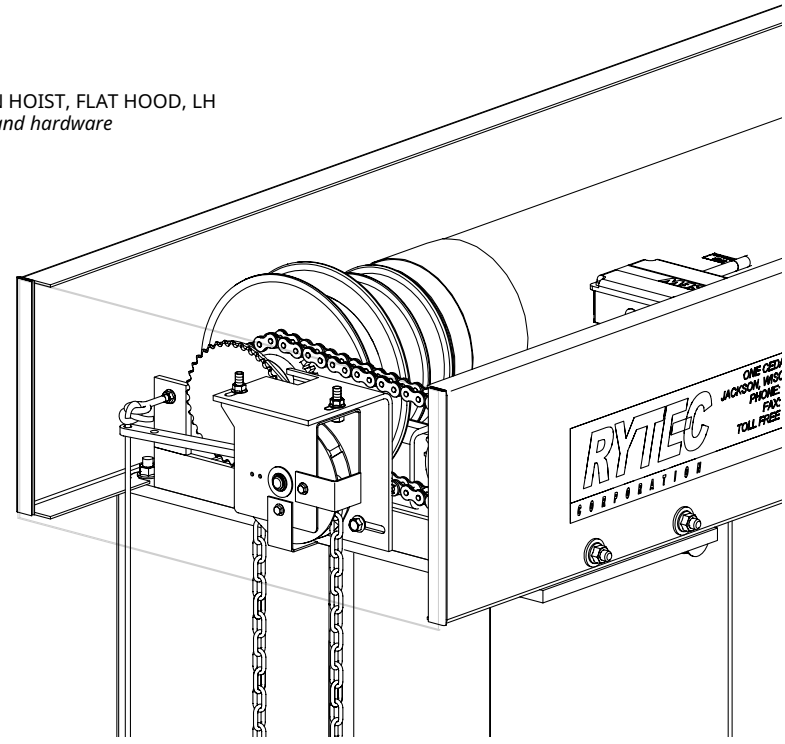


All parts below are configured parts, and require door serial number to order

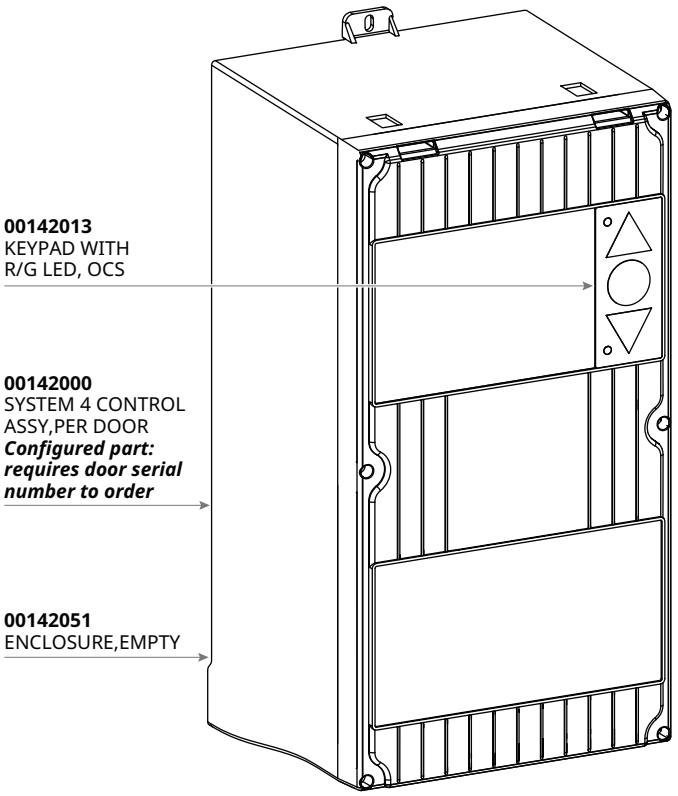
1020074-1X HEAD WELDT, 14" SC, WIRELESS, CHAIN HOIST, SLANT HOOD, LH
Includes front and rear spreader, top plates, brackets and hardware
- **02021405** SPREADER, 14" SC, LH, FRONT, 11 GA, CHAIN HOIST
- **02021045** SPREADER, 14"SC, LH, REAR, 11 GA, SLANT HOOD, CHAIN HOIST

1020072-1Z HEAD WELDT, 14" SC, WIRELESS, CHAIN HOIST, FLAT HOOD, LH
Includes front and rear spreader, top plates, brackets and hardware
- **02021405** SPREADER, 14" SC, LH, FRONT, 11 GA, CHAIN HOIST
- **02021039** SPREADER, 14"SC, LH, REAR, 11GA, FLAT/NO HOOD, CHAIN HOIST

1020237-1X
ASSY,DRUM,PANEL,BB,WIRELESS, 14"SC,LH,CHAIN HOIST
Includes drum assembly, door panel, bottom bar, chain host
- **02992600**
  ASSEMBLY, DRUM, 14"SC, CHAIN HOIST
  Includes drum drum, spools, bearings, collars, sprocket
  - **02992601**
    WELDMENT, DRUM, 14"SC, CHAIN HOIST



System 4® Controller, Expansion Boards and Accessories



00142013
KEYPAD WITH
R/G LED, OCS

00142000
SYSTEM 4 CONTROL
ASSY,PER DOOR
Configured part: requires door serial number to order

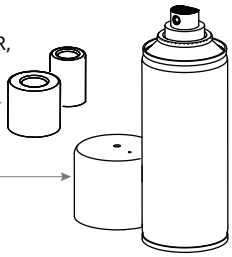
00142051
ENCLOSURE,EMPTY

00142020 USB DRIVE

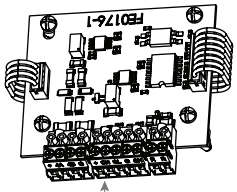
00142015 BATTERY,BUTTON
CELL,CR2032,3V LITHIUM

00112023 MAGNETIC FILTER,
14.2 MM FERRITE CORE
Qty: *3*

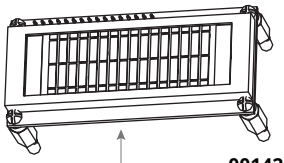
00112001 MAGNETIC FILTER,
26 MM FERRITE CORE
Qty: *2*



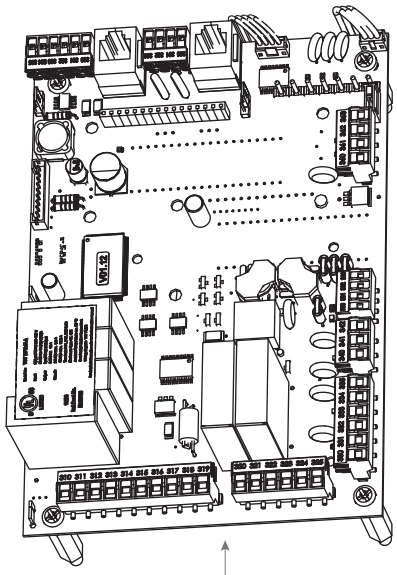
0016281
AEROSOL PAINT GRAY



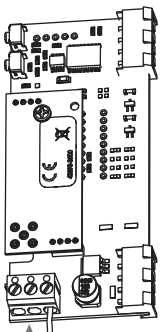
00142225 EXTENSION
BOARD,COMMUNICATION

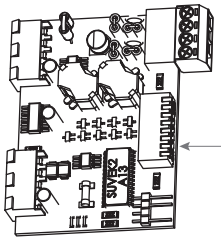


00142008
DISPLAY ONLY, SYS4



00142014 EXPANSION CARD
WITH I/O & 2 CH LOOP





00122000 LOOP DETECTOR
MODULE, 2 CHANNEL, SYS4

00121045 RC RECEIVER,
24VDC AM, 2 CHANNEL

FAST-SEAL® (MODEL FS1000) 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 **Fast Seal® Models FS1000 & FS1500** ("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 **Two (2) Years** from the date of shipment of the Product from the Seller's plant ("Shipment").
- **Electrical components** for a period of **Two (2) Years** from Shipment.
- **Motor** for a period of **Five (5) Years** from Shipment.
- **Standard door panels,** including **Standard 3-ply Rylon™,** for **Five (5) Years** from Shipment.
- **Standard door panels,** including **Standard 2-ply Rylon™**, for **Three (3) Years** from Shipment.
- **Optional door panels,** including **Optional Screen,** for a period of **One (1) Year** from shipment.
- **Counterweights** for the **lifetime** of the door.
- **Coil Cord, Counterweight Guides, Counterweight Straps, Side Column Brush/Vinyl Seal, Vinyl Loop Seal, Vision Windows, Wireless Mobile Unit Battery, Tension straps, and Windbar Straps,** are considered wear items and are not covered under this Limited Warranty.
- **Aftermarket parts, accessories, and assemblies** for a period of **Ninety (90) Days** from the date of Shipment.

Remedies

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

Labor

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

Claims

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

Original Buyer

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

Not Warranted

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

DISCLAIMERS

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

LIMITATION OF LIABILITY

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

Product Descriptions

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

Limited Warranty Void

This Limited Warranty shall be void in its entirety if:

(a) The Product is modified in a manner not approved in writing by Seller; or

(b) Buyer fails to maintain the Product in accordance with instructions contained in the Owner's Manual for the Product.

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Owner's Manual

Fast-Seal® (Model FS1000) Doors

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