

Owner's Manual

Spiral® LH® 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.





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

Any unauthorized changes 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.

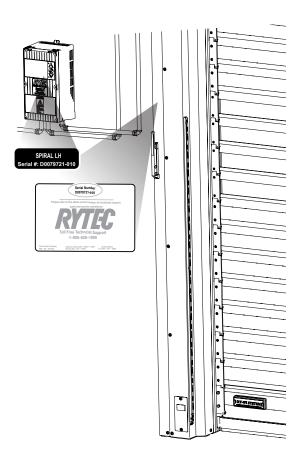
A set of wiring schematics is provided with each individual door specifically covering the control panel and electrical components of that door. The schematics for a door are shipped inside the box that holds the System 4® controller.

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.

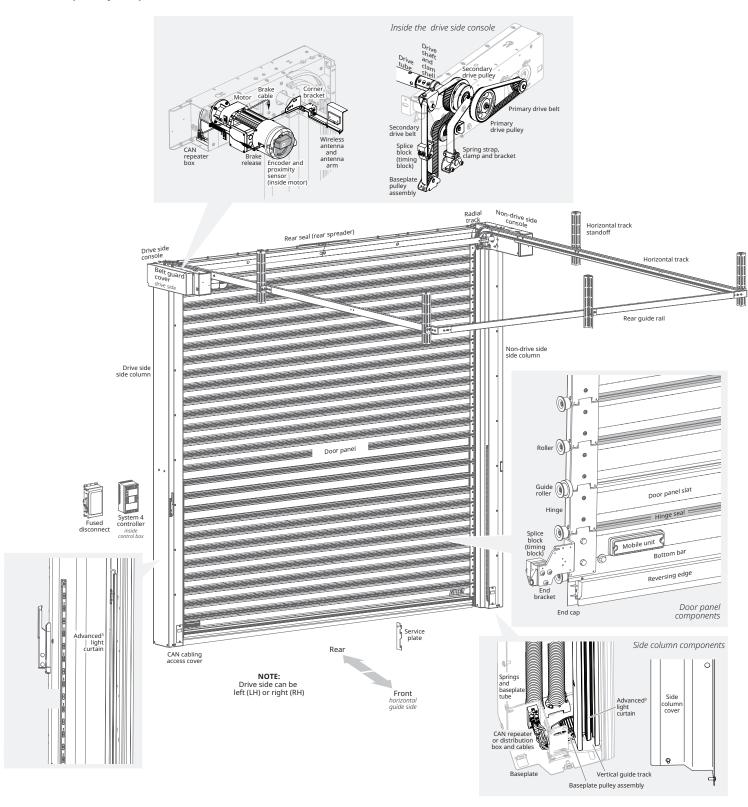
The easiest labels to locate are at roughly eye level on the left side side column of the door and at the bottom of the display on the controller.





Rytec naming conventions

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





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.



A CAUTION

Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Notice is used to address practices not related to physical injury but which, if not followed, can result in damage to the door or other property.

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.

Object Detection and Alerting Systems

The standard Spiral LH installation includes both required and optional safety features, which are located in and around the side columns of the door and, as an option, in the bottom bar.

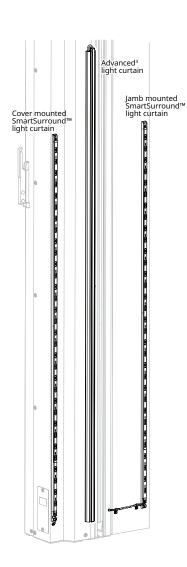
The **SmartSurround™** and **Advanced³** light curtains provide three detection planes across the door opening that reverse the closing door, or hold the door open, when an obstruction is detected in the door opening. The light curtains extend from the floor to a height of five to seven feet, depending on the configuration of the door.

The **SmartSurround**™ **light curtains** also act as intelligent alerts, with a bright LED display that indicates the status of the door:

- While the door opens or closes: a repeating cascade of lights moving up or down until the door stops.
- Before the door closes: slow blinking lights to indicate a close at normal speed, fast blinking lights to indicate a close at "creep" speed, that match the timing of the Delay to Close timer.
- If an obstruction is detected: rapidly blinking lights until the obstruction is cleared.
- If, while the door is opening or closing, it is stopped before it reaches the fully open or fully closed position: a solid red display until the door is restarted.

The **reversing edge** is located at the bottom of the bottom bar, and reverses the door if it makes contact with an obstruction while the door is closing. This object detection system is optional on doors with the **SmartSurround**^{TM} feature.

Your installation may also include other optional safety devices.



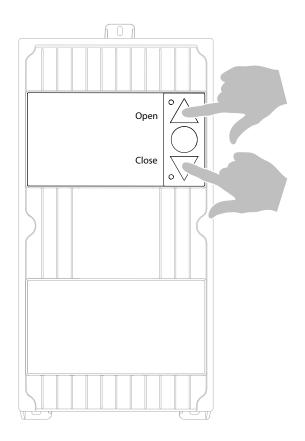


How to open and close the door using the System 4 controller

The System 4 controller should be installed within sight of the Spiral LH door.

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

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

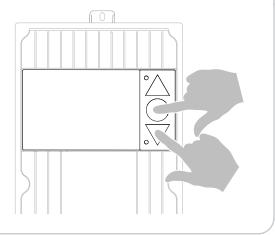


How to hold the door open normal use

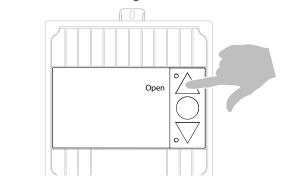
NOTICE

Do not use a safety feature or activator, such as a light curtain or motion detector, to hold the door open.

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



Press the UP arrow to set the door to the desired height.

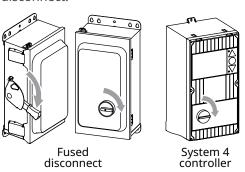




How to hold the door open to service

Press the UP arrow to open the door.

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



Perform a lockout/tagout.



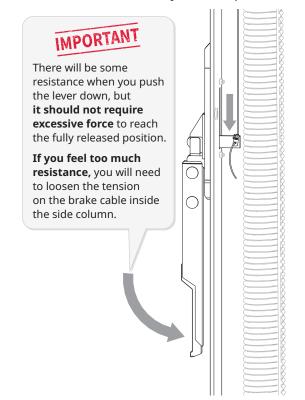
A CAUTION



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

How to manually open and close the door

Pull down the brake release lever until the lever is in the fully released position.



You can now raise and lower the door panel by hand.



- Place a vise grips or c-clamp in both vertical tracks under the bottom bar rollers to hold the door in place.
- The springs in the side columns will prevent the door panel from reaching the fully closed position.
- Release vise grips or clamps and push up the brake release lever when you are done to re-engage the brake and allow the door panel to raise and lower automatically.



Recommended inspection and maintenance schedule

Action	Daily	Quarterly
Inspect visually for damage		
Test door operation		
Test reversing edge		
Test photo eyes or light curtains		
Clean vision panels		
Visually inspect controller, cabling and conduit		
Inspect hardware; tighten where necessary		
Visually inspect side columns and anchoring		
Visually inspect all components in head assembly		
Inspect the primary drive belt		
Inspect the secondary drive belt		
Visually inspect all spreaders and seals		
Inspect seals on both sides of door track		
Inspect the springs, spring strap and brackets in both side columns		
Visually inspect the wireless antenna and wire		
Visually inspect the door panel		
Inspect the full length of the reversing edge		
Check open and close limit; adjust if necessary		
Test brake release and inspect brake release cable		

NOTICE

This door does not require lubrication.

- The gearbox used with this door is a sealed unit. **DO NOT** attempt to lubricate.
- DO NOT lubricate any parts, components, or assemblies of this door. This includes the door panel rollers, guides and track. Lubricants will attract dust and dirt, which can cause the door panel to bind.

MAINTENANCE



Daily maintenance

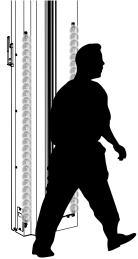
These steps should be followed every day.

NOTICE

!IMPORTANT! Immediately turn off the door and perform a lockout/tagout if any of the daily checks reveals that the door is not operating properly.

- **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.
- 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.

- Make sure the SmartSurround™ operates correctly as the door opens and closes:
 - An upward cascade of red lights while the door opens.
 - A sequence of blinking yellow lights matching the delay to close timer before the door starts to close.
 - A downward cascade of red lights while the door closes.
- **Inspect** the side columns and head assembly for signs of damage or signs of excessive wear.
- Inspect the door panels, reversing edge and rollers for damage or signs of excessive wear.
- Test the SmartSurround™ system:
 - Make sure the light curtains flash rapidly whenever either of the planes are broken.
 - If one plane is broken but the other is not, the light curtains should reverse/ hold the door, then the door should count down and descend at creep speed.



 If all planes are broken, the light curtains should reverse/hold the door, then the door should count down and descend at normal speed.

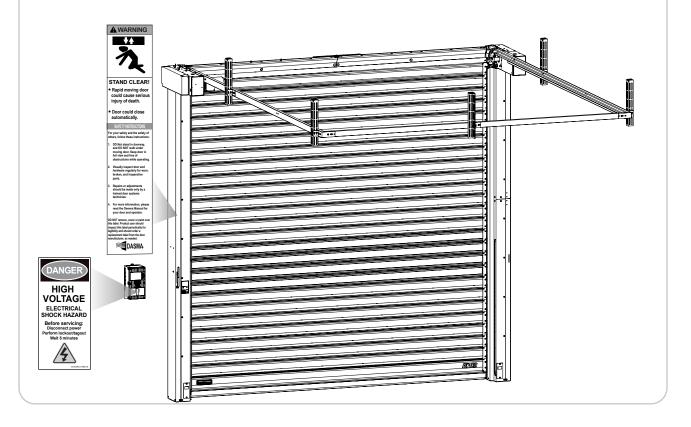


How to inspect the safety labels

There are three safety labels on this door: a DASMA label on the side column (depending on the configuration of the door, this can be the left side column or the right side column), a shock warning on the front of the System 4 control box, and a shock warning with instructions for manually moving the door on the bottom of the motor, next to the brake release lever.

Make sure all three labels have no rips or tears, that they can be clearly seen, and that all text is readable.

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





How to clean the door

NOTICE

!IMPORTANT! Do not use bleach, industrial grade cleaners, abrasive cleaners or petroleum-based solvents on Rytec doors.

NOTICE

Rytec doors are self-lubricating. Do not lubricate the drive track or door panel. Grease and lubricating oil can attract dirt and grime, which may prevent the door from operating correctly.

NOTICE

Clean the light curtains with a damp cloth soaked in water only. Do not get cleaners of any kind on the light curtain lenses.

Rain-X® 620036 Plastic Water Repellent is approved for light curtains.

General cleaning of the door

Clean side columns with a mix of household cleaner and water. Isopropyl alcohol can be used on hard-to-clean areas.

Cleaning solid door panels

Clean solid door panels with a mix of household cleaner and water. Isopropyl alcohol can be used on hard-to-clean areas.

Cleaning full vision panels

Full vision panels should be inspected on a daily basis for dirt, grease, scratches and abrasions. Cleaning must be done when anything else that diminishes panel clarity is observed.

<u>(İ</u>

MARNING

The fused disconnect must be in the OFF position and a lockout/tagout performed before performing the following procedure

General cleaning

- 1. Rinse with flowing water.
- **2.** Clean with warm water and small amount of mild non-abrasive soap (dish soap).
- **3.** Lightly rinse vision panels using a water spray.
- **4.** Remove excess water using a clean and dry microfiber of lint free cloth.
- **5.** Use a small squeegee to completely dry all panels.
- **6.** Wipe any additional moisture with dry microfiber or lint free cloth.

Heavy cleaning and fine scratch removal

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

NOTE: The product must be non-abrasive and designed specifically for polycarbonate windows. Avoid the use of abrasive cleaners, squeegees and/or other cleaning implements that may mar or gouge the coating.



For full vision panels with Lexan™ windows, use these cleaning agents

Aqueous solution one of these detergents:

- Top Job
- Mr. Clean
- Joy
- Formula 409
- Fantastik

Organic solvents:

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

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

Alcohols:

- Methanol
- Isopropyl

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

Graffiti removal

- Butyl Cellosolve (for removal of paints, marking pen inks, lipstick, etc.). The use of masking tape, adhesive tape or lint removal tools works well for lifting off old weathered paints.
- To remove labels, stickers, etc., the use of kerosene or VM&P naphtha are generally effective.
- When the solvent will not penetrate sticker material, apply heat (hair dryer) to soften the adhesive and promote removal.

Cleaning and scratch removal using NOVUS #1, #2, and #3

NOVUS #1 Plastic Clean and Shine

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

 If the surface is extremely dirty, apply

 NOVUS #1 liberally and wipe using long,

 sweeping strokes. Do not use pressure at this
 time or large dirt particles may scratch the

 Lexan™.
- **4.** Buff with a clean, soft, lint-free cloth.
- **5.** Re-apply NOVUS #1 Polish using short, circular strokes with a clean portion of the cloth.
- **6.** When the surface is thoroughly clean and uniformly covered, buff to a slippery glaze with a clean portion of the cloth. Surfaces buffed to a high glaze are more resistant to dust and future scratching.

NOTE: Reapply NOVUS #1 regularly to maintain the antistatic, smudge and scratch resistant properties.



NOVUS #2 Fine Scratch Remover

Observe condition of the surface to be treated. The deeper the scratches, the greater the pressure required to remove them. If the surface is dirty, clean with NOVUS #1 first.

- **1.** Shake well. Test in an inconspicuous area.
- **2.** Remove surface dust with clean, soft cloth.
- **3.** Apply polish in circular motion until dry. Apply NOVUS #2 liberally. Using a clean, soft cloth, polish with a firm backand-forth motion at right angles to the scratches. Keep the cloth saturated with polish at all times.
- 4. Buff with a clean cloth.
- **5.** When the worst scratches have been polished out, reapply NOVUS #2 uniformly in a circular motion to the entire surface using short, circular strokes and light pressure. Allow to dry to a light haze.
- **6.** Using a clean portion of the cloth, buff the surface to a slippery glaze using firm, short strokes. This procedure is imperative in achieving the best results.

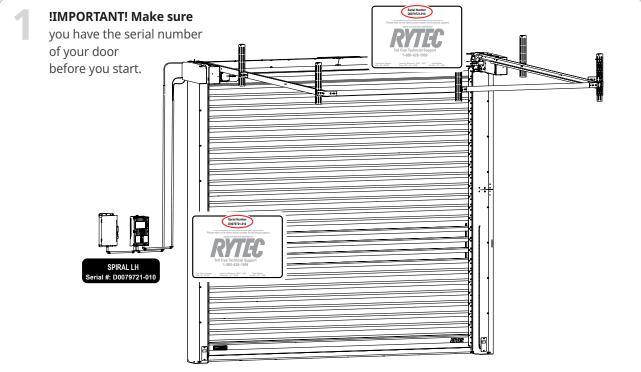
NOTE: For heavy scratches, multiple applications of NOVUS #2 or application of NOVUS #3 may be required. Follow with NOVUS #1 for best results.

NOVUS #3 Heavy Scratch Remover

- **1.** Shake well. Test in an inconspicuous area.
- **2.** Remove surface dust with a clean, soft cloth.
- 3. Using a clean, soft cloth, apply NOVUS #3 with firm back and forth strokes at right angle to visible scratches. Apply NOVUS #3 liberally. Using a clean, soft cloth, polish with a firm back-andforth motion at right angles to the scratches. Keep the cloth saturated with polish at all times.
- **4.** Continue polishing until only the fine scratches remain.
- **5. !IMPORTANT!** Using a cloth, remove all of the remaining polish.



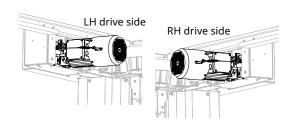
How to order parts



Check next to the drive track inside 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.

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



- **Use** the parts lists on the following pages to find the part numbers and descriptions for the parts you need.
 - Call your local Rytec representative or Rytec technical support at 800-628-1909. Enter #1 for technical support, #2 for the parts department.



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.
- Some parts are available for next-day shipping.



How to return unwanted parts

For returns covered by warranty, call Rytec technical support at **800-628-1909 Ext. 1** for authorization.

For returns NOT covered by warranty (physical returns), call the Rytec parts department at **800-628-1909 Ext. 2** for authorization. Requests for quotes, or part orders, should also be e-mailed to **PARTS@RYTECDOORS.COM.**

- Your call will be redirected if necessary to put you in touch with the correct department.
- There may be a **restock fee** for the returned part.
- **Electrical parts which have been energized,** such as the System 4® controller, the brake assembly, the mobile unit, the light curtains or third party activators, cannot be returned.
- Also, there are restrictions on returns for configured parts that were built to match the specifications of your door.

Warranty return

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

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

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

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.



Side Column Assemblies all doors

1072384-1X ASSY,SC,SSN-L,LH **1072385-1X** ASSY,SC,SSN-S,LH **1072390-1X** ASSY,SC,STN-L,LH 1072391-1X ASSY,SC,STN-S,LH

Includes column, one piece (shown) or spliced, cover, one piece (shown) or spliced, seal, baseplate and CAN brackets (see page 19), vertical track (see page 25), brake release (see page 37),

CAN cabling (see page 42). Configured part: requires door serial number to order

light curtains (see page 41), BTA4 option

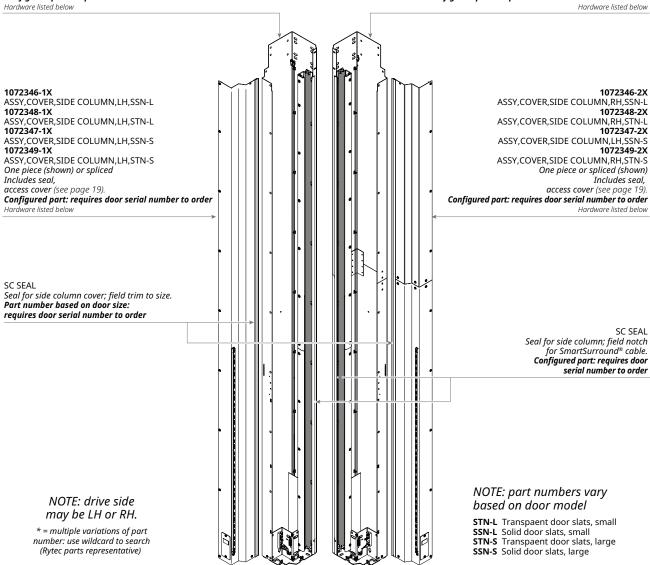
Side column variations based on: drive side, prewire option, SmartSurround™ (LGCA) option, BTA4 option

Side column cover variations based on: SmartSurround™ (LGCA) option,

1072384-2X ASSY,SC,SSN-L,RH 1072385-2X ASSY,SC,SSN-S,RH 1072390-2X ASSY,SC,STN-L,RH 1072391-2X ASSY,SC,STN-S,RH

Includes column, one piece (shown) or spliced, cover, one piece (shown) or spliced, seal, baseplate and CAN brackets (see page 19), vertical track (see page 25), brake release (see page 37), light curtains (see page 41),

CAN cabling (see page 42). Configured part: requires door serial number to order



Hardware - Order Separately

PN/Description	Hardware	Description	Qty
ASSY,SC,2-PC*	5550289-0Z04	BLIND RIVET FLUSH HEAD 0.19OD 0.33GP SS	16
ASSY,COVER*	01900820	BSCSF,M8-1.25 X 16,T40,ZN	V
ASSY,COVER,2-PC*	5550289-0Z04	BLIND RIVET FLUSH HEAD 0.19OD 0.33GP SS	16





5550289-0Z04 01900820

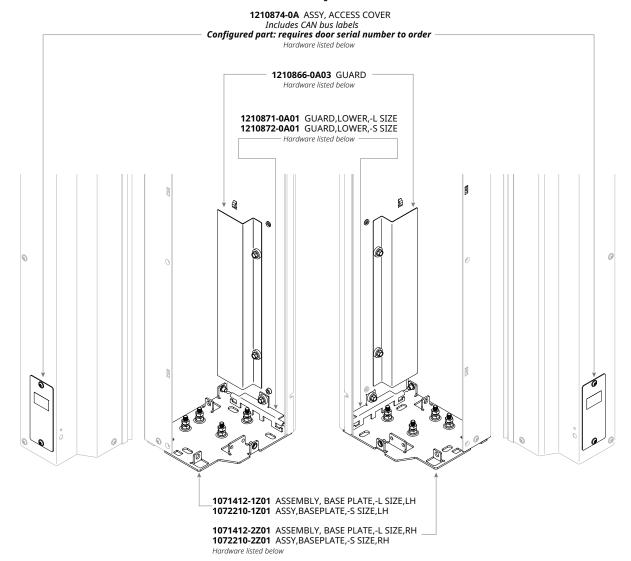
v = varies based on height of door



1210738-0 DOME PLUG. 0.50 DIA HOLE. 0.25 MAX WALL, NYLON, BLK



Side Column Assemblies - Baseplate Area all doors

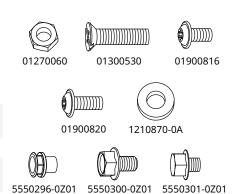


NOTE: part numbers vary based on door model

STN-L Transpaent door slats, small SSN-L Solid door slats, small STN-S Transpaent door slats, large SSN-S Solid door slats, large

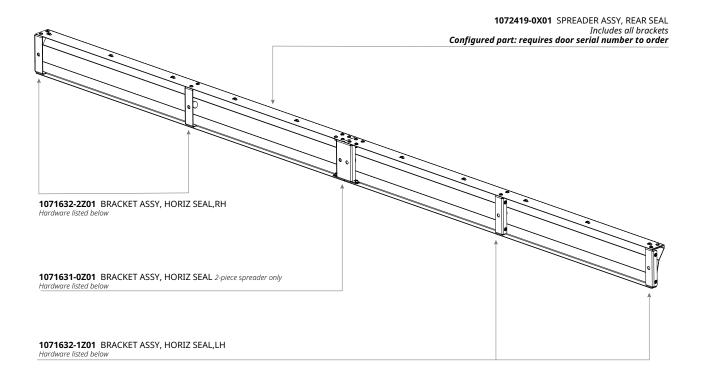
Hardware - Order Separately

PN/Description	Hardware	Description	Qty
BASEPLATE	5550301-0Z01	HFSMS,M8-1.25X8 CL10.9 ZN	1
	5550296-0Z01	RIV-NUT, M8-1.25, AHS4T-8125-7.9	3
	01300530	SCREW, M10 X 30, DIN 963-4.8	2
	01270060	NUT, M10 HEX, DIN 934-8 ZN	4
	01900820	BSCSF,M8-1.25 X 20,T40,ZN	3
1210866	5550300-0Z01	HFSMS, M8-1.25X12 CL10.9 ZN	2
	1210870-0A	SPACER,ROUND	2
1210868	01900816	BSCSF,M8-1.25 X 16,T40,ZN	2
1210871/72	5550300-0Z01	HFSMS, M8-1.25X12 CL10.9 ZN	1
	1210870-0A	SPACER,ROUND	1





Spreader Assembly all doors



Hardware - Order Separately

Part Number	Hardware	Description	Qty
1071631-0Z01	01900816	BSCSF,M8-1.25 X 16,T40,ZN	12
	5550295-0Z01	RIV-NUT, M8-1.25, AHS4T-8125-3.8	12
1071632-1Z01	01900816	BSCSF,M8-1.25 X 16,T40,ZN	3
	5550295-0Z01	RIV-NUT, M8-1.25, AHS4T-8125-3.8	5
1071632-2Z01	01900816	BSCSF,M8-1.25 X 16,T40,ZN	3
	5550295-0Z01	RIV-NUT, M8-1.25, AHS4T-8125-3.8	5





01900816 5550295-0Z01



Consoles -L size doors

All consoles

COVER,CONSOLE,BTTM,NON-DRIVE,SSN-L (not shown)
Hardware listed below

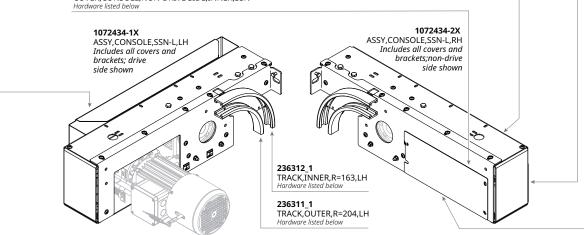
1072444-0A01

1071808-0Z01 COVER,CONSOLE,NON-DRIVE SIDE,SSN (not shown) Hardware listed belov

COVER,INSERT,SSN-L Hardware listed below

1071809-0Z01

COVER, CONSOLE, NON-DRIVE SIDE, INNER, SSN Hardware listed belo



LH consoles only 236318Z4 BELT GUARD,SSN,LH

All parts are configured parts: require door serial number to order

RH consoles only

236318RZ4 BELT GUARD.SSN.RH

CONSOLE,OUTER,INSERT,LH,DRIVE SIDE,SSN-L Hardware listed below 1071729-2Z01 CONSOLE,OUTER,INSERT,RH,DRIVE SIDE,SSN-L 01260274 Hardware listed below THHCS,M8X20, DIN 933 - 8.8 ZN 236850-2RZ1 236850-1Z4 CONSOLE,INNER,SPIRAL,RH,RH DRIVE CONSOLE, INNER, SPIRAL, LH, LH DRV 236850-2RZ4 œ 236850-1RZ1 CONSOLE,INNER,SPIRAL,LH,RH DRV CONSOLE,INNER,SPIRAL,RH,LH DRIVE 236312_2 TRACK,INNER,R=163,RH Hardware listed below 236311 2 TRACK,OUTER,R=204,RH 1072434-2X 1072434-1X Hardware listed below ASSY,CONSOLE,SSN-L,RH ASSY,CONSOLE,SSN-L,LH Includes all covers and brackets; Includes all covers and bracets;

Hardware -	- Order	[·] Separately
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non-drive side shown

Part Number Consoles	Hardware 01260320 01800080	Description HHCS, M10 X 25, DIN 933.8-8 ZN WASHER,10.5MM,DIN 9021A ZN	Qty 2 2
1071729-X	5550295-0Z01	RIV-NUT, M8-1.25, AHS4T-8125-3.8	12
1071808-0Z01	01900820	BSCSF,M8-1.25 X 16,T40,ZN	4
1071809-0Z01	01900820 01901508	BSCSF,M8-1.25 X 16,T40,ZN NUT, M8 FLANGED	2
1071813-0Z01	01900820	BSCSF,M8-1.25 X 16,T40,ZN	3
1072444-0A01	01900820	BSCSF,M8-1.25 X 16,T40,ZN	3
236311_X, 236312_X	01260110	HHCS,M6-1.0X14,DIN 933-8.8 ZN	2
236318X	01900820	BSCSF,M8-1.25 X 16,T40,ZN	3
236850-XZ4	01260274 01900820 5550295-0Z01	HHCS,M8X20,DIN 933 - 8.8 ZN BSCSF,M8-1.25 X 16,T40,ZN RIV-NUT, M8-1.25, AHS4T-8125-3.8	1 7 2





drive side shown

01260320 01800080





01900820 5550295-0Z01







01260110

01260274

01901508



Consoles -S size doors

COVER,CONSOLE,BTTM,NON-DRIVE,SSN-S (not shown) All consoles 1072446-0A01 1071808-0Z01 COVER,INSERT,SSN-S COVER, CONSOLE, NON-DRIVE SIDE, SSN (not shown) Hardware listed below COVER,CONSOLE,NON-DRIVE SIDE,INNER,SSN 1072435-2X 1072435-1X ASSY,CONSOLE,SSN-S,LH ASSY,CONSOLE,SSN-S,RH Includes all covers and Includes all covers and brackets; non-drive brackets; drive side shown side shown 9 Ø 0 ó 236312 1 TRACK,ĪNNER,R=163,LH Hardware listed belov 236311 1 TRACK,OUTER,R=204,LH Hardware listed bel-LH consoles only All parts are configured parts: RH consoles only 236318Z4 require door serial number to order BELT GUARD, SSN, LH 236318RZ4 BELT GUARD, SSN, RH 1071748-1Z01 CONSOLE,OUTER,PRESS INSERT,LH,DRIVE SIDE,SSN-S 1071749-2Z01 CONSOLE, OUTER, INSERT, RH, DRIVE SIDE, SSN-S 01260274 236850-1Z4 CONSOLE.INNER.SPIRAL.LH.LH DRV THHCS M8X20 DIN 933 - 8.8 ZN 236850-2R71 CONSOLE,INNER,SPIRAL,LH,RH DRV Hardware listed below CONSOLE,INNER,SPIRAL,RH,RH DRIVE 236850-2RZ4 CONSOLE,INNER,SPIRAL,RH,LH DRIVE 8 **(2**) ó 236312 2 TRACK,INNER,R=163,RH 1072435-1X Hardware listed below **1072435-2X** ASSY,CONSOLE, ASSY, CONSOLE, **236311_2** TRACK,OUTER,R=204,RH SSN-S.LH SSN-S,RH Includes all covers Includes all covers and brackets; non-drive and bracets; drive side shown side shown **Hardware - Order Separately Part Number** Qty Hardware Description Consoles 01260320 HHCS, M10 X 25, DIN 933.8-8 ZN 01800080 WASHER,10.5MM,DIN 9021A ZN 2 1071747-X,1071749-S 5550295-0Z01 RIV-NUT, M8-1.25, AHS4T-8125-3.8 12 01260320 01800080 1071808-0Z01 01900820 BSCSF, M8-1.25 X 16, T40, ZN 4 1071809-0Z01 01900820 BSCSF,M8-1.25 X 16,T40,ZN 2 01901508 NUT, M8 FLANGED 2 1071736-0Z01 01900820 3 BSCSF.M8-1.25 X 16.T40.ZN 01900820 5550295-0Z01 BSCSF,M8-1.25 X 16,T40,ZN 3 1072446-0A01 01900820 236311_X, 236312_X 01260110 HHCS,M6-1.0X14,DIN 933-8.8 ZN 2 236318X BSCSF,M8-1.25 X 16,T40,ZN 01900820 3 236850-X74

1071736-0Z01

01260274

01900820

5550295-0Z01

HHCS, M8X20, DIN 933 - 8.8 ZN

RIV-NUT, M8-1.25, AHS4T-8125-3.8

BSCSF,M8-1.25 X 16,T40,ZN

01260110

7

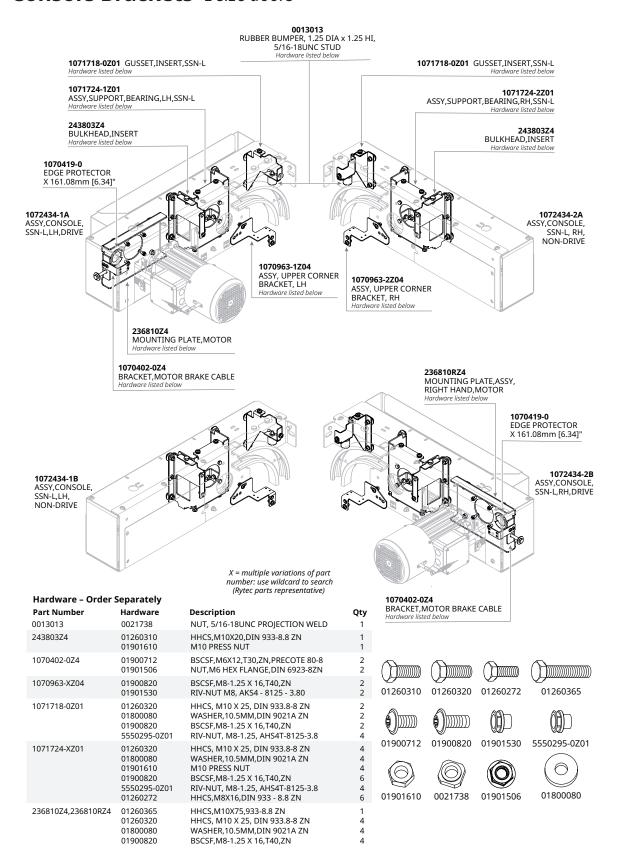
2

01260274

01901508

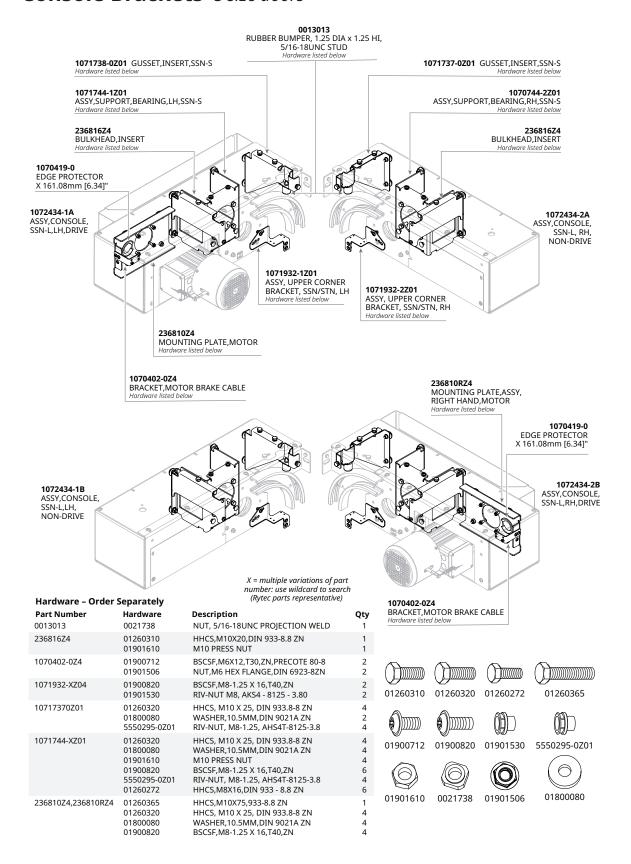


Console Brackets - L size doors



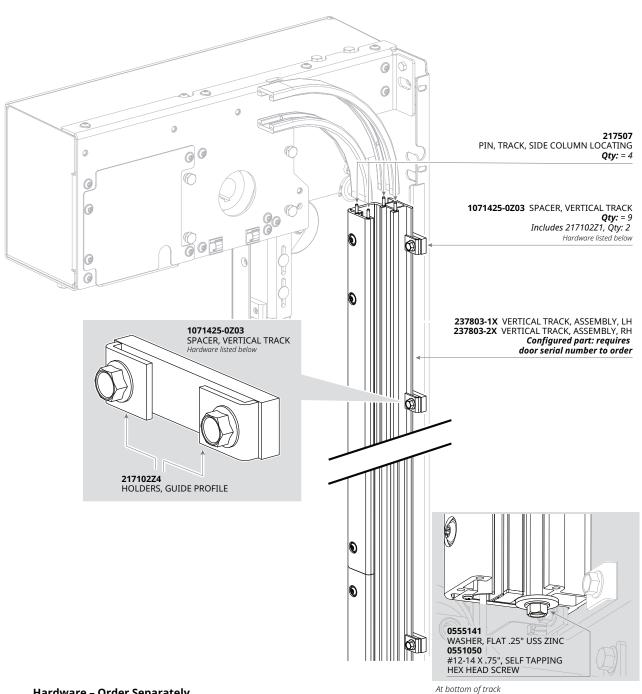


Console Brackets -S size doors





Vertical Tracks all doors



Hardware - Order Separately

Part Number Hardware Description Qty 1071425-0Z03 5550286-0Z01 HFSMS, M8-1.25X20 CL8.8 ZN





Horizontal Track Assembly all doors

236856 GUIDE ASSY, HORIZONTAL RAIL, SSN Qty: drive side = 1, non-drive side = 1 Includes 236315 Configured part: requires door serial number to order Hardware listed below 236322Z1 STANDOFF, HORIZONTAL TRACK **Qty:** = 5 **1072123-1A01** COVER,TRACK,LH,PH 1200-2300 **1072123-1B01** COVER,TRACK,LH,PH 2310-3660 **1072123-2A01** COVER,TRACK,RH,PH 1200-2300 1072123-2B01 COVER,TRACK,RH,PH 2310-3660 Qty: = 2 (One on each LH and RH sides) Configured part: requires door serial number to order 236321Z4 BRACKET, HORIZONTAL TRACK STANDOFF Otv: = 3 Hardware listed below 1072220-0A PROFILE, HORIZONTAL DIST, S 1072220-0B PROFILE, HORIZONTAL DIST, L Configured part: requires door serial number to order 236319Z1 BRACKET, BACK CORNER 217507 PIN, TRACK, SIDE COLUMN LOCATING



Qty: = 2 Hardware listed below



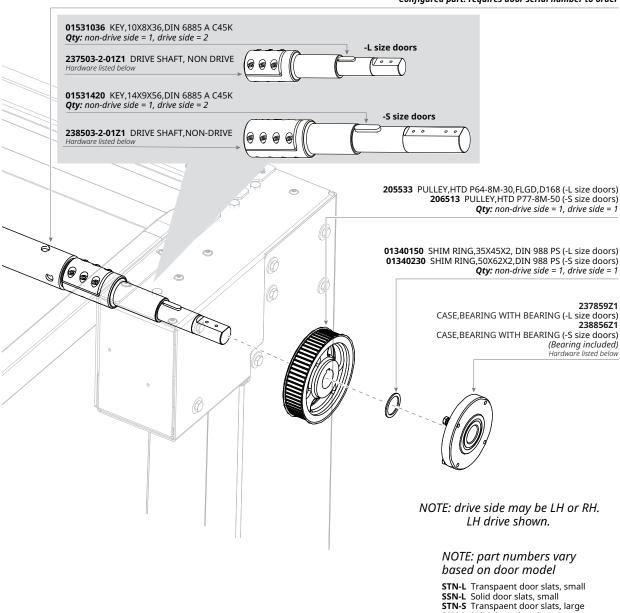






Drive Shaft, Non-Drive Side all doors

217706Z1 LINE SHAFT WELDMENT,"L"
218704Z1 LINE SHAFT WELDMENT,"S"
Configured part: requires door serial number to order



Hardware - Order Separately

	Part Number	Hardware	Description	Qty
	237503_1-01Z1	01180525	M8-1.25 X 25 Socket Head Cap Screw	6
		01080030	WASHER,M8,LOCK,HIGH COLLAR,DIN 7980,STL ZN	6
	238503_2Z1	01180525	M8-1.25 X 25 Socket Head Cap Screw	8
		01080030	WASHER,M8,LOCK,HIGH COLLAR,DIN 7980,STL ZN	8
	237859Z1, 238856Z1	01260272	HHCS,M8X16,DIN 933 - 8.8 ZN	4
		01080040	WASHER,10MM,LOCK,SPLIT,ZN	4





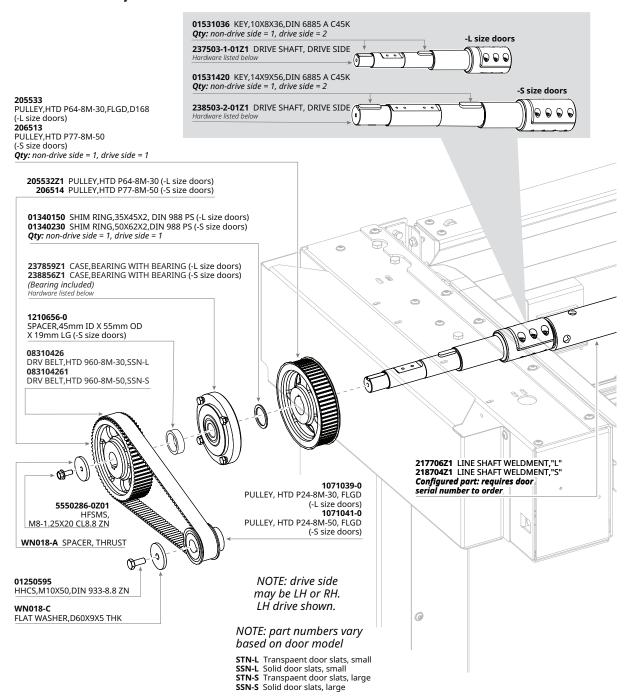




SSN-S Solid door slats, large



Drive Shaft, Drive Side all doors



Hardware - Or	der Separately
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nardware - Order Separately				
	Part Number	Hardware	Description	Qty
	237503_1-01Z1	01180525	M8-1.25 X 25 Socket Head Cap Screw	6
		01080030	WASHER,M8,LOCK,HIGH COLLAR,DIN 7980,STL ZN	6
	238503_2Z1	01180525	M8-1.25 X 25 Socket Head Cap Screw	8
		01080030	WASHER,M8,LOCK,HIGH COLLAR,DIN 7980,STL ZN	8
	237859Z1, 238856Z1	01260272	HHCS,M8X16,DIN 933 - 8.8 ZN	4
		01080040	WASHER,10MM,LOCK,SPLIT,ZN	4



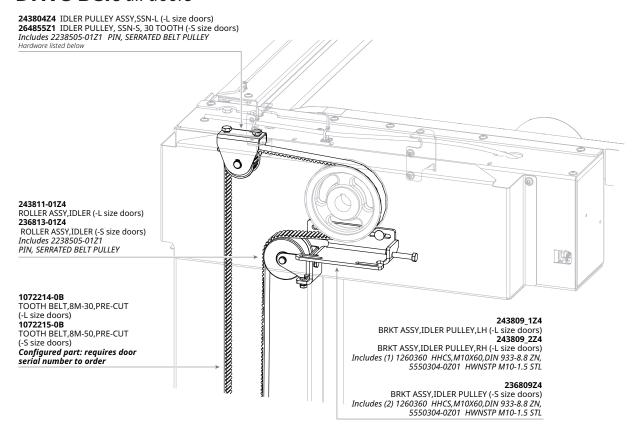


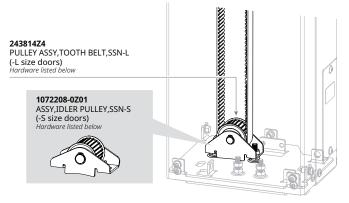






Drive Belt all doors





NOTE: drive side may be LH or RH. LH drive shown.

Hardware - Order Separately

Haraware - Order Separatery				
	Part Number	Hardware	Description	Qty
	243818Z4,	01300530	SCREW, M10 X 30, DIN 963-4.8	2
	1072208-0Z01	01270060	NUT, M10 HEX, DIN 934-8 ZN	4
	243804Z4,	01260310	HHCS,M10X20,DIN 933-8.8 ZN	2
	264855Z1	01901610	M10 PRESS NUT	2
	243809_XZ4	01260272	HHCS,M8X16,DIN 933 - 8.8 ZN	2
		01901608	M8-1.25 HEX PRESS NUT	2
		01900825	BSCSF,M8-1.25 x 25mm,T40,ZN	
	236809Z4	01260272	HHCS,M8X16,DIN 933 - 8.8 ZN	2
		01901608	M8-1.25 HEX PRESS NUT	2
		01160500	CARRIAGE BOLT,M8X30,DIN 603MU	4
		01901508	NUT, M8 FLANGED	4
	243811-01Z4	01060042	WASHER,8.4mm,DIN 125A,ZN	2
	236813-01Z4	01260280	HHCS,M8X25,DIN 933-8.8 ZN	2
		01901608	M8-1.25 HEX PRESS NUT	2











01270060 01901608 01901610 01901508

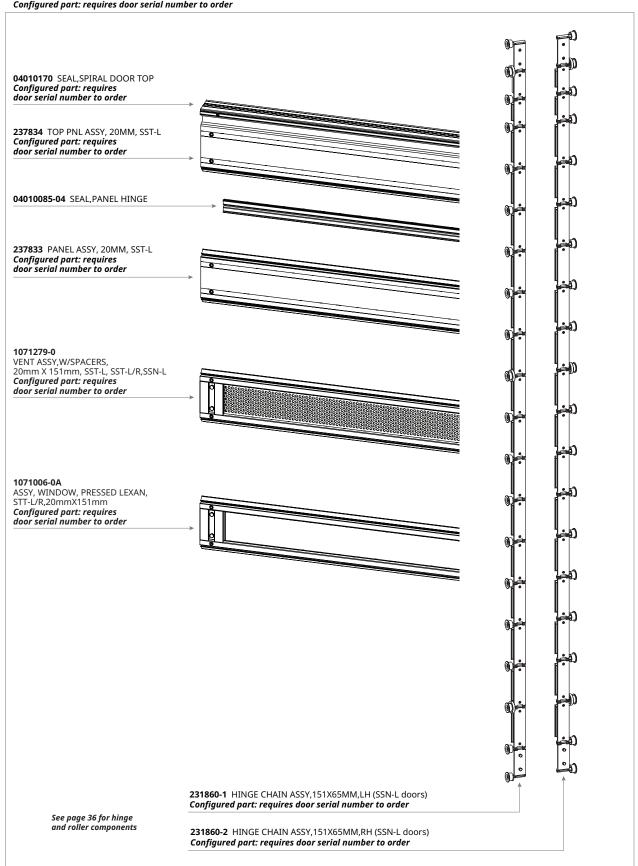


01060042



Door Panels and Hinge Chains -L size doors with solid panels (1072410 SSN-L)

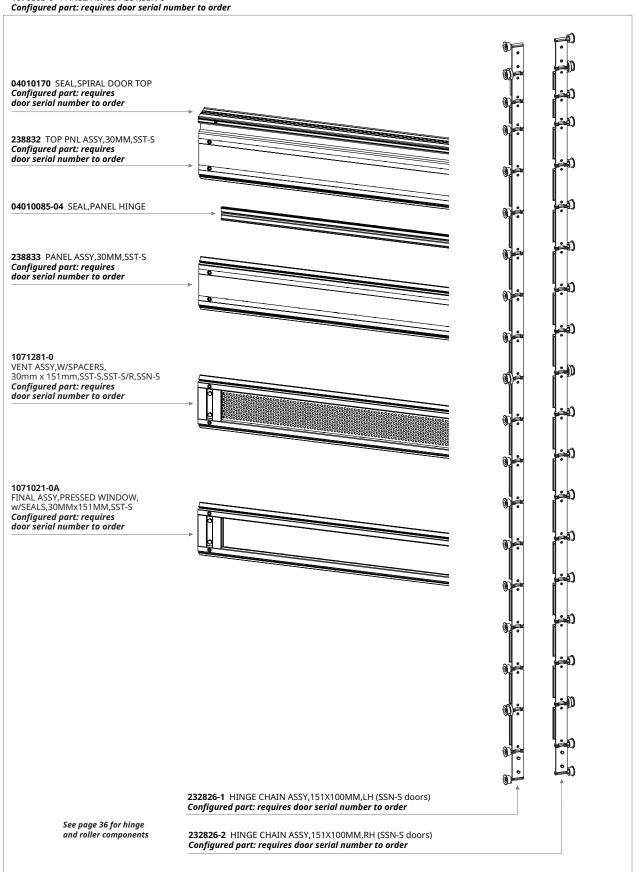
1070853-0 PANEL/HINGE ASSY,SSN-L Configured part: requires door serial number to order





Door Panels and Hinge Chains -S size doors with solid panels (1072411 SSN-S)

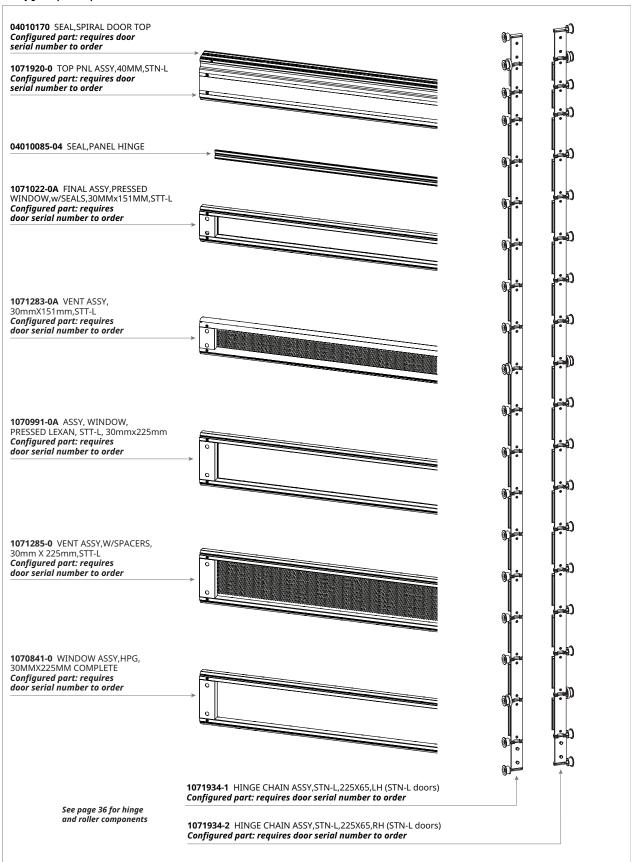
1070865-0 PANEL/HINGE ASSY,SSN-S





Door Panels and Hinge Chains -L size doors with Full Vision panels (1072413 STN-L)

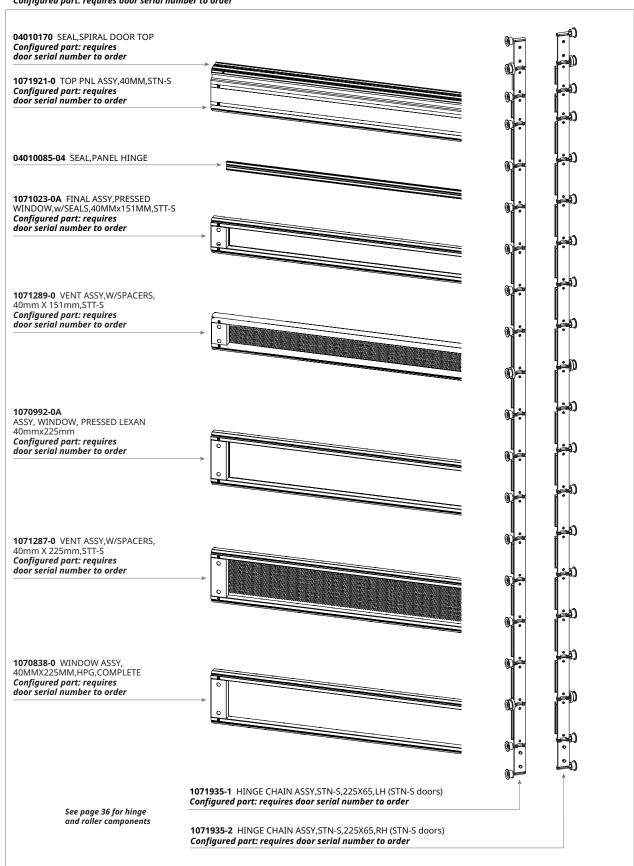
1071896-0 PANEL/HINGE ASSY,STN-L Configured part: requires door serial number to order



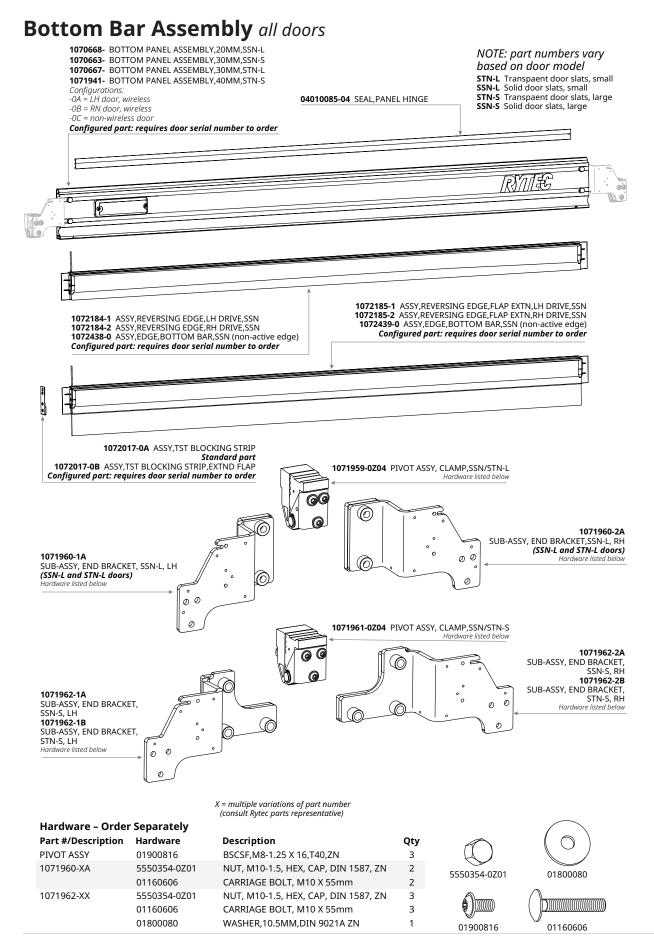


Door Panels and Hinge Chains -S size doors with Full Vision panels (1072414 STN-S)

1071897-0 PANEL/HINGE ASSY,STN-S
Configured part: requires door serial number to order

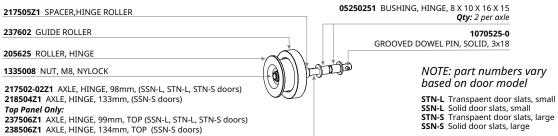


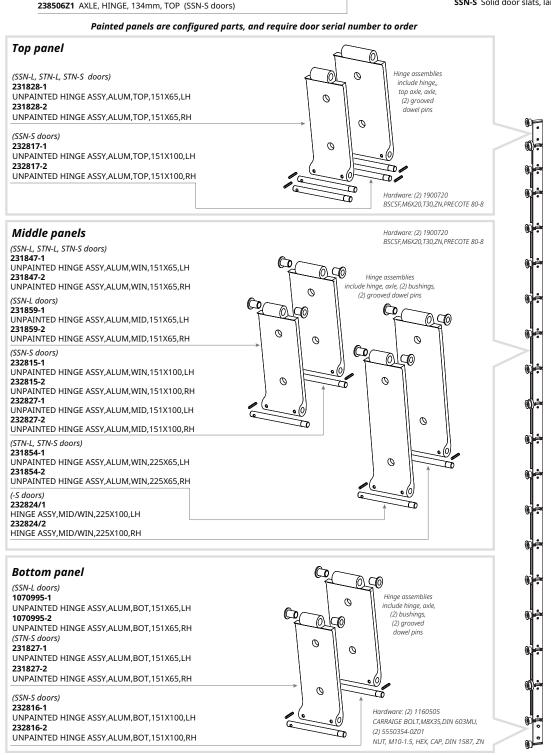






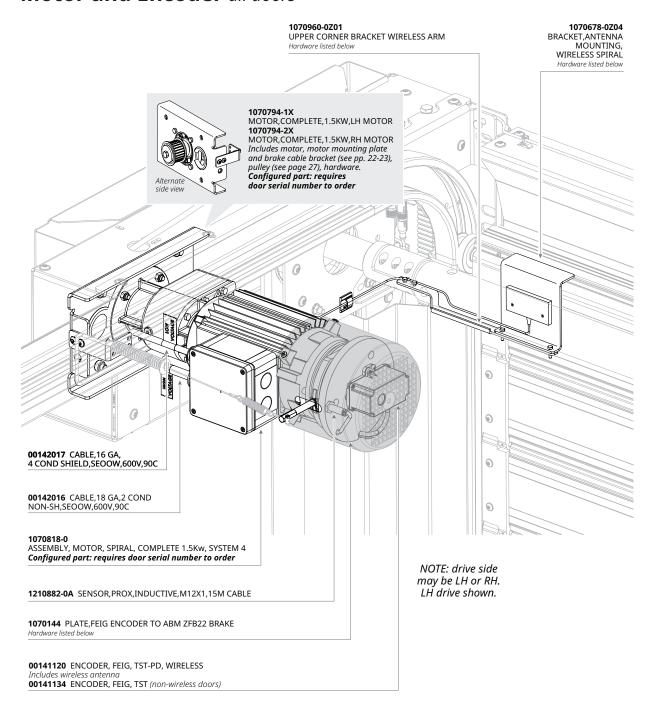
Door Panel Hinges all doors







Motor and Encoder all doors



Hardware – O Part Number	rder Separately Hardware	Description	Qty
1070144	01750080	FHSCS,M6X16,DIN 7991 10.9	3
1070960-0	5550246-0Z01	HHCS M4-0.7X16 GR5 ZN	4
	5550057-0Z01	NUT, M4-0.7, HEX HEAD,ZINC,NYLOCK	4
1070678-0	5550264-0	RATCHET FASTENER,.16 X .0425,BLK NYLON	2
	(a)		

5550264-0

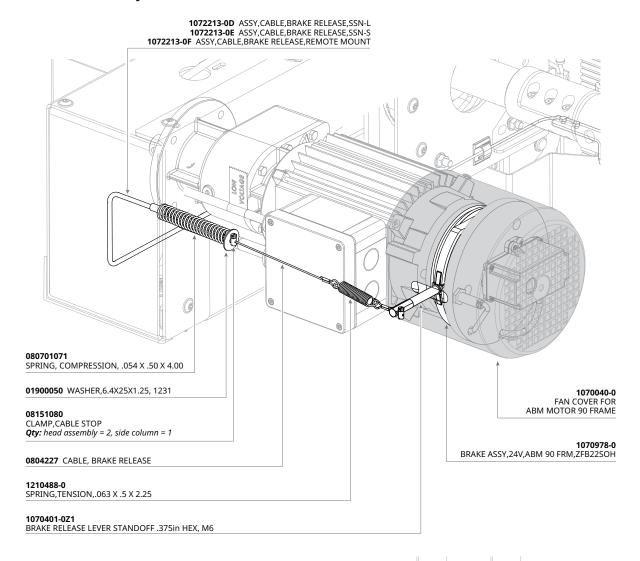
5550057-0Z01

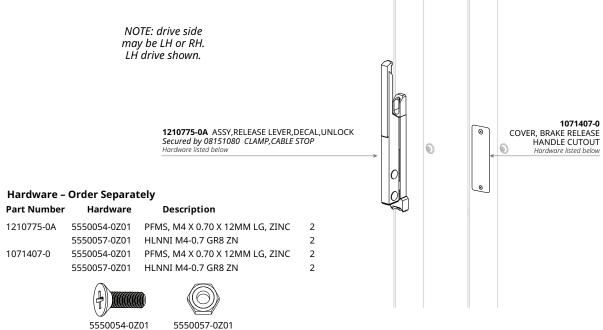
5550246-0Z01

01750080



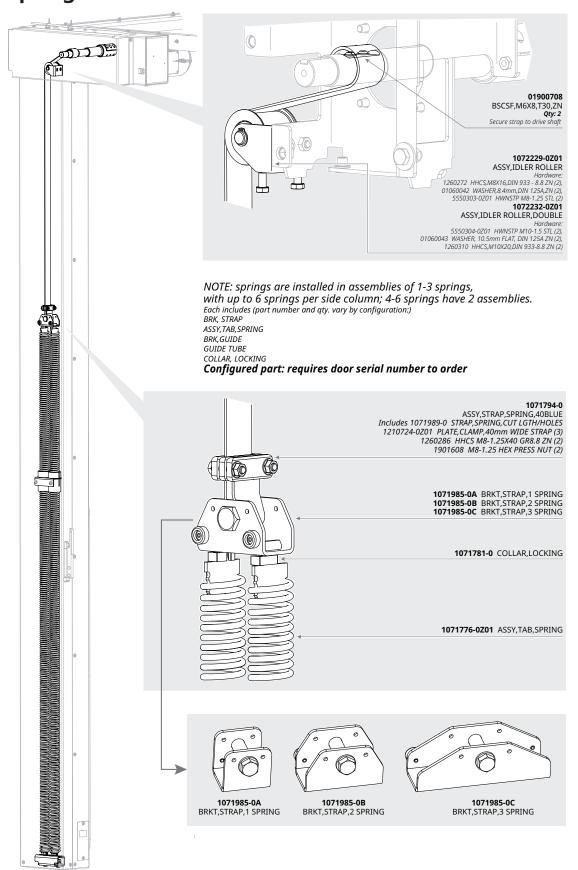
Brake Components all doors





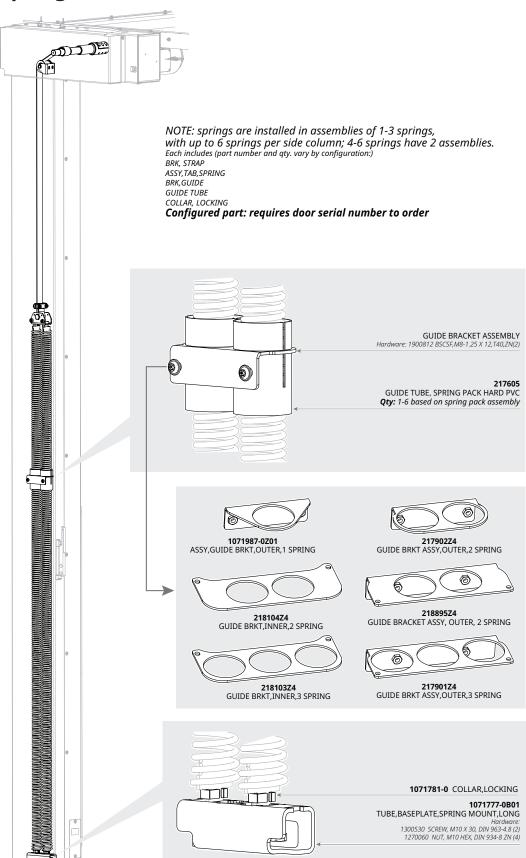


Spring Assemblies - Part 1 all doors



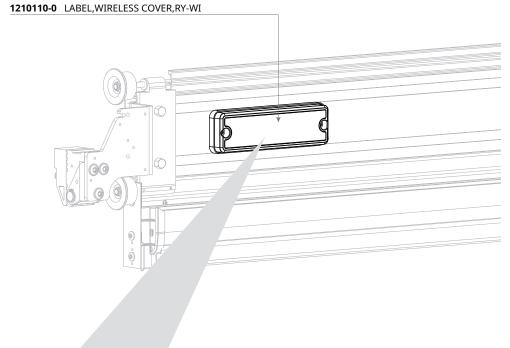


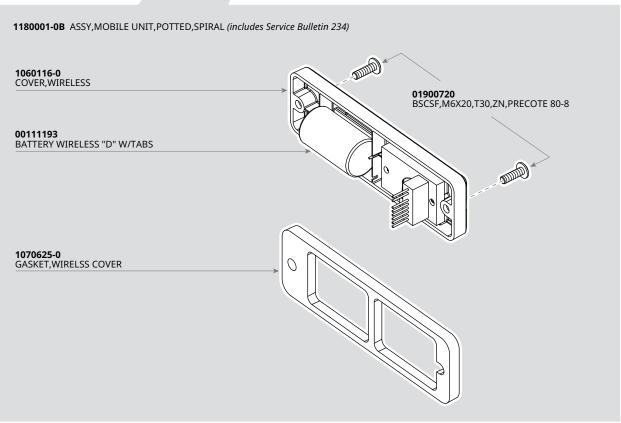
Spring Assemblies - Part 2 all doors





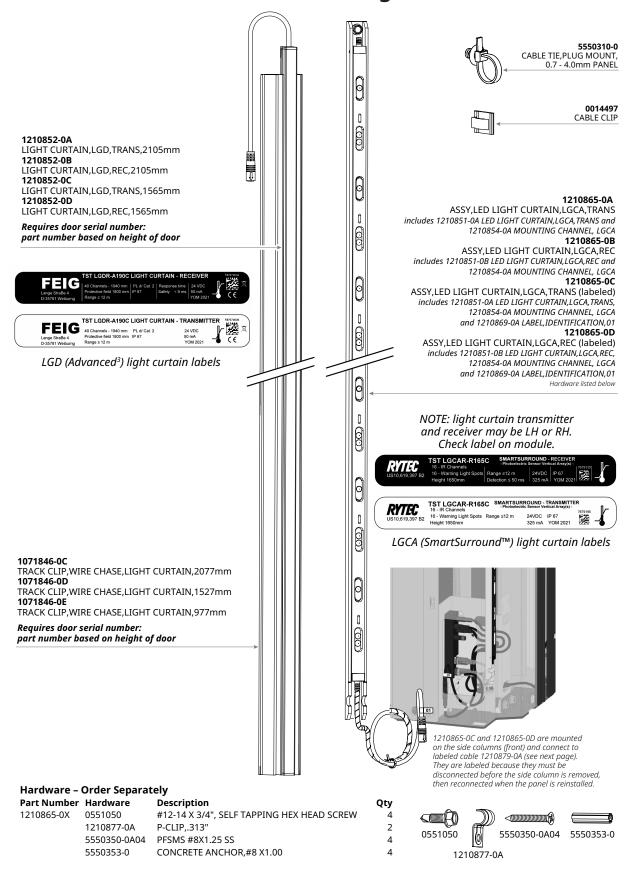
Remote Mobile Unit all doors





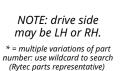


SmartSurround™ and Advanced³ Light Curtains all doors

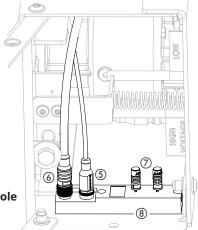




CAN Cables, Connectors and Components all doors



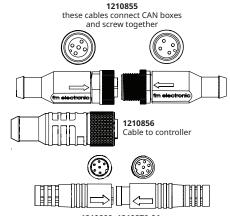
Drive side console



NOTE: part numbers vary based on door model

STN-L Transpaent door slats, small SSN-L Solid door slats, small STN-S Transpaent door slats, large SSN-S Solid door slats, large

- (1) 1072422- BRACKET ASSY,CAN BOX,SPIRAL,REPEATER BOX Includes 1210858-0B CAN BOX,REPEATER,4-CHANNEL and 1210861 HOLDER, MULTITUBE, .25" OD, 5CHANNEL
 - To order: requires door serial number and location of **side column** (left side or right side when viewed from front of door) Hardware listed below
- (2) **1072422-** BRACKET ASSY,CAN BOX,SPIRAL,DISTRIBUTION BOX *Includes 1210857-0B CAN BOX,DISTRIBUTION,4-CHANNEL* and 1210861 HOLDER, MULTITUBE, .25" OD, 5CHANNEL
 - To order: requires door serial number and location of side column (left side or right side when viewed from front of door)
- 1210800-0A CABLE,6 COND,M8 SOCKET TO M8 PLUG,9M
 - 1210800-0B CABLE,6 COND,M8 SOCKET TO M8 PLUG,0.3M
 - 1210800-0C CABLE,6 COND,M8 SOCKET TO M8 PLUG,1.5M
 - 1210800-0D CABLE,6 COND,M8 SOCKET TO M8 PLUG,2M
 - **1210800-0E** CABLE,6 COND,M8 SOCKET TO M8 PLUG,2.7M
 - **1210800-0F** CABLE,6 COND,M8 SOCKET TO M8 PLUG,15M
- (4) 1210879-0A CABLE ASSY, LABELED, M8, 0.3 M, 01
- **1210855-** CABLE,4 COND,M12 SOCKET TO M12 PLUG Multiple lengths: requires door serial number to order
- 6 1210856- CABLE,4 COND,M12 SOCKET TO FLY LEAD Multiple lengths: requires door serial number to order
- 1210860-0A JUMPER,0 OHM,M8 PLUG,6-PIN
- 1210858-0A CAN BOX, REPEATER, 2-CHANNEL (standard, shown above) 1210858-0B CAN BOX, REPEATER, 4-CHANNEL



1210800, 1210879-0A

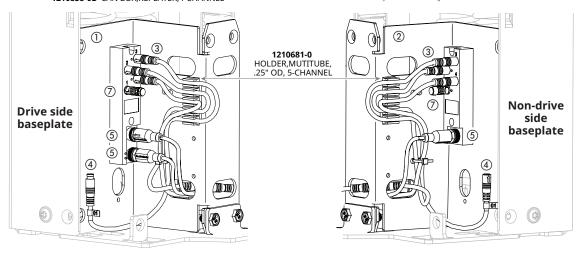
these cables connect devices to CAN boxes and snap together

Arrows embossed on side of connectors line up when contacts are properly aligned.

Connectors will only connect completely when arrows are lined up.



1210859-0A RESISTOR,120 Ω,M8 PLUG,6-PIN



Hardware - Order Separately PN/Description Hardware

1072422-XX

Description

HFSMS, M8-1.25X12 CL 10.9 ZH

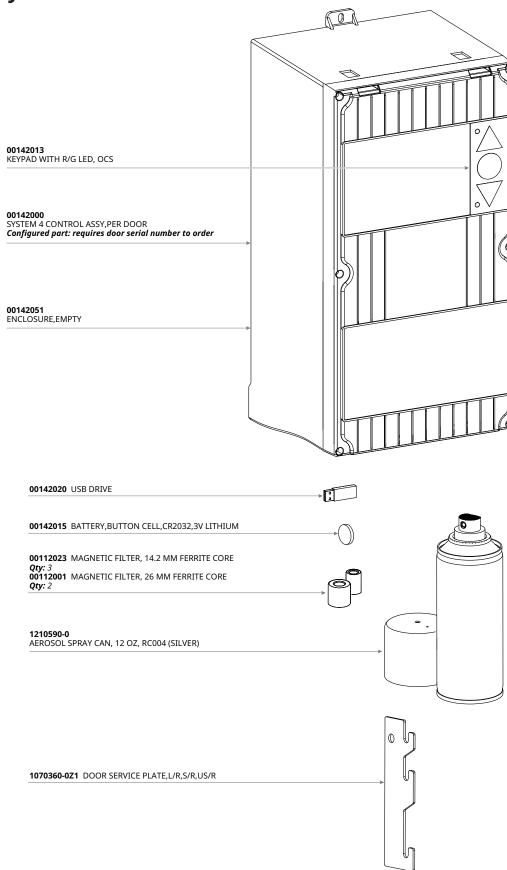
Qty

5550300-0Z01

5550300-0Z01

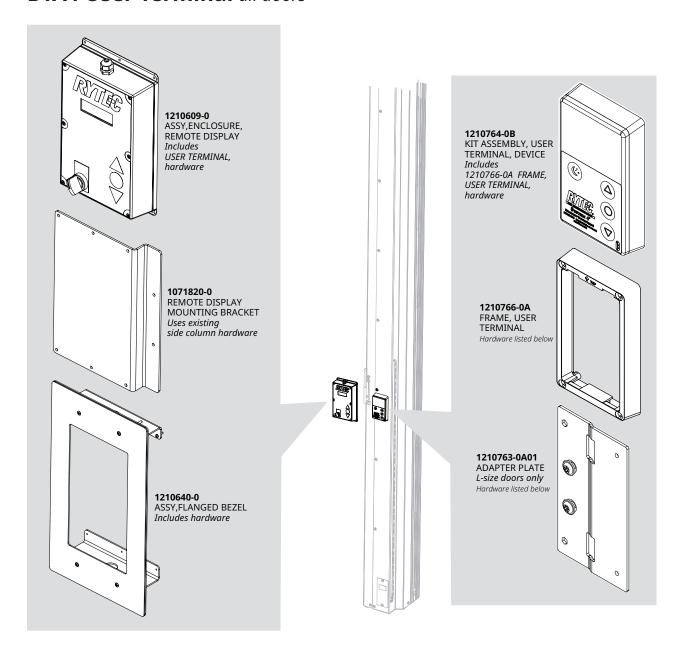


System 4 Controller and Accessories all doors





BTA4 User Terminal all doors



Hardware - Order Separately

Part Number	Hardware	Description	Qty
1210763-0401	01900820	BSCSF,M8-1.25 X 20,T40,ZN	2
1210766-0A	5550351-0A01 5550057-0Z01	PFMS M4-0.7x30 STL ZN NUT, M4-0.7, HEX HEAD, LOCKING, NYLON INSERT, ZINC	4 4





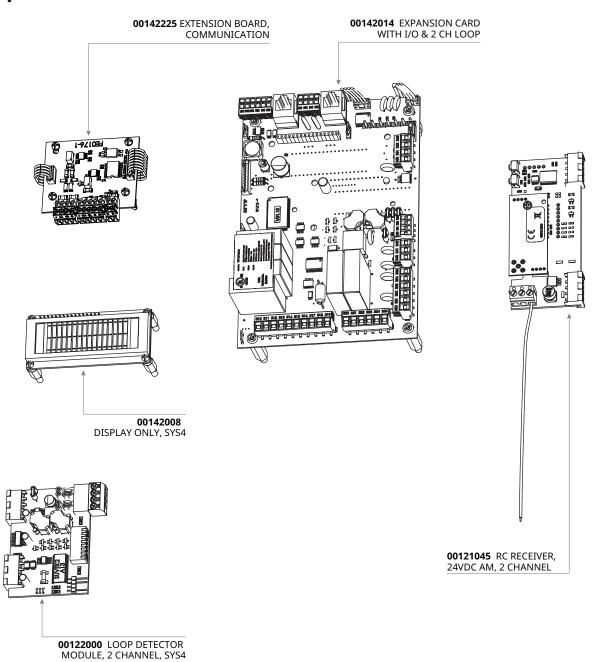


01900820

5550351-0A01 5550057-0Z01



Expansion Boards all doors





SPIRAL® LH® LIMITED WARRANTY

Rytec Corporation ("Seller"), an Illinois corporation with its principal place of business at One Cedar Parkway, PO Box 403, Jackson, WI 53037, warrants to the original registered end-user commercial purchaser ("Buyer") that the Spiral® Door Series ("Product") sold to the Buyer will be free of defects in materials and workmanship (ordinary wear and tear excepted) for the time periods set forth below:

- Mechanical components for a period of Five (5) Years from the date of shipment of the Product from the Seller's plant ("Shipment"). Note: Motor assembly is a mechanical component.
- **Electrical components** for a period of Two (2) Years from Shipment.
- Standard door panel assemblies, including panel slats, hinge rollers, and hinges for a period of Two (2) Years from Shipment.
- Drive pulleys, side column brush/vinyl seals, spring straps, lower tooth pulley assembly, drive & timing belts, wireless mobile unit battery, are considered wear items and are not covered under this Limited Warranty.
- Aftermarket parts, accessories and assemblies for a period of ninety (90) days from the date of Shipment.

Remedies

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

Labor

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

Claims

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

Original Buyer

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

Not Warranted

Seller does not warrant against and is not responsible for, and no implied warranty shall be deemed to cover, damages that result directly or indirectly from: (i) the unauthorized modification or repair of the Product, (ii) damage due to misuse, neglect, accident, failure to provide necessary maintenance, or normal wear and tear of the Product, (iii) failure to follow Seller's instructions for installation, operation or maintenance of the Product, (iv) use of the Product in a manner that is inconsistent with Seller's quidelines 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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WARRANT

Owner's Manual

Spiral® LH® Doors



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HIGH PERFORMANCE DOORS

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