

How to retrofit a Rytec Spiral® LP door with the SmartSurround™ light curtains, Advanced³ light curtains and CAN bus cabling

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Status: Active

IMPORTANT: Read this entire bulletin before proceeding.

Questions? Call Rytec Customer Support at 1-800-628-1909.

The meaning of signal words



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 is as follows:

	WARNING
	Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.

Safety icons used in this bulletin



Other icons used in this bulletin

IMPORTANT	Indicates instructions which, if not followed, could result in damage to the door or voiding of the warranty .	INSIDER'S TIP	Indicates best practice. This is how Rytec Technical Support does the job.
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Printing this manual

If printing this manual, ensure it's printed on 11' x 17' paper at **Actual Size** and not **Shrink to Fit** so that the included drilling templates are accurate.

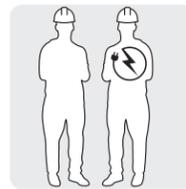
Get this manual on your device:



Retrofit safety

- Do not service any Rytec product until you have read and understood the safety information and instructions. Make sure all applicable regulations are observed and obeyed at all times.
- Observe these precautions while installing the door:
 - Only trained, qualified and authorized individuals are to service the door.
 - The service site comprises the physical area required to safely unpackage and stage components and service the door.
 - Make sure all personnel at the site have been informed of the date, time and location of the service.
 - Make sure there is no pedestrian or vehicular traffic within the service site for the duration of the service.
 - Make sure you have and use all required Personal Protective Equipment.
- Make sure you are aware of the location of all power lines, piping and HVAC systems within the installation site.

Requirements - Staffing



- Two service personnel are recommended.
- A licensed electrician is recommended for making all electrical connections

Requirements - Lifts

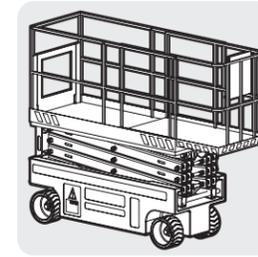


WARNING
Follow all safety instructions on all lifts and ladders used for this installation.

Scissor lift that meets the following specifications:

- Can hold both service personnel.
- Minimum height ability: door height

Alternatively, two ladders of sufficient height to safely access the door head assembly



Tools and supplies you will need

<p>Tools</p> <p>Angle grinder or jig saw</p> <p>Power drill with these drill bits</p>	<p>9.5mm 13mm 5/32" 3/16" 3/8" 7/16"</p> <p>File</p> <p>(2) Saw horses</p> <p>(2) C-clamps</p> <p>Laser level</p> <p>Tape measure</p> <p>Cement drill</p> <p>(2) Vise grips</p>
<p>Cutting pliers</p> <p>Chisel</p> <p>Utility knife</p> <p>Wire stripper</p> <p>Precision screwdriver</p> <p>Fish tape</p> <p>#2 Phillips screwdriver</p> <p>Flat head screwdriver</p> <p>T40 Torx screwdriver</p> <p>Socket or open wrench</p> <p>Hex wrench</p>	<p>8mm 9.5mm 13mm 5/32" 5/16" 3/8"</p> <p>Cabling</p> <p>Cable ties and anchors</p> <p>Electrical tape and wire nuts</p> <p>Alcohol wipes</p>

SmartSurround™ light curtains and CAN bus cabling: what you are installing during this retrofit

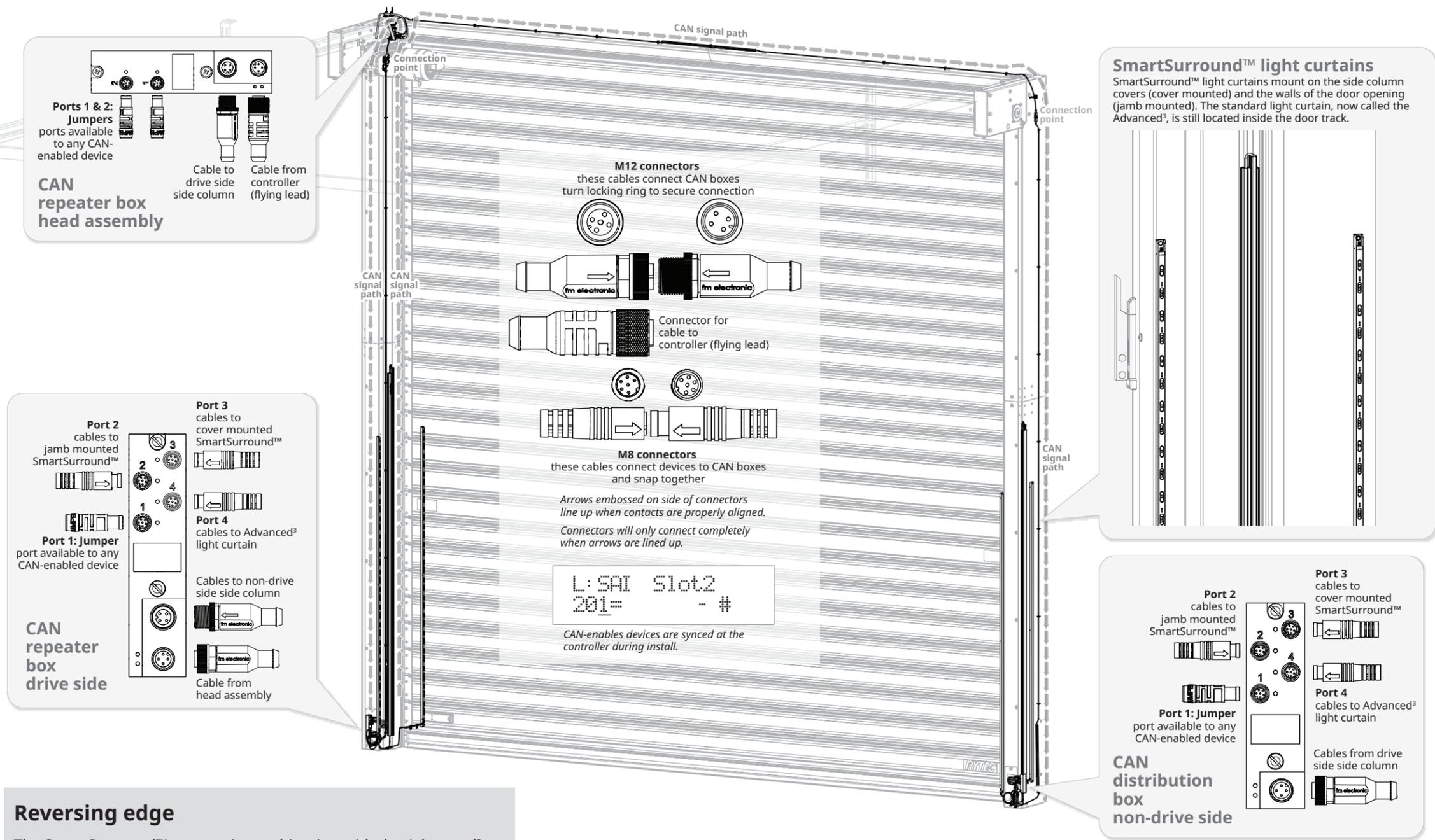
SmartSurround™ light curtains

The SmartSurround™ light curtains replace the Pathwatch LED strips, and combine the function of a light curtain and an alert system.

- When the retrofit is complete, the door will have three light curtain detection planes.
- You **remove** the current photo eyes or light curtains and **replace** them with the Advanced³ light curtains, which you install into the door track.
- In addition, you install **two sets of SmartSurround™ light curtains**. One set is mounted on the side column covers (cover mounted), the other is installed on the walls of the door opening (jamb mounted).
- The SmartSurround™ light curtains **also replace the Pathwatch LED strips**, which you remove. The SmartSurround™ LEDs are larger and brighter than the Pathwatch, and can display multiple colors and patterns.

CAN bus cabling

- CAN bus cabling is a **single chain (series) of cables** that replaces the multiple cables needed for the Pathwatch LED strips and light curtains or photo eyes.
- The cabling starts at the controller** and runs through the CAN repeater box in the head assembly, then the CAN repeater box at the base of the drive side side column, then across the rear spreader to **terminate at the CAN distribution box** at the base of the non-drive side side column.
- It also replaces the X-10 junction box in the head assembly.
- CAN-enabled Rytec devices **can plug into any available port in any CAN box**. During this retrofit, you will plug all six light curtains into the boxes you will install onto the baseplates of the side columns.
- Ports must be jumpered** if they are not connected to a device so that the signal path remains unbroken until it terminates at the distribution box.



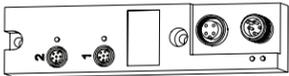
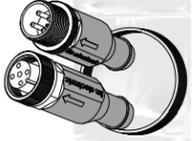
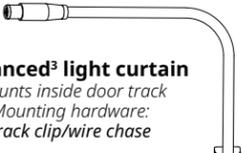
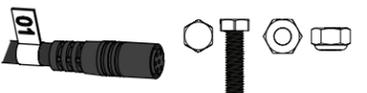
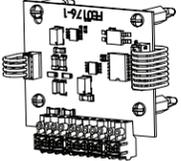
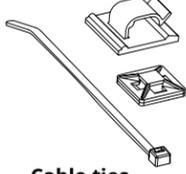
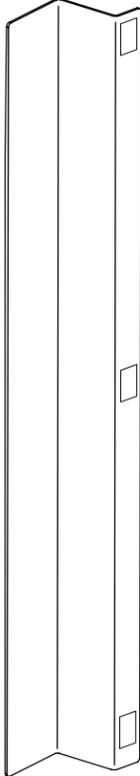
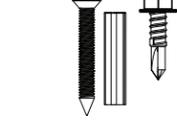
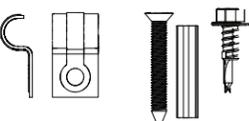
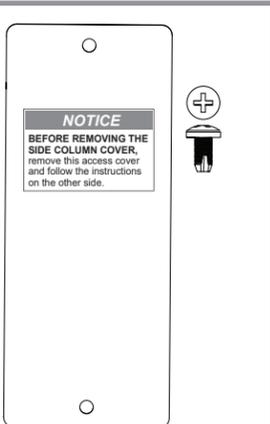
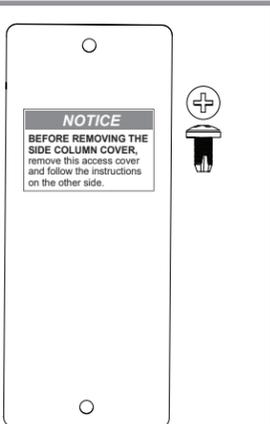
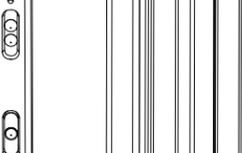
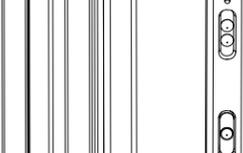
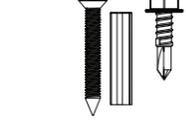
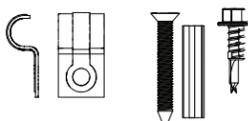
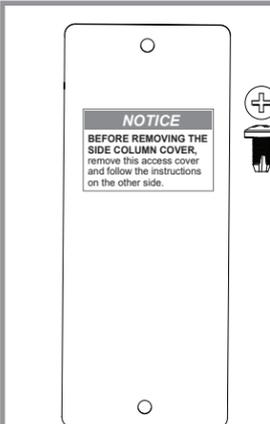
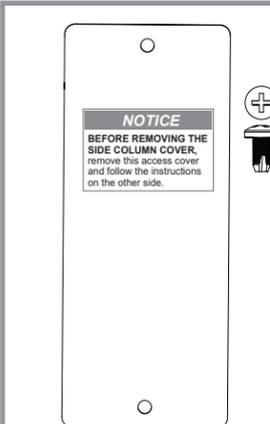
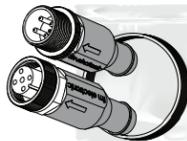
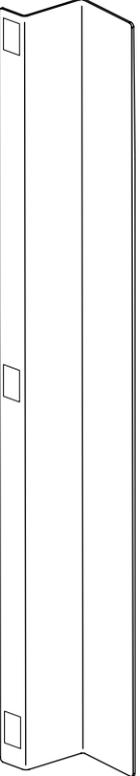
Reversing edge

The SmartSurround™ system, in combination with the Advanced³ light curtains located within the door line, meets the requirements for entrapment protection. SmartSurround™ offers a contactless method of object recognition that is an improvement over the reversing edge system; this makes the reversing edge system redundant. The reversing edge system is disabled as part of this retrofit.

The reversing edge system can be reenabled if a full height sensing system is required. See Page 38.

Before you begin – four (4) steps to make sure the door and kit are ready for the retrofit

1: Open the kit and stage the parts. Match components to hardware to location in the door where they will be installed. NOTE: drive side may be LH (left) or RH (right); LH components shown here.

<p>Head assembly/drive side console <i>(may be left side or right side of door)</i></p> <p>CAN repeater box Mounts inside console Mounting hardware: (3) bolts and nuts</p>  <p>(2) CAN port jumpers</p>  <p>(1) M12 CAN cable PN: 1210855-0X</p>  <p>(1) M12 CAN flying lead Cable to controller PN: 1210856-0</p> 	<p>Drive side light curtains <i>(may be left side or right side of door)</i></p> <p>FEIG TST LGDR-A190C LIGHT CURTAIN - TRANSMITTER 40 Channels - 1940mm PL or GIL 2 24VDC 30Watt VOM 2021 Large Straps 4 Protective Seal 1800mm IP 67 D-30751 web.org Range 9-12 m</p> <p>Mount Advanced³ transmitter on drive side Mount SmartSurround™ receivers on drive side</p> <p>RYTEC TST LGCAR-R165C SMARTSURROUND™ RECEIVER 16 - Warning Light Spots Range 9-12 m 24VDC IP 67 30Watt VOM 2021 Height 1650mm Detection 2.50 sec</p> <p>SmartSurround™ light curtain Mounts to cover (cover mounted); cable is labeled Mounting hardware: (2) bolts and nuts</p> 	<p>Advanced³ light curtain Mounts inside door track Mounting hardware: track clip/wire chase</p>  <p>Advanced³ light curtain Mounts inside door track Mounting hardware: track clip/wire chase</p>  <p>Non-drive side light curtains <i>(may be left side or right side of door)</i></p> <p>FEIG TST LGDR-A190C LIGHT CURTAIN - RECEIVER 40 Channels - 1940mm PL or GIL 2 24VDC 30Watt VOM 2021 Large Straps 4 Protective Seal 1800mm IP 67 D-30751 web.org Range 9-12 m</p> <p>Mount Advanced³ receiver on non-drive side Mount SmartSurround™ transmitter on non-drive side</p> <p>RYTEC TST LGCAR-R165C SMARTSURROUND™ TRANSMITTER 16 - Warning Light Spots Range 9-12 m 24VDC IP 67 30Watt VOM 2021 Height 1650mm</p> <p>SmartSurround™ light curtain Mounts to cover (cover mounted); cable is labeled Mounting hardware: (2) bolts and nuts</p> 	<p>Controller</p> <p>CAN Comm Board</p>  <p>USB drive Holds updated system software</p>  <p>CAN 120Ω resistor Used for troubleshooting</p>  <p>Heat shrink tubing Used when wiring comm board</p>  <p>Cable ties, anchors and cable clips</p> 
<p>Drive side side column baseplate <i>(may be left side or right side of door)</i></p> <p>(2) M8 CAN cables PN: 1210800-0B (1 foot) and 1210800-0E (1 foot)</p>  <p>(1) M8 CAN cable with label PN: 1210879-0 (1 foot)</p>  <p>(2) M12 CAN cables PN: 1210855-0</p>  <p>Cable raceway Mounts to rear of side column Mounting hardware: (3 pc) double-sided tape, installed at Rytec</p>  <p>CAN port jumper</p>  <p>CAN repeater box and bracket Mounts to baseplate Mounting hardware: (2) screws</p> 	<p>SmartSurround™ light curtain Mounts to wall (jamb mounted) Mounting hardware: (2) cement screws and anchors or self-tapping screws</p>  <p>(2) P-clips Secure SmartSurround™ cable Mounting hardware: (2) cement screws and anchors or self-tapping screws</p>  <p>Access cover Mounts to side column cover Mounting hardware: (2) self-tapping screws</p>  <p>NOTICE BEFORE REMOVING THE SIDE COLUMN COVER, remove this access cover and follow the instructions on the other side.</p> 	<p>Advanced³ light curtain Mounts inside door track Mounting hardware: track clip/wire chase</p>  <p>Advanced³ light curtain Mounts inside door track Mounting hardware: track clip/wire chase</p>  <p>Non-drive side light curtains <i>(may be left side or right side of door)</i></p> <p>SmartSurround™ light curtain Mounts to wall (jamb mounted) Mounting hardware: (2) cement screws and anchors or self-tapping screws</p>  <p>(2) P-clips Secure SmartSurround™ cable Mounting hardware: (2) cement screws and anchors or self-tapping screws</p>  <p>Access cover Mounts to side column cover Mounting hardware: (2) self-tapping screws</p>  <p>NOTICE BEFORE REMOVING THE SIDE COLUMN COVER, remove this access cover and follow the instructions on the other side.</p> 	<p>Non-drive side side column baseplate <i>(may be left side or right side of door)</i></p> <p>(2) M8 CAN cables PN: 1210800-0B (1 foot) and 1210800-0E (9 foot)</p>  <p>(1) M8 CAN cable with label PN: 1210879-0 (1 foot)</p>  <p>(1) M12 CAN cable PN: 1210855-0</p>  <p>Cable raceway Mounts to rear of side column Mounting hardware: (3 pc) double-sided tape, installed at Rytec</p>  <p>CAN port jumper</p>  <p>CAN distribution box and bracket Mounts to baseplate Mounting hardware: (2) screws</p> 

2: Locate the junction box and check the cables connected to it

IMPORTANT

All steps shown are for an **LH door (left-hand drive side)**. Reverse sides for a door where the motor is on the right side.

1 Locate the junction box and the four cables involved in this procedure:

- Light curtain transmitter
- Light curtain receiver
- Proximity sensor
- X-10 cable from the junction box to the controller

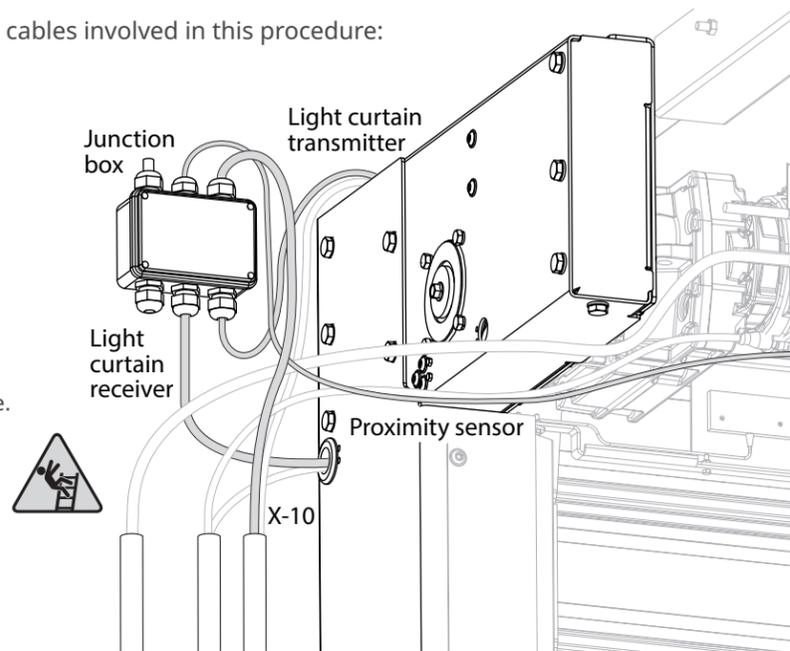
The junction box is field installed and will be in different locations for different doors, but should be near the drive side console.

- Cables may not be routed as shown here.

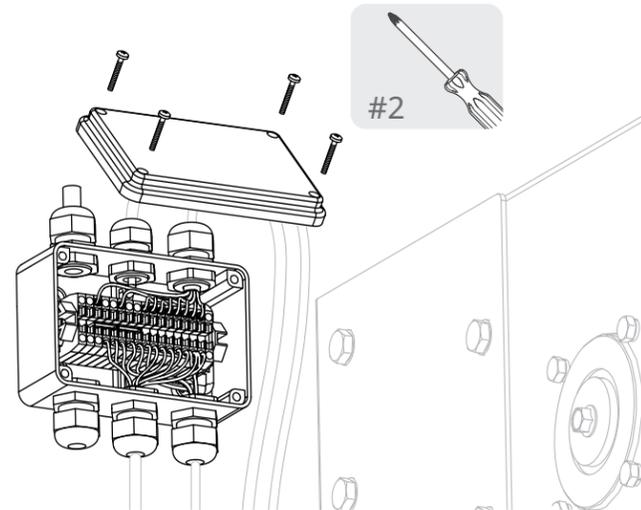
IMPORTANT

There may be additional cables wired to the junction box.

- If additional accessories have been wired to the box, the X-10 cable will need to be wired to the controller differently than the diagram shown on page 24.
- Call Rytec technical support at 800-628-1909 before continuing.



2 Loosen the four screws and remove the front cover.



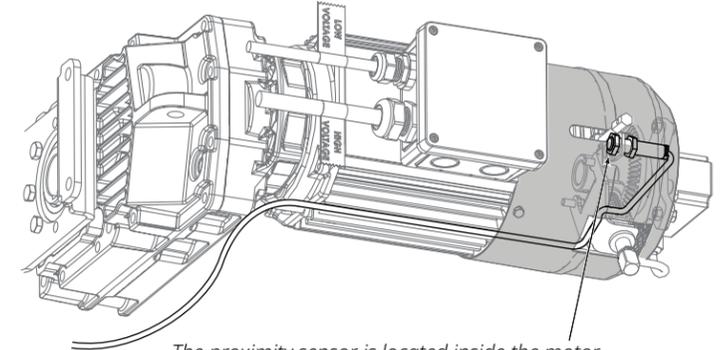
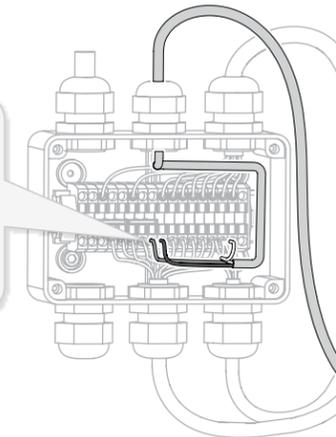
3 Make sure the standard cables are wired to the box, and that no additional cables are present. If the cables are as shown below, continue to the next step. If there are additional cables, call technical support.

Standard cables and what you do with them - do not make changes until instructed to do so later in this manual
Cabling configuration may vary, but all standard cables shown here should be wired to junction box.

Proximity sensor

Wire colors: blue, brown, black

This cable remains in place.

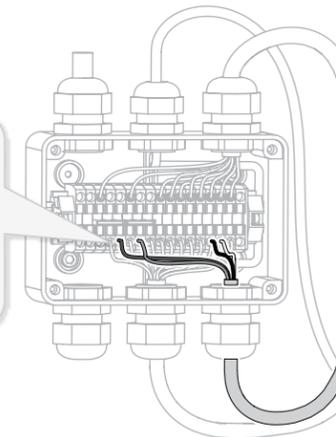


The proximity sensor is located inside the motor and tracks the position of the manual brake release to keep the brake disengaged when the release lever is engaged. The cable runs from the bottom of the motor and is usually routed under the drive side console.

Light curtain transmitter cable

Wire colors: brown, blue, black, white

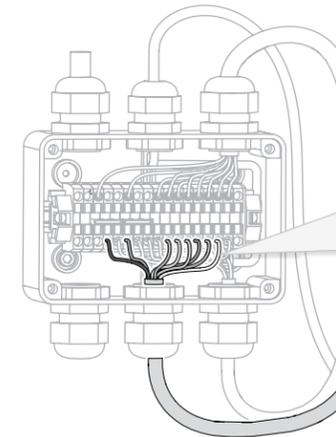
This cable is removed.



Light curtain receiver cable

Wire colors: brown, blue, green, yellow, pink, gray, red, white

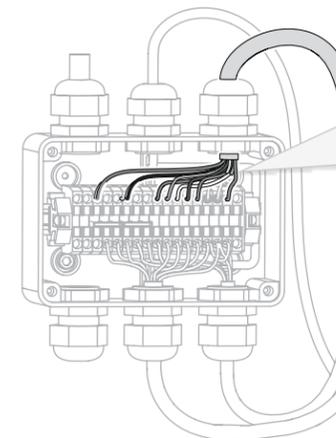
This cable is removed.



IMPORTANT

Make sure the X-10 cable runs through conduit to the controller.

If it is not used, you will need to use a **different cable**



X-10 cable

Wire colors: red, black, gray, orange, white, brown, blue, yellow, green, purple. Yellow and green may be terminated.

This cable remains in place. It will be rewired at the controller to connect the proximity sensor.

3: Secure the door in the open position, then switch the controller to parameter mode and record the door profile and (wireless doors only) mobile address

Put the door in parameter mode and enter the passcode for Service level access

Do This	Result	Do This	Result
<p>1 until the parameter screen displays</p> <p> You are in Parameter mode.</p>	<p>4 16X to set value to hexadecimal 10</p> <p> Set the value to 10 (Service level password).</p>		
<p>2 2X to reach parameter P:999</p> <p> The Password parameter P:999 screen displays.</p>	<p>5 until question mark changes to checkmark (value saved)</p> <p> The Service level password is saved.</p>		
<p>3 1X to move cursor to the right (edit value)</p> <p> You can now change the value of parameter P:999.</p>	<p>6 1X to move cursor to left (parameters)</p> <p> You can now go to a different parameter.</p>		

Then go to parameter P:991 and (wireless doors only) P:F07 and record the values you find there.

Do This	Result	Do This	Result
<p>7 until you reach parameter P:991</p> <p> This is the profile (door model) of the door</p>	<p>9 until you reach parameter P:F07</p> <p> This is the mobile address for the mobile unit. It is a hexadecimal number, so it may contain alpha and numeric characters.</p>		
<p>8 Write down the value you find here. You will re-enter it later.</p>	<p>10 Write down the value you find here. You will re-enter it later.</p>		

4: Check the controller to make sure the microcontroller board has room for the CAN bus comm board; if it does, set up the controller for the CAN bus cabling

IMPORTANT Make sure the door is in the **fully closed position** before shutting off power. You will open the door and secure it in the open position later in this procedure.

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

⚠ WARNING

Set the fused disconnect to the OFF position and perform a lockout/tagout of the high-voltage disconnect before opening the control box. Do not set the disconnect switch to the ON position until told to do so by these instructions.

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

2 Loosen the six capture screws and open the control box.

3 Look to see if there is a comm board or expansion card already installed onto the microcontroller board of the controller.

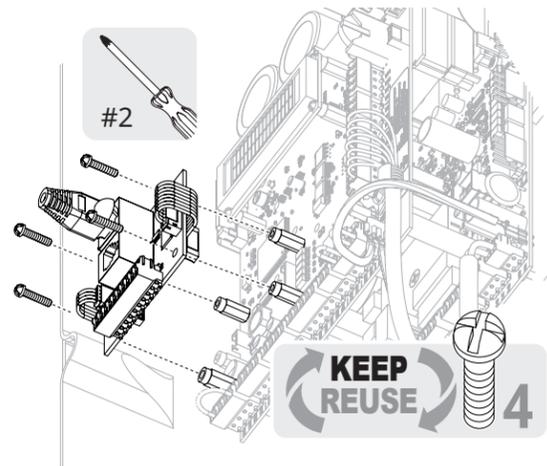
If there is a comm board already installed ①, loosen the wires and separate the cable. You will **replace the cable** with the flying lead from the kit.

IMPORTANT

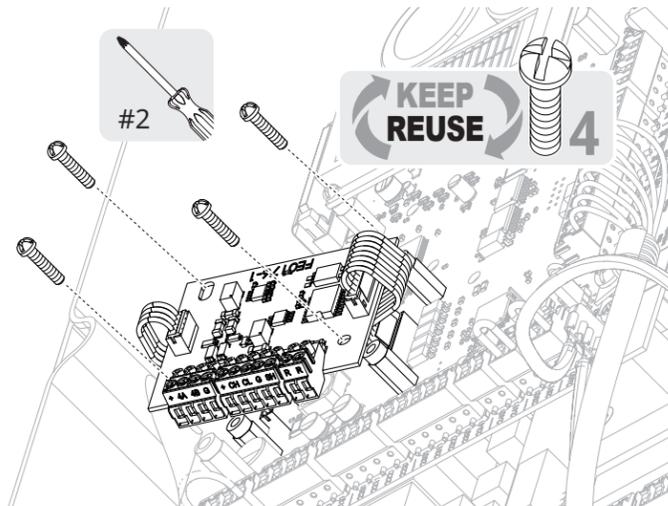
If there is an expansion card already installed ②, **STOP** and call Rytec technical support before continuing.

If the controller has an older comm board installed, replace it with the comm board from the kit

- 4** If this controller has an older comm board, **Get** the comm board from the kit.
Loosen the four plastic screws and **remove** the old board, **leaving the legs in place**.
Pull out the four-wire and eight-wire connectors to free the board.
Discard the old board.
Remove the legs from the new board.

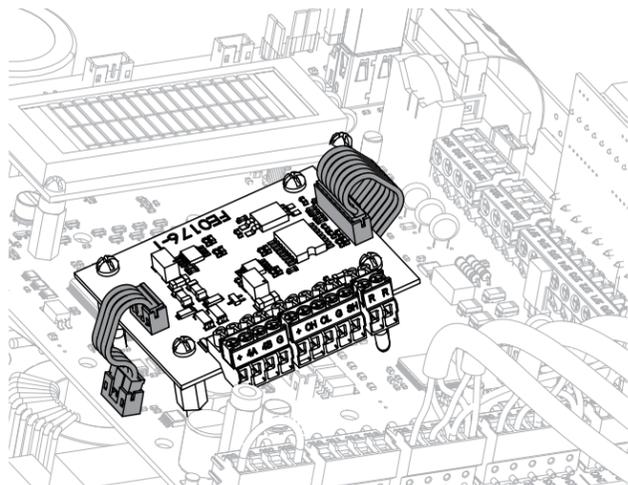


- 5** **Plug in** four-wire and eight-wire connectors on the new board, then **reinstall** the four plastic screws to secure the new board in place.

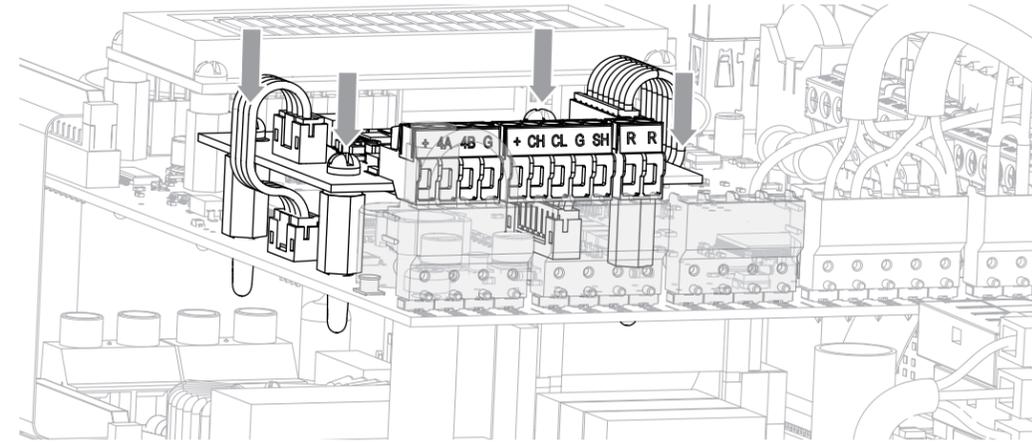


Otherwise, install the comm board from the kit

- 6** **Get** the comm board from the kit.
Plug the four-wire and eight-wire connectors into the matching receptacles on the board.



- 7** **Line up** the four legs and press down until the board snaps into place.



Remove the interface board, then reinstall the encoder cable

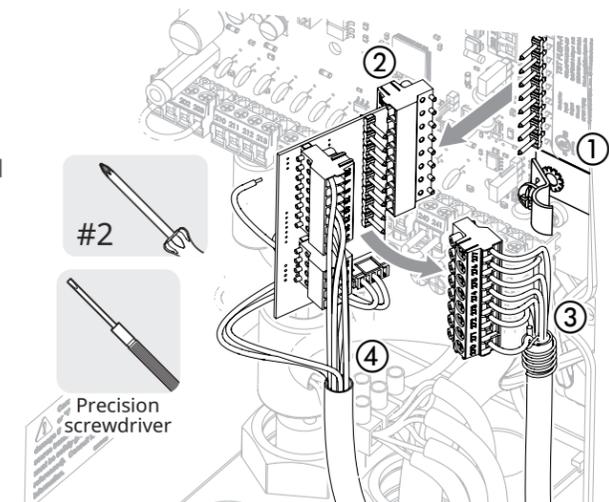
- 8** **If the door has light curtains:**

There is an interface board plugged in to terminal block 270-277.

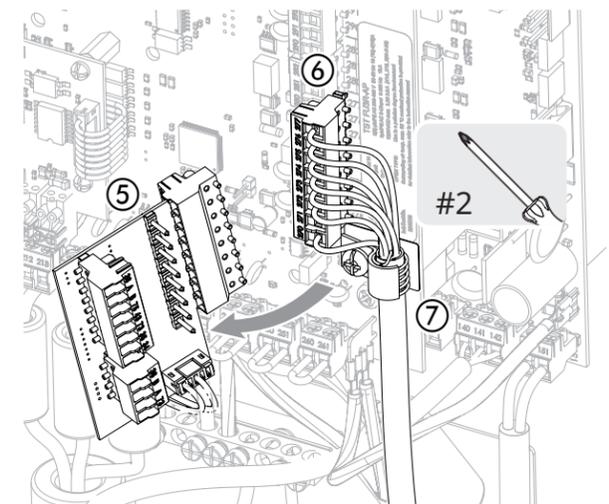
The same terminal block is also on the board, and the encoder cable is wired to it.

The terminal block on the board must be removed and connected directly to the microcontroller board.

- **Loosen** the P-clip ① that secures the encoder cable.
- **Loosen** the wires from the interface board that connect to terminals 222, 232, 240 and 241.
- **Remove** the interface board ② from terminal slots 270-277.
- **Remove** terminal block 270-277 ③, and the attached encoder cable, from the interface board.
- **Loosen the wires and remove** the X-10 cable ④ from the interface board. **Leave the cable in place** until later in this procedure.



- **Discard** the interface board ⑤.
- **Plug** the terminal block from the interface board, with the encoder cable wired to it ⑥, into slots 270-277.
- **Secure** the cable with the P-clip ⑦.



How to install the head assembly CAN repeater box

1 Use Template #1 on this page to mark the location on the **drive side console** for the screw holes for the CAN repeater box in the head assembly.

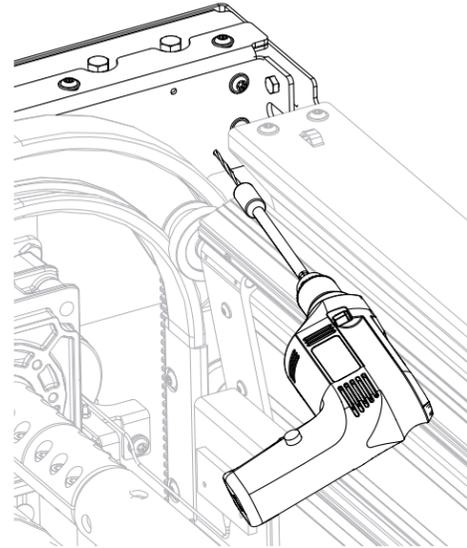
- This template is for a **left-hand (LH) door**.
- **Reverse** the measurements for a right-hand door.
- **MAKE SURE** the holes are exactly 3" (77mm) apart before drilling.



2 Drill out the holes for the two mounting screws

IMPORTANT

The lower hole is close to the rear spreader. You will probably need an extension bit on the drill to reach it.



3 Get the head assembly CAN repeater box and mounting hardware from the kit..

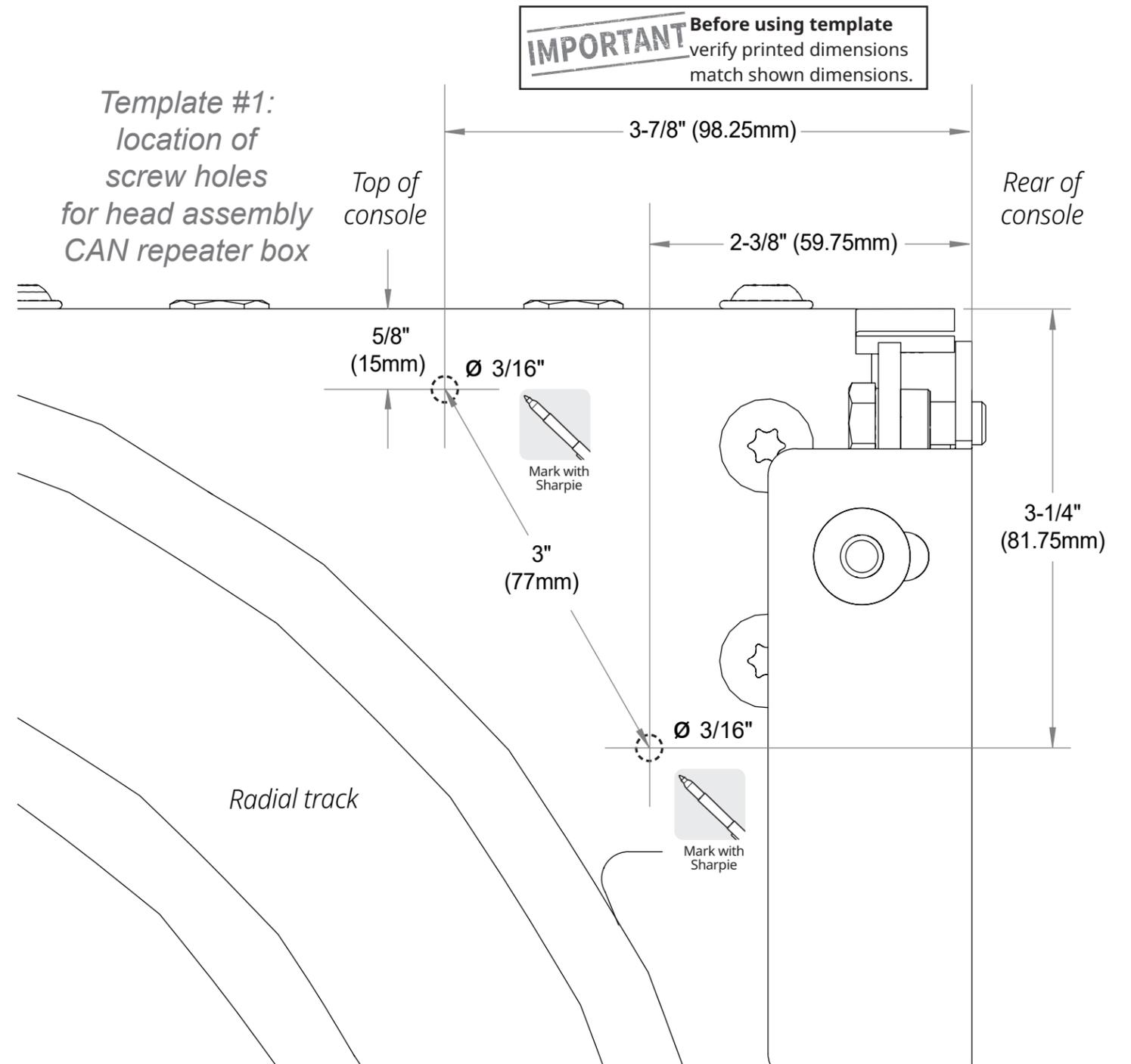
NOTE: The kit includes an **extra bolt and nut** for the CAN repeater box in the console. Discard them if they are not needed.

Drive side console

CAN repeater box
Mounts inside console
Mounting hardware:
(3) bolts and nuts

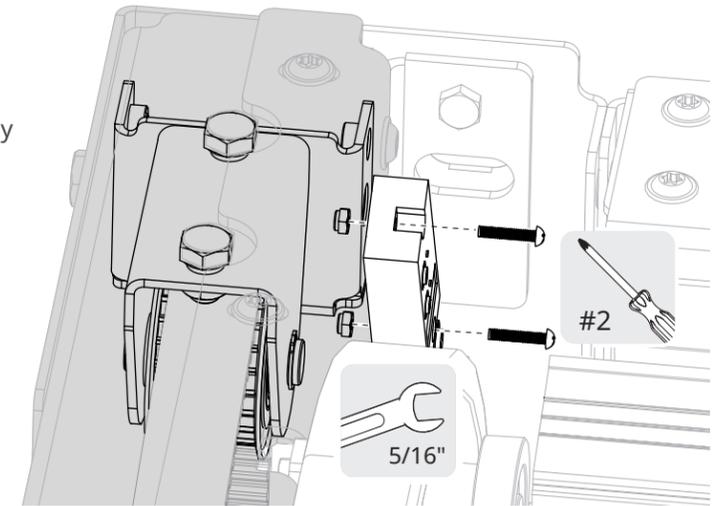


IMPORTANT Before using template verify printed dimensions match shown dimensions.



Back of Template #1
Intentionally left blank

4 Install the CAN repeater into the drive side console.
Space between the side of the console and the pulley assembly is tight. You will probably need a flat wrench to position the nuts.



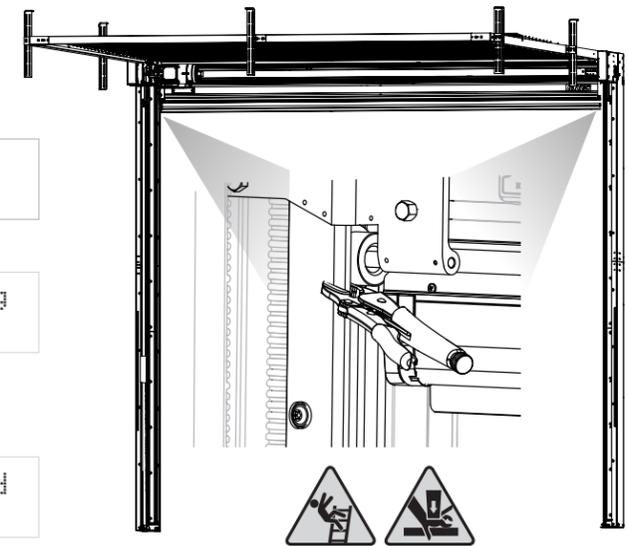
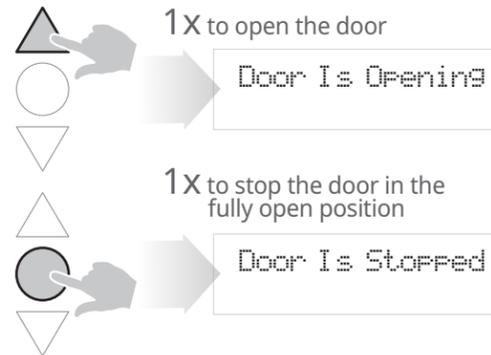
5 Remove the lockout/tagout and restore power to the door.

6 Set the door in the fully open position.

IMPORTANT

Place vice grips in the door track below the bottom roller on both sides of the door to secure it in place.

You start in run mode



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



WARNING

Set the fused disconnect to the OFF position and perform a lockout/tagout of the high-voltage disconnect before doing any extended service to the door.

Failure to comply could result in death or serious injury if the door opens or closes unexpectedly.



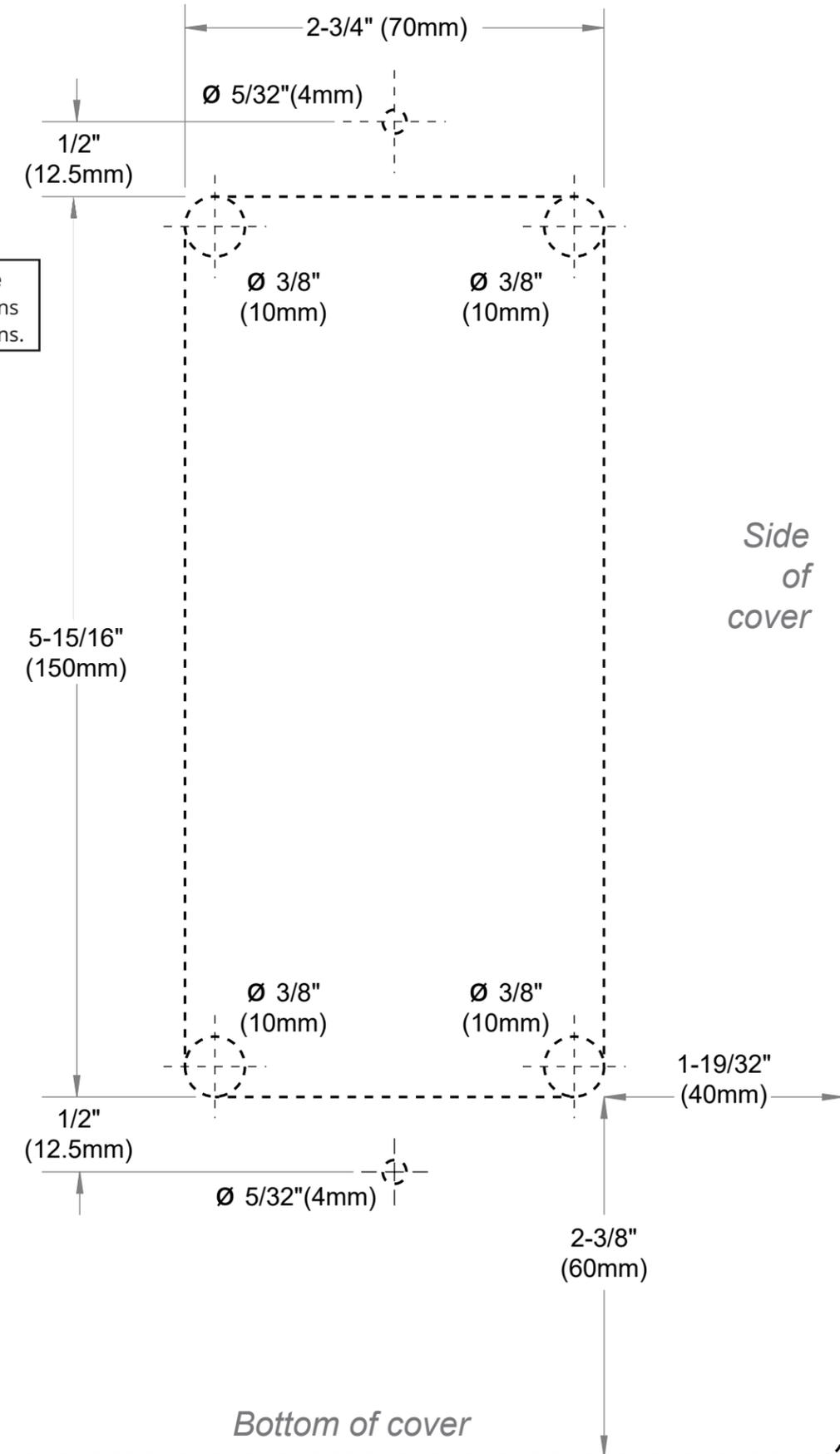
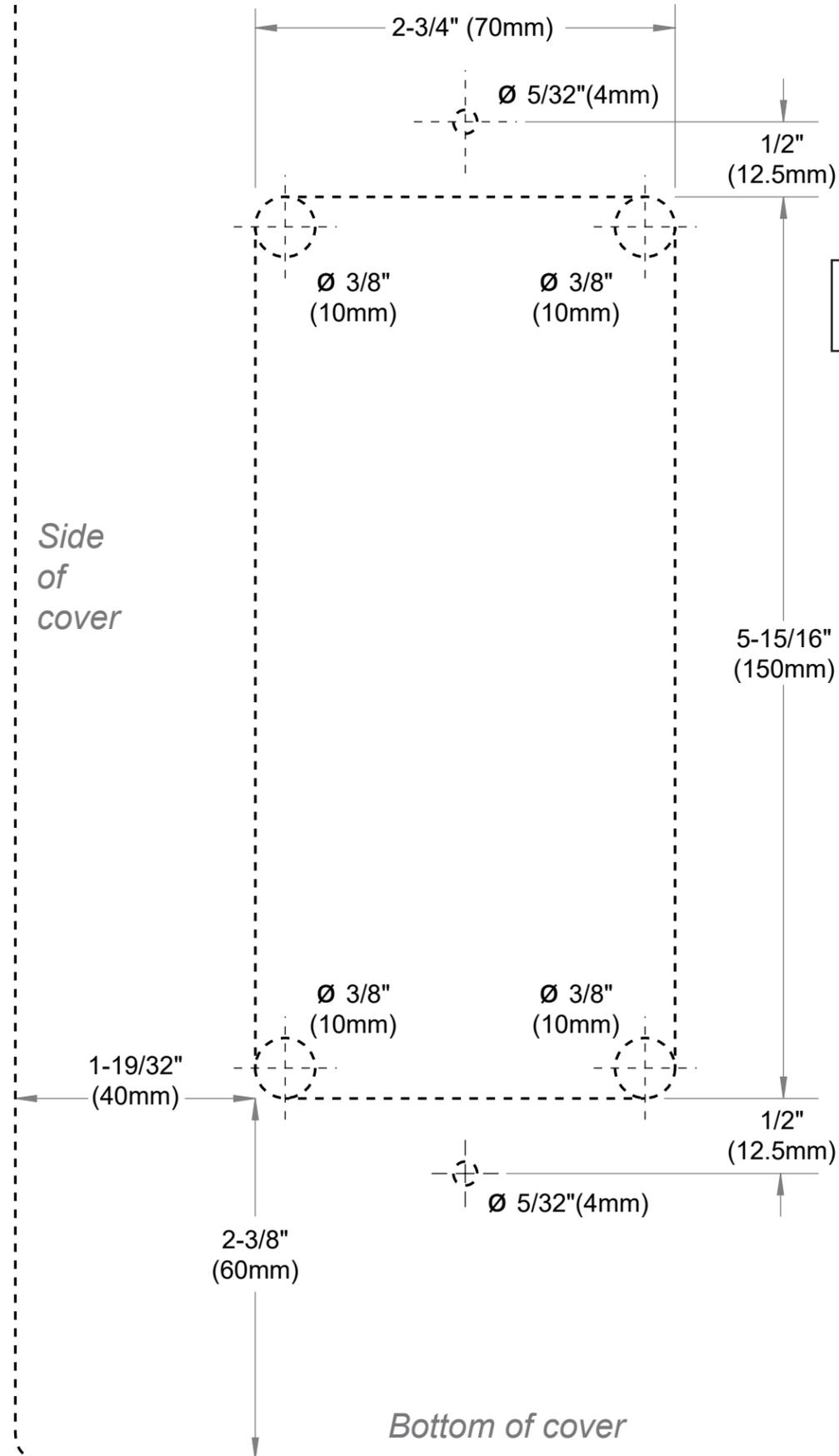
Left side
side column cover

Right side
side column cover

Template #2:
cutout for
side column
access port

This template is
used in
Step 2 on page 11

IMPORTANT Before using template
verify printed dimensions
match shown dimensions.



Back of Template #2
Intentionally left blank

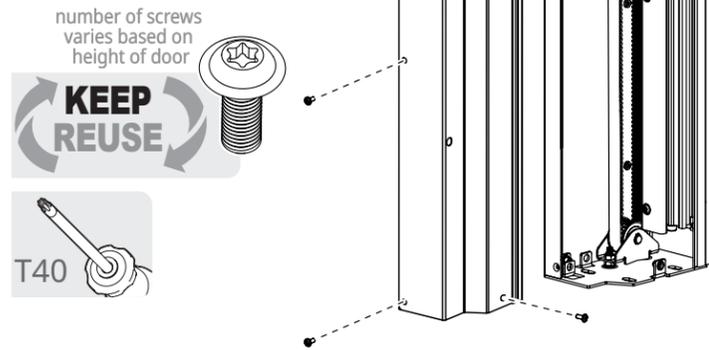
How to install the SmartSurround™ light curtains

INSIDER'S TIP

If the side column is blocked so that the access cover would not be accessible, such as by a bollard positioned too close to the door, consult with the owner to see whether or not they want the access cover installed.

1 Loosen the bolts and remove the side column covers on both side columns.

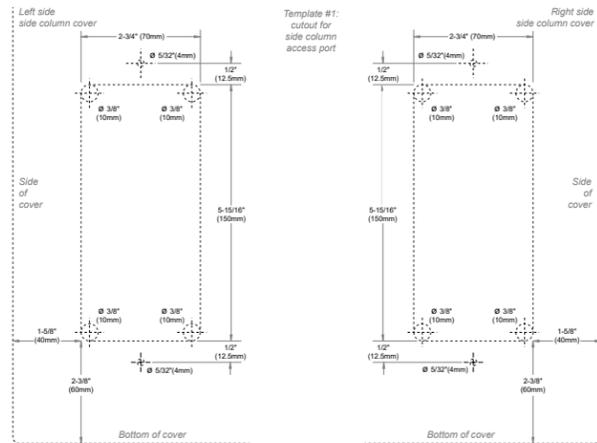
The left side side column cover is shown for these steps.



2 Remove the cutting templates (#2) from the previous page of this manual.

Separate the templates into left and right sides.

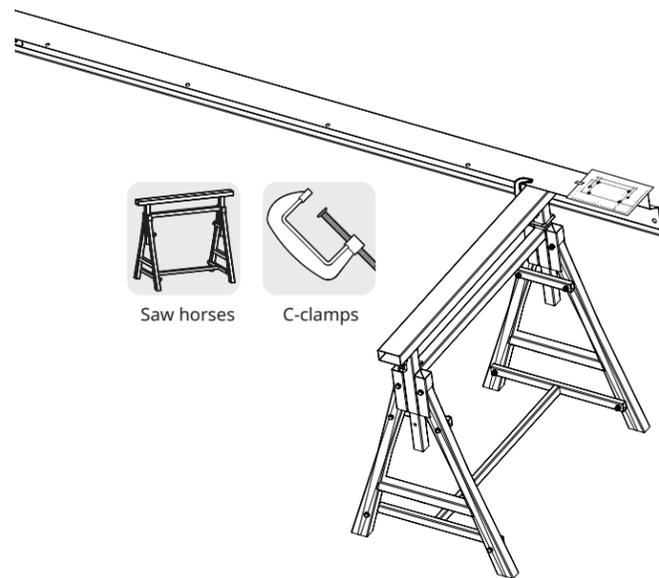
Tape the templates to the side columns.



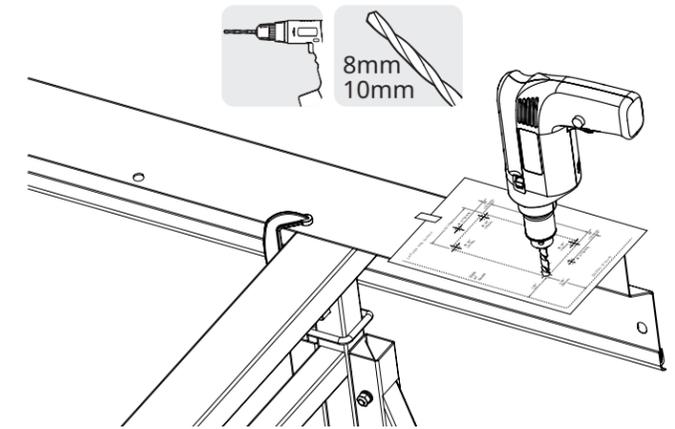
3 Clamp the cover to saw horses.

IMPORTANT

Make sure the c-clamps do not scratch the surface of the cover.

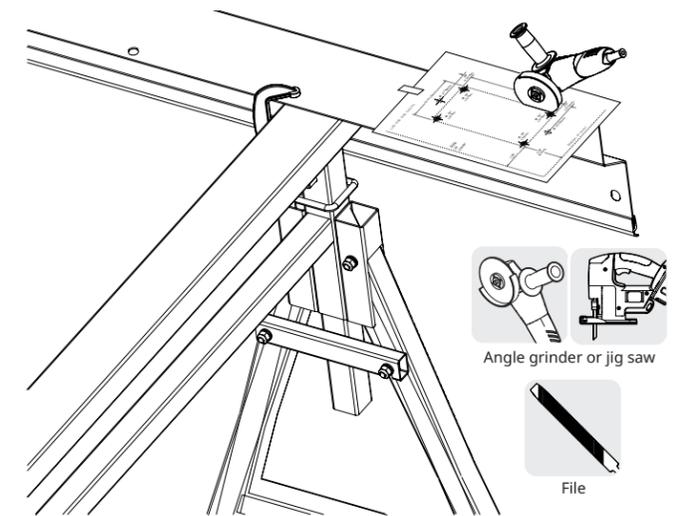


4 Drill out the four corners for the side column access port.
Drill out the two holes for the tek screws.

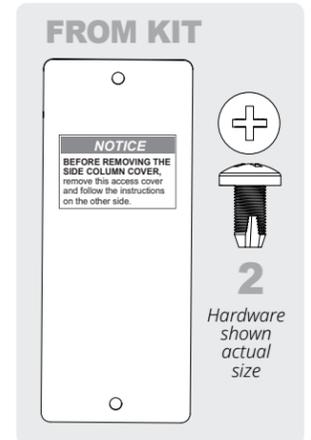
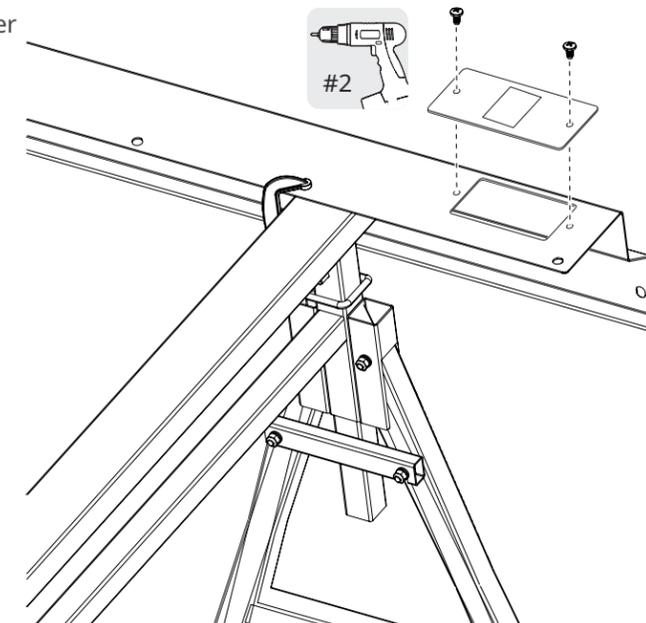
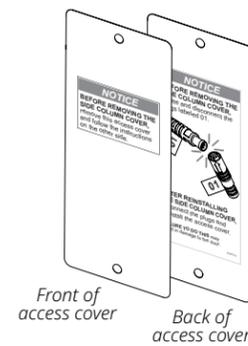


5 Cut between the corners with an angle grinder or jigsaw.

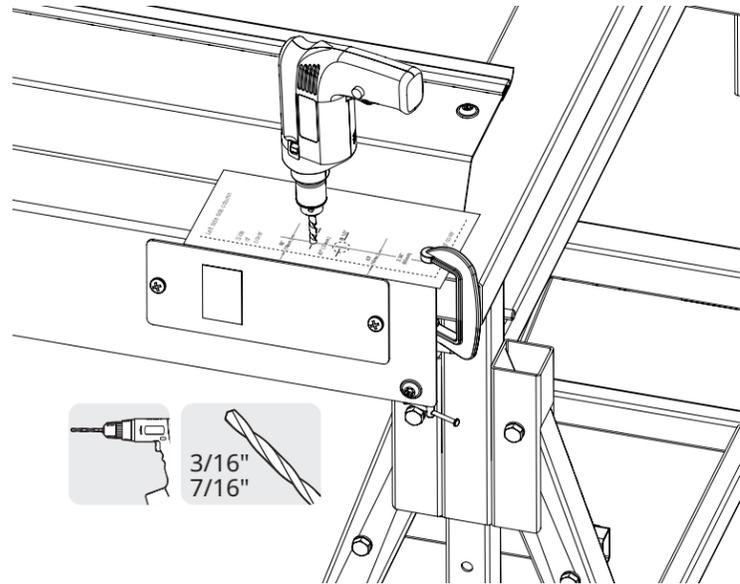
File all edges smooth when you are done



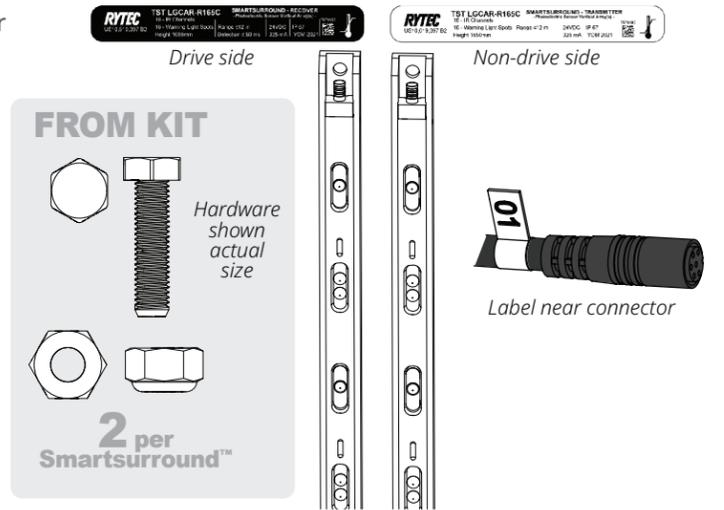
6 Secure the access cover in place with the two thread cutting screws from the kit.



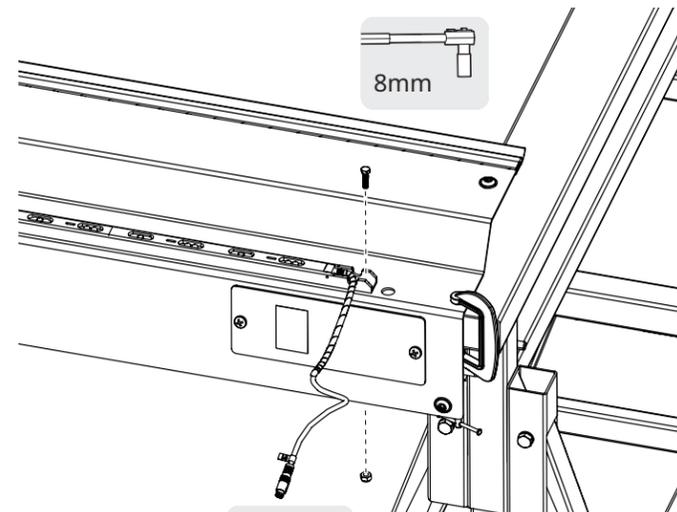
- 7 Flip and reclamp** the side column.
Remove the drilling templates (#3) from the next page of this manual.
Separate into drive and non-drive side and **tape in place** on the side columns.
Drill out the holes for the bottom bolt and the SmartSurround™ cable.



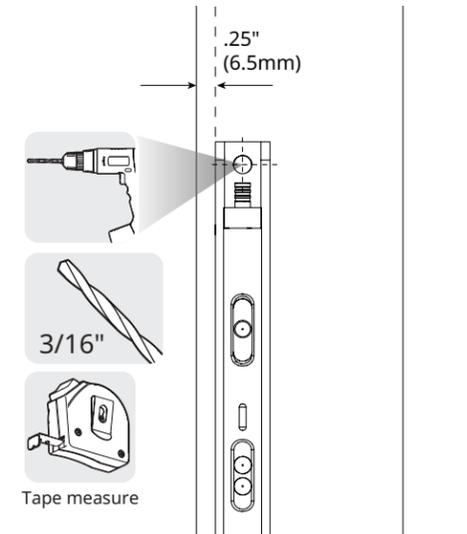
- 8 Get** the labeled SmartSurround™ transmitter and receiver, as well as the mounting hardware, from the kit.
Check the labels and make sure the receiver goes on the drive side cover and the transmitter goes on the non-drive side cover.



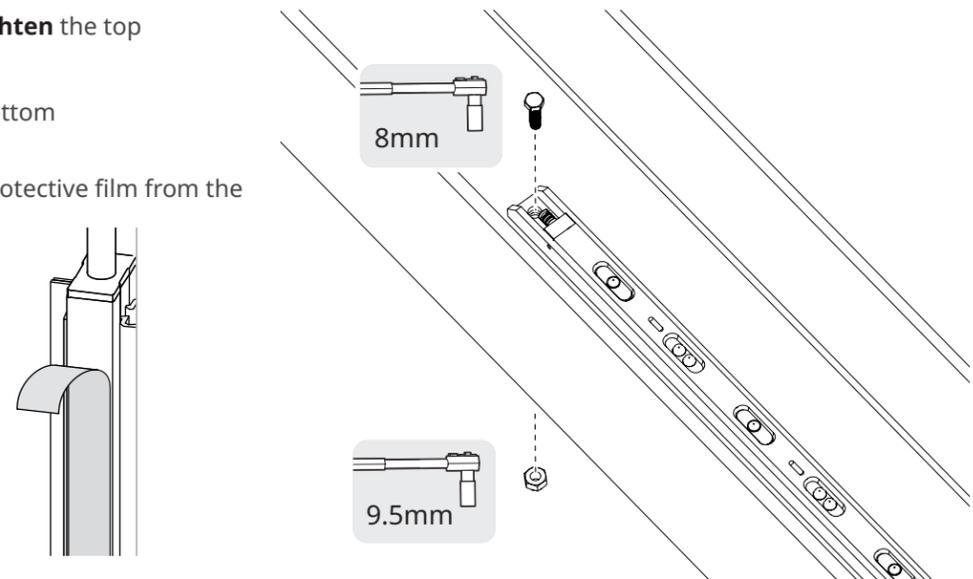
- 9 Install** the bolt and nut into the bottom hole in the SmartSurround™ mounting channel.
Leave them loose until you have installed the top bolt/nut combination.



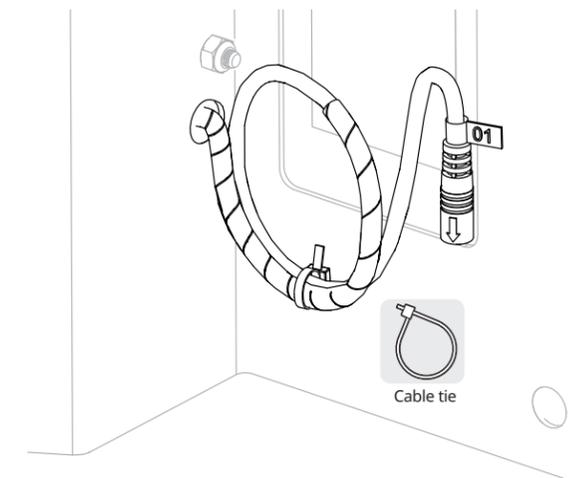
- 10 Line up** the SmartSurround™ mounting channel with the edge of the side column.
 There should be .25" distance from the edge the full length of the light curtain.
Drill out the top bolt hole through the top hole in the channel.



- 11 Install and tighten** the top bolt and nut.
Tighten the bottom bolt and nut.
Remove the protective film from the light curtains once they are installed.



- 12 Thread** the cable through the hole in the side column cover.
INSIDER'S TIP
Loop the cable and cable tie the loop to minimize loose cabling in the side column.



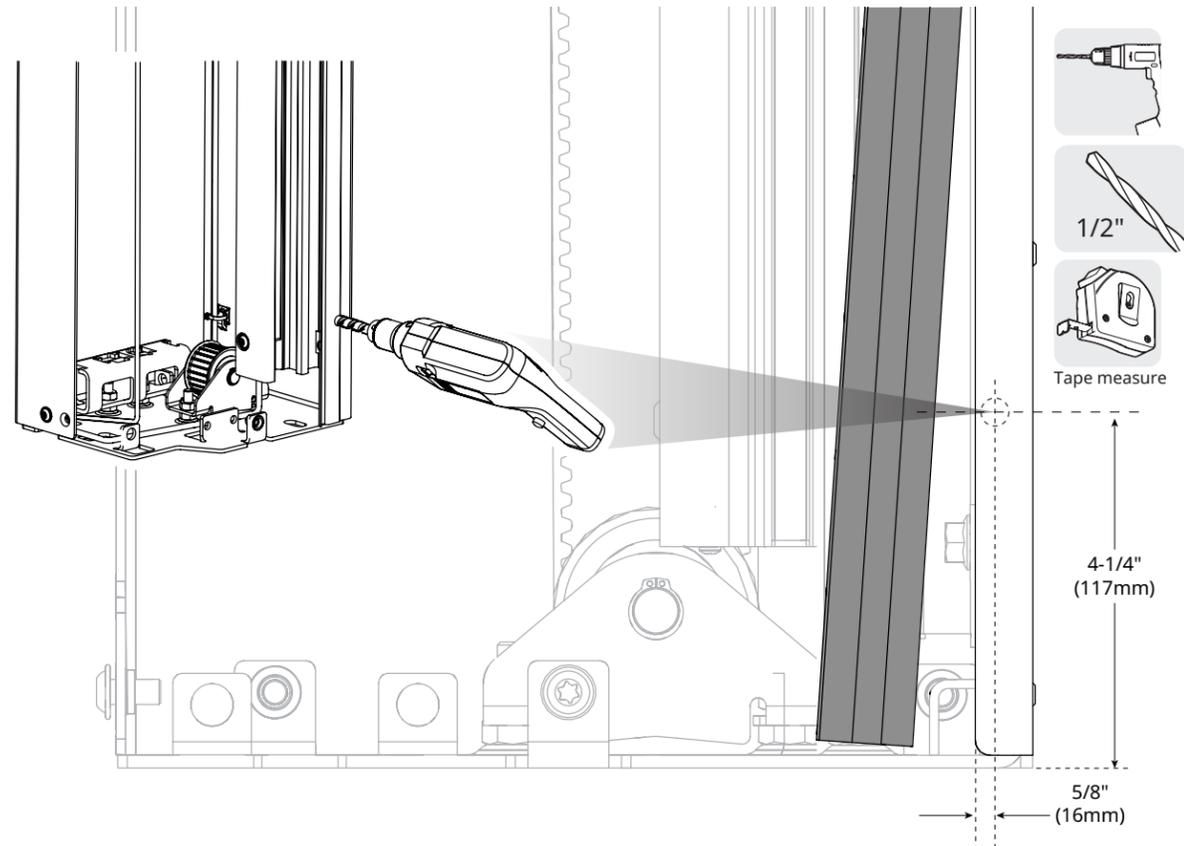
13 Drill out the hole in the rear of the side column for the cable from the jamb mounted SmartSurround™.

IMPORTANT

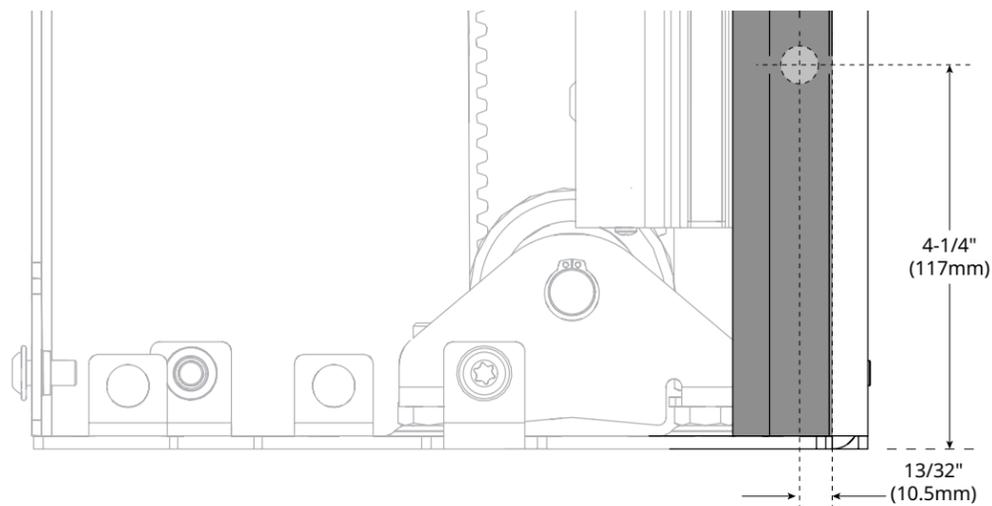
Make sure there are no cables where you are drilling. If necessary, wait until you have removed the current cabling before doing this step.

Repeat these steps on both sides of the door.

1. First, **pull back** the bottom of the rear seal to expose the lip of the side column. **Drill out** the lip.



2. Mark the hole location on the seal, set it firmly back in place, and drill out the seal.



Template #3:
holes for
side column
cover
SmartSurround™

This template is
used in
Step 7 on page 12

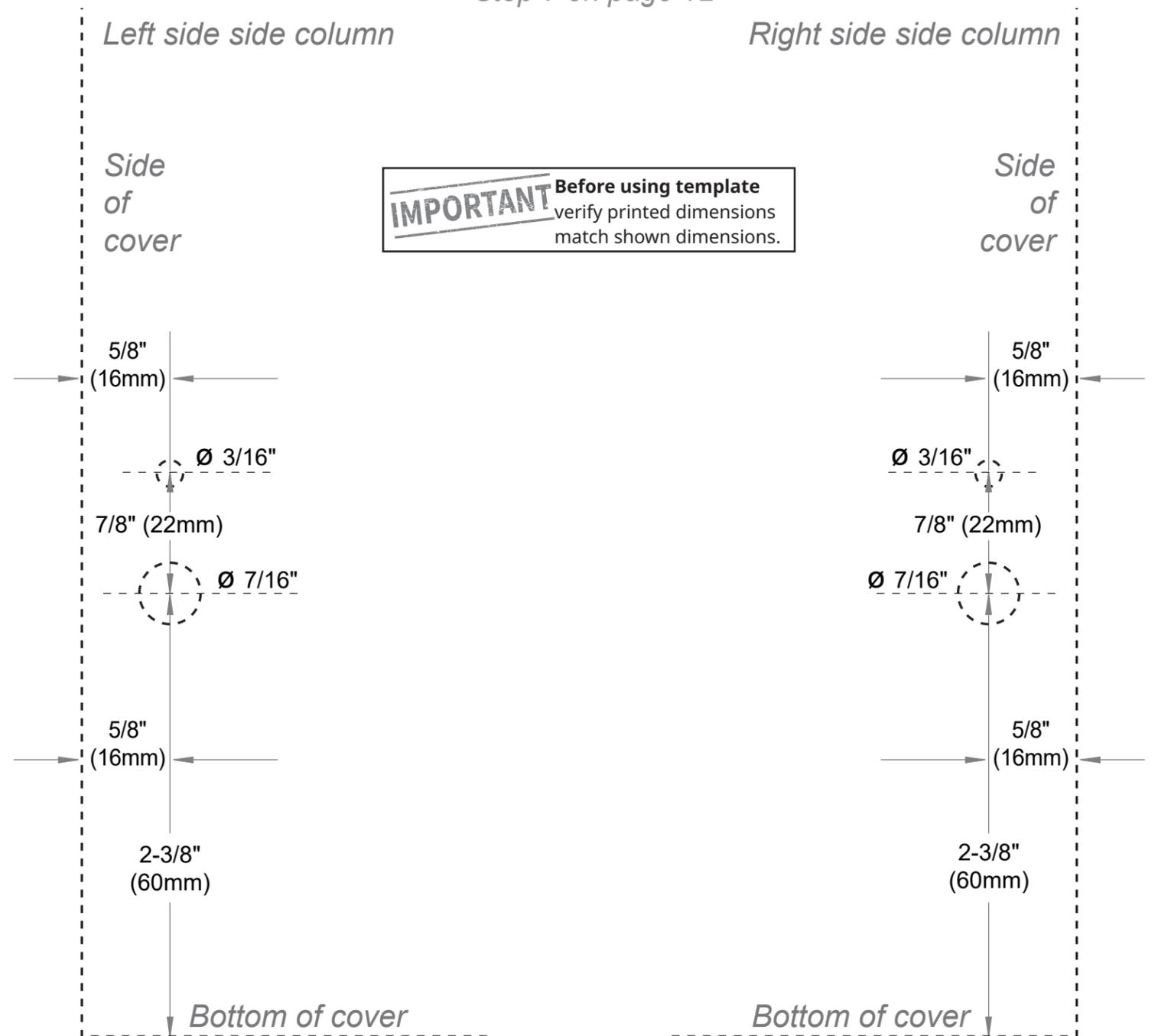
Left side side column

Right side side column

Side
of
cover

Side
of
cover

IMPORTANT Before using template
verify printed dimensions
match shown dimensions.



Back of Template #3
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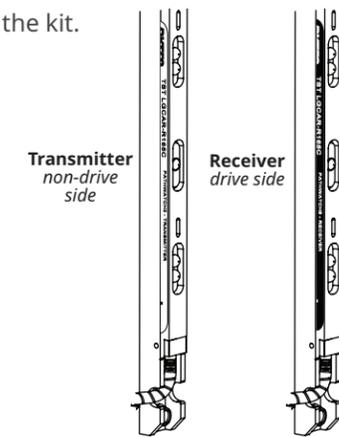
14 Get the jamb mounted SmartSurround™ transmitter and receiver from the kit.

IMPORTANT

Make sure the jamb mounted and cover mounted SmartSurround™ transmitters are both on the **non-drive side of the door.**

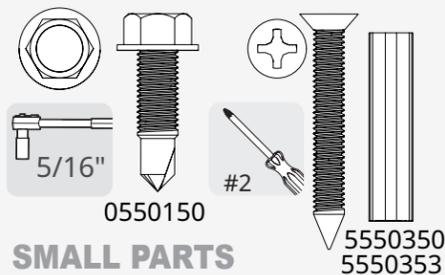
Make sure the jamb mounted and cover mounted SmartSurround™ receivers are both on the **drive side of the door.**

Check the labels at the bottom of the light curtains to match.



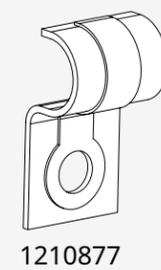
15 Install the jamb mounted SmartSurround™ light curtains and cables onto the drive side and non-drive side walls of the door opening.

Use supplied anchored or self-tapping screws to secure light curtains and P-clips.



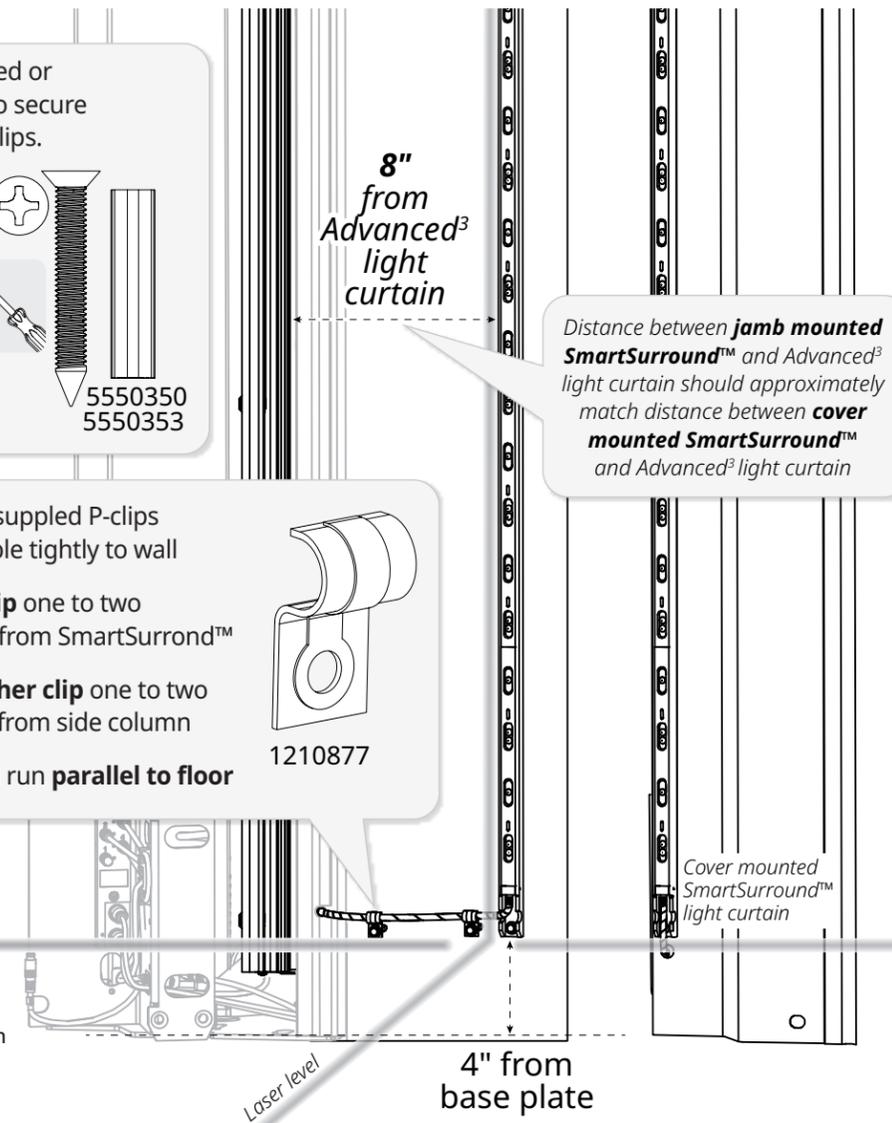
SMALL PARTS

Use two (2) supplied P-clips to secure cable tightly to wall
Place one clip one to two inches (1-2") from SmartSurround™
Place the other clip one to two inches (1-2") from side column
Cable should run **parallel to floor**



If the floor is level, use the cover mounted SmartSurround™ and a laser level to set the mounting height of the wall mounted light curtain.

The **bottom** of the aluminum retaining bracket should be **4" above base plate.**



OPTIONAL: How to install the BTA4 user terminal frame

1 Cut out the drilling template on this page for the BTA4 unit.

Use the template to drill the four screw holes in wall near the door.

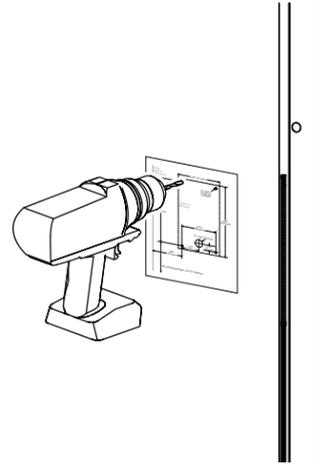
Match the drill bit to the supplied hardware or your own.

Match the correct depth for the hardware.

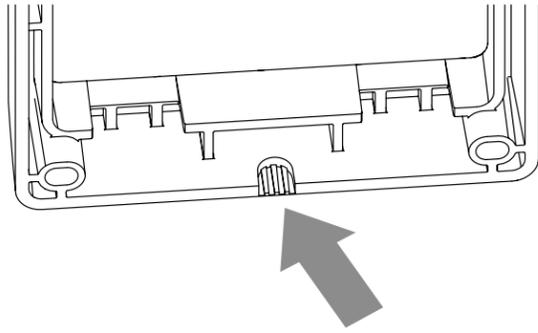
Use a step bit to drill the large hole for the cable.

IMPORTANT

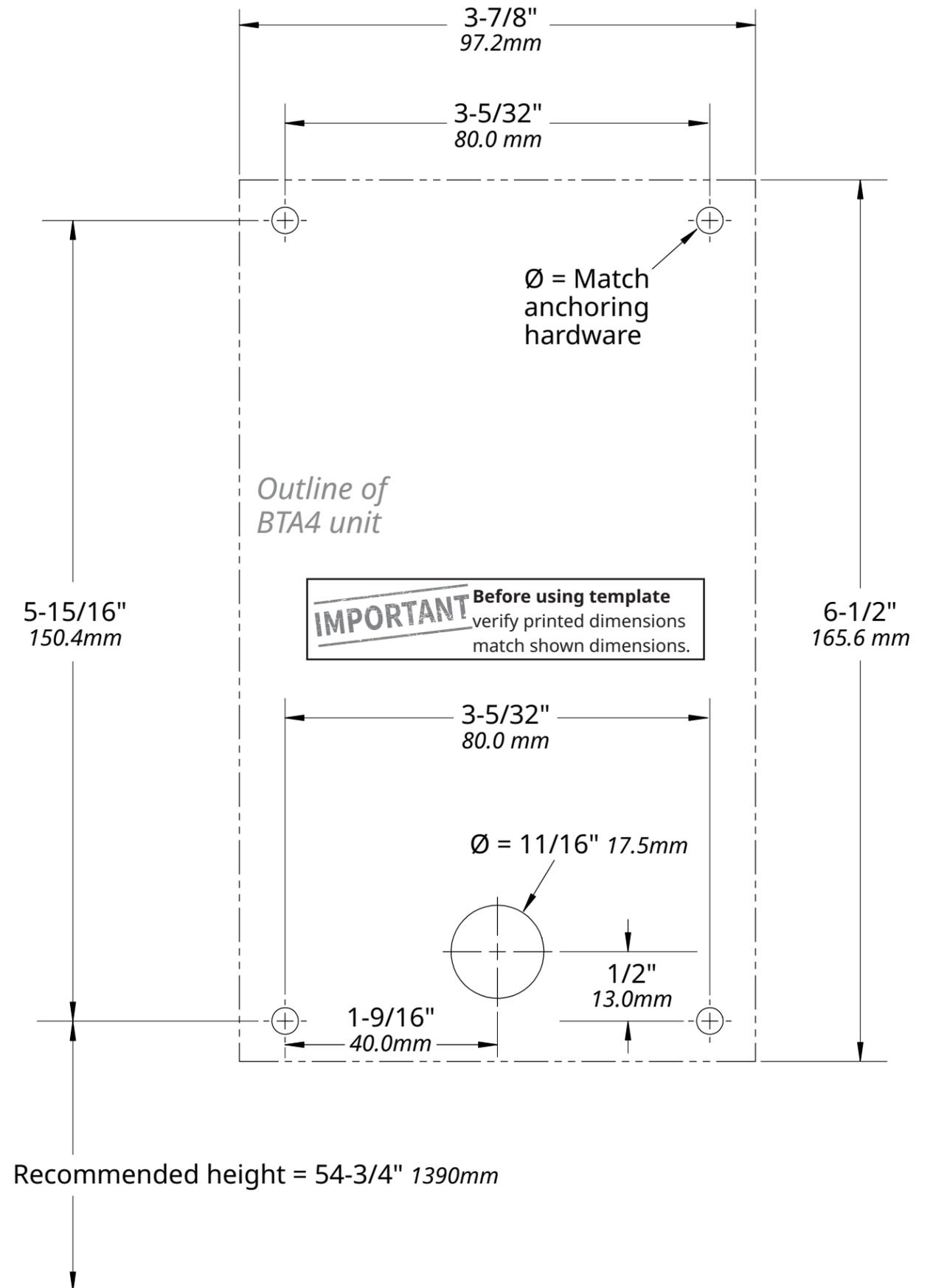
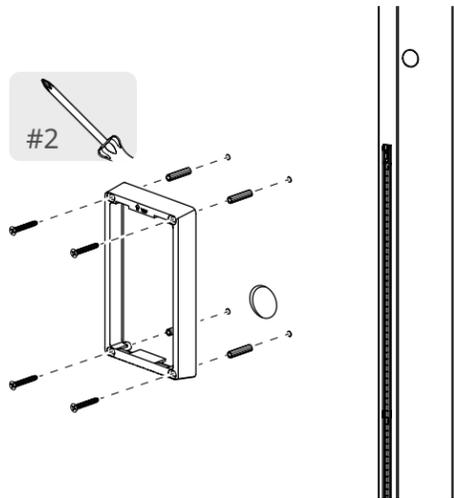
NOTE: if the wall mount does not make it possible to run the cable inside the wall, you can run the cable out of the bottom of the frame.



2 If you are mounting the unit to the wall and cannot run cable inside the wall, **snap off** the perforated tab at the bottom of the frame.



3 **Install** the BTA4 frame using the supplied hardware for wall mounting, or your own.



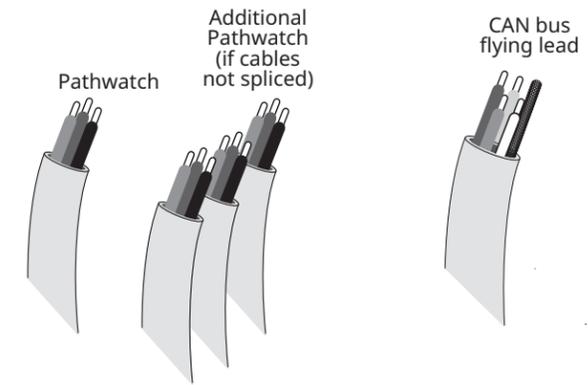
How to remove the Pathwatch, light curtains and internal cabling

IMPORTANT

INSIDER'S TIP

- **Keep cabling intact when you remove it.**
So cut cable ties, but not cable.
- **It should not be necessary to add conduit.**
You will remove as many cables than you add.
Call Rytec technical support if you have any questions.

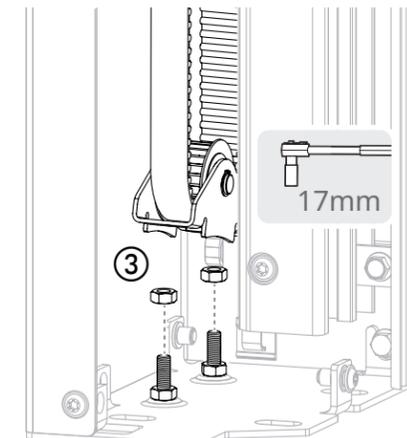
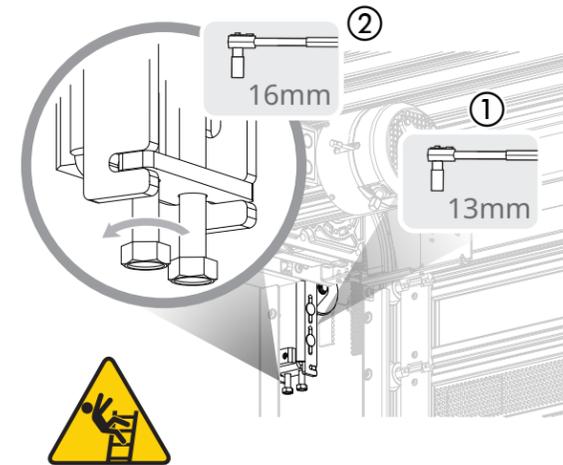
Cables removed from conduit Cables added to conduit



Back of BTA4 template
Intentionally left blank

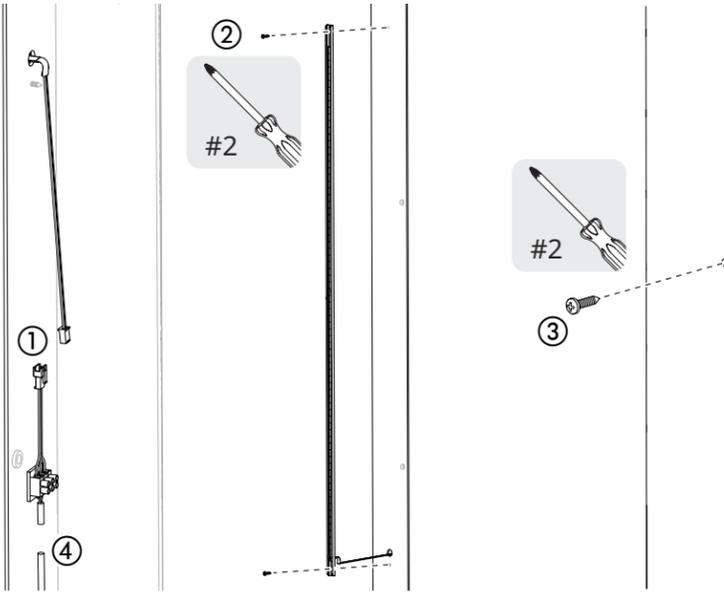
1 Loosen the secondary drive belt in both side columns, then **uninstall** the baseplate pulley assemblies and **secure** the belts to the side, so that you have unrestricted access to the inside of the side columns.

- 1:** Loosen the restraining bolts on the idler bracket ①, then **turn** the adjustment screw ② **counterclockwise** until the bracket stops moving forward.
- 2:** Loosen, then **remove** the front and rear nuts on the baseplate pulley assembly ③.
- 3:** **Secure** the belt and pulley assembly to the side.



First, remove the Pathwatch LED strips and cables

- 1** In both side columns, unplug the Pathwatch LED strips at the quick connect ①.
Remove the Pathwatch strips from the side columns ②.
Replace the screws ③ to maintain the appearance of the side columns.
Cut the cable below the jumper ④ and discard the jumper and quick connect.



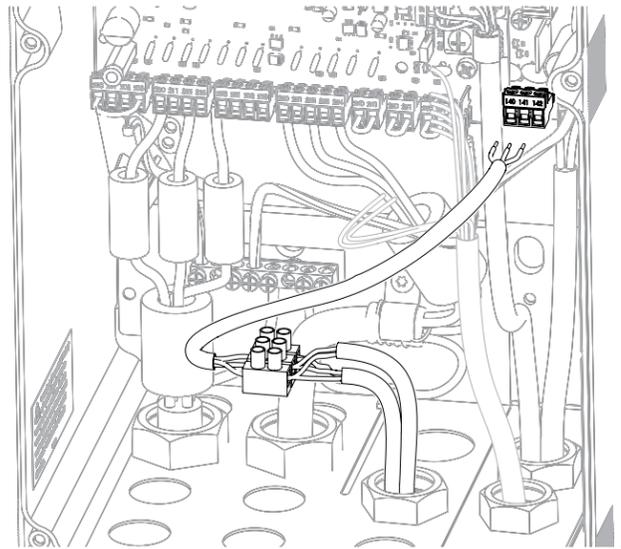
- 2** Inside the controller, disconnect the Pathwatch cable from terminal block 140-142.
Disconnect the wires from the terminal block.

INSIDER'S TIP

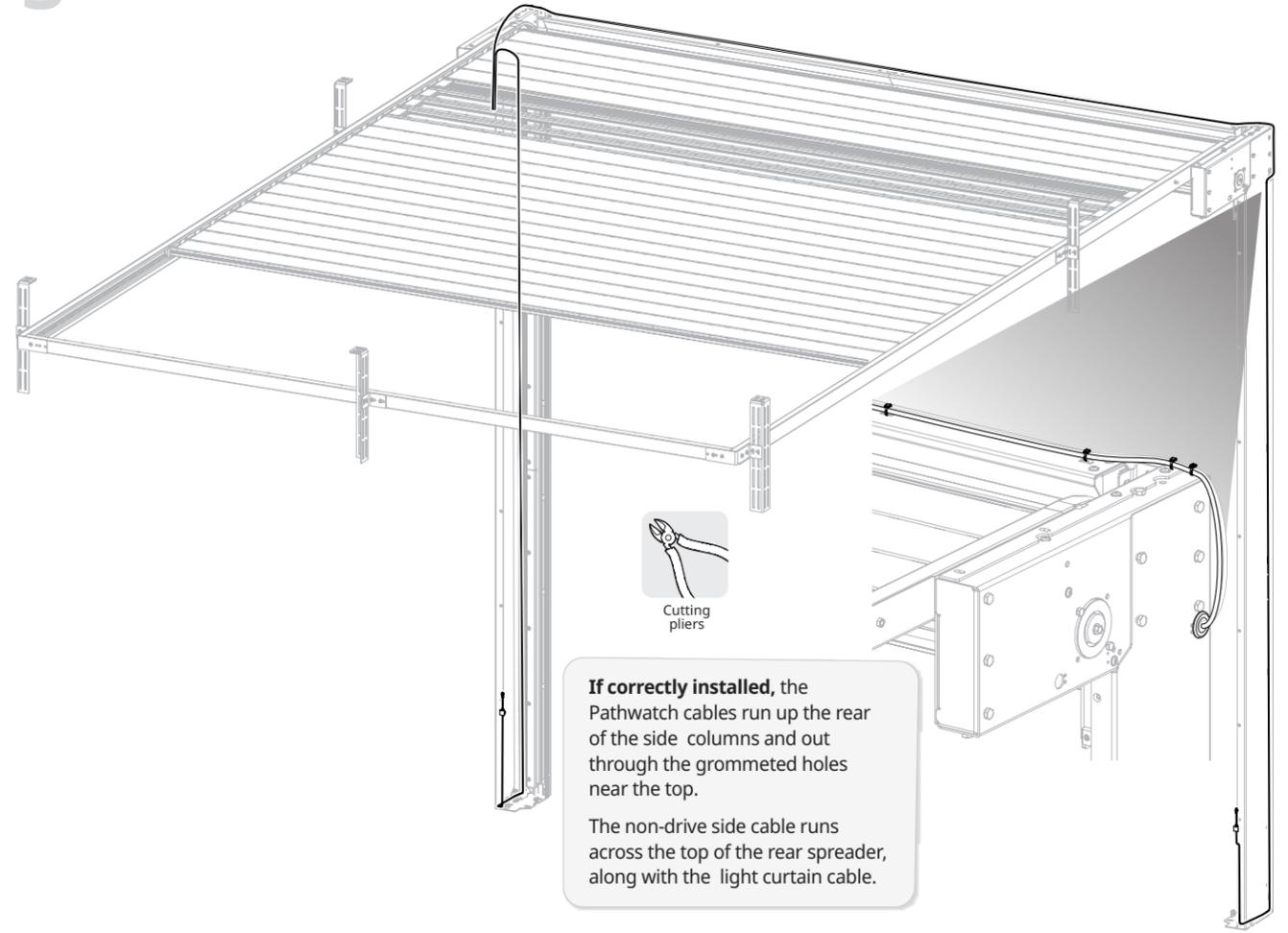
Pathwatch cables may be spliced at the door, or inside the controller, so there may be one, or multiple, cables at the controller.

IMPORTANT

Leave the incoming cable in place. You will use it to fish the CAN bus flying lead into the controller.

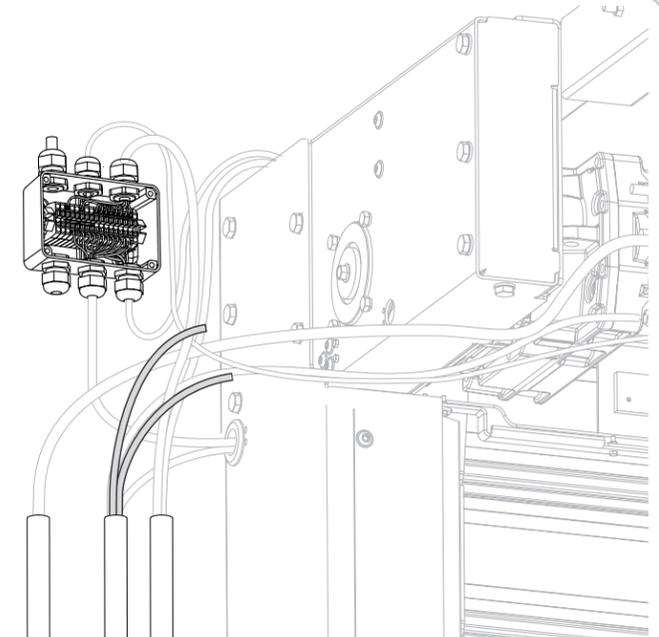


- 3** Remove the Pathwatch cables from the drive side and non-drive side of the door.



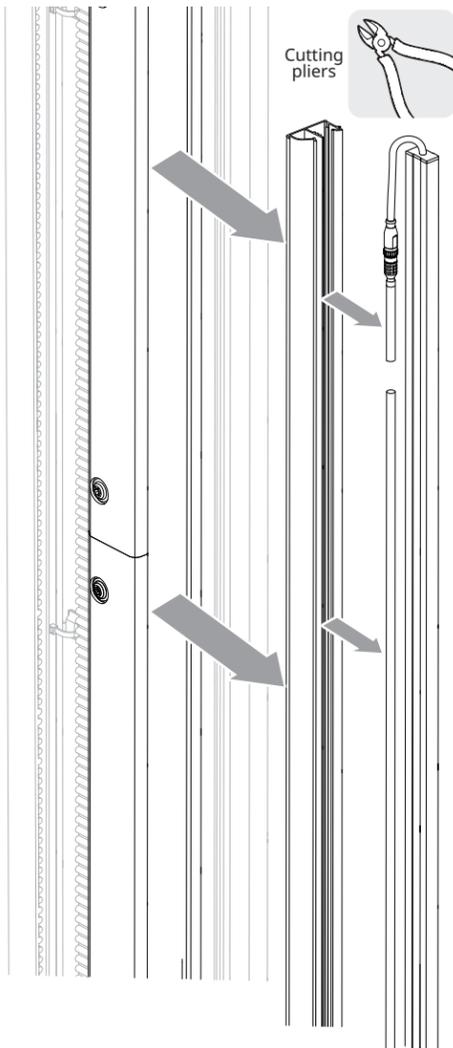
- 4** Follow the cables to the conduit, and trim to within a foot of the conduit.

The Pathwatch cable(s) will be taped to the CAN bus flying lead and fish the flying lead through the conduit.



Then remove the light curtains and cables

- 1** Remove the light curtain transmitter and receiver from the door tracks. **Cut** the cables below the connectors. Remove the track clip/wire chase that hold them in place.



There may be **one long** track clip or **multiple smaller** ones.

IMPORTANT

Service techs may have used additional strips of double sided tape or adhesive to secure the clips.

You may need to **use a chisel** to remove the clips from the door tracks.

Make sure the door tracks are not damaged, and **fully clean** the tracks to remove any adhesive residue.

The new track clips are held in place by friction.

Some doors have **washers, bumpers or brackets** added to the bottom of the door track to prevent the clips from slipping.

Theses can **remain in place.**

- 2** Remove the light curtain cables from the drive side and non-drive side of the door.

Both cables terminate at the X-10 junction box.

If correctly installed, the light curtain cables run up the rear of the side columns and out through the grommets holes near the top.

- 3** **Locate** the light curtain transmitter and receiver cables at the X-10 junction box and **cut** the cables where they enter the junction box. **Discard** cables.

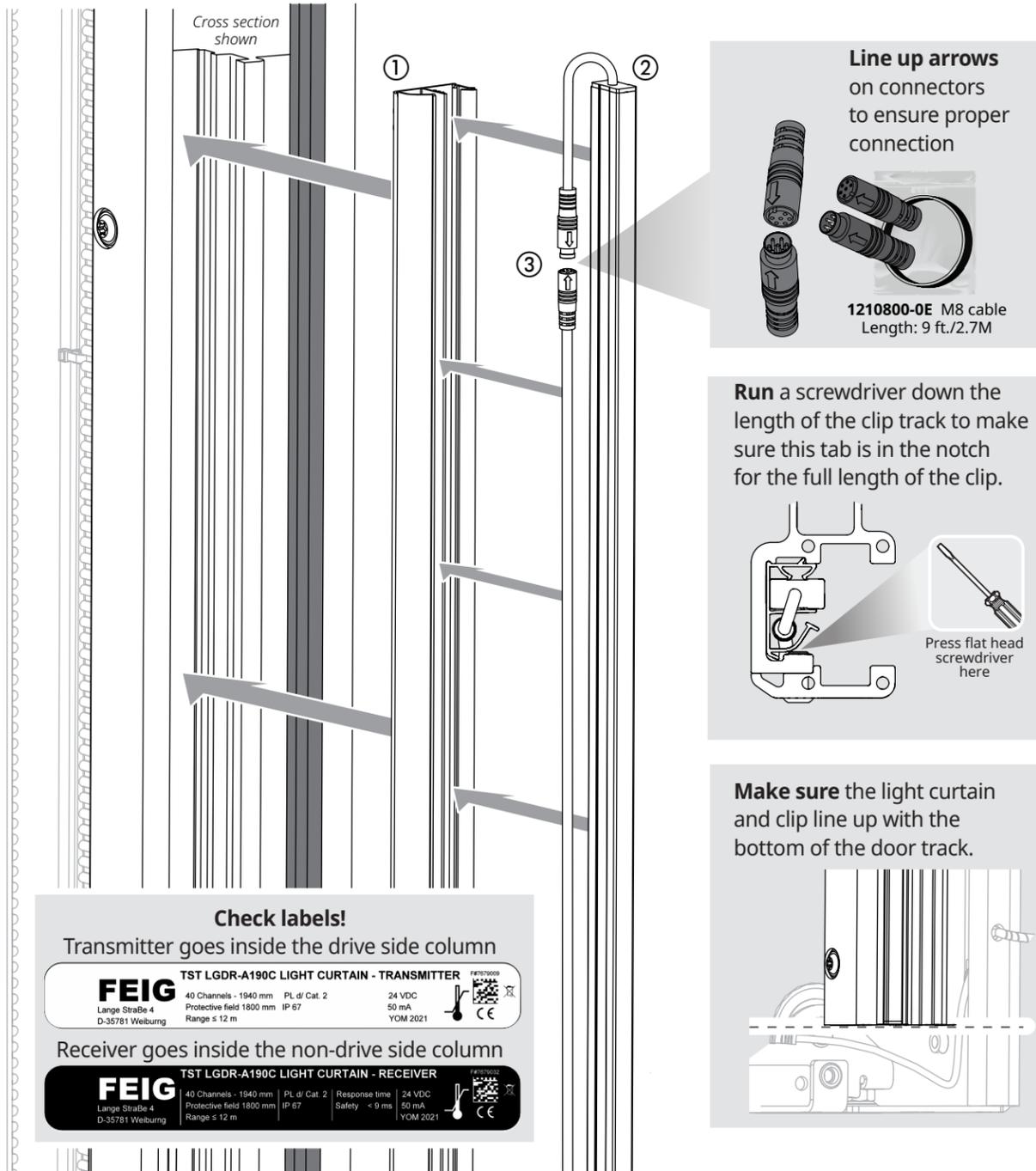
How to install the Advanced³ light curtain and side column CAN bus cabling

- Get** the two Advanced³ light curtains, track clips and 9-foot (1210800-E) M8 cable from the kit.

 - Install** the track clips into the door track. They are held in place by friction.

 - Line up** the bottom of the clip with the bottom of the door track
 - The fit is tight.** Run a flathead screwdriver down the length of the clip to ensure it is fully seated in the track.
 - Install** the Advanced³ light curtains into the clips. They are also held in place by friction.

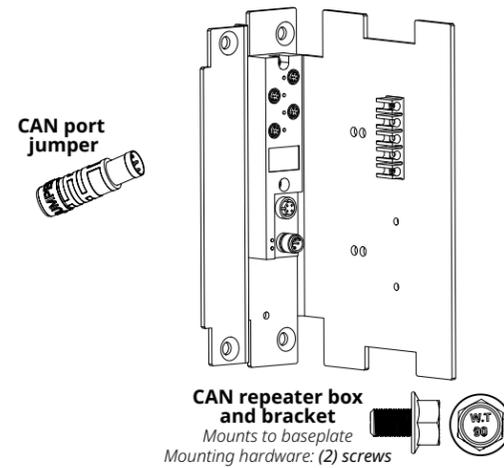
 - Make sure** the transmitter is installed into the drive side, and the receiver is installed into the non-drive side.
 - Line up** the bottom of the light curtain with the bottom of the track.
 - Connect** the 1210800-E M8 cables to the light curtains and run the cables inside the length of the clip.



- Get** all parts from the kit for the drive side and non-drive side baseplates.

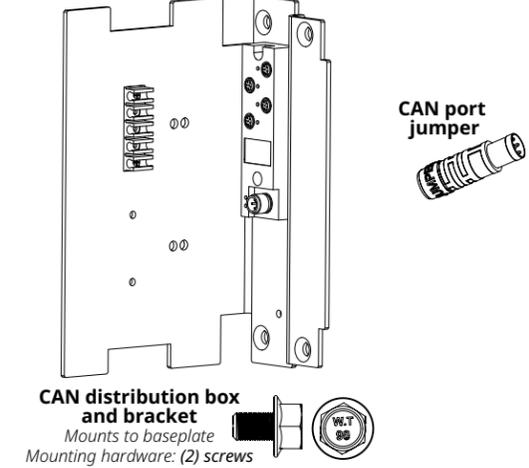
Drive side side column baseplate

- (2) M8 CAN cables
PN: 1210800-0B (1 foot) and 121-0800-0E (1 foot)
- (1) M8 CAN cable with label
PN: 1210879-0 (1 foot)
- (2) M12 CAN cables
PN: 1210855-0



Non-drive side side column baseplate

- (2) M8 CAN cables
PN: 1210800-0B (1 foot) and 1210800-0E (9 foot)
- (1) M8 CAN cable with label
PN: 1210879-0 (1 foot)
- (1) M12 CAN cable
PN: 1210855-0



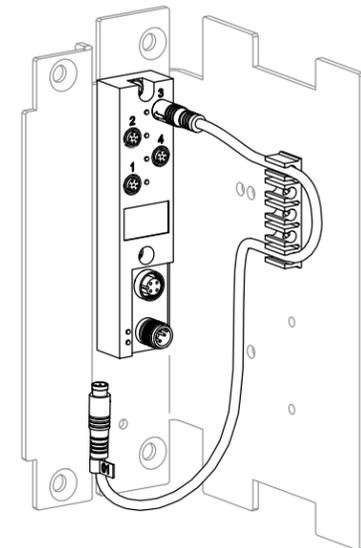
Parts shown are for a left-hand drive side door.

NOTE: CAN repeater boxes have two ports for M12 cables. In a Spiral LP, they are located on the drive side baseplate and the drive side console. The CAN distribution box has one port for an M12 cable and is located on the non-drive side baseplate.

- Repeat all steps** on the drive and non-drive side of the door.

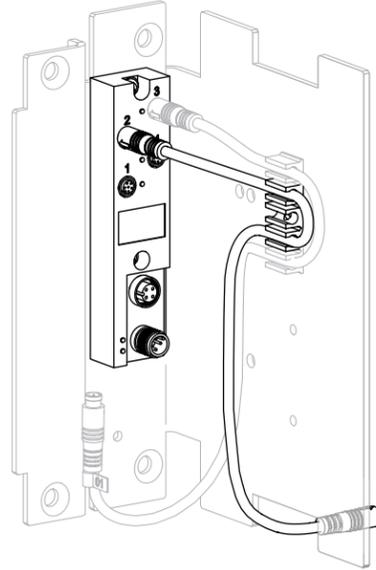
Do the next three steps BEFORE you install the brackets into the side column baseplates.

Install the labeled 1-foot M8 cable into **port 3** of the boxes on both brackets and through the top and bottom slots on the holders.

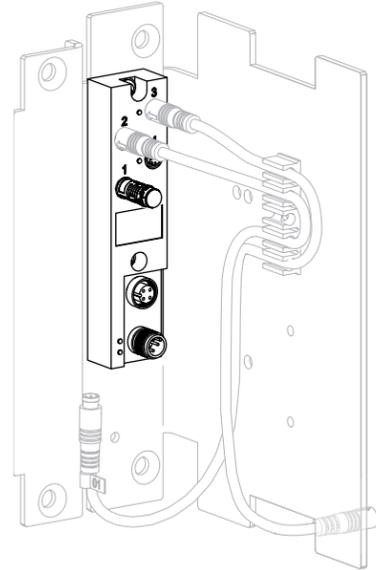


4 Install the other 1-foot M8 cables into **port 2** of the boxes on both brackets and through the second and fourth slots in the holders.

- This cable connects to the cable from the **jamb mounted SmartSurround™** light curtain.
- **Push** the connector through the opening in the bracket.



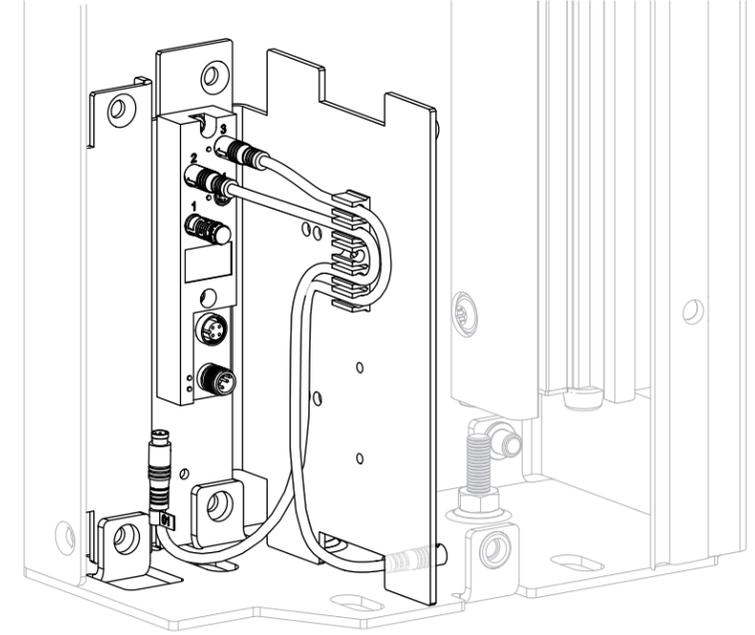
5 Install the jumper into **port 1** of the boxes on both brackets.



6 Place the brackets into the baseplates of the side columns.

IMPORTANT

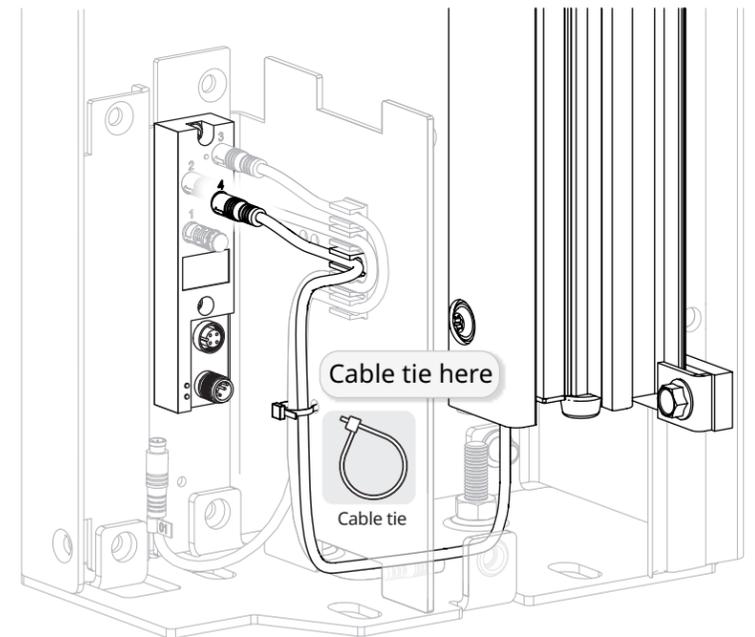
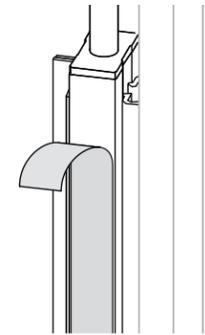
DO NOT bolt them in place. You will secure them in place **later**.



7 **Route** the cable from the Advanced³ light curtains in both side columns through both openings in the brackets.

Plug the connector into port 4.

Remove the protective film from the Advanced³ light curtains once they are installed.



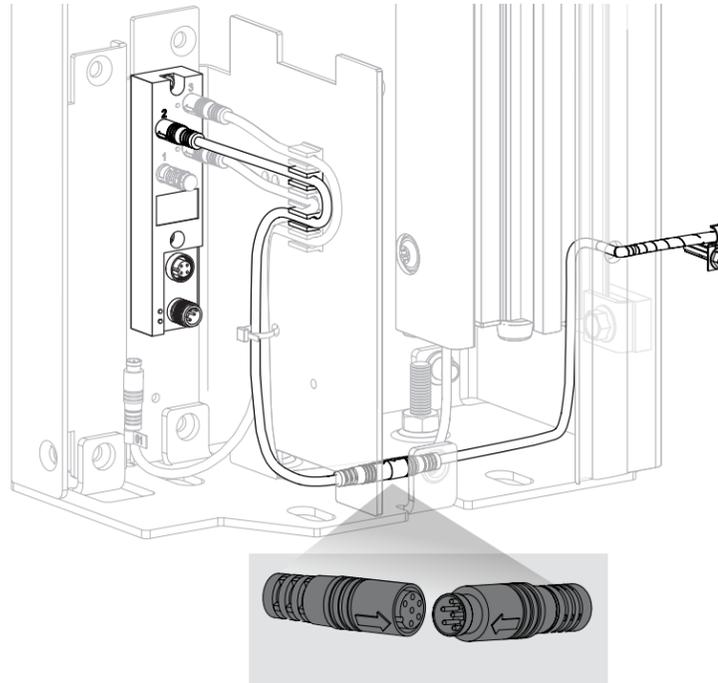
8 Route the cable from the jamb mounted SmartSurround™ light curtain down the back channel of the vertical track **BEHIND and separate from the door track** to the floor of the baseplate.

IMPORTANT

This routing keeps the cable clear of the door panel rollers when the door opens and closes.

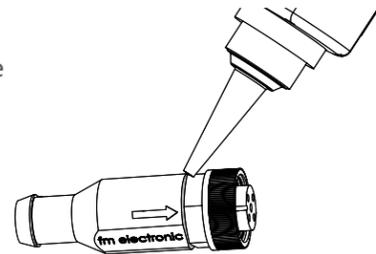
Line up the embossed arrows on the connectors to align the guide notch and contacts correctly, and plug the cable into the cable that connects to port 2.

Route the cables through the opening in the gasket.



For all M12 connections: on female connectors, a drop of WD-40 behind the nut on the locking ring makes it easier to turn the ring and fully secure the connection. Spin the ring to distribute evenly. Do not overlubricate.

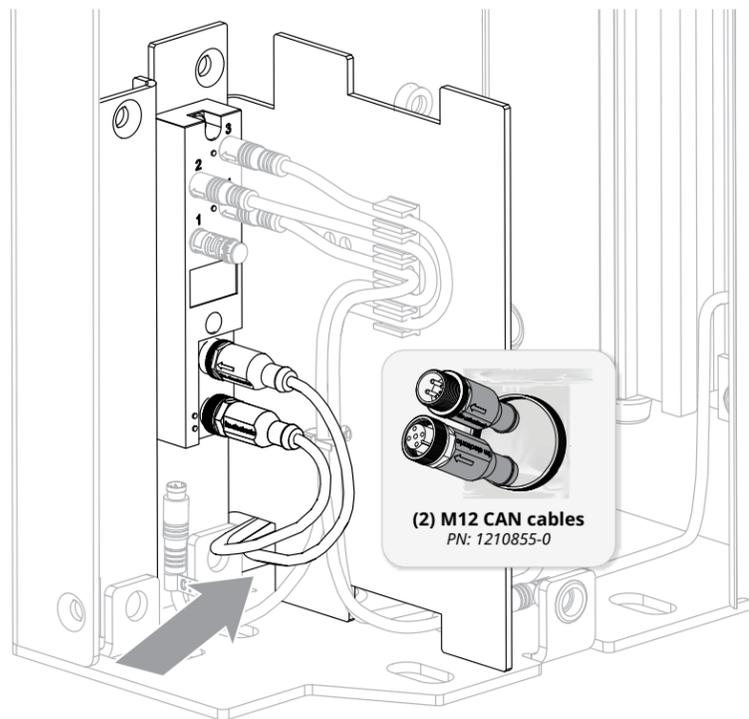
INSIDER'S TIP



9 Get two long M12 cables and connect them to the two M12 ports on the bracket.

One is a male connector, the other a female connector.

Route them through the rear opening in the bracket, where it bends.



10 Place cable ties and anchors against the outer wall of each side column, near the CAN bracket and near the rear of the side column, just above the baseplate.

Also place a cable tie and anchor against the rear wall of the side columns to route the cable up the side column.

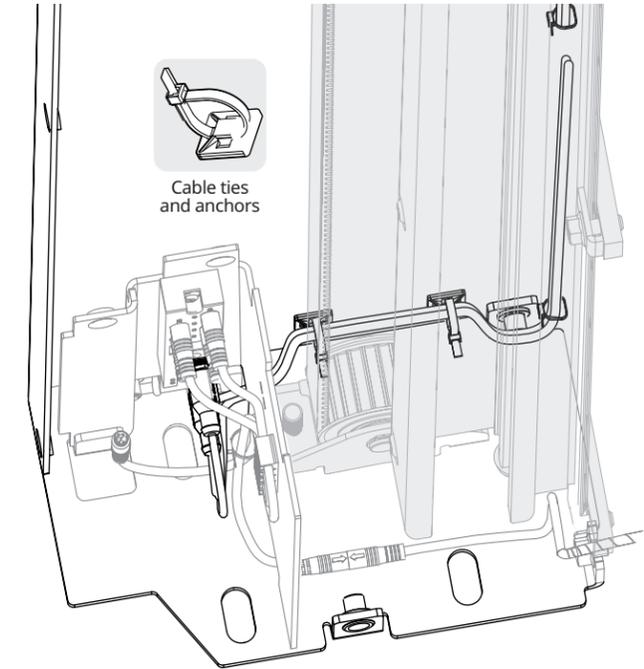
- If there is a built-in cable tie anchor (lance bridge), use that to anchor the cable tie.

IMPORTANT

This routing keeps the cables clear of the pulley assembly and the door track.

IMPORTANT

Wipe area down with supplied alcohol wipes before placing cable tie anchors.



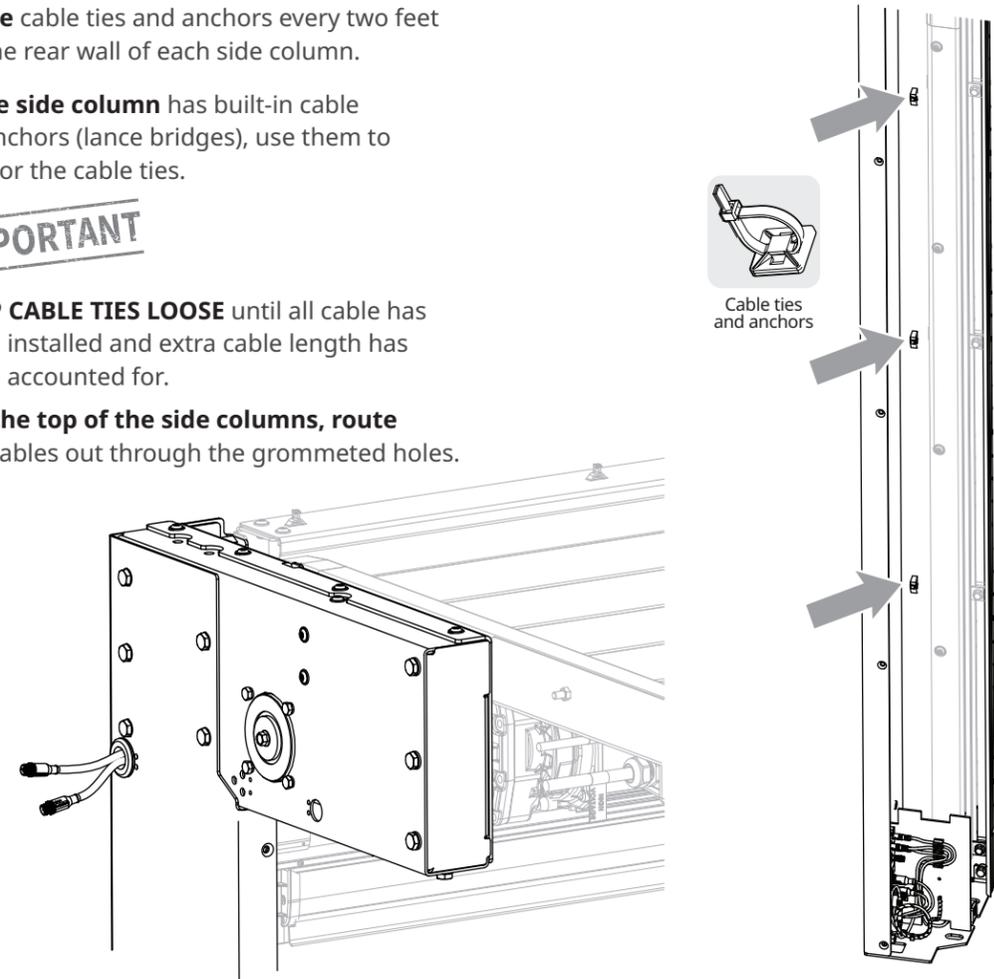
11 Space cable ties and anchors every two feet up the rear wall of each side column.

If the side column has built-in cable tie anchors (lance bridges), use them to anchor the cable ties.

IMPORTANT

KEEP CABLE TIES LOOSE until all cable has been installed and extra cable length has been accounted for.

At the top of the side columns, route the cables out through the grommets holes.



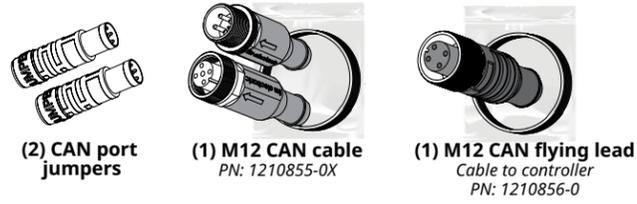
How to connect the side column CAN bus cables to the CAN repeater in the head assembly and across the rear spreader

1 Get the M12 cable, flying lead and jumpers for the head assembly.



The flying lead is the only M12 cable with a connector on one end and bare wires on the other.

Head Assembly



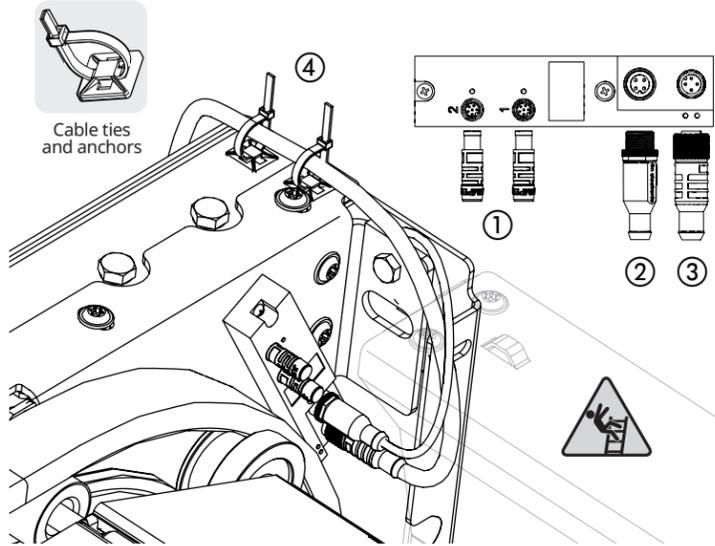
2 Place the two jumpers in ports 1 and 2 of the CAN repeater box ①.
Locate the M12 cable from the side column with the open male M12 connector and **connect** it to the female M12 connector on the CAN repeater box ②.



Excess length of cable can be looped and cable tied to the rear spreader to keep it clear of the door track.

Connect the flying lead to the male M12 connector on the CAN repeater box ③.

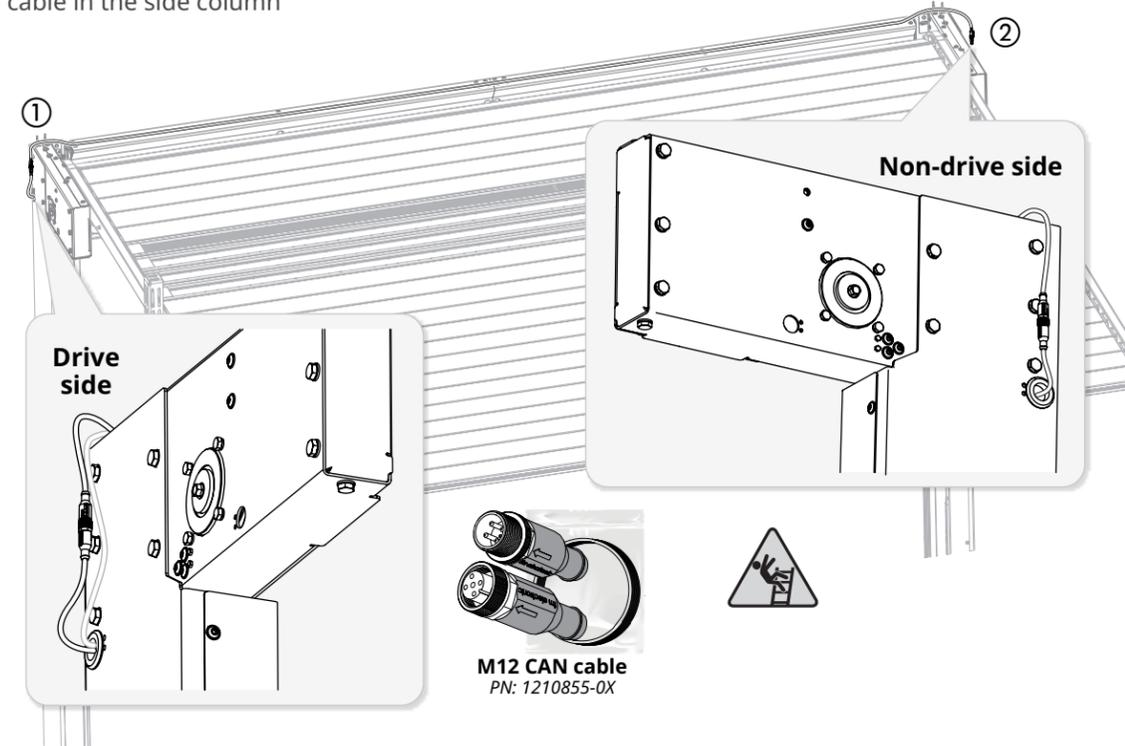
Place cable ties and anchors on top of the drive side console to secure the cables ④.



3 Use the remaining M12 cable to connect the cables in the side columns.
 On the drive side ①, connect the **male M12 connector on the cable** to the female M12 connector on the remaining cable.

Route the cable across the rear spreader.

On the non-drive side ②, connect the **female M12 connector on the cable** to the male M12 connector on the cable in the side column

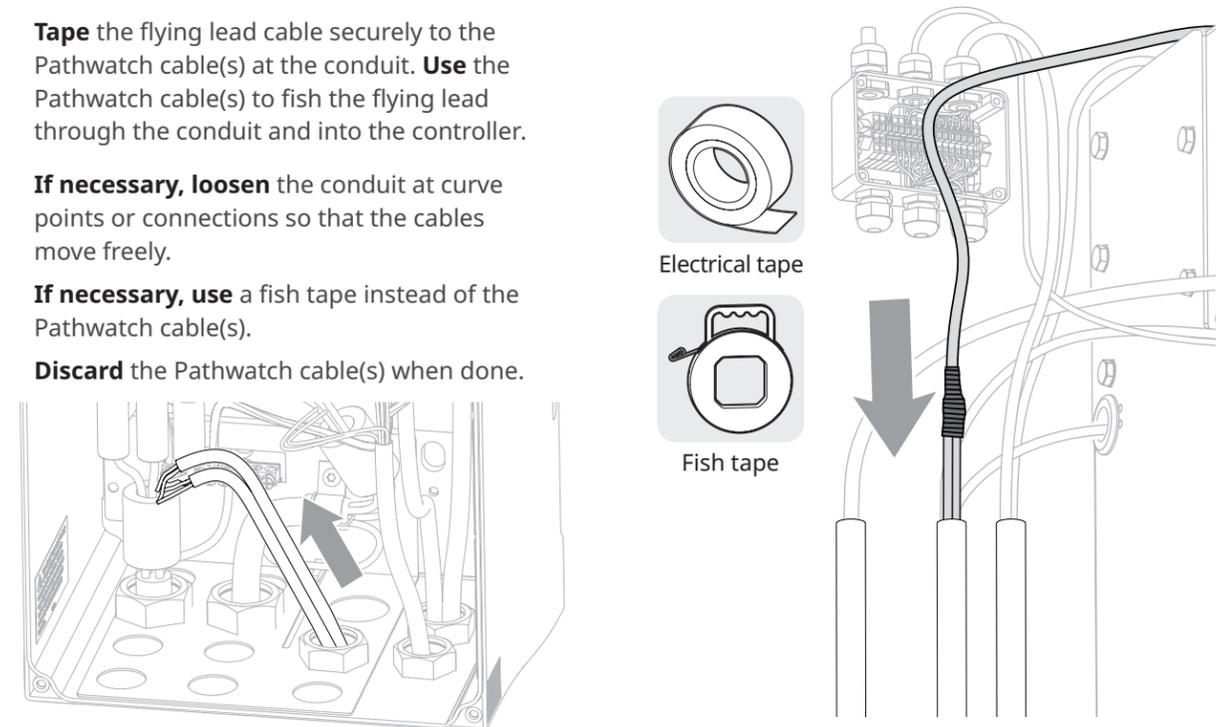


4 **Tape** the flying lead cable securely to the Pathwatch cable(s) at the conduit. **Use** the Pathwatch cable(s) to fish the flying lead through the conduit and into the controller.

If necessary, loosen the conduit at curve points or connections so that the cables move freely.

If necessary, use a fish tape instead of the Pathwatch cable(s).

Discard the Pathwatch cable(s) when done.



Fold over or loop excess cable length, then tighten all cable ties so that M12 cables are tight to the side columns and rear spreader

Looped or folded cable can be placed **behind the raceways in the side columns**, or at the **center of the rear spreader**.

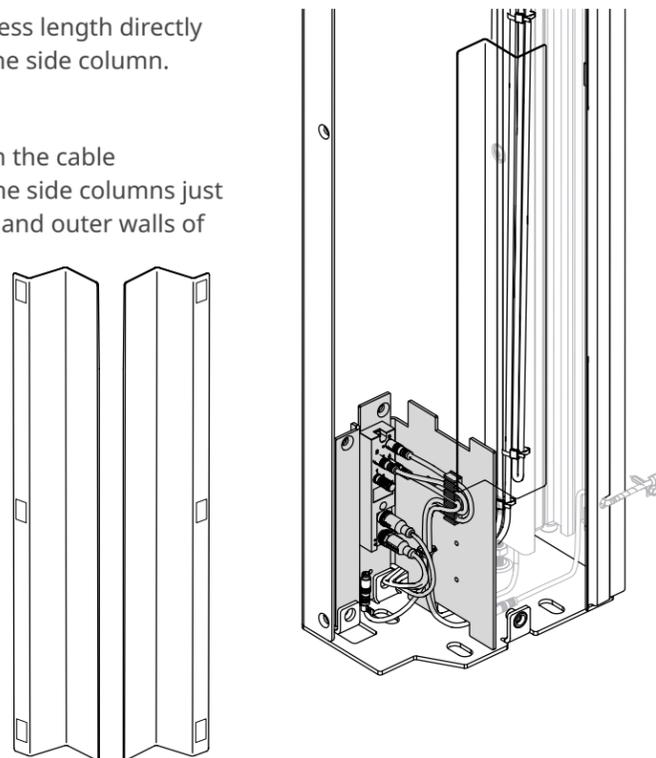
1 In the side columns, fold over and cable tie excess length directly above the lower cable tie anchor at the rear of the side column.

Get the cable raceways from the kit.

Peel the backing from the three strips of tape on the cable raceways, and **install** them against the rear of the side columns just above the bottom anchor and touching the rear and outer walls of the side columns.

Tighten all cable ties in the side columns.

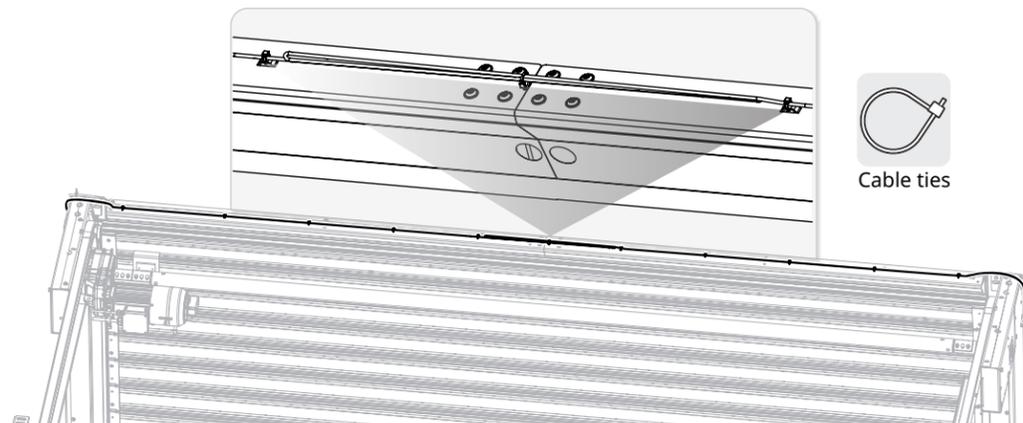
Cable raceways
1 per side column
Mounts to rear of side column
Mounting hardware:
(3 pc) double-sided tape,
installed at Ryttec



2 **IMPORTANT**

Tightening down the rear spreader should be done AFTER power has been restored, the CAN bus system has been synced, limits have been set, and the door is in the fully closed position. **Make sure** the cable stays clear of the door track when the door is closing.

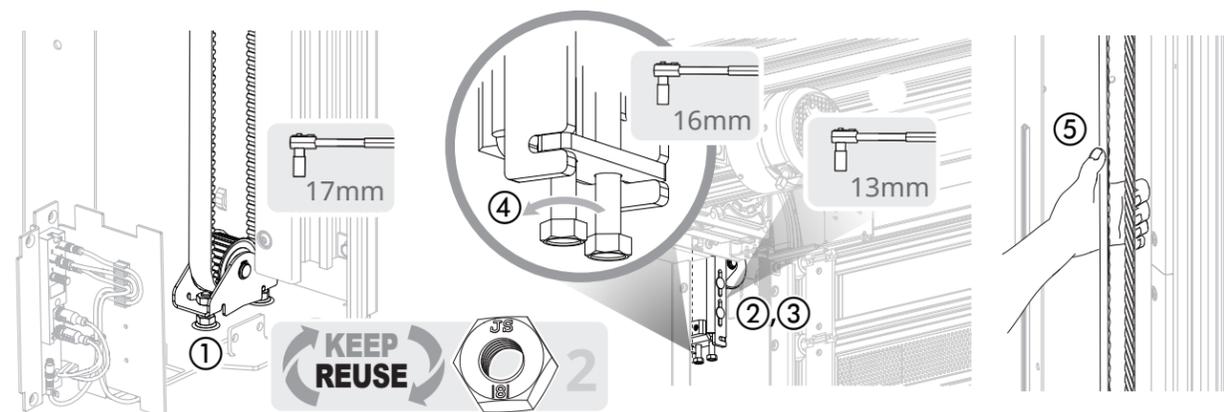
- Leave a small amount of slack in both consoles and **loop** the extra length at the center of the rear spreader.
- **Secure** the loops with cable ties, then **secure** the cable to the rear spreader at each anchor point on the spreader.



Finish the installation

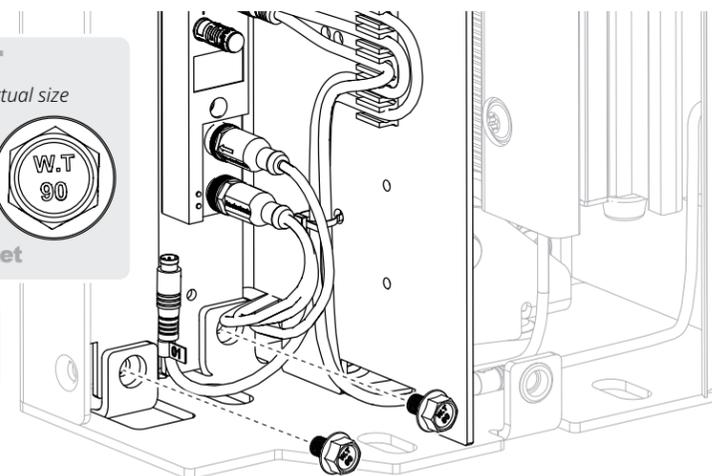
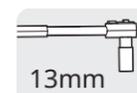
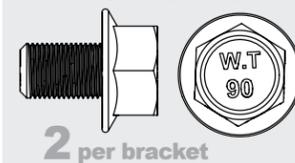
1 **Reset** the tension on the secondary drive belt in both side columns.

- 1: Reinstall** the baseplate pulley assembly ①.
- 2:** In the head assembly, **loosen** the one nut and two screws ② that secure the bracket that holds the idler pulley ③ so that it moves easily when the adjustment screw is turned. **Tighten** them when tension is set.
- 3:** Turn the adjustment screw ④ on the bracket **clockwise** to increase tension
- 4:** **Test** the tension by grabbing both legs of the belt near the midpoint ⑤. **Tension is correct** when it requires considerable effort to bring the two legs together until they touch.



2 **Secure** the CAN brackets in place.

FROM KIT
Hardware shown actual size



3

Reinstall the side column covers.

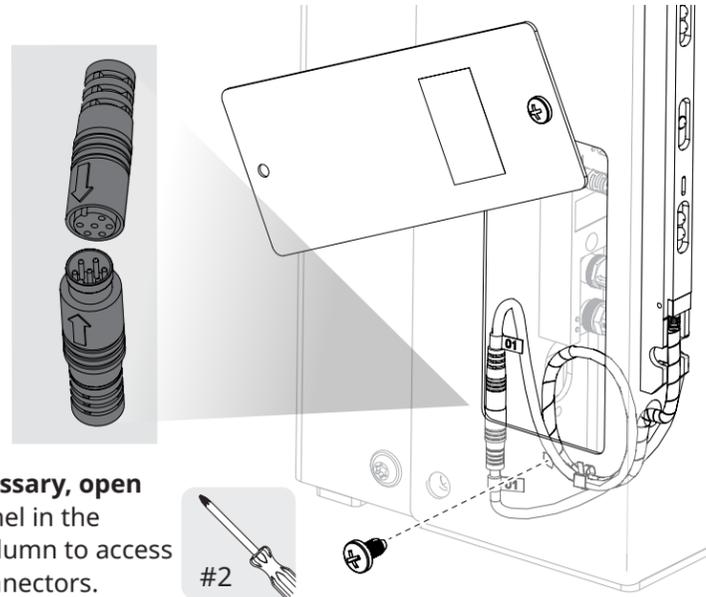
INSIDER'S TIP

- Use one screw each to hold them in place; it may be necessary to open them to make adjustments during testing.
- Do not secure them fully until all testing is complete.

Reconnect the two cables labeled "01".

- Line up the embossed arrows on the connectors to align the guide notch and contacts correctly.
- The connectors will only fully connect if they are aligned correctly.

If necessary, open the panel in the side column to access the connectors.



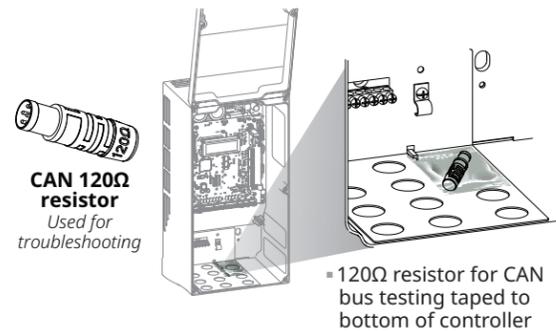
4

Get the 120Ω resistor from the kit.

IMPORTANT

The resistor should be placed inside the controller so that it can be found if there is a need to troubleshoot the CAN bus system.

Tape the resistor to the bottom of the controller.



How to wire the CAN bus and proximity sensor cables to the controller



WARNING

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

It is recommended that all electrical work be done by a certified electrician.

Failure to wire the door correctly could result in shock, burns or death to the people who install, use or service the door.

Tools you will need



Precision screwdriver



Wire tool



Cutting pliers



Utility knife

Cut back wires in X-0 cable to minimize slack inside the controller.

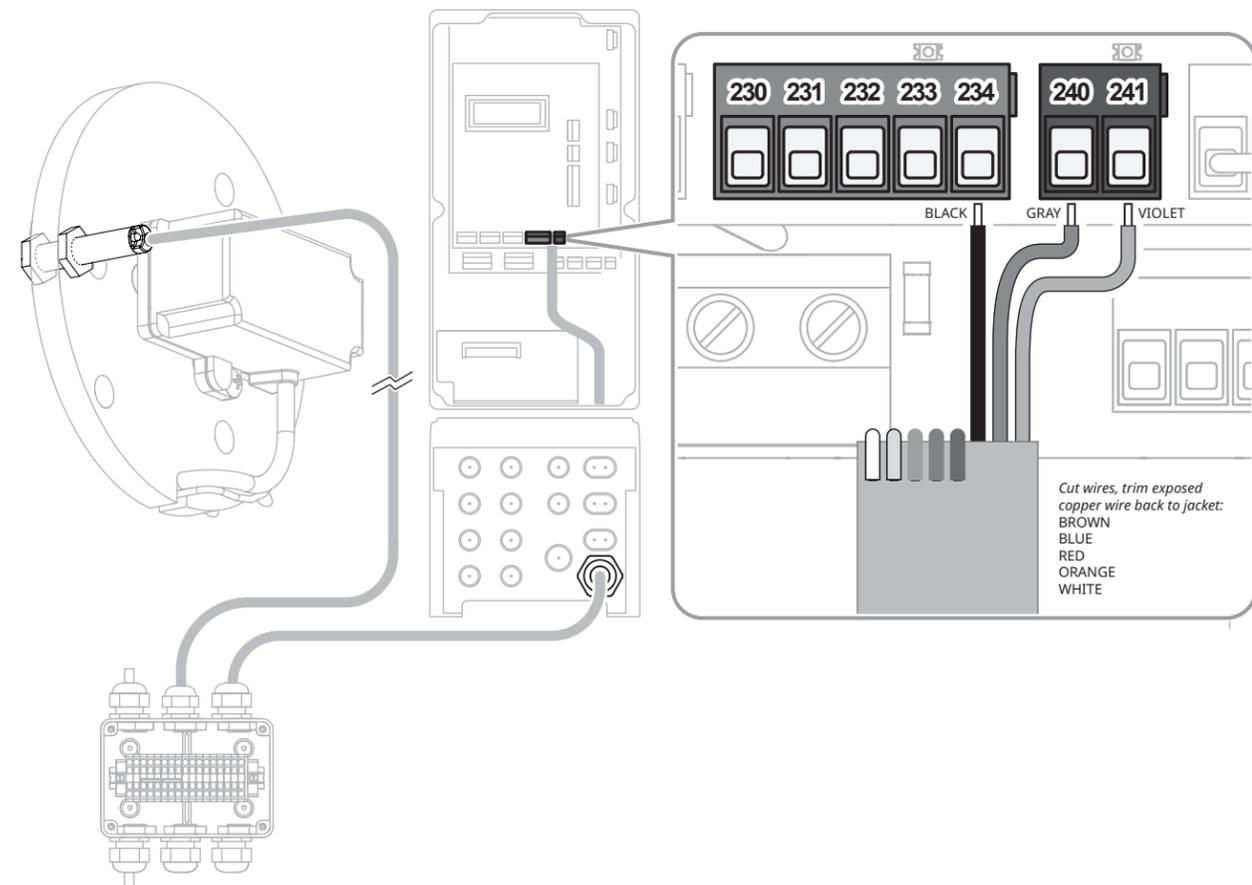
Only the black, gray and violet wires are used to route the proximity sensor.

1

Reconnect the X-10 cable to complete the routing of the wires from the proximity sensor.

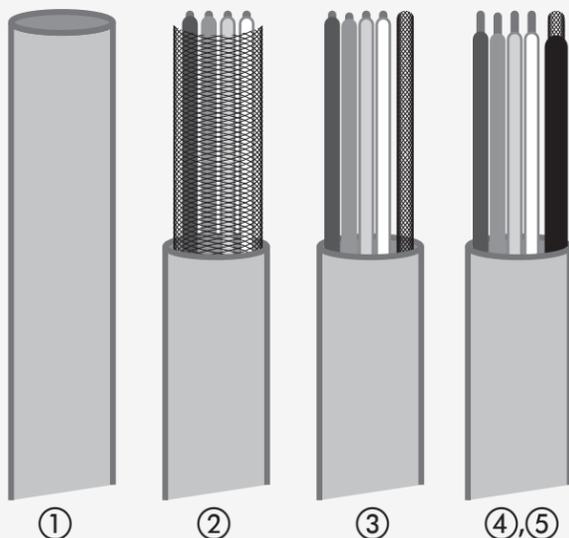
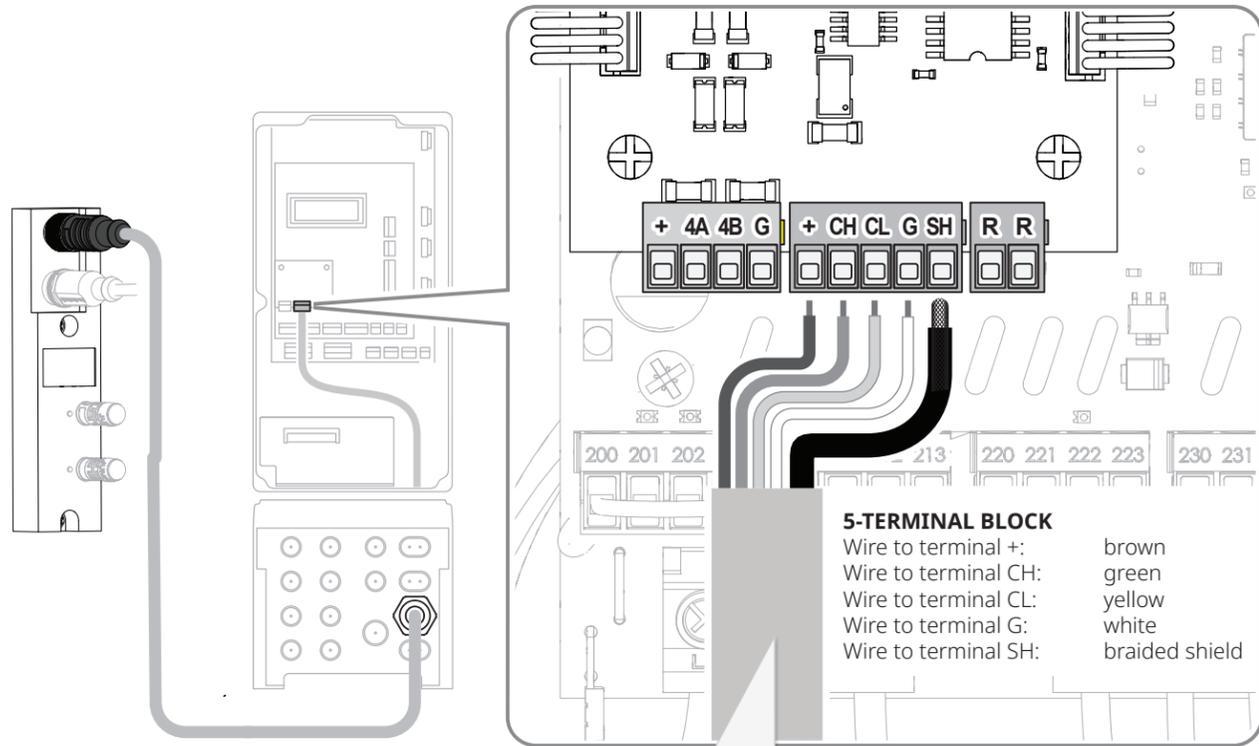
Shielding: unshielded

24 AWG



2 Connect the CAN bus wiring.
Shielding: wire mesh

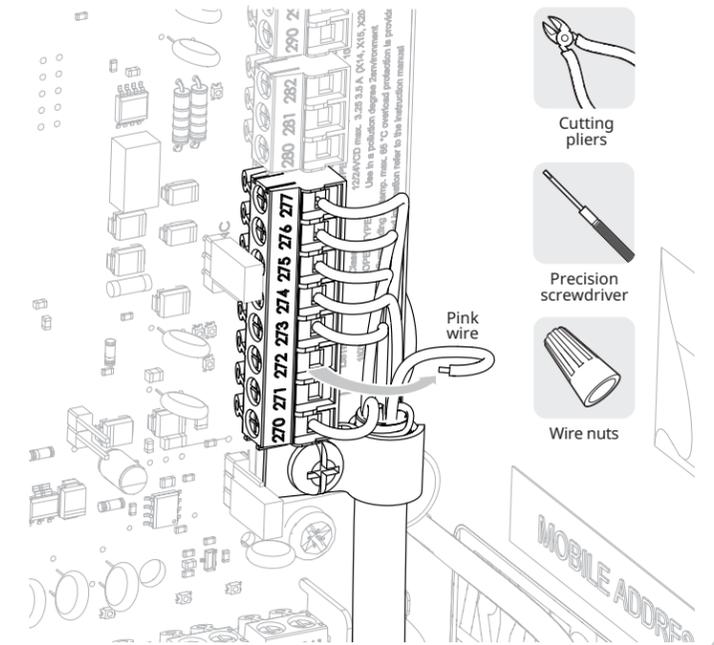
20 AWG



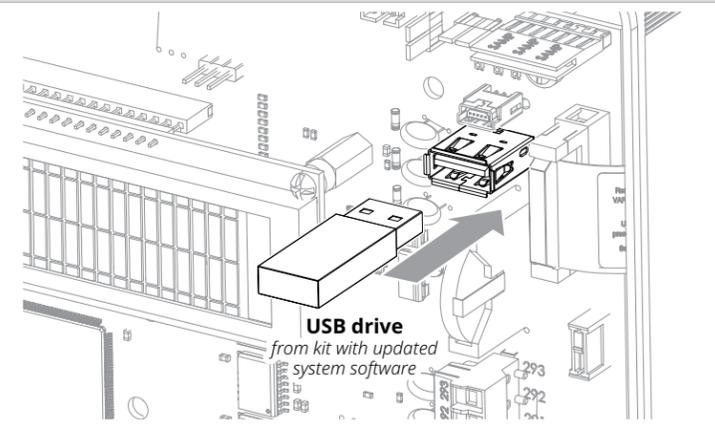
- The **shielding** (braided wire mesh) is used as a fifth "wire" and plugs into terminal SH.
- To ensure a tight contact:**
- 1 Trim CAN bus cable so it reaches com board, plus six inches (6") additional length.
 - 2 Trim jacket to expose wire mesh shielding.
 - 3 Twist shielding into fifth wire to terminal block.
 - 4 Use heat shrink tubing from kit to insulate the shielding so only one quarter inch (1/4") is exposed.
 - 5 Trim other wires to expose one quarter inch (1/4") of clean copper.

Heat shrink tubing
from kit

3 Disable the reversing edge.
 Remove the pink wire from terminal 272
 Trim the pink wire
 Terminate the pink wire with at a wire nut.

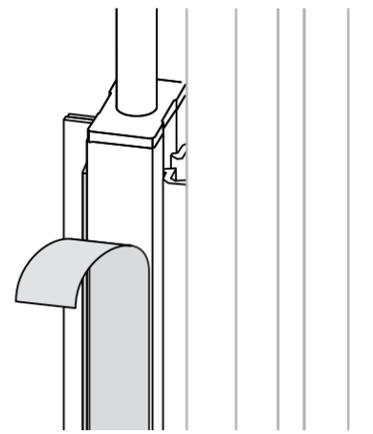


4 Get the USB drive with the updated system software from the kit.
 Plug in the drive to the USB port in the controller. If there is a drive already in place, remove it.
 Close and secure the front cover of the control box.



5 **IMPORTANT** Make sure the protective film has been removed from ALL light curtains on both sides of the door before turning on power to the door.

INSIDER'S TIP Inform the door owner that Rain-X® 620036 Plastic Treatment applied to the light curtains reduces static and helps keep them clear of dirt and dust. Available at most hardware stores.

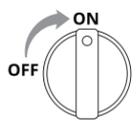


6 Restore power to the door.

How to update the system software, sync the SmartSurround™ system to the controller and set limits

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

Do This **Result**

1  Turn on power to controller. The door starts in run mode.

Result: Spiral LP [xxx] Cycles

Do This **Result**

2  until the parameter screen displays . You are in Parameter mode. Go to parameter 999.

Result: P: Password 0 001= [xxx] Cyc

Do This **Result**

3  2X to reach parameter P:999 . The Password screen displays.

Result: P: Password 0 999= 0000 #

Do This **Result**

4  1X to move cursor to the right (edit value) . You can now change the value of parameter P:999.

Result: P: Password 0 999= 0000_v#

Do This **Result**

5  16X to set value to hexadecimal 10 . Set the value to 10 (Service level password).

Result: P: Password 0 999= 0010_?#

Do This **Result**

6  until question mark changes to checkmark (value saved) . The Service level password is saved.

Result: P: Password 5 999= 0010_v#

Do This **Result**

7  1X to move cursor to left (parameters) . You can now go to parameter P:989 to update the system software.

Result: P: Password 5 999= 0010 #

Next: update the system software

Do This **Result**

1  until you reach parameter P:989  . P: Prog. update 5 989=select *

Do This **Result**

2  1X to go to the value side . **NOTE: the cursor may not respond immediately when you press the RESET button.** It can take up to several minutes for the USB drive to be recognized by the controller.

Result: P: Prog. update 5 989=select *

Do This **Result**

3  until the software version displays . The software update file name scrolls. Example: TST FUR3-RY V02-03.XX.bin

Result: P: Prog. update 5 989=IST FUR3-RY

Do This **Result**

4  until download begins . **blinking dot indicates software is downloading, then**

Result: P: Prog. update 5 989=.

Boot loader Start

Boot loader I904 Erase 42%

Boot loader I904 Erase 100%

Boot loader I905 Prog. 42%

Boot loader I905 Prog. 100%

when update is complete, door returns to run mode

RYTEC Self Check

then controller displays an F:964 error you may also see an F:910 hardware error or an SPI:915 error for a few seconds before the F:964 error displays

THIS IS NORMAL

Error-Jog Only F964 New Program

Next: go back parameter mode and re-enter the passcode for Service level access

1 *Do This* until the parameter screen displays *Result*

Result: P: Password 0
001= [xxx] Cyc

You are in Parameter mode.

2 *Do This* 2X to reach parameter P:999 *Result*

Result: P: Password 0
999= 0000 #

The Password parameter P:999 screen displays.

3 *Do This* 1X to move cursor to the right (edit value) *Result*

Result: P: Password 0
999= 0000_#

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

4 *Do This* 16X to set value to hexadecimal 10 *Result*

Result: P: Password 0
999= 0010?#

Set the value to 10 (Service level password).

5 *Do This* until question mark changes to checkmark (value saved) *Result*

Result: P: Password S
999= 0010_#

The Service level password is saved.

6 *Do This* The controller automatically moves to parameter P:990. *Result*

Result: P: Defaults
990= 0 #

Next: reset defaults and parameter for the new system software

1 *Do This* 1X to move cursor to the right (edit value) *Result*

Result: P: Defaults
990= 0_#

2 *Do This* 1X to set the value to 1 *Result*

Result: P: Defaults
990= 1?#

This is the value to reset the system defaults.

3 *Do This* until question mark changes to checkmark (value saved) *Result*

Result: P: Defaults
990= 1_#

4 *Do This* The controller resets the factory defaults. *Result*

Result: Factory Default

when reset is complete, the controller goes to parameter P:991

Result: P: Defaults
991= - #

5 *Do This* 1X to move cursor to the right (edit value) *Result*

Result: P: Defaults
991= _#

This is the **profile (door model)** number you recorded earlier.

6 *Do This* until you set the value back to the original value *Result*

Result: P: Defaults
991= 4_?#

7 *Do This* until question mark changes to checkmark (value saved) *Result*

Result: P: Defaults
991= 4_#

This is the value to reset the system defaults.

8 *Do This* The controller resets the factory defaults. *Result*

Result: Factory Default

when reset is complete, the controller goes to parameter P:000 or P:001

Result: P: Door Cycles S
000# [xxx] Cyc

The next steps vary based on the configuration of the door:

- Most doors have **additional custom parameter settings** that must be reset.
- One or more files to update these parameters** are included on the disk. You do this at parameter P:944.
- They are numbered 0001, 0002, etc. **Each file must be downloaded separately.**

9 *Do This* until you reach parameter P:944 *Result*

Result: P: Para.<- USB S
944= 0 #

10 *Do This* 1X to move cursor to the right (edit value) *Result*

Result: P: Para.<- USB S
944= 0_#

11 *Do This* 3X to go to the first file *Result*

Result: P: Para.<- USB S
944= 0001?#

- You pass by values 1 and 2 before you reach the first file. **These values are not involved in this process.**
- If there are no parameter files**, you won't be able to scroll past the value of 2. Go to step 19.

12 *Do This* until blinking dot displays *Result*

Result: P: Para.<- USB S
944=.

blinking dot indicates software is downloading, then

Result: P: Para.<- USB S
944= 0001_#

checkmark indicates download is complete

13 *Do This* 1X to go to the next file *Result*

Result: P: Para.<- USB S
944= 0002?#

- If there are more files, **repeat the process until all files have been downloaded.**
- If there are no more parameter files**, the download is complete. Exit the parameter.

14 *Do This* 1X to move cursor to left (parameters) *Result*

Result: P: Para.<- USB S
944= 0001 #

Next: activate the SmartSurround™ system synchronization

IMPORTANT If you assign the wrong light curtains to parameters L:201, L:401 or L:501, return to parameter A:060, set the value to 0, save that value, then start again at Step 2.

Do This *Result*

1  until you reach parameter A:060



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



3  4X to set the value to 4



■ This value activates the SmartSurround® and Advanced³ light curtains

Do This *Result*

4  to save the value



the controller resets the defaults

Factory Default

then returns to parameter A:060



5  1X to move cursor to left (parameters)



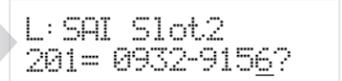
the controller automatically goes to parameter L:201

Next: assign the two Advanced³ light curtains to parameter L:201

NOTE: the values you will see at parameters L:201, L:401 and L:501 will be the IDs for the light curtains included in the kit, and will not match the values shown here.

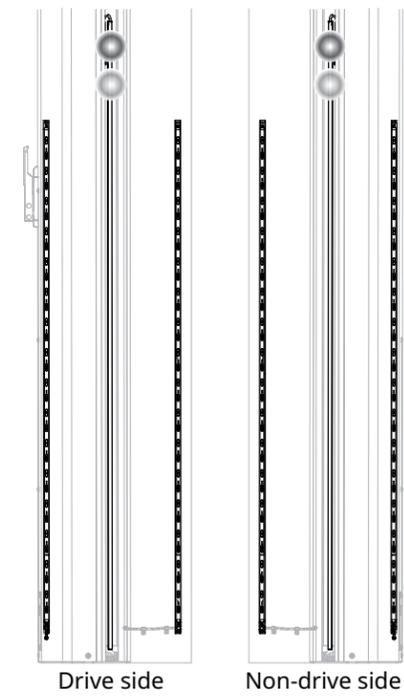
Do This *Result*

1  1X to show the first set of light curtains



2 Check the Advanced³ light curtains mounted in the door tracks of both side columns.

- If all four LEDs are flashing (transmitter: green and yellow, receiver: blue and red), the door track light curtains are synced correctly.
- If other light curtains light up, go to the next value.



Do This *Result*

3 If the current selection does **NOT** light the LEDs:  1X to show the next set of light curtains



Re-check the light curtains.

4 If the current selection **DOES** light the LEDs:  until the setting is saved

5 If the current selection **DOES** light the LEDs:  until the setting is saved

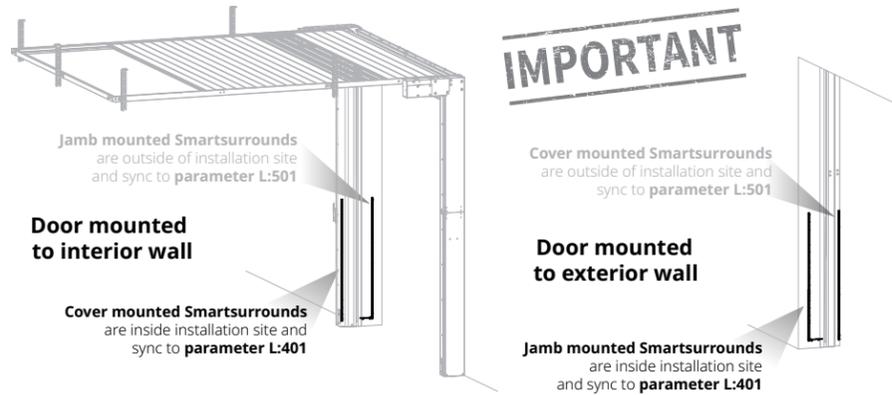
6 The controller moves to parameter L:401.



Next: assign the two inside SmartSurround™ light curtains to parameter L:401

On doors that are mounted to **interior walls**, the **cover mounted SmartSurrounds™** are considered to be the inside light curtains and are assigned to parameter L:401.

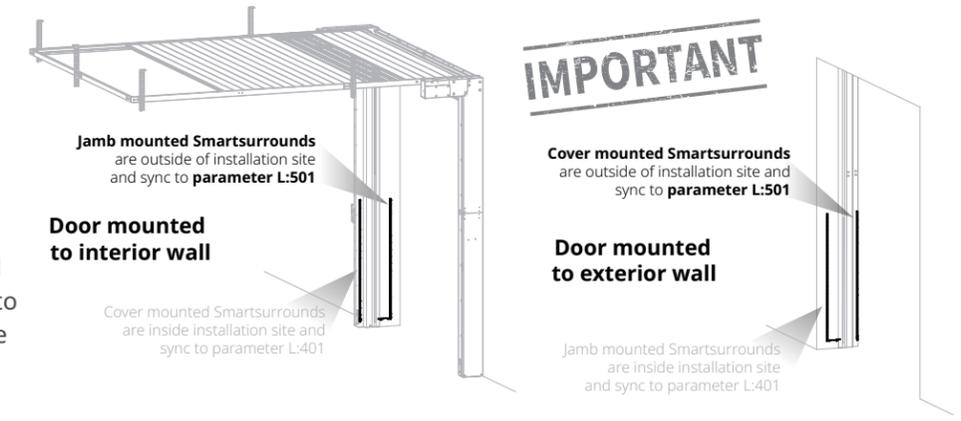
On doors that are mounted to **exterior walls**, the **jamb mounted SmartSurrounds™** are considered to be the inside light curtains and are assigned to parameter L:401.



Next: assign the two outside SmartSurround™ light curtains to parameter L:501

On doors that are mounted to **interior walls**, the **jamb mounted SmartSurrounds™** are considered to be the outside light curtains and are assigned to parameter L:501.

On doors that are mounted to **exterior walls**, the **cover mounted SmartSurrounds™** are considered to be the outside light curtains and are assigned to parameter L:501.



Do This **Result**

1 1X to show the first set of light curtains
 → `L: SAI Slot4
401= 0932-9156?`

2 Check the SmartSurround™ inside light curtains on both side columns.

- If all LEDs are flashing, the cover mounted light curtains are synced correctly.
- If other light curtains light up, go to the next value.

Drive side Non-drive side

Do This **Result**

3 If the current selection does **NOT light** the LEDs:
 1X to show the next set of light curtains
 → `L: SAI Slot4
401= 0992-9187?`

Re-check the light curtains.

4 If the current selection **DOES light** the LEDs:
 until the setting is saved
 → `L: SAI Slot4
401= 0992-9187✓`

5 The controller moves to parameter L:501.
 → `L: SAI Slot5
501= - #`

Do This **Result**

1 1X to show the first set of light curtains
 → `L: SAI Slot5
501= 0932-9156?`

2 Check the SmartSurround™ outside light curtains on both side columns.

- If all LEDs are flashing, the cover mounted light curtains are synced correctly.
- If other light curtains light up, go to the next value.

Drive side Non-drive side

Do This **Result**

3 If the current selection does **NOT light** the LEDs:
 1X to show the next set of light curtains
 → `L: SAI Slot5
501= 0923-9126?`

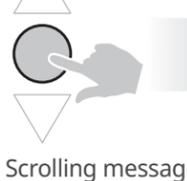
Re-check the light curtains.

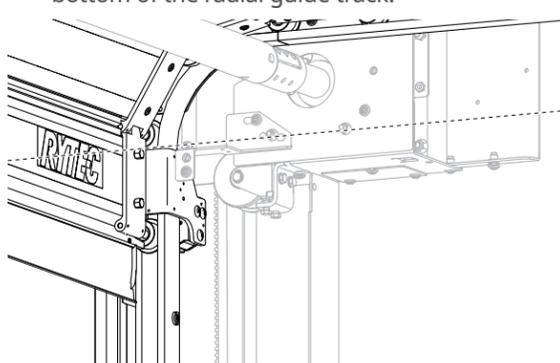
4 If the current selection **DOES light** the LEDs:
 until the setting is saved
 → `L: SAI Slot5
501= 0923-9126✓`

5 The controller ends at parameter P:000.
 → `P: Door Cycles 5
000# 0000 Cyc`

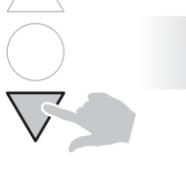
To finish: set limits

Do This	Result
<p>1 until the "Synchron." screen displays</p>  <p>! Synchron. ! _0 Press Reset</p> <p>Scrolling message: Hold Reset button if position OK</p>	

<p>2 1X to start sequence</p>  <p>➔ To Open Pos. _0 Hold Reset</p> <p>Scrolling message: Hold Reset button if position OK</p>	
---	--

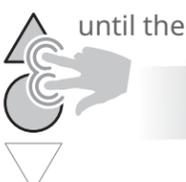
<p>3 Set the open position.</p> <p> until open height is correct</p>  <p>➔ To Open Pos. _0 Hold Reset</p> <p>The top of the end brackets should align with the bottom of the radial guide track.</p> 	
---	--

Do This	Result
<p>4 until "Open Limit Set" screen displays</p>  <p>Open Limit Set _0</p> <p>when quality check is complete, you see these screens:</p> <p>LGx Qual. Check _0</p> <p>! Synchron. ! _0 Press Close</p> <p>Scrolling message: Press Close button to begin</p>	

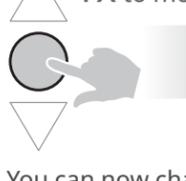
<p>5 1X to start. The door panel closes.</p>  <p>Search Edge -1330_Auto Close</p> <p>the door panel stops when it reaches the bottom of the light curtain, then you see:</p> <p>!Auto Calibrate! Press Open butto</p>	
--	--

<p>6 1X to start auto-calibration</p>  <p>Door Is Opening Ac11 = 4Sec Door Is Closing Ac11 = 4Sec Spiral LP [xxx] Cycles</p> <ul style="list-style-type: none"> The door opens and closes automatically up to 12 times. The controller automatically sets the close limit position while the door calibrates. When calibration is complete, the door switches to Run mode. <p>IMPORTANT The door may not open or close completely during automatic calibration. This is normal. When calibration is complete, the door will open and close correctly.</p> <ul style="list-style-type: none"> You can manually adjust the close limit after calibration is complete by changing parameter P:275. See next page 	
--	--

If necessary, manually adjust the close limit

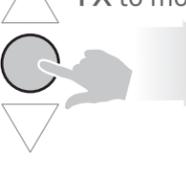
Do This	Result
<p>1 until the parameter screen displays</p>  <p>P: Password 0 001= [xxx] Cyc</p> <p>You are in Parameter mode.</p>	

<p>2 until parameter displays</p>  <p>P: Incremental S 275= -12 Inc</p> <p>The default value at P:275 is -12.</p>	
---	--

<p>3 1X to move cursor to the right (edit value)</p>  <p>P: Incremental S 275= -12/Inc</p> <p>You can now change the value.</p> <ul style="list-style-type: none"> The UP arrow increases the value and raises the close limit position for the door. The Down arrow decreases the value and lowers the close limit for the door. Each press of an arrow changes the limit by a fraction of an inch, which gives you precise control of the value. 	
---	--

Do This	Result
<p>4 until new value displays</p>  <p>P: Incremental S 275= [x]?Inc</p> <p>IMPORTANT Do not change the value by more than 5 increments. Then test the door.</p>	

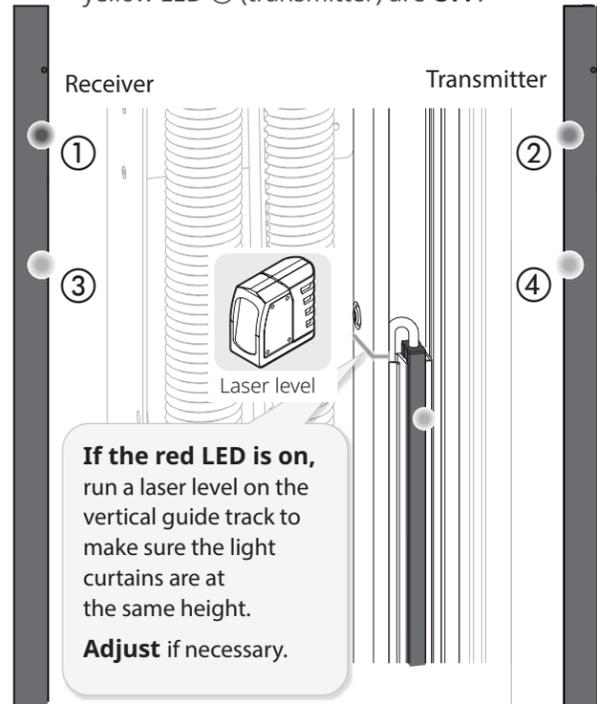
<p>5 until question mark changes to checkmark (value saved)</p>  <p>P: Incremental S 275= [x]Inc</p> <p>The new value is saved.</p>	
---	--

<p>6 1X to move cursor to left (parameters)</p>  <p>P: Incremental S 275= [x] Inc</p>	
--	--

<p>7 until door returns to run mode</p>  <p>Spiral LP [xxx] Cycles</p>	
--	--

How to test the door

- 1 Make sure** the blue LED ① (receiver) and green LED ② (transmitter) on the Advanced³ light curtains are flashing once every two second, and that the red LED ③ (receiver) and yellow LED ④ (transmitter) are **OFF**.

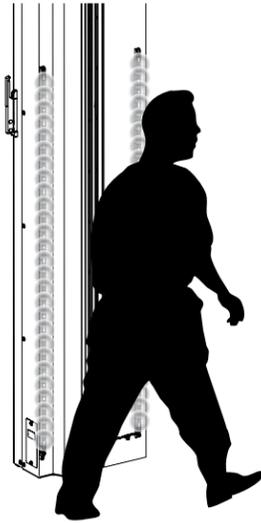


If the red light and yellow lights are on, or if you see a different combination of lights, call Rytec technical support at **800-628-1909**.

- 2 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.

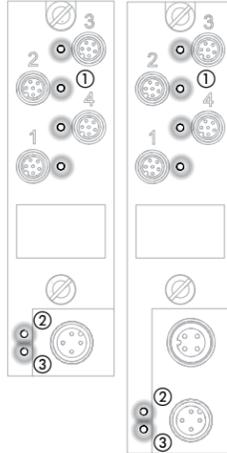
- 3 Test the SmartSurround™ system:**

- **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.



- 4 LEDs on the CAN repeaters and distributor indicate if the system is working correctly**

- ① **LEDs next to the ports (blue)** should be ON steadily (no flashing).
- ② **The CAN status LED (yellow)** should be flashing one to four times per second.
- ③ **The power status LED (green)** should be ON steadily (no flashing).



Contact technical support if you do not see this.

OPTIONAL: How to enable the reversing edge on Spiral doors

The SmartSurround™ system, in combination with the Advanced³ light curtains located within the door line, meets the requirements for entrapment protection. SmartSurround™ offers a contactless method of object recognition that is an improvement over the reversing edge system; this makes the reversing edge system redundant. The reversing edge system is disabled as part of the retrofit.

The reversing edge system can be reenabled if a full height sensing system is required.



- **This procedure requires Rytec Level access to change the parameters.** To get the passcode for Rytec Level access, you must lock the cycle count, then contact Rytec technical support for a passcode.
- **The passcode changes if the cycle count changes, so make sure** the door does not open or close until you have used the passcode and gained access.

First: Connect the pink wire to terminal 272 in the controller

⚠ WARNING

Set the fused disconnect to the OFF position and perform a lockout/tagout of the high-voltage disconnect before opening the control box. Do not set the disconnect switch to the ON position until told to do so by these instructions.

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

1 Open the controller, remove the wire nut from the pink wire, and connect it to terminal 272.

#2

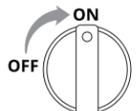
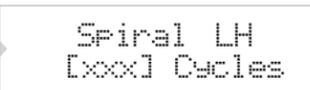
Pink wire

Wire nuts

MOBILE ADDRESS

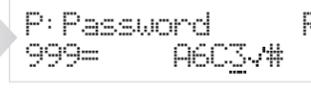
2 Restore power to the door.

Next: set the controller to Parameter mode and lock the cycle count

Do This	Result
<p>1  Turn on power to controller The door starts in run mode.</p>	
<p>2  until the parameter screen displays</p>  <p>if you don't start at parameter P:001</p> <p>1X to reach parameter P:001</p>  <p>The cycle count at parameter P:001 is from the last time it was locked, so it may not match the current count for the door.</p>	

Do This	Result
<p>3  1X to move cursor to the right (edit value)</p> 	
<p>4  until the cycle count updates and the check mark appears</p>  <p>IMPORTANT</p> <p>Once the cycle count is locked, make sure the door does not open or close until you have received and entered the passcode.</p>	

Do This	Result
<p>3  2X to reach parameter P:999</p> 	
<p>4  1X to move cursor to the right (edit value)</p> 	
<p>5  until you reach the value of the Rytec passcode</p> 	

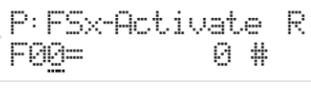
Do This	Result
<p>6  until question mark changes to checkmark (value saved)</p>  <p>The "R" in the top right corner indicates you have Rytec level access</p>	
<p>7  1X to move cursor to left (parameters)</p> 	

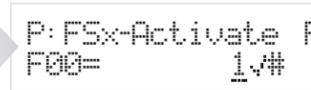
Next: get and enter the passcode

<p>1 Contact Rytec technical support by phone or e-mail:</p> <ul style="list-style-type: none"> • 800-628-1909 • support@rytectdoors.com <p>Be prepared to tell them the cycle count and the reason you need Rytec level access. Reference the approval you have already submitted.</p>
<p>2  The Rytec level passcode is a hexadecimal number. This means it uses the ten numeric characters (0-9), plus six letters (A-F), which represent the values from 10 through 15. It also means the passcode is a large number. For example a passcode of A6C3 equates to a value of 42,691.</p>

Next: go to parameters P:F00, P:F07, and P:460 and set the values

NOTE: if the door has an **energy chain instead of a wireless system**, skip to step 11.

Do This	Result
<p>1  until you reach parameter P:F00</p> 	
<p>2  1X to move cursor to the right (edit value)</p> 	
<p>3  1X to change the value to 1</p> 	

Do This	Result
<p>4  until question mark changes to checkmark (value saved)</p> 	
<p>5  1X to move cursor to left (parameters)</p> 	

Do This Result

6  until you reach parameter P:F07

P: FSx-Address S
F07= C3E64 #

- This is the **mobile unit address** that you recorded earlier.
- The software update restored the **ORIGINAL** address from when the door was purchased. This may or may not match the address for the **CURRENT** mobile unit.
- If the value displayed matches the value you recorded, go to step 11. Otherwise, change the value to the one you recorded using the following steps.

7  1X to move cursor to the right (edit value)

P: FSx-Address S
F07= C3E64v#

8  until you reset the value to the original value

P: FSx-Address S
F07= D4A72?#

- 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.

9  until question mark changes to checkmark (value saved)

P: FSx-Address S
F07= D4A72v#

10  1X to move cursor to left (parameters)

P: FSx-Address S
F07= D4A72 #

Do This Result

11  until you reach parameter P:460

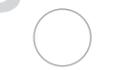
P: Rev Edge R
460= 0 #

12  1X to move cursor to the right (edit value)

P: Rev Edge R
460= 0v#

13  1X to change the value to 1

P: Rev Edge R
460= 1?#

14  until question mark changes to checkmark (value saved)

P: Rev Edge R
460= 1v#

15  1X to move cursor to left (parameters)

P: Rev Edge R
460= 1 #

16  until door returns to run mode

Spiral
[xxx] Cycles