

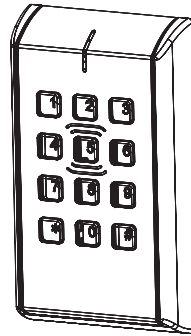
Installation Instructions

SARGENT®
ASSA ABLOY

IN120 WiFi / IN220 PoE

PE80 Series and 80 Series Exit Devices

Includes Rim and Mortise.



Attention Installer:

Please read these instructions carefully to prevent missing important steps. Improper installations may result in damage to the lock and void the factory warranty. The accuracy of the door preparation is critical for proper functioning and security of this lock. Misalignment can cause premature wear and a lessening of security.

For specific security information, please contact your local ASSA ABLOY Door Security Solutions sales consultant or call 800-810-9473.



This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm.
For more information go to: www.P65warnings.ca.gov.

Ce produit peut vous exposer au plomb qui, dans l'état de la Californie, est reconnu pour causer le cancer, des anomalies congénitales ou d'autres problèmes de reproduction.

Pour plus d'informations, visitez: www.P65warnings.ca.gov.

1-800-810-9473 • www.sargentlock.com

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A8185-7 07/2025

Experience a safer
and more open world

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1. Warning

Changes or modifications to this device not expressly approved by ASSA ABLOY could void the user's authority to operate the equipment.

FCC:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- The card reader shall be installed and used such that parts of the user's body other than the hands are maintained at a distance of approximately 20 cm (8 inches) or more.

Innovation, Science and Economic Development Canada:

Under Innovation, Science and Economic Development Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. Conformément à la réglementation d'Innovation, Sciences et Développement économique Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

General Regulatory Compliance:

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Ce dispositif contient des émetteurs/récepteurs exemptés de licence conformes aux RSS d'Innovation, Sciences et Développement économique Canada. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée à le dispositif.

This equipment complies with FCC and IC radiation exposure limits set forth for general population (uncontrolled environment). This device must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations de la FCC et IC définies pour la population générale (environnement non contrôlé). Cet appareil ne doit pas être co-localisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.



CAUTION: When using hard power, DO NOT install batteries.

AVERTIR: Ne pas installer de batteries si vous utilisez l'alimentation électrique.

CAUTION: Risk of Explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

AVERTIR: Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez le batteries usagées conformément aux instructions.

Any retrofit or other field modification to a fire rated opening can potentially impact the fire rating of the opening, and SARGENT Manufacturing makes no representations or warranties concerning what such impact may be in any specific situation. When retrofitting any portion of an existing fire rated opening, or specifying and installing a new fire-rated opening, please consult with a code specialist or local code official (Authority Having Jurisdiction) to ensure compliance with all applicable codes and ratings.



To avoid possible damage from electrostatic discharge (ESD), some basic precautions should be used when handling electronic components:

- Minimize build-up of static by touching and/or maintaining contact with unpainted metal surfaces such as door hinges, latches, and mounting plates especially when mounting electronic components such as readers and controllers onto the door.
- Leave components (reader and controller) protected in their respective anti-static bags until ready for installation.
- Do not touch pins, leads or solder connections on the circuit boards.

2. Regulatory and Power Specifications

Electronic Authentication Specifications (Mobile Credentials)

- Mobile Credentials are transmitted to the lock via Bluetooth Smart or NFC ISO/IEC14443 and must use a mobile device enabled with these technologies.
- Credential and mobile device versions are specified by the credential provider.
- User must acquire the latest HID Mobile Access application (if applicable) available from Google Play or on the App Store.

This product is not intended for outside wiring as covered by Article 800 in the National Electrical Code, NFPA 70.

Compliance with IEEE 802.3 (at or af) specifications was not verified as part of UL294/B

The system shall not be installed in the fail-secure mode unless permitted by the local authority having jurisdiction and shall not interfere with the operation of listed panic hardware.

- UL Listed - UL 294 Outdoor Use
- CUL Listed - ULC-60839-11-1, Grade 1, Environmental Class: Outdoor Use
- UL 294 Access Control Ratings:

Destructive Attack	Level 1
Line Security	Level 1
Endurance	Level 4
Standby Power	Level 1

Power Supply Specifications

IN120 (WiFi version):

- Battery Power:
Alkaline AA Batteries (6): 9V, 300mA
To comply with Fire Listed doors, batteries must be replaced with alkaline batteries only
- Optional Hard Power (UL 294 Listed Power Supply Required):
9-24VDC, 200mA

CAUTION: When using Hard Power, DO NOT install batteries.

CAUTION: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

IN220 (PoE version):

- Power over Ethernet: Use UL 294 Listed, PoE Injector or Class 2 power limited power supply (55VDC, 90mA)
- UL testing was conducted on product powered by UL listed model POE20U-560(G) PoE Injector, manufactured by Phihong

Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), CSA 22.1, Canadian Electrical Code (CEC), Part I, Safety Standard for Electrical Installations, local codes and the authorities having jurisdiction. Equipment installed in outdoor use applications shall employ NEC Class 3 wiring methods.

Reader with HID® OMNIKEY® reader core technology offers support for the following credentials:

High Frequency (13.56 MHz):

- HID iCLASS®
- HID iCLASS SE® (SIO-enabled)
- HID iCLASS® Seos™
- HID MIFARE® SE
- HID DESFire® EV1 SE
- HID MIFARE Classic SE
- DESFire EV1
- DESFire EV2/EV3 (EV1 Compatibility)

Low Frequency (125 kHz):

- HID Prox®
- PIV/PIV-1:**
- 40-bit BCD
- 64-bit BCD
- 75-bit output
- 128-bit output
- 200-bit output

Optional Keypad:

- **NFC & BLE-enabled Mobile Phones:**
- HID Mobile Access® (BLE and NFC)
- Supports the use of employee badge and/or Student ID in Apple Wallet
- Android Wallet (MIFARE 2GO)
- PIN-only usage or dual authentication

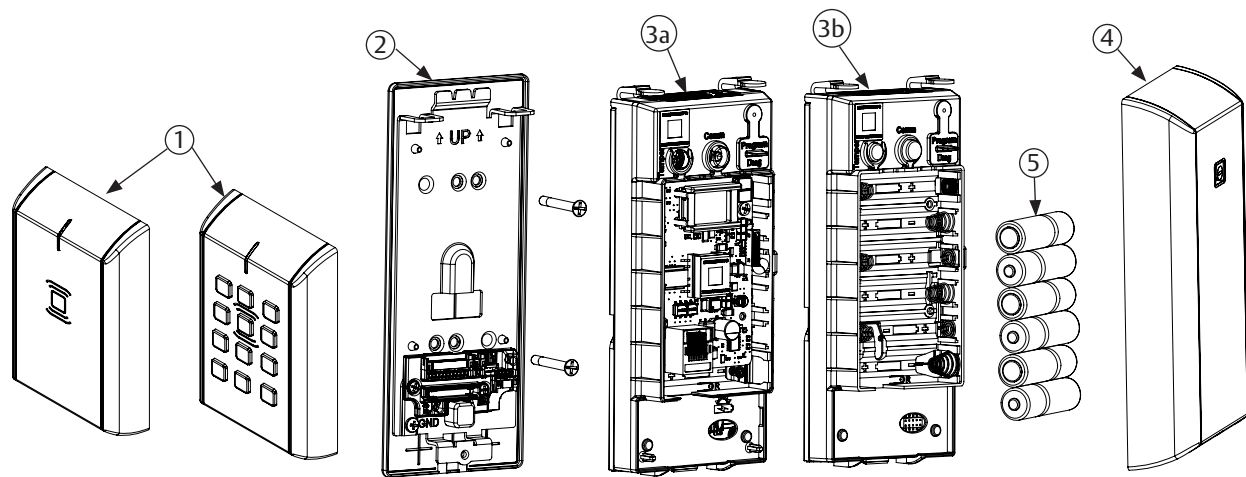
IN120 WiFi / IN220 PoE

PE80 Series and 80 Series Exit Devices, Rim & Mortise

Installation Instructions

3. Product Illustrations

IN120/IN220 Assembly



Tools Required:

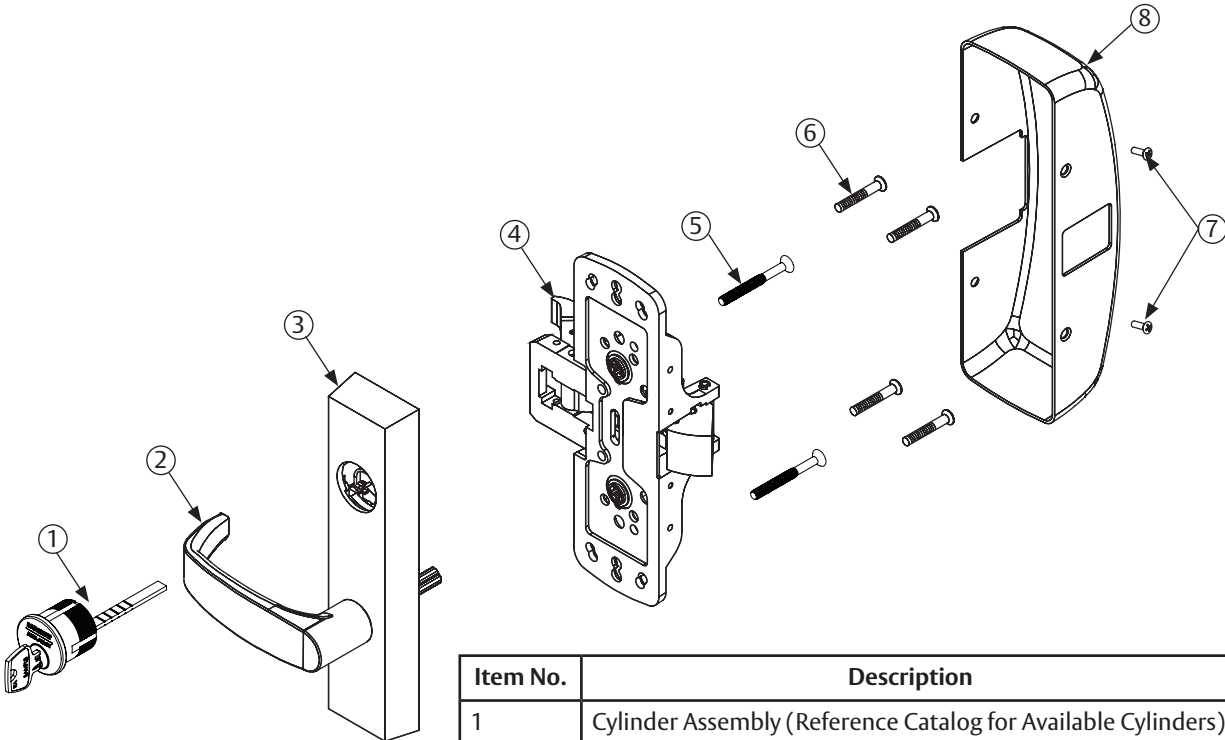
- #2 Phillips screwdriver
- Flat head screwdriver
- Security hex key

Item No.	Description
1	Outside Escutcheon Assembly
2	Inside Mounting Plate Assembly (includes Gasket)
3a	PoE Controller Assembly
3b	WiFi Controller Assembly (batteries included)
4	Inside Escutcheon Assembly with Privacy Button
5	AA alkaline batteries (6)

Prior to installation, please confirm receipt of all parts.
See document A8364 for part numbers.

3. Product Illustrations (continued)

77 / 78 Function x Trim x Lever Design IN120 / IN220 Rim Exit Device



Prior to installation, please confirm receipt of all parts.
See document A8364 for part numbers.

Item No.	Description	Req'd
1	Cylinder Assembly (Reference Catalog for Available Cylinders)	1
2	Lever (Reference Catalog for Available Styles)	1
3	Exit Trim With Cylinder	1
	Exit Trim Without Cylinder	
	Motor Assembly (Separate - not shown)	1
4	Chassis Assembly	1
	Chassis Assembly (Fire Rated)	
	Chassis Assembly (Latch Guarding)	
	Chassis Assembly (Fire Rated Latch Guarding)	
5	Trim Screws 1/4-20 x 2-38"	2
6	Chassis Screw Pack	1
	#10 x 1-1/4" Chassis Screws (metal door)	4
	#10-24 x 3/4" Chassis Screws (wood door)	4
7	Cover Screws #8-32 x 5/16" oval head machine screws	4
8	Chassis Cover	1
	Chassis Cover (With Guarding)	

IN120 WiFi / IN220 PoE

PE80 Series and 80 Series Exit Devices, Rim & Mortise

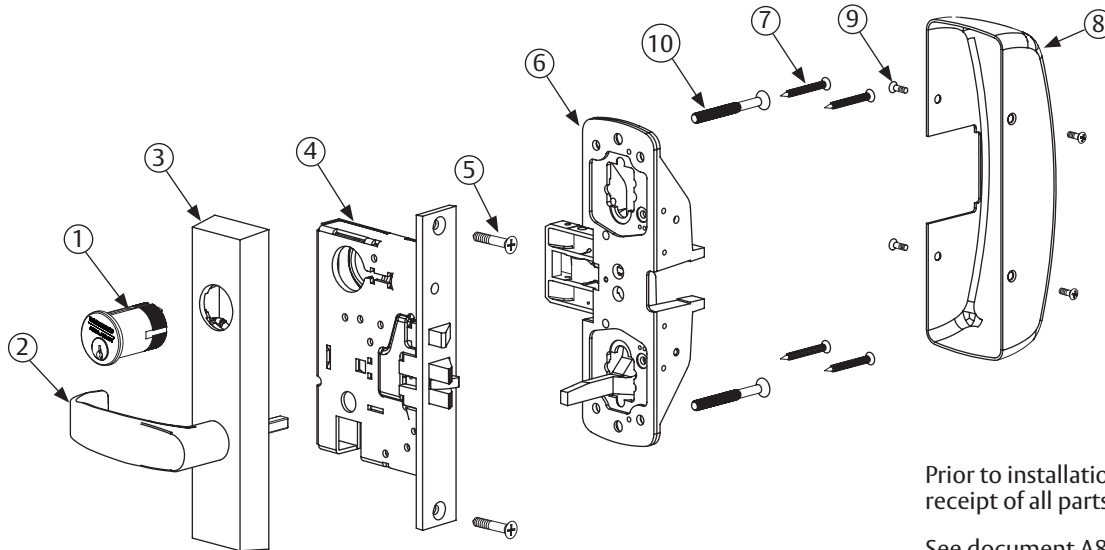
Installation Instructions

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3. Product Illustrations (continued)

77 / 78 Function x Trim x Lever Design IN120 / IN220 Mortise Exit Device



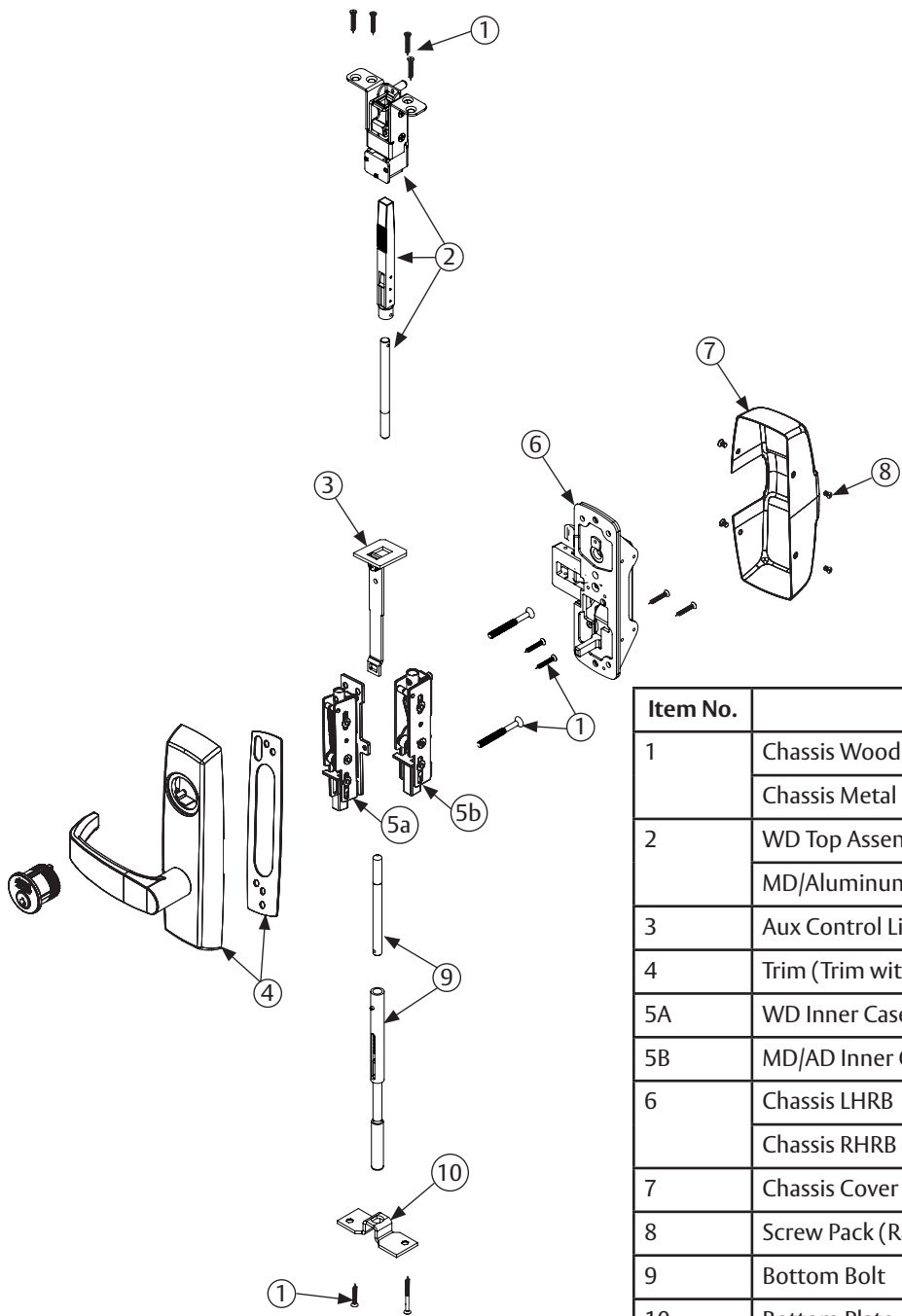
Prior to installation, please confirm receipt of all parts.

See document A8364 for part numbers.

Item No.	Description	Req'd
1	Cylinder Assembly (Reference Catalog for Available Cylinders)	1
2	Lever (Reference Catalog for Available Styles)	1
3	Exit Trim With Cylinder	1
	Exit Trim Without Cylinder	
	Motor Assembly (Separate - not shown)	
4	Lock Body Assembly LHR	1
	Lock Body Assembly RHR	
	Lock Body Assembly LHR (Non-Beveled Door)	
	Lock Body Assembly RHR (Non-Beveled Door)	
5	Lock Body Screw Pack	1
6	Chassis Assembly LHR	1
	Chassis Assembly RHR	
7	Chassis Screw Pack	1
	#10-24 x 3/4" (wood door)	4
	#10 x 1-1/4" (metal door)	4
8	Chassis Cover	1
9	Chassis Cover Screw Pack - (4) #8-32 x 5/16" oval head machine screws	1
10	Trim Screw Pack - (2) 1/4 x 2-3/8" flat head machine screws	1

3. Product Illustrations (continued)

PE8600 Concealed Vertical Rod (CVR) Exit Device (78 Function)



Prior to installation, please confirm receipt of all parts.

See document A8364 for part numbers.

Item No.	Description	Req'd
1	Chassis Wood Door (WD) Screw Pack	1
	Chassis Metal Door (MD) Screw Pack (not shown)	
2	WD Top Assembly	1
	MD/Aluminum Door (AD) Top Assembly (not shown)	
3	Aux Control Link Assembly	1
4	Trim (Trim with gasket shown)	
5A	WD Inner Case Assembly	1
5B	MD/AD Inner Case Assembly	1
6	Chassis LHRB	1
	Chassis RHRB (not shown)	
7	Chassis Cover	1
8	Screw Pack (Rail and Chassis Cover)	1
9	Bottom Bolt	1
10	Bottom Plate	1

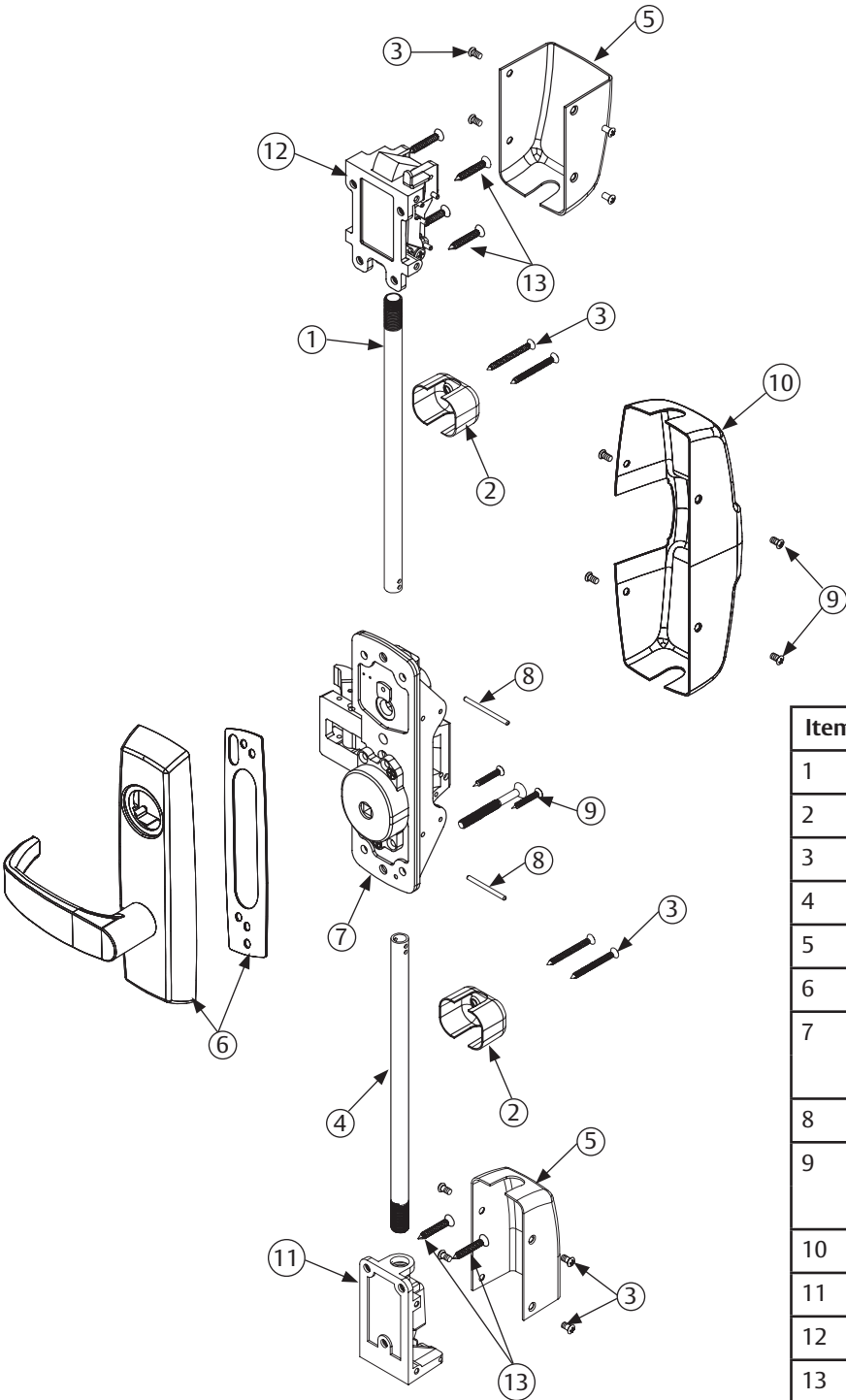
IN120 WiFi / IN220 PoE

PE80 Series and 80 Series Exit Devices, Rim & Mortise

Installation Instructions

3. Product Illustrations (continued)

PE8700 Surface Vertical Rod (SVR) Exit Device (78 Function)



Prior to installation, please confirm receipt of all parts.

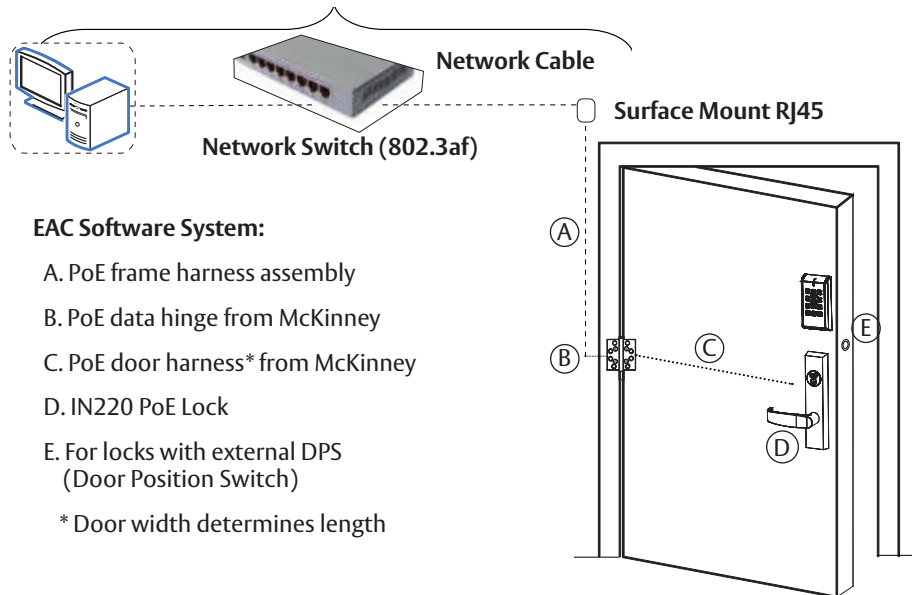
See document A8364 for part numbers.

Item No.	Description	Req'd
1	Top Rod (Consult Factory)	1
2	Guide for Rod	2
3	Screw Pack for Guide and Covers	2
4	Bottom Rod (Consult Factory)	1
5	Case Assembly Cover	2
6	Trim (Trim with gasket shown)	1
7	Chassis Assembly LHRB	1
	Chassis Assembly RHRB	
8	Rod Adjustment Pin	2
9	Screw Pack "B"	1
	Screw Pack "A"	
10	Chassis Cover	1
11	Bottom Case Assembly	1
12	Top Case Assembly	1
13	Screw Pack (Top and Bottom Cases)	1

4. IN220 (PoE) Installation Wiring

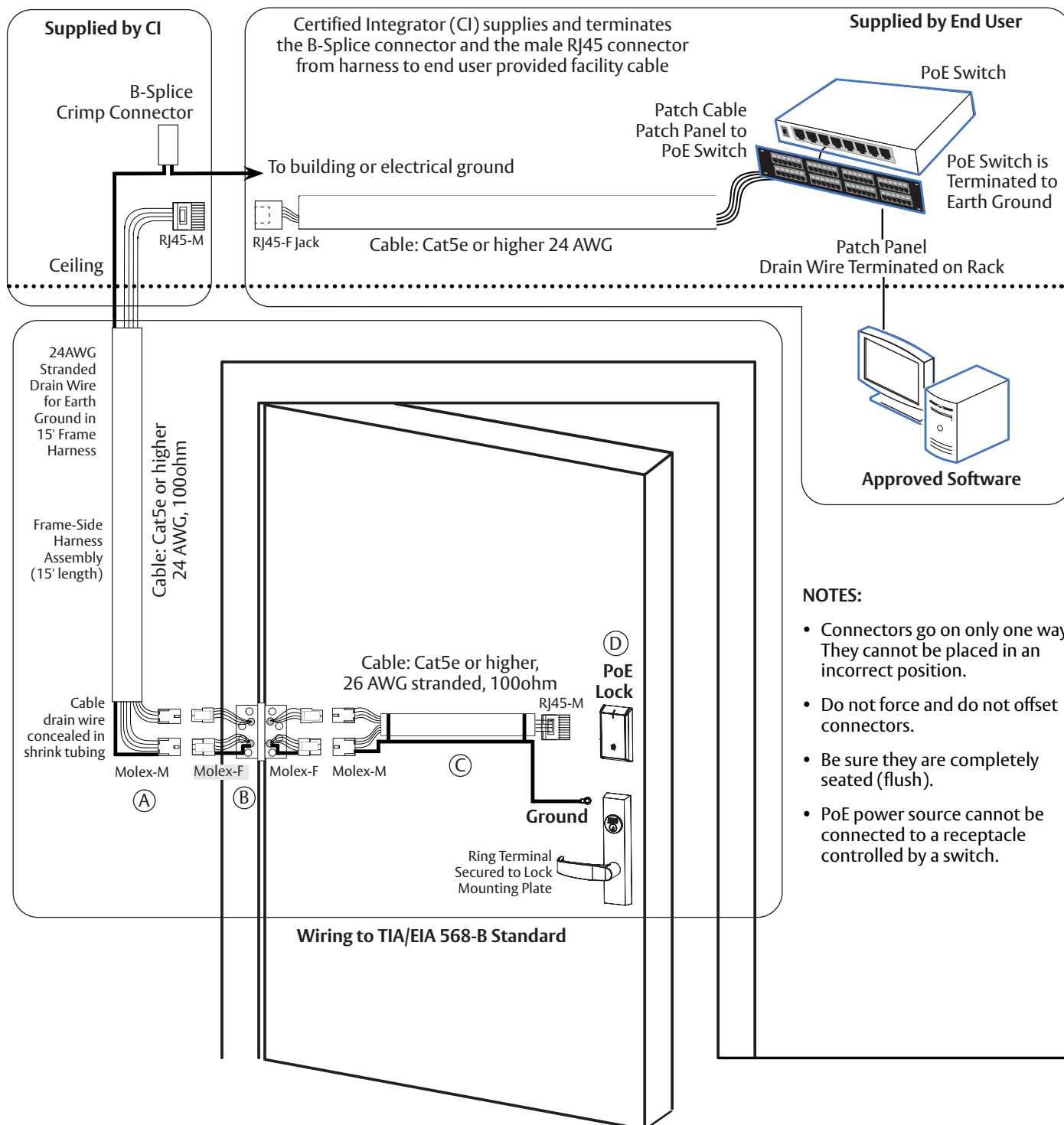
Overview

SARGENT IN220 PoE Typical Application



Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), CSA 22.1, Canadian Electrical Code (CEC), Part I, Safety Standard for Electrical Installations, local codes, and the authorities having jurisdiction.

4. IN220 (PoE) Installation Wiring (continued)

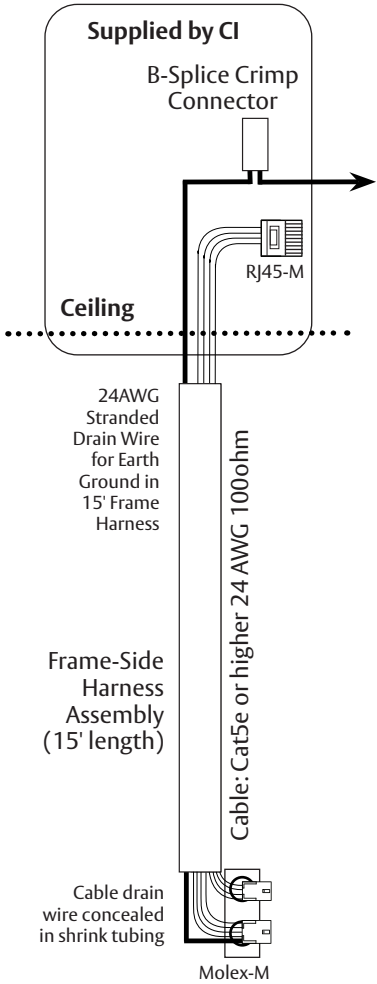


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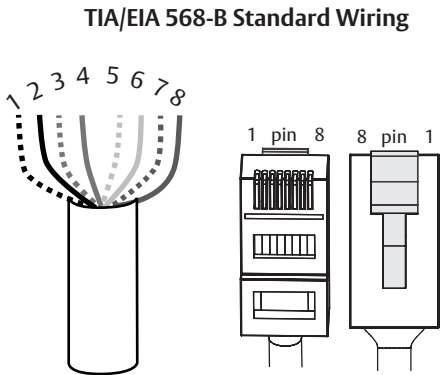
- Connectors go on only one way. They cannot be placed in an incorrect position.
- Do not force and do not offset connectors.
- Be sure they are completely seated (flush).
- PoE power source cannot be connected to a receptacle controlled by a switch.

4. IN220 (PoE) Installation Wiring (continued)

A Frame Harness Installation



Components and wire harness supplied by McKinney. Suggested installation:
Cut end / ceiling-side PoE harness:



PIN	Wire	Pair Number
1	White/Orange	2
2	Orange	2
3	White/Green	3
4	Blue	1
5	White/Blue	1
6	Green	3
7	White/Brown	4
8	Brown	4

Do not confuse pair numbers with pin numbers. A pair number is used for reference only (e.g.: 10BaseT Ethernet uses pairs 2 & 3). The pin numbers indicate actual physical locations on the plug and jack.

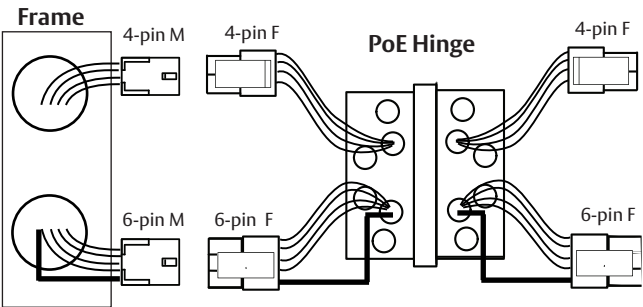
Hinge side of PoE (Frame) harness:

1. Feed cut end of harness into hole on hinge-side through single access hole.
2. Push one connector back through the hole and feed into the other access hole.

Each of the hinge-side harness connectors should end up threaded through a different access hole and matched to the same size pin connector from the door harness:

- 4-pin male Molex connector
- 6-pin male Molex connector with ground wire

B PoE Data Hinge



Hinge-side harness connectors:

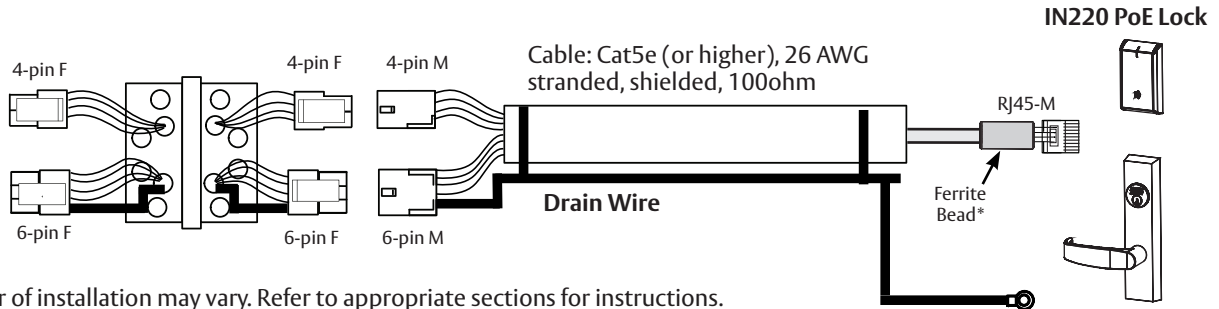
- 4-pin female Molex connector
- 6-pin female Molex connector with ground wire

Lock-side harness connectors:

- 4-pin female Molex connector
- 6-pin female Molex connector with ground wire

4. IN220 (PoE) Installation Wiring (continued)

C PoE Door Harness



Order of installation may vary. Refer to appropriate sections for instructions.

Hinge-side harness connectors:

- 4-pin male Molex connector
- 6-pin male Molex connector with ground wire

Lock-side harness connectors:

- Ring terminal
- Male RJ45 connector (crimped after cable is fed through door)

Notes:

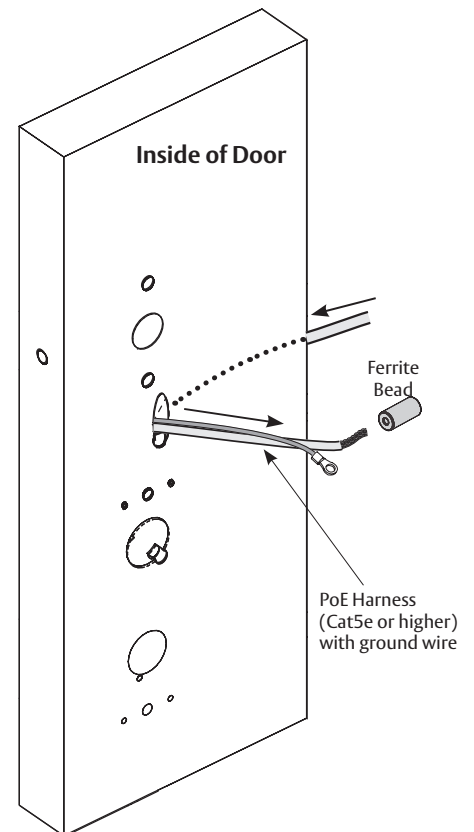
- Connectors go on only one way. They cannot be plugged to incorrect position.
- Do not force and do not offset connectors.
- Be sure they are completely seated (flush).

D PoE Lock

Order of installation may vary. Refer to appropriate sections for instructions.

1. Prop door open.
2. Using the ring terminal, carefully route the assembly through the door channel toward the lock.

ATTENTION: Do not terminate PoE harness (with RJ45 M) until cable has been routed through door and inside mounting plate assembly. See Section 11, step 3 - Installing the Connectors.



5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is non-handed and the trim is field reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door

Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): A8214 (80 Series On-Center) or MEFT18 (PE80 Series On-Center), or MEFT26 (EA Option, only available with PE80 Series)
- Door Manufacturer's Template (online): 4716 (80 Series) or MEDT53 (PE80 Series)
- Exit Device Installation Instructions: A6770 (80 Series) or A8301 (PE80 Series)

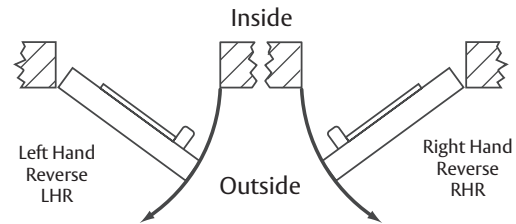
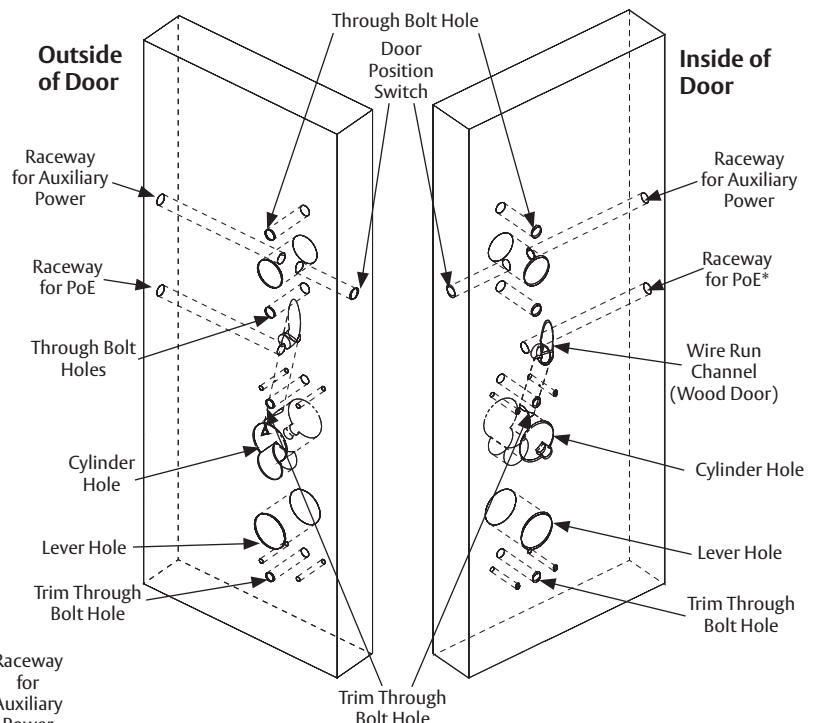
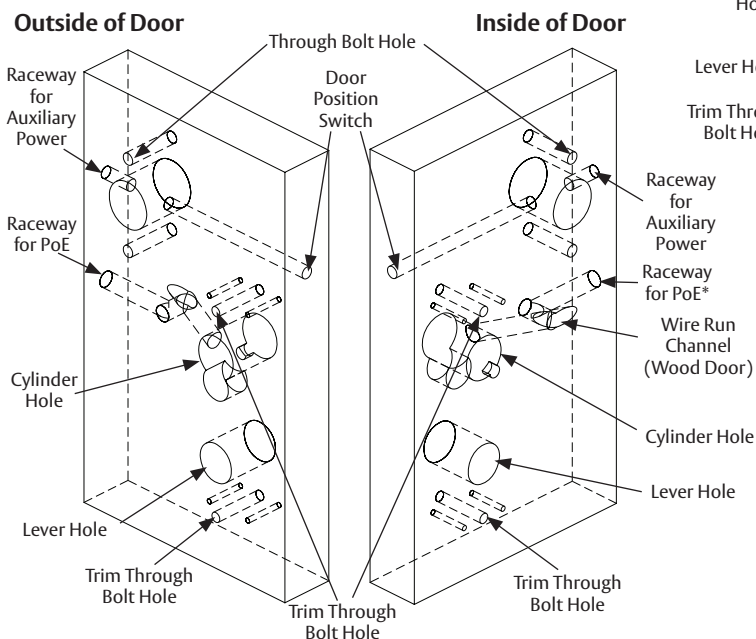


Figure 5-1A



**Figure 5-1B Wood Door Preparation
(On-Center configuration shown)**



**Figure 5-1C Wood Door Preparation
(EA Option configuration shown)**

IN220 (PoE) Wiring and Installation, See Section 4

5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option) (continued)

2. Install Door Position Switch (DPS)

Wood doors have 3/8" raceway to controller cutout and metal doors have 3/4" raceway to the controller cutout.

Refer to template (ships with product): A8214 (80 Series On-Center) or MEFT18 (PE80 Series On-Center), or MEFT26 (EA Option, only available with PE80 Series)

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 5-2A).

NOTE: For metal doors, use DPS Collar. For EA Option, use wire harness extension provided.

2. Push DPS firmly into place by hand.

IMPORTANT: DO NOT TAP SWITCH WITH ANY TOOL

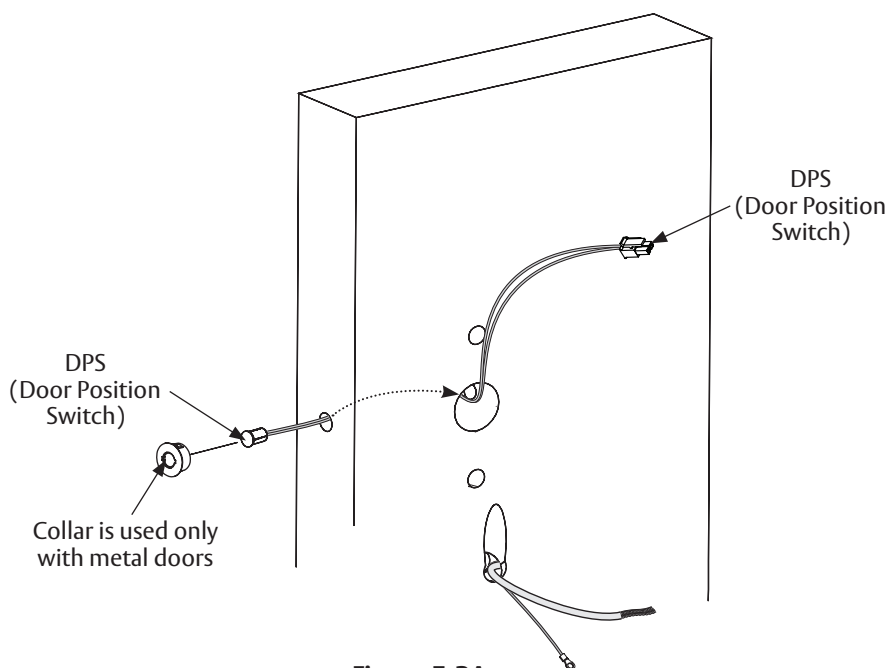


Figure 5-2A

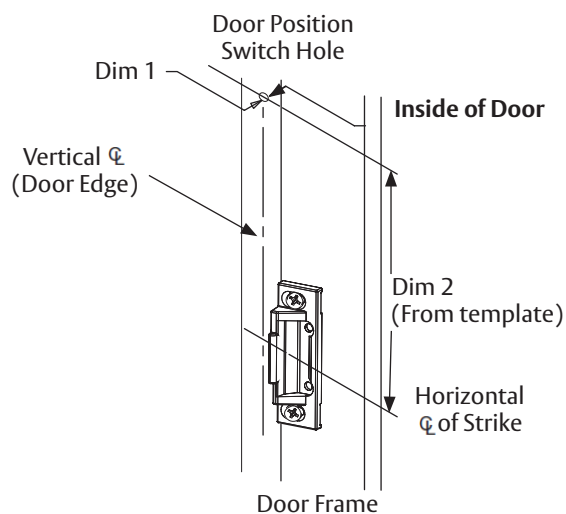


Figure 5-2B

	Wood Frame	Metal Frame
Dim 1	3/8" ϕ	3/4" ϕ
Dim 2	8-3/8"	8-3/8"

5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option) (continued)

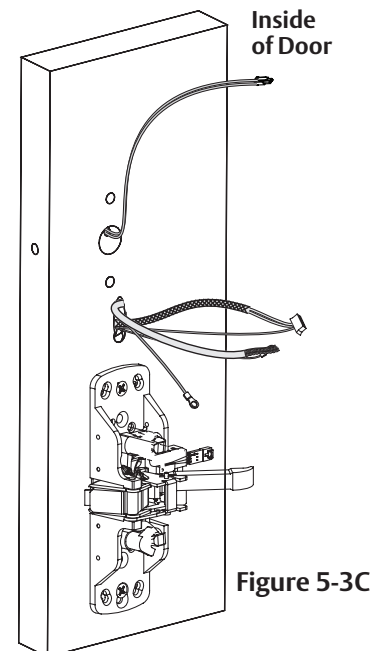
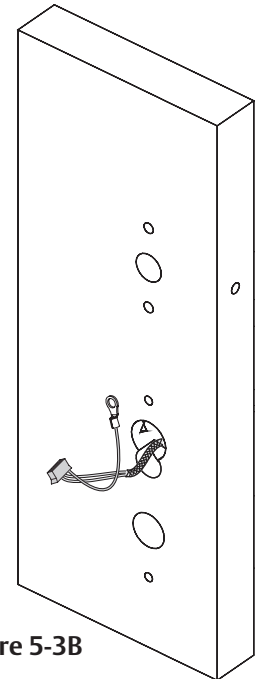
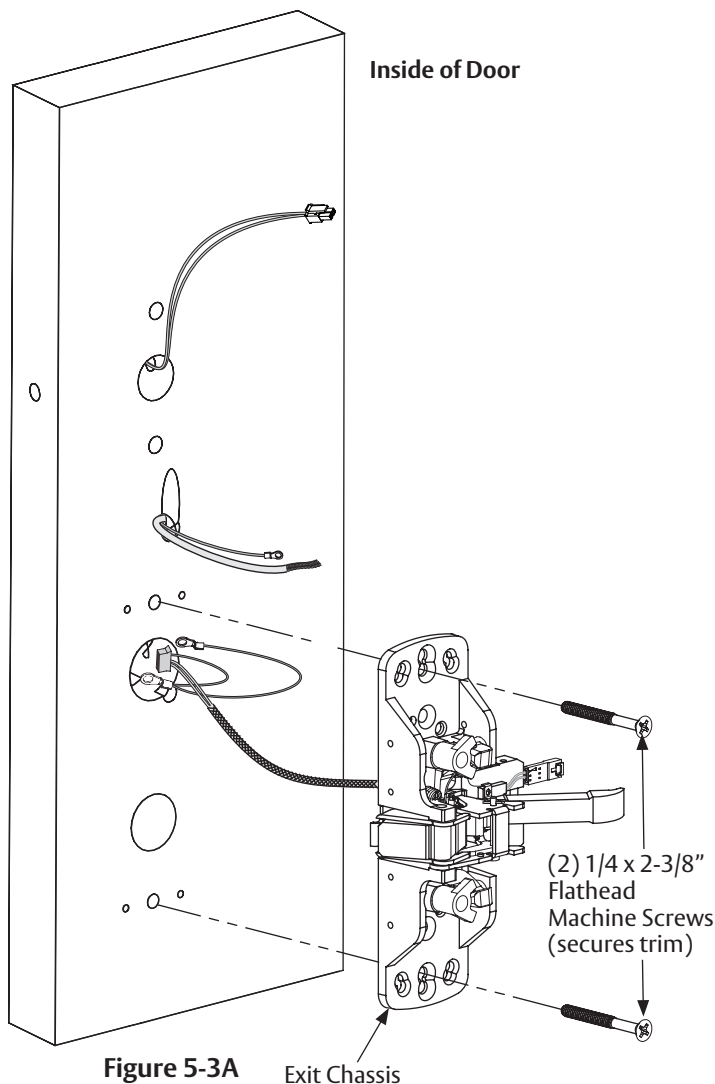
3. Mount Exit Device Chassis

NOTE: Exit chassis harness consists of a 6-pin female connector and two different-sized ground lugs (Figure 5-3A).

1. Feed 6-pin connector and larger ground lug straight through to outside of door (Figures 5-3A, 5-3B) while feeding smaller ground lug into wire hole, up through wire channel and out through inside of door (Figure 5-3C).

DO NOT PINCH THE WIRE HARNESS.

2. Begin to secure the exit chassis with through bolts to the trim using two (2) 1/4-20 x 2-3/8" flat head machine screws. DO NOT FULLY TIGHTEN SCREWS.



5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option) (continued)

4. Mount Exit Trim

NOTE: For exterior applications, use trim gasket to seal between trim escutcheon and outside door surface.

1. Connect motor harness adapter to chassis harness connector (Figure 5-4A).
2. For wood doors: Route trim wire harness connector through the cylinder hole, up and through the wire run channel to the controller cutout.
For metal doors: Route trim wire harness through the cylinder hole out the controller cutout.
3. Pass top trim mounting post through chassis harness ground lug.
4. Ensure trim spindle engages the lower hub of the exit chassis.
5. Fully tighten two (2) chassis through bolts (Figure 5-4B).

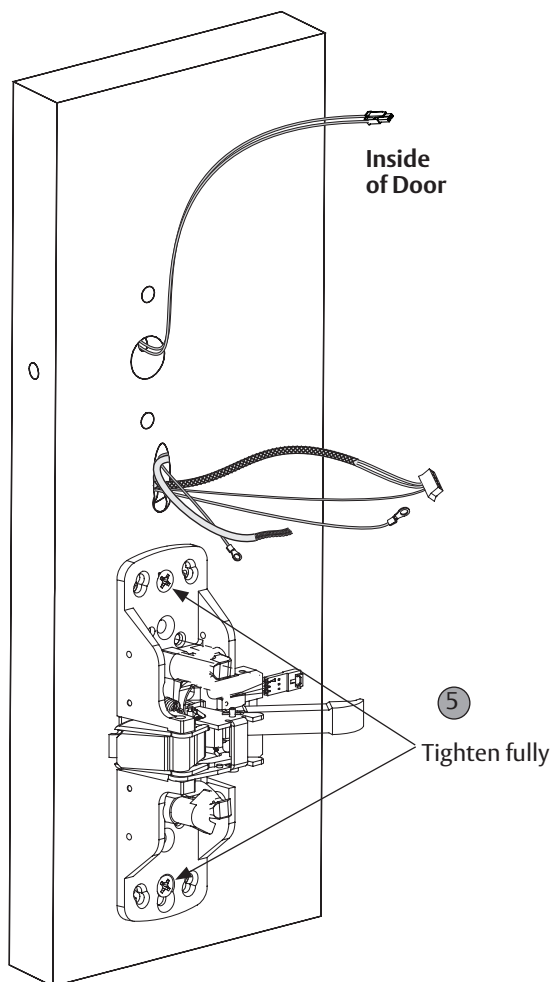


Figure 5-4B

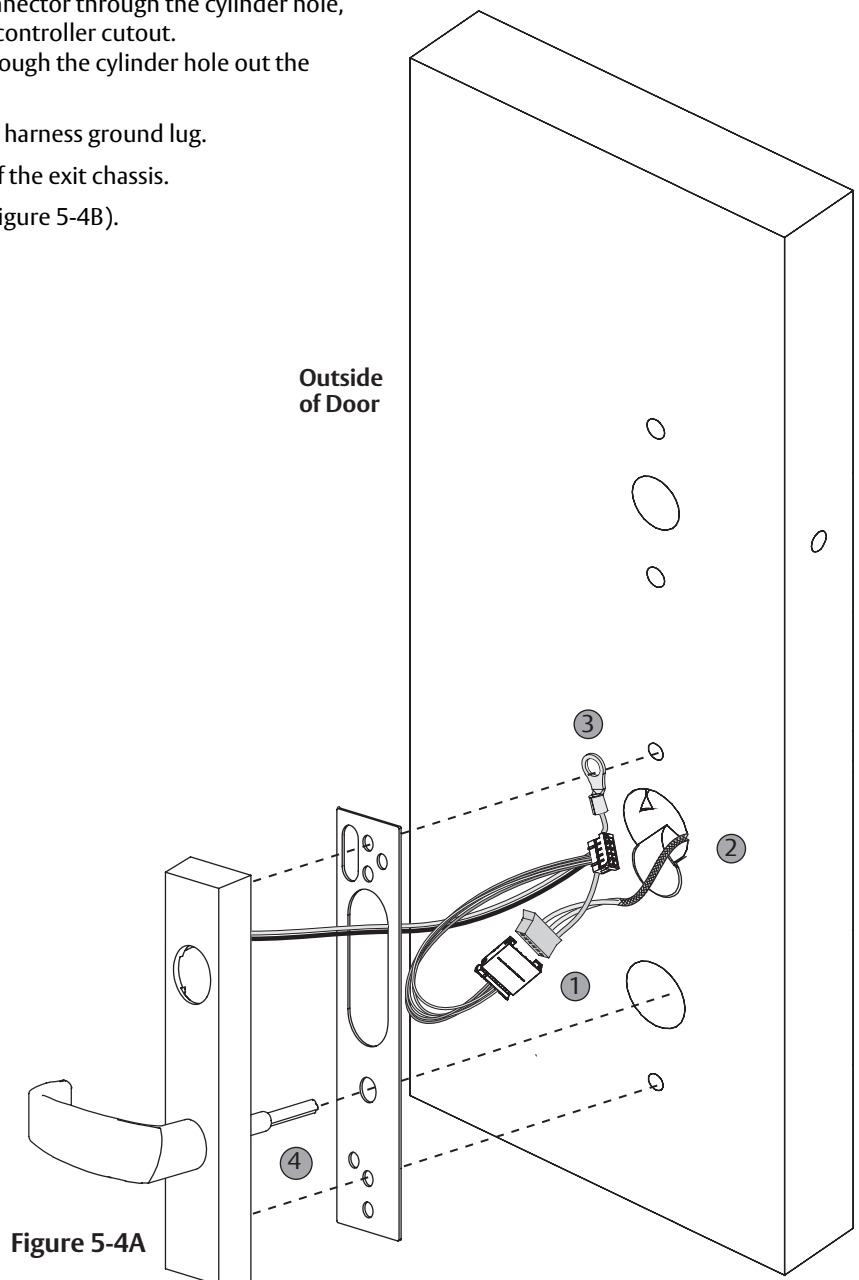


Figure 5-4A

5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option) (continued)

5. Install Cylinder

For devices without cylinder, go to Step 6.

1. While installing the rim cylinder, support the tail piece of the cylinder, verifying its engagement with the top hub of the exit chassis.
NOTE: Be sure trim harness is clear of cylinder and tailpiece.
2. Secure the cylinder by through-bolting the cylinder through the exit chassis using two (2) #12-24 x 1-7/8" connecting screws (Figure 5-6).
3. Verify that the key retracts latchbolt.

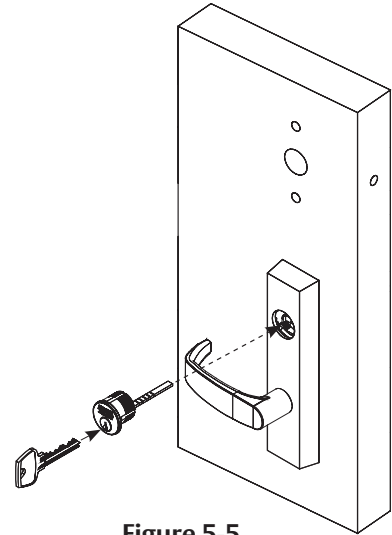


Figure 5-5

6. Secure Exit Chassis

To comply with UL certifications and for security:

Fasten exit chassis to door using four (4) #10 wood screws (for wood door) or four (4) #10-24 machine screws (for metal door).

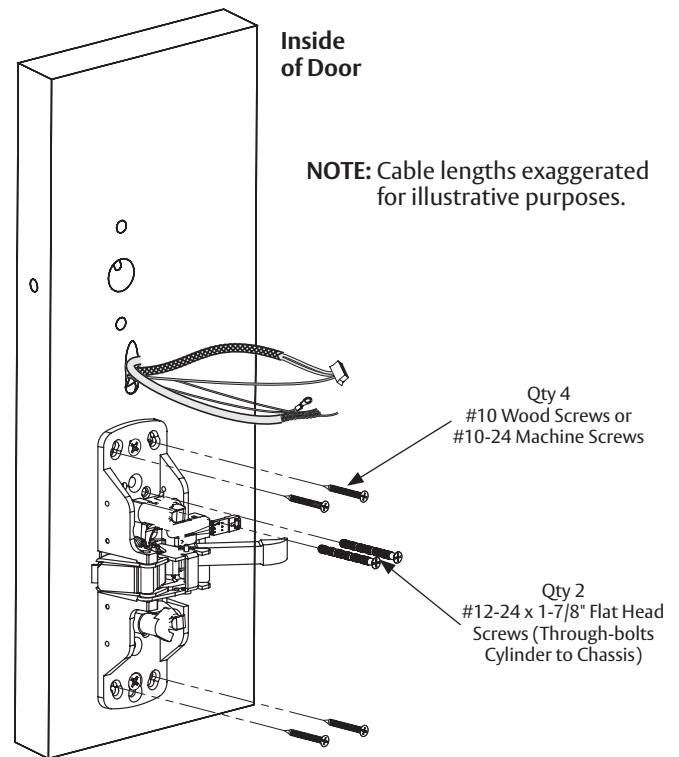


Figure 5-6

5. 8800 & PE8800 Rim Exit Device (On-Center & EA Option) (continued)

7. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.

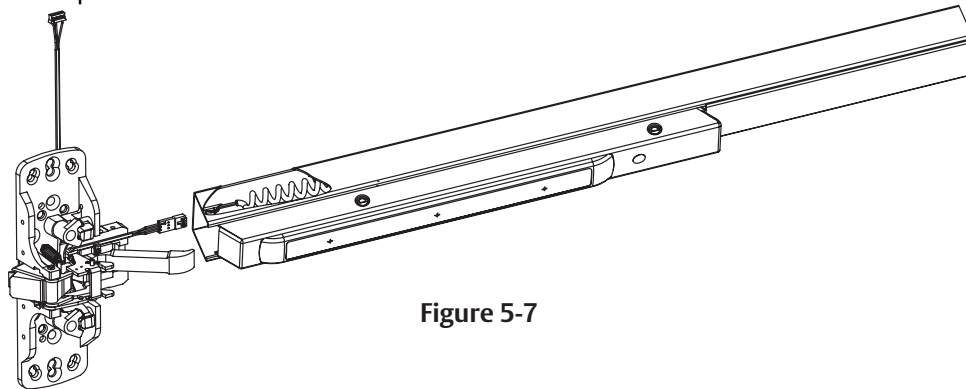


Figure 5-7

8. Install Chassis Cover

Secure chassis cover to chassis using four (4) #8-32 x 5/16" oval head machine screws (Figure 5-8).

NOTE: Cable lengths exaggerated for illustrative purposes.

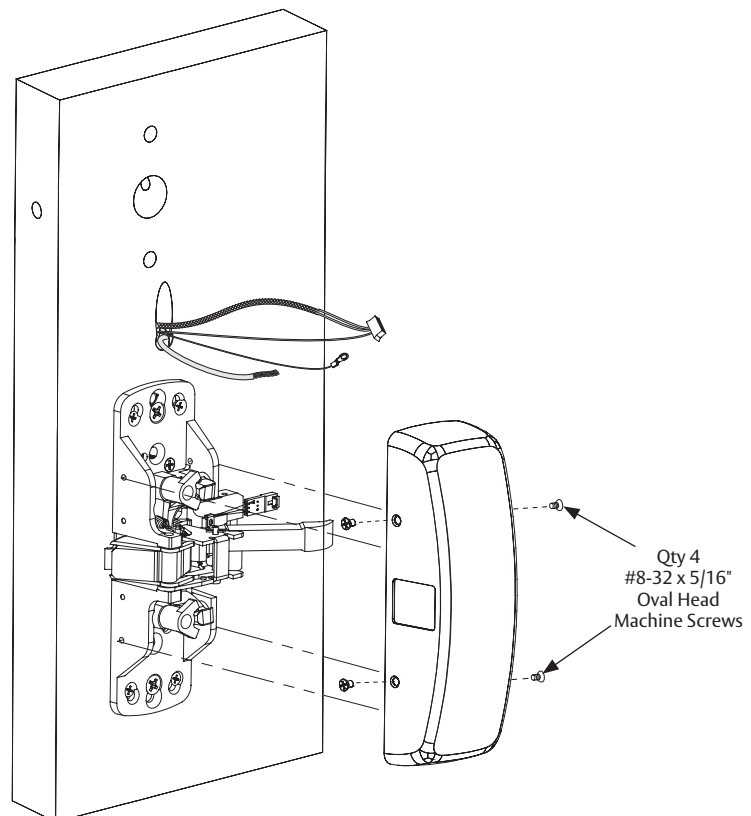


Figure 5-8

IMPORTANT NOTE: IN120 / IN220 Rim Exit Installation Continues in Section 11

6. 8900 & PE8900 Mortise Exit Device (77/78 Functions)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is handed and not reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door

If using a mullion, install it prior to installing hardware.

Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): A8215 (80 Series) or MEFT10 (PE80 Series)
- Door Manufacturer's Template (online): 4717 (80 Series) or MEDT54 (PE80 Series)
- Exit Device Installation Instructions: A6705 (80 Series) or A8304 (PE80 Series)

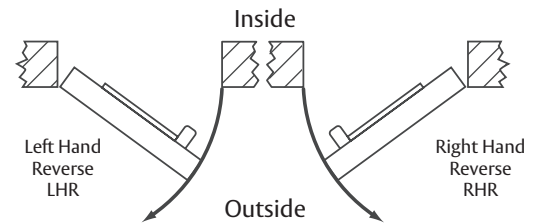


Figure 6-1A

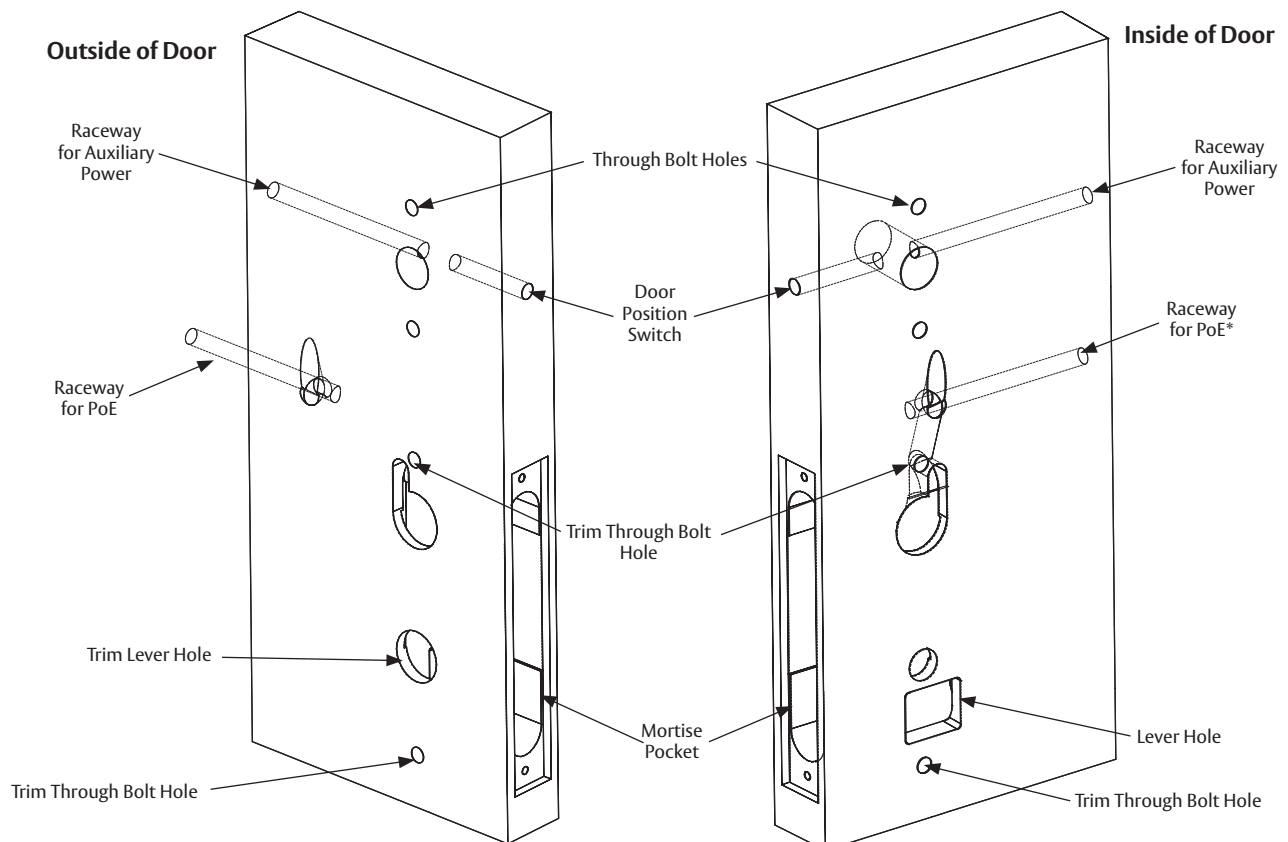


Figure 6-1B Wood Door Preparation

IN220 (PoE) Wiring and Installation, See Section 4

6. 8900 & PE8900 Mortise Exit Device (77/78 Functions) (continued)

2. Install Door Position Switch (DPS)

Wood doors have 3/8" raceway to controller cutout and metal doors have 3/4" raceway to the controller cutout.

Refer to template (ships with product): A8215 (80 Series) or MEFT10 (PE80 Series).

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 6-2A).

NOTE: For metal doors, use DPS collar.

2. Push DPS firmly into place by hand.

IMPORTANT: DO NOT TAP SWITCH WITH ANY TOOL.

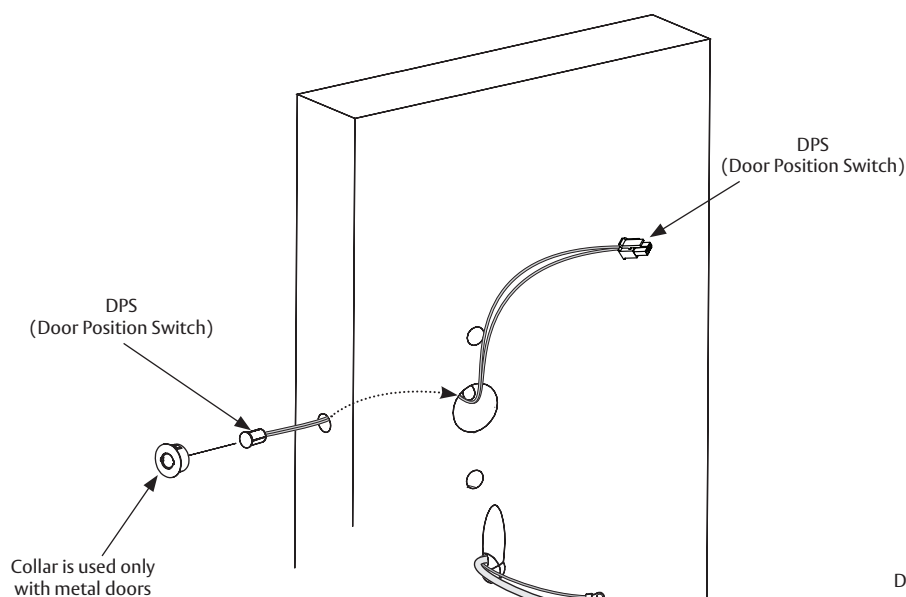


Figure 6-2A

	Wood Frame	Metal Frame
Dim 1	3/8" Ø	3/4" Ø

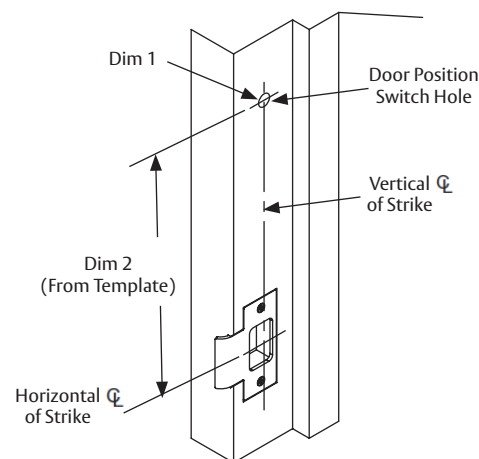
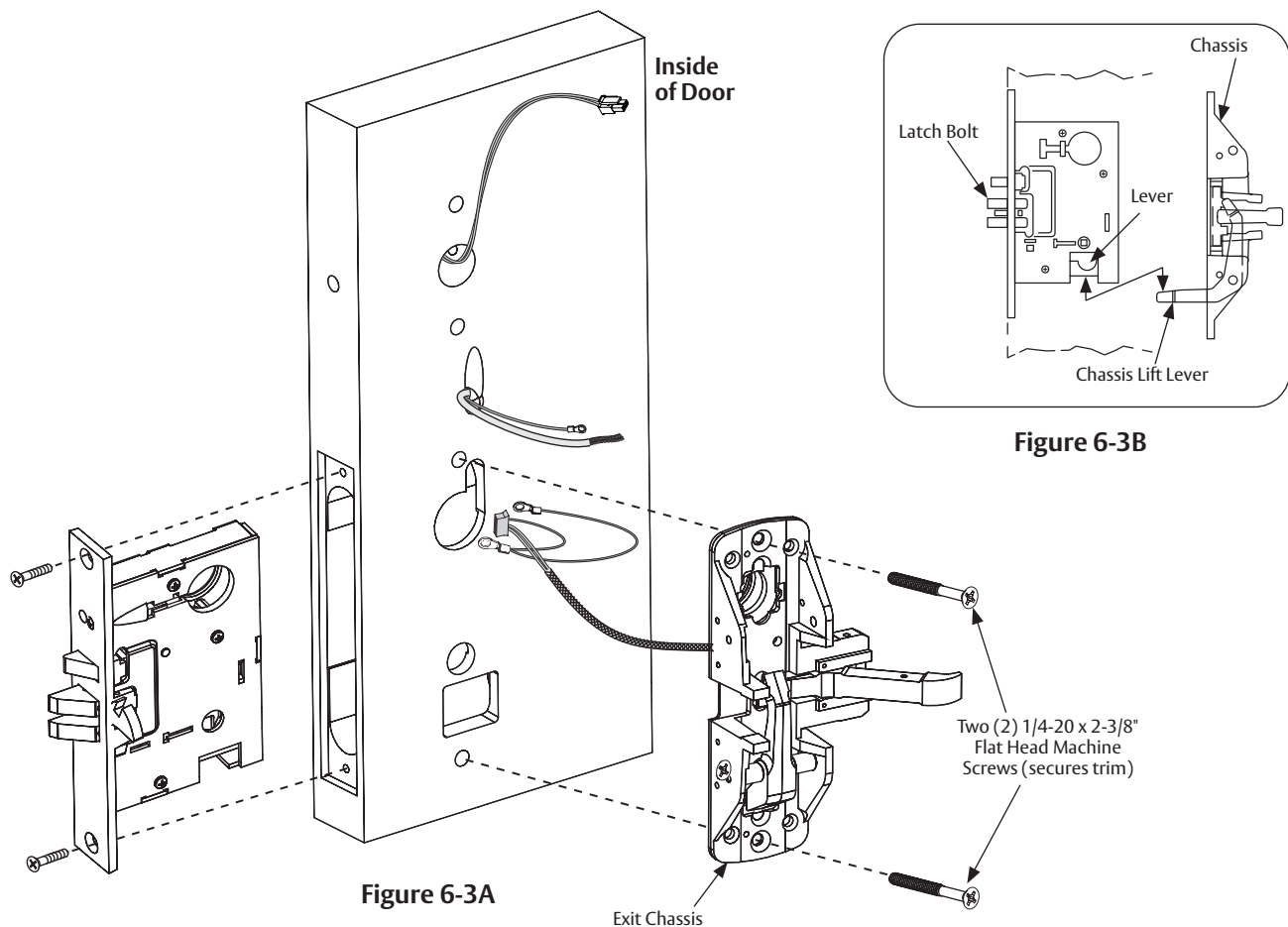


Figure 6-2B

6. 8900 & PE8900 Mortise Exit Device (77/78 Functions) (continued)

3. Mount Mortise & Exit Device Chassis

- Slide mortise lock into door and loosely secure with two (2) flat head screws.
NOTE: Exit chassis harness consists of a 6-pin female connector and two different-sized ground lugs (Figure 6-3A).
- Feed 6-pin connector and larger ground lug straight through to outside of door (Figures 6-3A, 6-3B) while feeding smaller ground lug into wire hole, up through wire channel and out through inside of door (Figure 6-3A).
DO NOT PINCH THE WIRE HARNESS.
- Begin to secure the exit chassis with through bolts to the trim using two (2) 1/4-20 x 2-3/8" flat head machine screws.



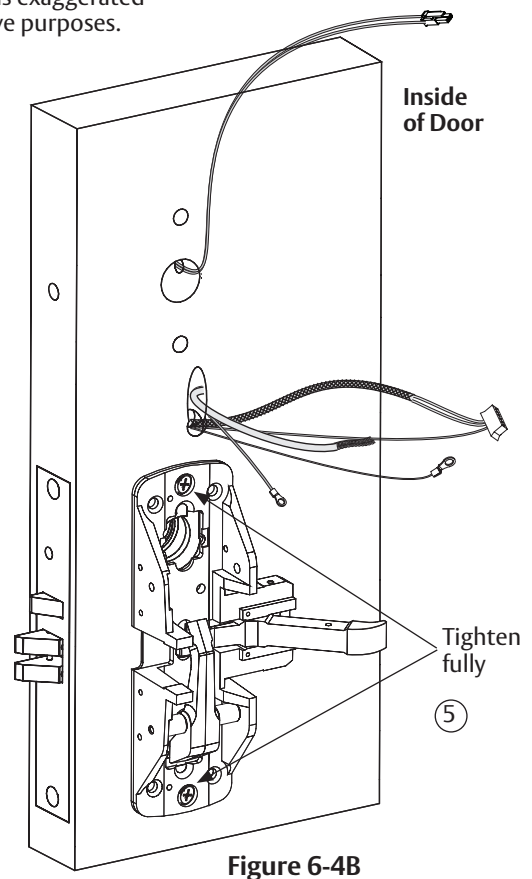
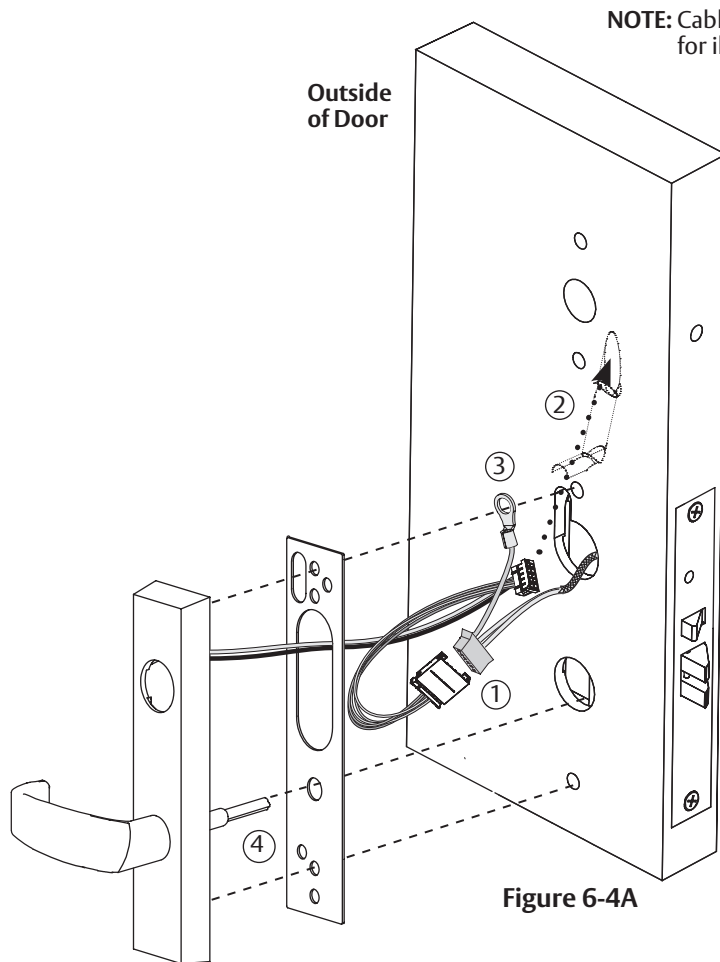
NOTE: Cable lengths exaggerated for illustrative purposes.

6. 8900 & PE8900 Mortise Exit Device (77/78 Functions) (continued)

4. Mount Exit Trim

NOTE: For exterior applications, use trim gasket to seal between trim escutcheon and outside door surface.

1. Connect motor harness adapter to chassis harness connector (Figure 6-4A).
2. For wood doors: Route trim wire harness connector through the cylinder hole, up and through the wire run channel to the controller cutout.
For metal doors: Route trim wire harness through the cylinder hole out the controller cutout.
3. Pass top trim mounting post through chassis harness ground lug.
4. Ensure trim spindle engages the lower hub of the exit chassis.
5. Fully tighten two (2) chassis through bolts (Figure 6-4B).



6. 8900 & PE8900 Mortise Exit Device (77/78 Functions) (continued)

5. Install Cylinder

For devices without cylinder, go to Step 6.

1. Secure cylinder by threading into lock body. Ensure SARGENT logo is positioned at the top of the cylinder (Figure 6-5A)
2. After cylinder is secured into lock body, tighten cylinder lock screw (clockwise) through front of mortise lock.
3. Verify that key retracts latchbolt. (Figure 6-5B)

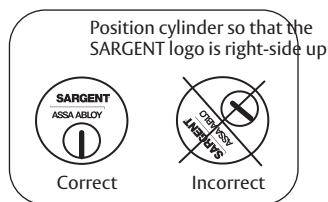


Figure 6-5A

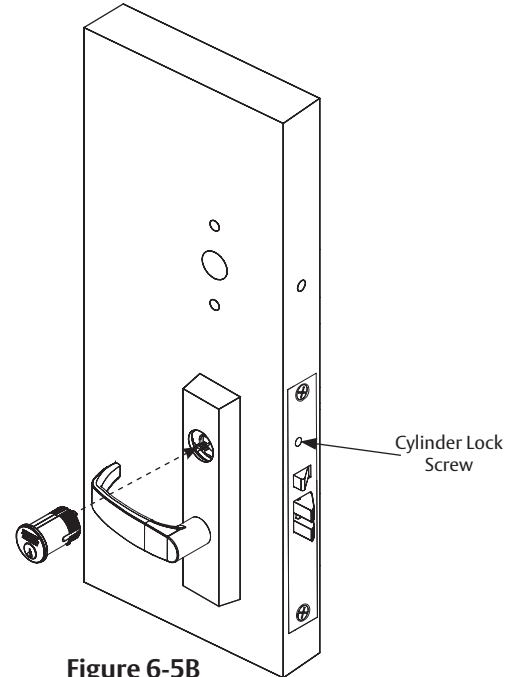


Figure 6-5B

6. Secure Exit Chassis

To comply with UL certifications and for security, fasten exit chassis to door using four (4) #10 wood screws (for wood door) or four (4) #10-24 machine screws (for metal door). (Figure 6-6)

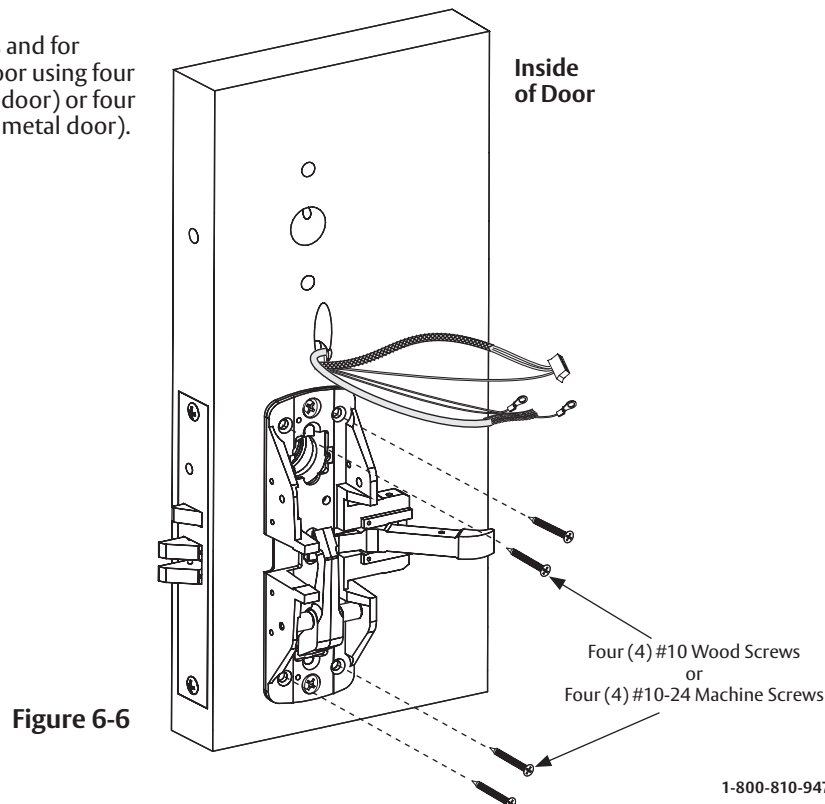


Figure 6-6

6. 8900 & PE8900 Mortise Exit Device (77/78 Functions) (continued)

7. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.

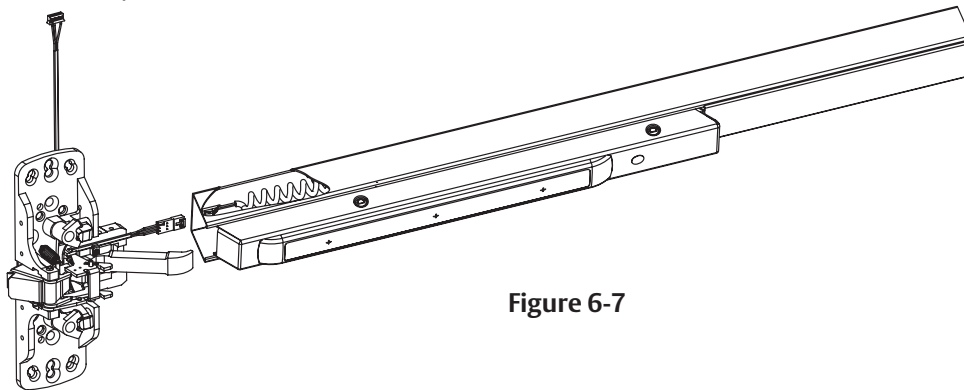


Figure 6-7

8. Install Chassis Cover

Secure chassis cover to chassis using four (4) #8-32 x 5/16" oval head machine screws. (Figure 6-8)

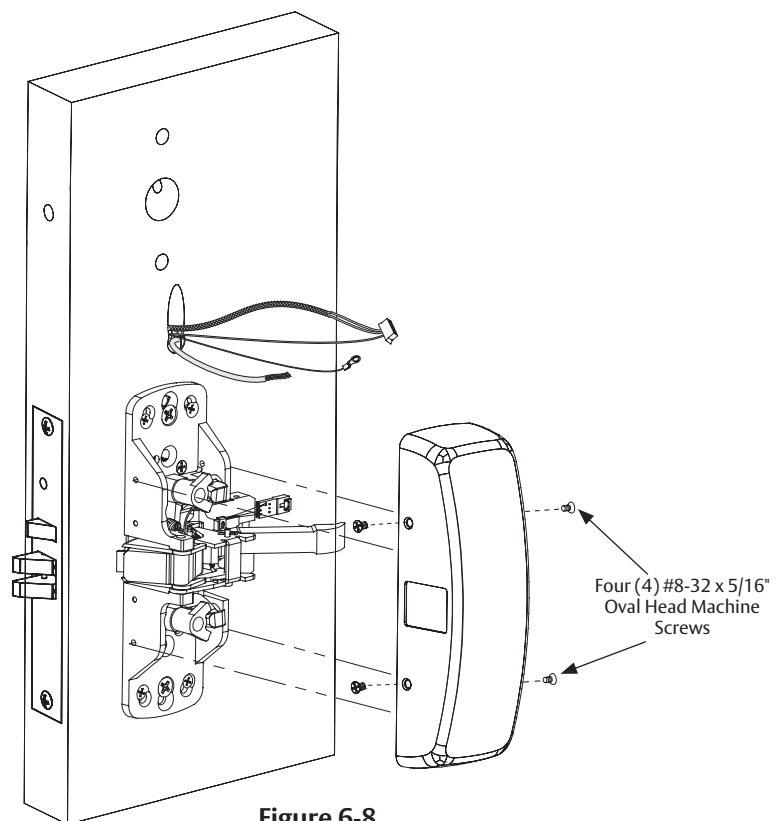


Figure 6-8

7. PE8600 Concealed Vertical Rod Exit Device (On-Center Mounting)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is handed and not reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door

If using a mullion, install it prior to installing hardware.
Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): A8215 (80 Series) or MEFT10 (PE80 Series)
- Door Manufacturer's Template (online): 4717 (80 Series) or MEDT54 (PE80 Series)
- Exit Device Installation Instructions: A6705 (80 Series) or A8304 (PE80 Series)

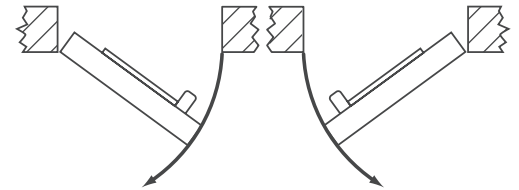
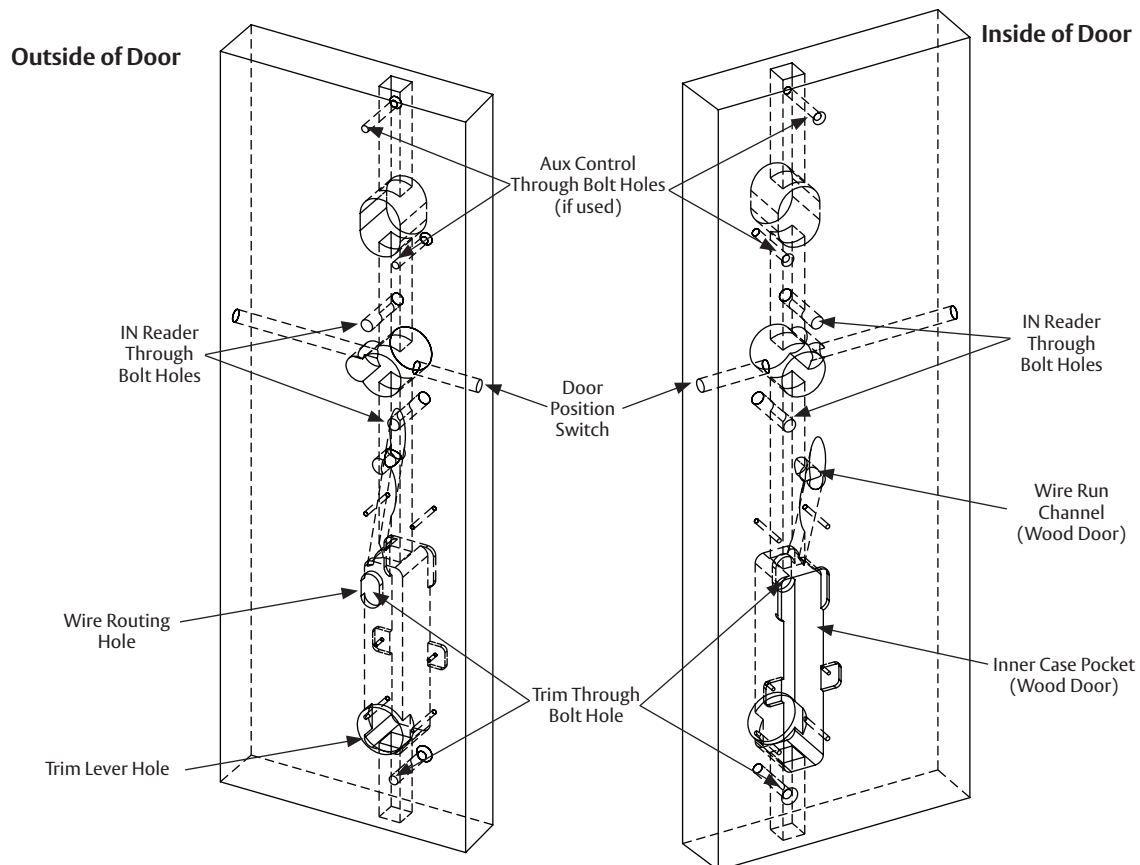


Figure 7-1A



IN220 (PoE) Wiring and Installation, See Section 4

Figure 7-1B Wood Door Preparation

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7. PE8600 Concealed Vertical Rod Exit Device (On-Center Mounting) (continued)

2. Install Door Position Switch (DPS)

Wood doors have 3/8" raceway to controller cutout and metal doors have 3/4" raceway to the controller cutout.

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 7-2A).

NOTE: For metal doors, use DPS Collar.

2. Push DPS firmly into place by hand.

IMPORTANT: DO NOT TAP SWITCH WITH ANY TOOL

NOTE: For double door applications (unless second door is inactive), an alternative for this DPS must be used.

Options (sold separately) include a hinge DPS or a DPS at top of door.

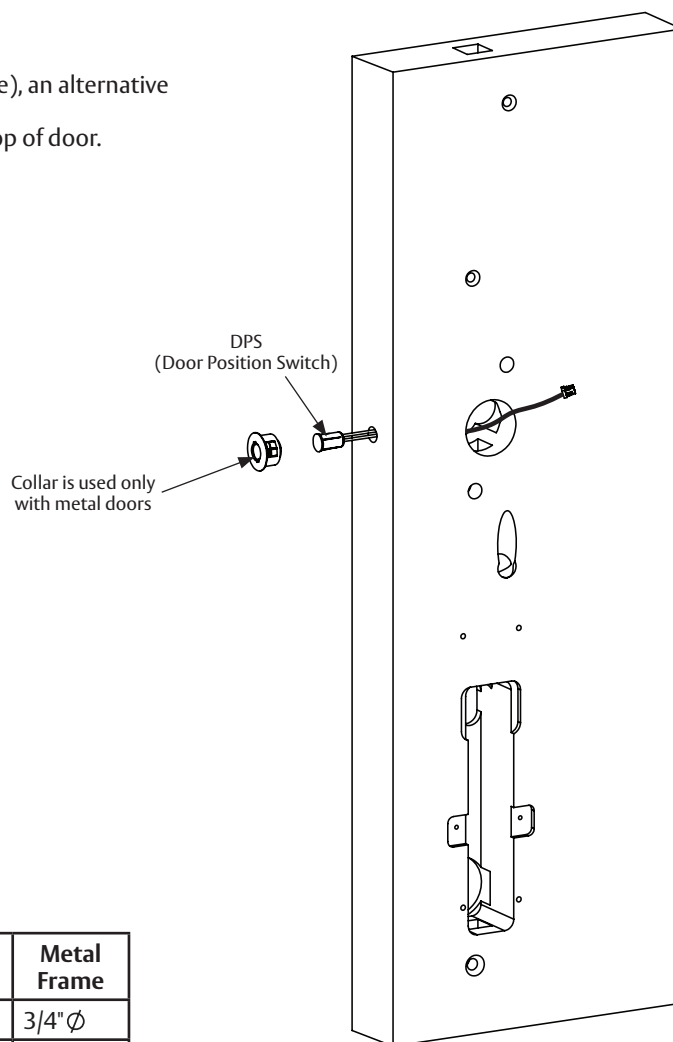


Figure 7-2A

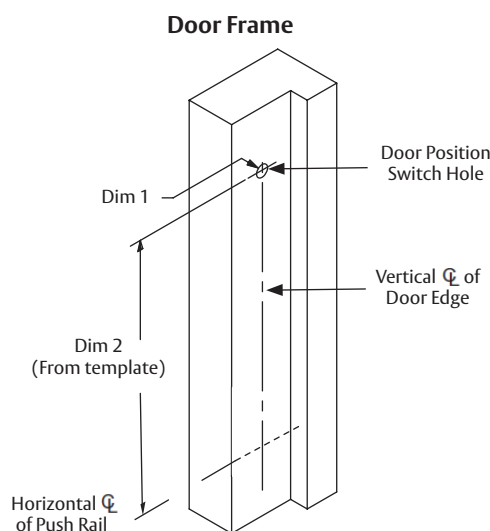


Figure 7-2B

	Wood Frame	Metal Frame
Dim 1	3/8" ϕ	3/4" ϕ
Dim 2	8-3/8"	8-3/8"

7. PE8600 Concealed Vertical Rod Exit Device (On-Center Mounting) (continued)

3. Install Inner Case Assembly

A. Wood Door (WD)

1. Install the inner case assembly with two (2) #12x1" Phillips flathead screws (Figure 7-3A).

B. Metal Door (MD/AD)

1. Assemble rods to inner case.
2. Slide rod assembly into door and secure with #10-24 x 3/8" screw for top inner case assembly and #10-24 x 1/2" screw for bottom inner case assembly (Figure 7-3B).

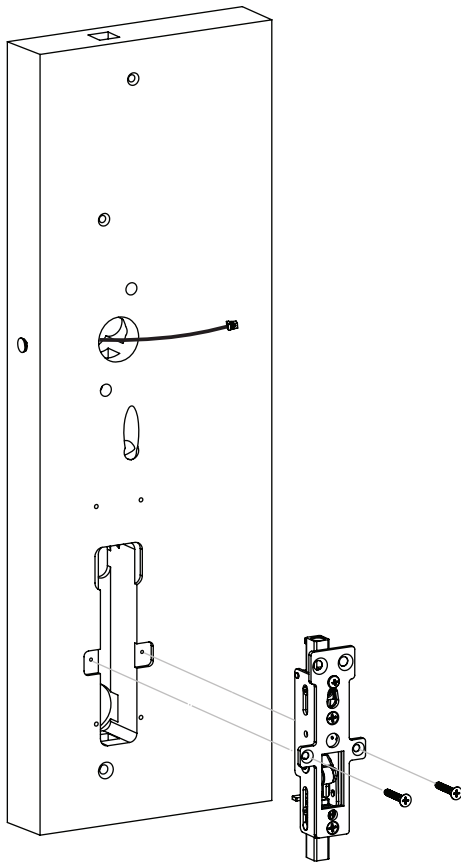


Figure 7-3A

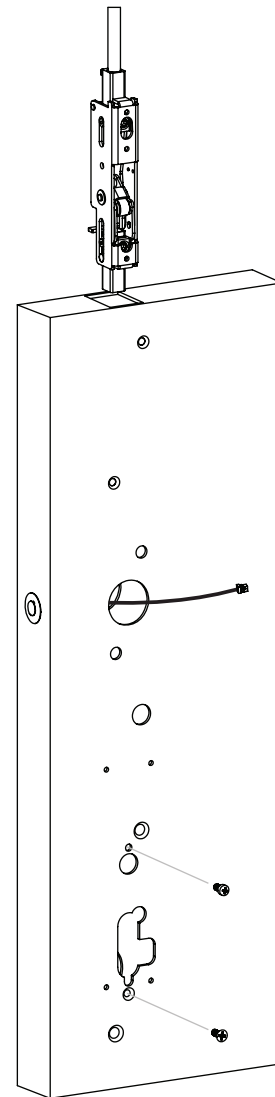


Figure 7-3B

7. PE8600 Concealed Vertical Rod Exit Device (On-Center Mounting) (continued)

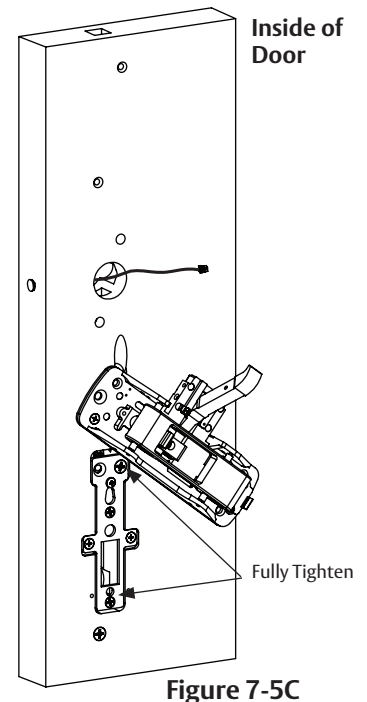
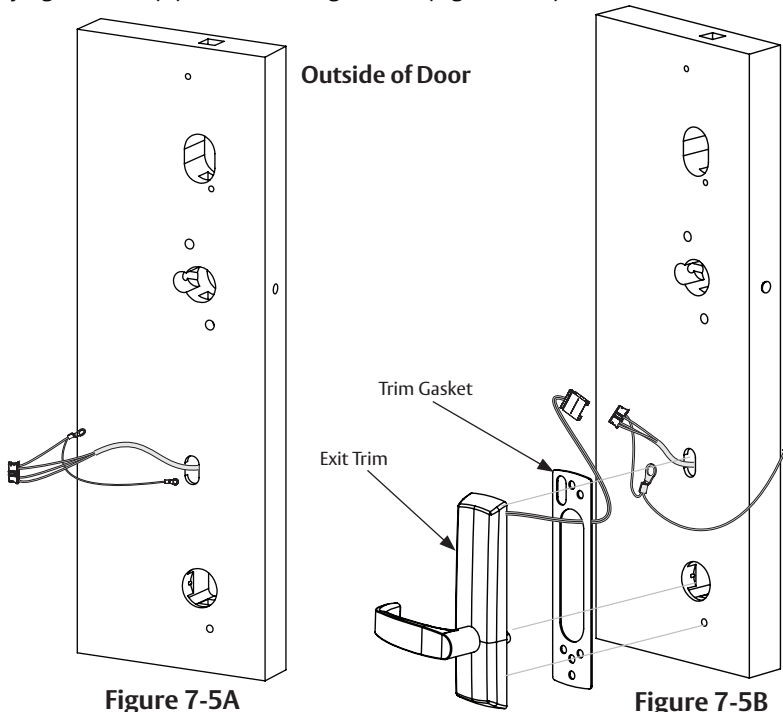
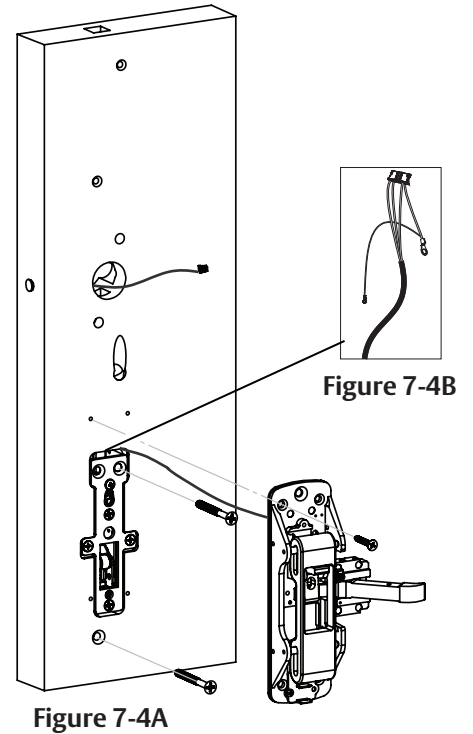
4. Mount Exit Device Chassis

1. Mount exit chassis loosely, using only the top left mounting screw. Screw should support the weight of the chassis but allow it to move freely while routing the wiring and mounting exit trim. (Figure 7-4A).
NOTE: Exit chassis harness consists of a 6-pin female connector and two (2) ground wire terminals. (Figure 7-4B)
2. Feed 6-pin connector and larger ground wire terminal straight through to outside of door. (Figure 7-4B, Figure 7-5A)
3. Insert two (2) trim mounting screws. (Figure 7-4A)

5. Mount Exit Trim

NOTE: For exterior applications, use trim gasket as seal between trim escutcheon and outside door surface.

1. Connect motor harness adapter to chassis wire harness connector.
2. For Wood Doors: Route trim wire harness connector through oval wire routing hole, up and through wire run channel to controller cutout.
For Metal Doors: Route trim wire harness through oval wire mounting hole and out controller cutout.
3. Pass top trim mounting post through chassis harness ground lug.
4. Ensure trim spindle engages lower hub of exit chassis.
5. Fully tighten two (2) trim mounting screws. (Figure 7-5C)



7. PE8600 Concealed Vertical Rod Exit Device (On-Center Mounting) (continued)

6. Secure Exit Chassis

1. Fasten exit chassis to door using three (3) remaining #10 wood screws (for wood door) or #10-24 machine screws (for metal door). (Figure 7-6A)
2. Install plastic wire guide through reader prep from outside door surface before proceeding to Section 11. (Figure 7-6B)

NOTE: Cable lengths exaggerated for illustrative purposes.

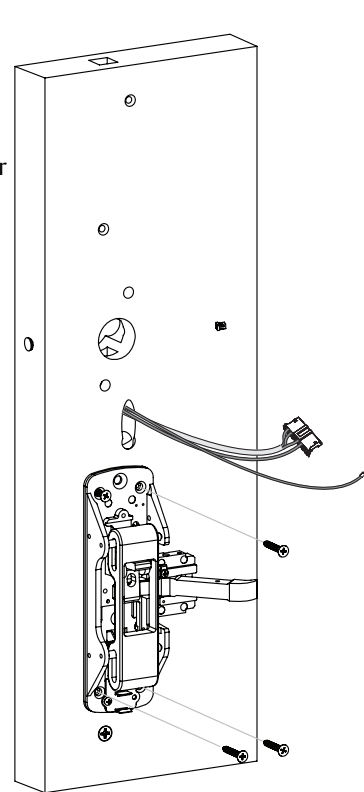


Figure 7-6A

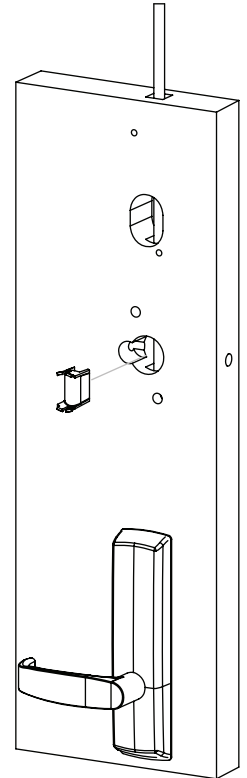


Figure 7-6B

7. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.

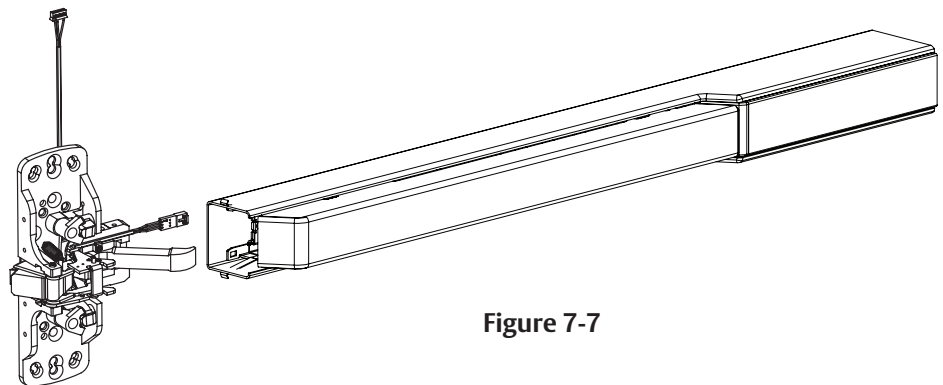


Figure 7-7

IMPORTANT NOTE: IN120 / IN220 CVR Exit Installation Continues in Section 11

8. PE8600 Concealed Vertical Rod Exit Device (EA Option)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is handed and not reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door

If using a mullion, install it prior to installing hardware.

Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): A8215 (80 Series) or MEFT10 (PE80 Series)
- Door Manufacturer's Template (online): 4717 (80 Series) or MEDT54 (PE80 Series)
- Exit Device Installation Instructions: A6705 (80 Series) or A8304 (PE80 Series)

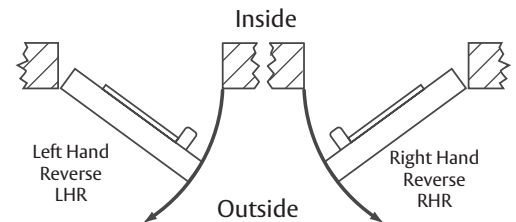


Figure 8-1A

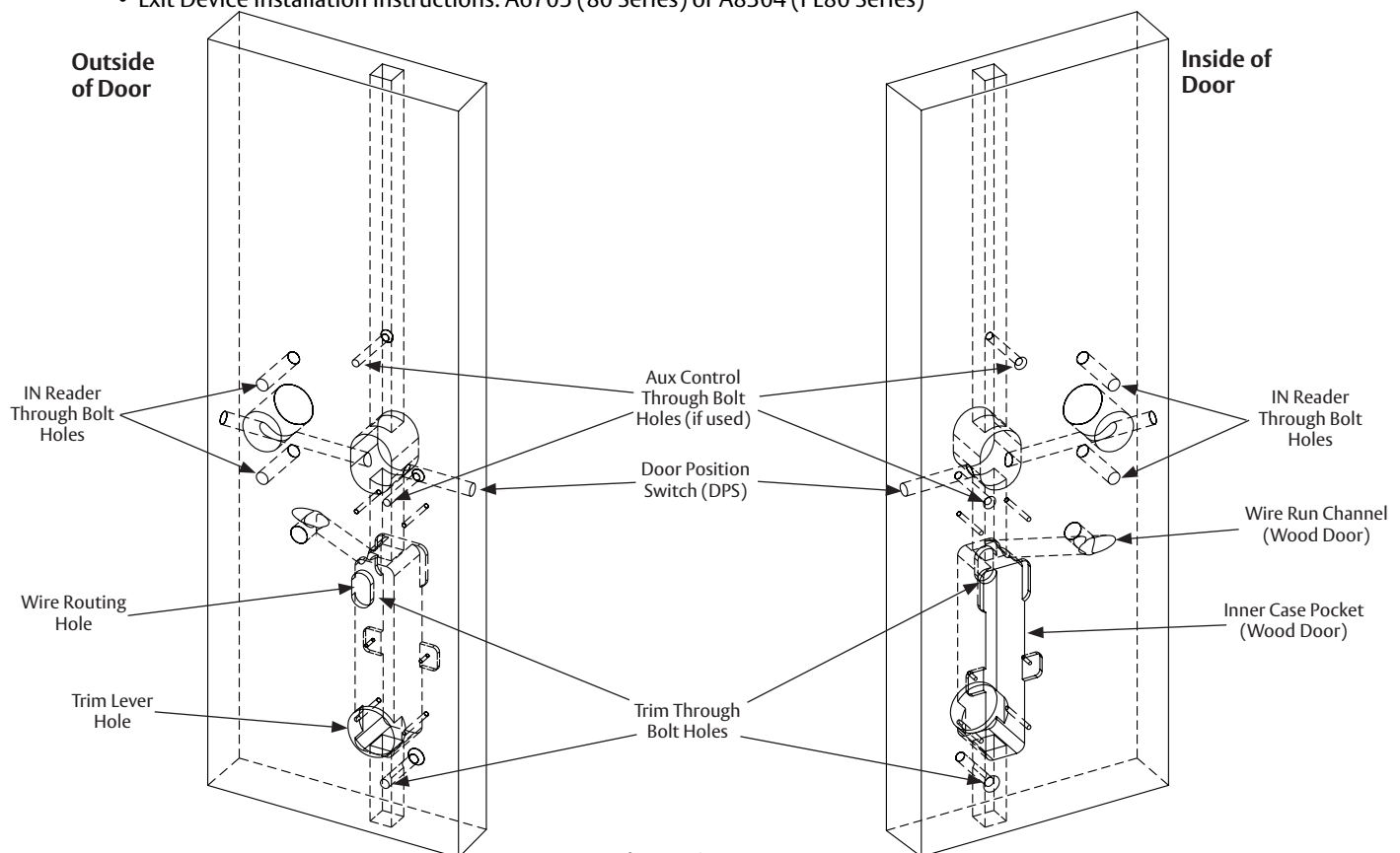


Figure 8-1B

8. PE8600 Concealed Vertical Rod Exit Device (EA Option) (continued)

2. Install Door Position Switch (DPS)

Wood doors have 3/8" raceway to controller cutout and metal doors have 3/4" raceway to the controller cutout.

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 8-2A).

NOTE: For metal doors, use DPS Collar.

2. Push DPS firmly into place by hand.

IMPORTANT: DO NOT TAP SWITCH WITH ANY TOOL

NOTE: For double door applications (unless second door is inactive), an alternative for this DPS must be used.
Options (sold separately) include a hinge DPS or a DPS at top of door.

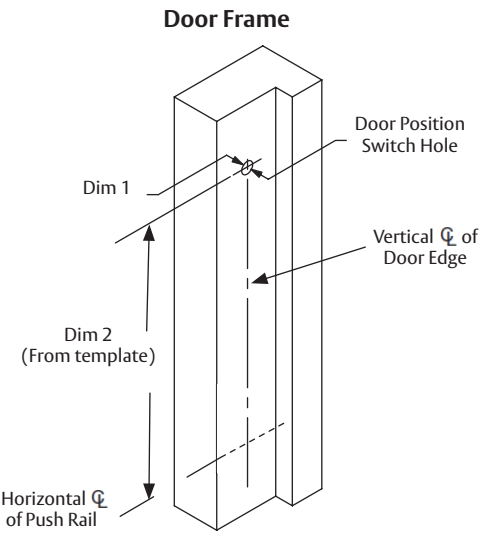


Figure 8-2B

	Wood Frame	Metal Frame
Dim 1	3/8"Ø	3/4"Ø
Dim 2	4-7/8"	4-7/8"

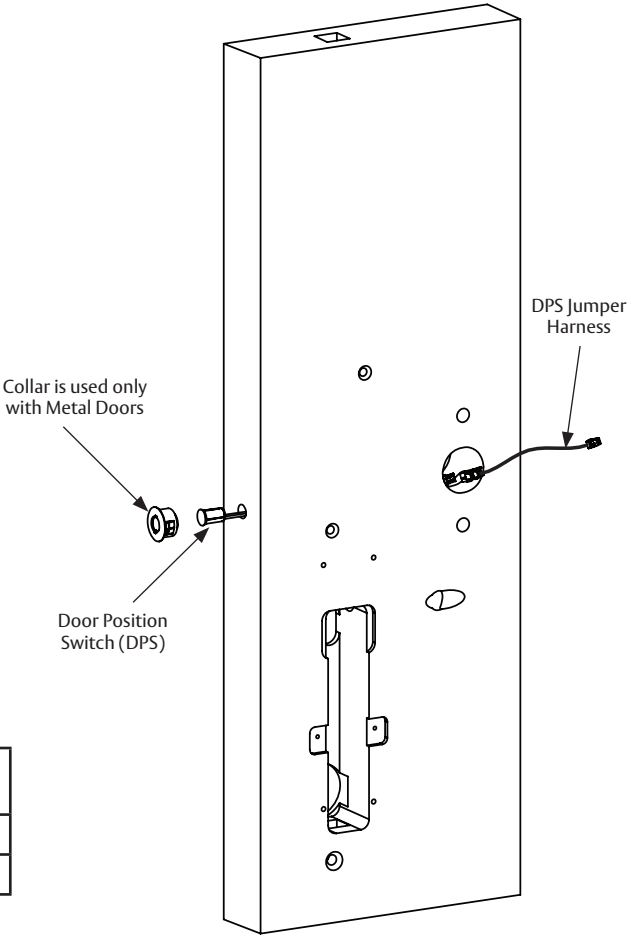


Figure 8-2A

8. PE8600 Concealed Vertical Rod Exit Device (EA Option) (continued)

3. Install Inner Case Assembly

A. Wood Door (WD)

1. Install the inner case assembly with two (2) #12x1" Phillips flathead screws (Figure 8-3A).

B. Metal Door (MD/AD)

1. Assemble rods to inner case.
2. Slide rod assembly into door and secure with #10-24 x 3/8" screw for top inner case assembly and #10-24 x 1/2" screw for bottom inner case assembly (Figure 8-3B).

Wooden Door

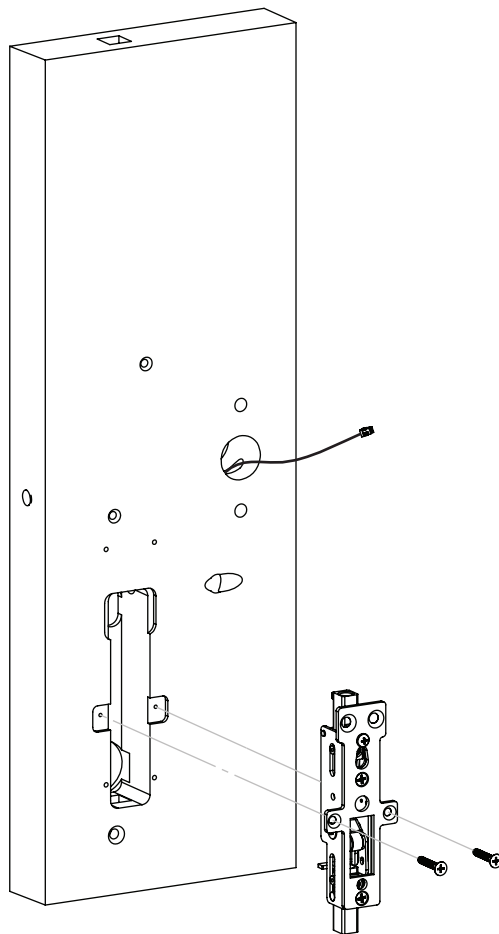


Figure 8-3A

Metal Door

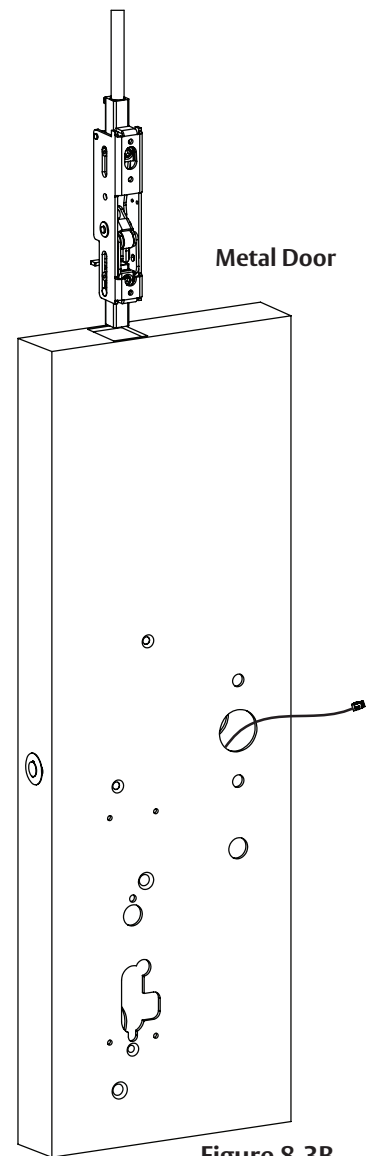


Figure 8-3B

8. PE8600 Concealed Vertical Rod Exit Device (EA Option) (continued)

4. Mount Exit Device Chassis

1. Mount exit chassis loosely, using only the top left mounting screw. Screw should support the weight of the chassis but allow it to move freely while routing the wiring and mounting exit trim. (Figure 8-4A).
- NOTE:** Exit chassis harness consists of a 6-pin female connector and two (2) ground wire terminals. (Figure 8-4B)
2. Feed 6-pin connector and larger ground wire terminal straight through to outside of door. (Figure 8-4B, Figure 8-5A)
3. Insert two (2) trim mounting screws. (Figure 8-4A)

5. Mount Exit Trim

NOTE: For exterior applications, use trim gasket as seal between trim escutcheon and outside door surface.

1. Connect motor harness adapter to chassis wire harness connector.
2. For Wood Doors: Route trim wire harness connector through oval wire routing hole, up and through wire run channel to controller cutout.
For Metal Doors: Route trim wire harness through oval wire mounting hole and out controller cutout.
3. Pass top trim mounting post through chassis harness ground lug.
4. Ensure trim spindle engages lower hub of exit chassis.
5. Fully tighten two (2) trim mounting screws. (Figure 8-5C)

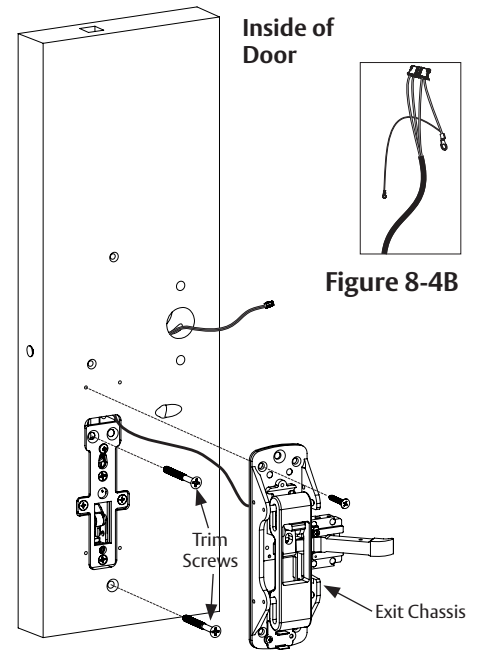


Figure 8-4A

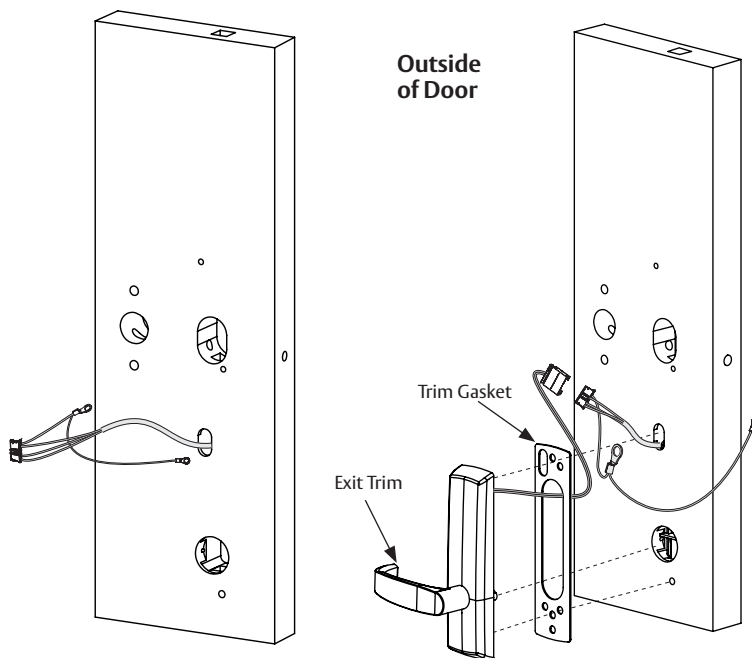


Figure 8-5A

Figure 8-5B

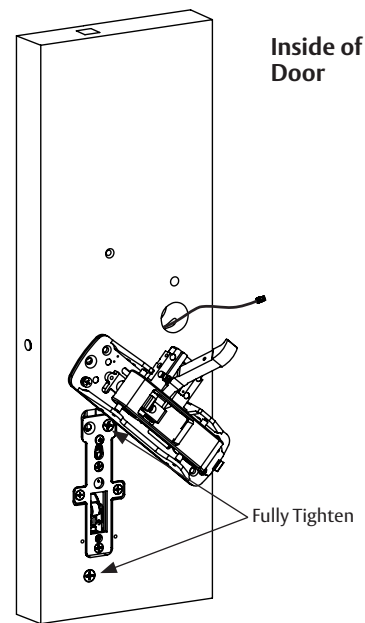


Figure 8-5C

8. PE8600 Concealed Vertical Rod Exit Device (EA Option) (continued)

6. Secure Exit Chassis

1. Fasten exit chassis to door using three (3) remaining #10 wood screws (for wood door) or four (4) #10-24 machine screws (for metal door). (Figure 8-6)

NOTE: Cable lengths exaggerated for illustrative purposes.

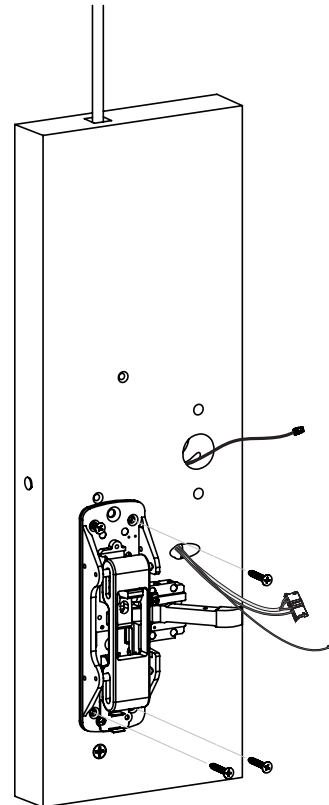


Figure 8-6

7. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.

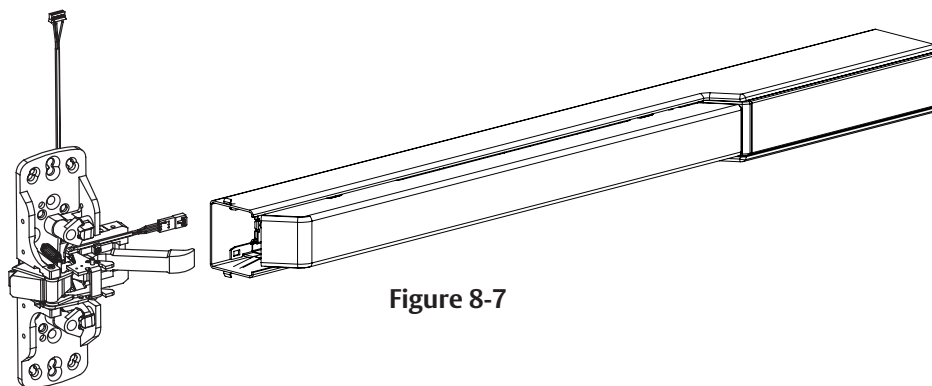


Figure 8-7

IMPORTANT NOTE: IN120 / IN220 CVR Exit Installation Continues in Section 11

9. PE8700 Surface Vertical Rod Exit Device (On-Center)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is handed and not reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door.

If using a mullion, install it prior to installing hardware.
Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): MEFT28
- Door Manufacturer's Template (online): MEDT69
- Exit Device Installation Instructions: A8307

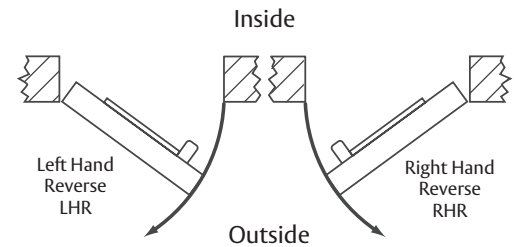


Figure 9-1A

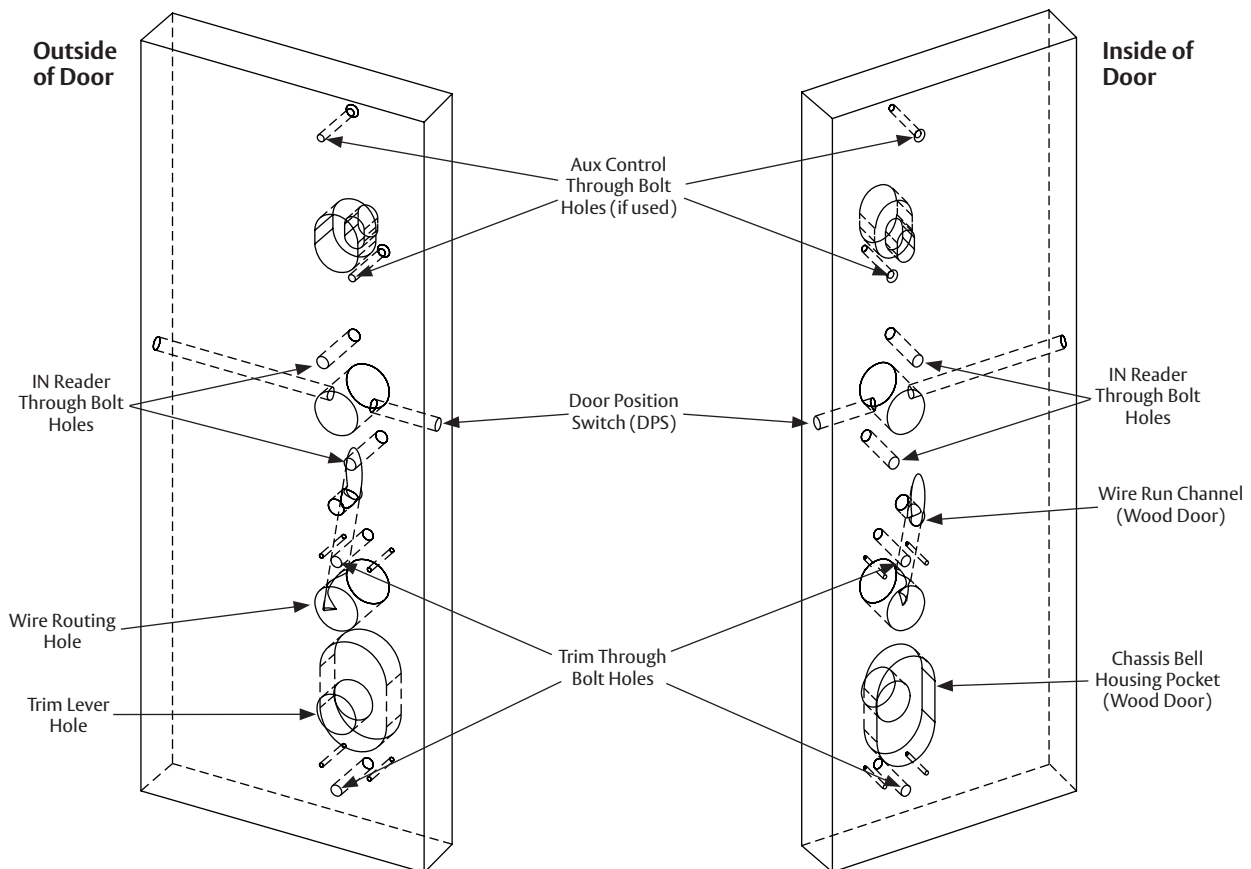


Figure 9-1B

9. PE8700 Surface Vertical Rod Exit Device (On-Center) (continued)

2. Install Door Position Switch (DPS)

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 9-2A).
NOTE: For metal doors, use DPS Collar.
2. Push DPS firmly into place by hand.
- IMPORTANT:** DO NOT TAP SWITCH WITH ANY TOOL
- NOTE:** For double door applications (unless second door is inactive), an alternative for this DPS must be used.
Options (sold separately) include a hinge DPS or a DPS at top of door.

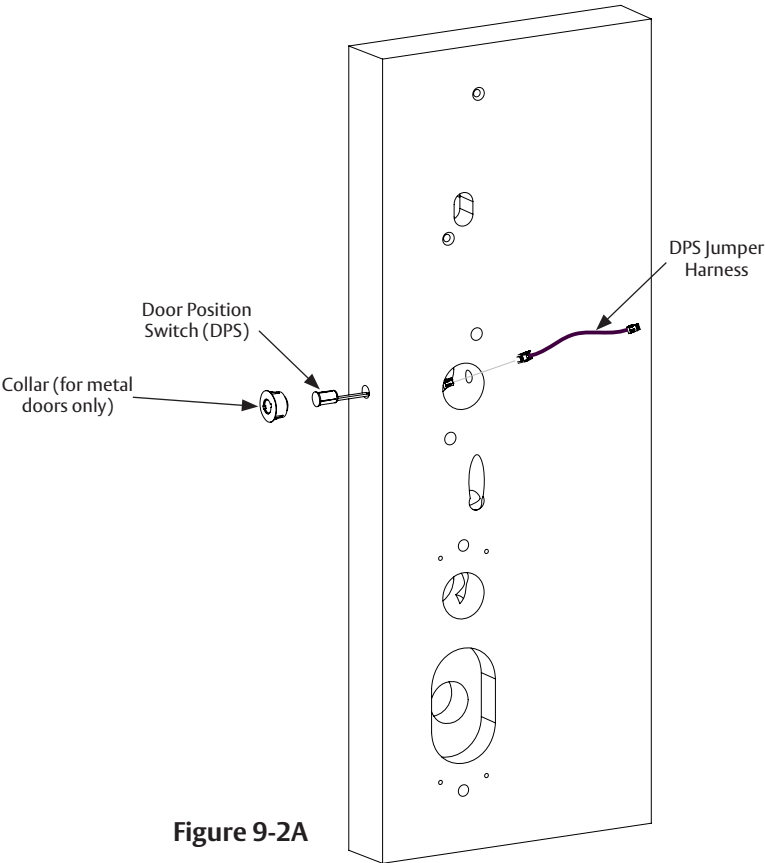


Figure 9-2A

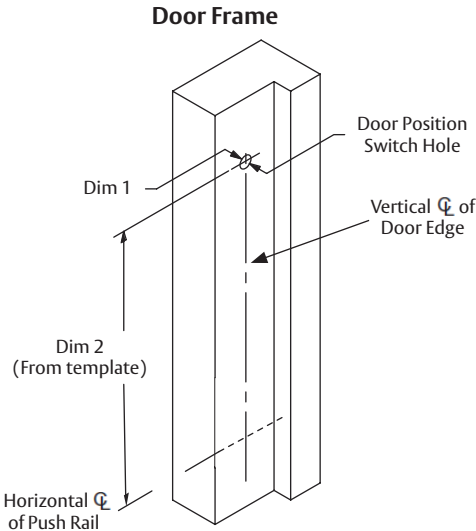


Figure 9-2B

	Wood Frame	Metal Frame
Dim 1	3/8"Ø	3/4"Ø
Dim 2	8-3/8"	8-3/8"

9. PE8700 Surface Vertical Rod Exit Device (On-Center) (continued)

3. Install Outside Trim and Exit Chassis

1. Align exit trim and gasket (if required) with through-holes.
NOTE: For exterior applications, use trim gasket to seal between trim escutcheon and outside door surface. (Figure 9-3A)
NOTE: For MELR install, skip step 2.
2. For wood doors: Route trim wire harness connector through the cylinder hole, up and through the wire run channel to the controller cutout.
 For metal doors: Route trim wire harness through the cylinder hole out the controller cutout.
3. Trim spindle will engage hub of chassis.
4. Position chassis carefully onto the inner case assembly from inside of door. Feed wires up through the routed channel as shown (Figure 9-3B).
NOTE: Keep wires in routed channel. Be careful to NOT pinch wires.
5. Mount chassis to trim using two (2) #1/4-20 x 2-3/8" flat head machine screws.
Do not fully tighten chassis screws until after rail installation.
6. Secure exit chassis (Figure 9-3C)
 To comply with UL certifications and for security, fasten exit chassis to door using four (4) #10 wood screws (for wood door) or four (4) #10-24 machine screws (for metal door).
Do not fully tighten chassis screws until after rail installation.

Outside of Door

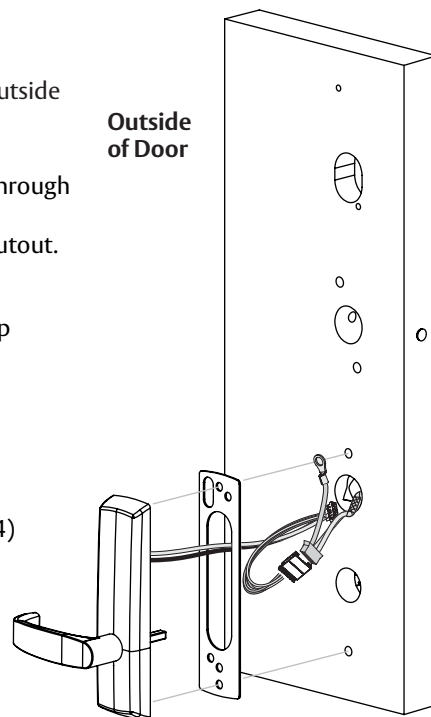
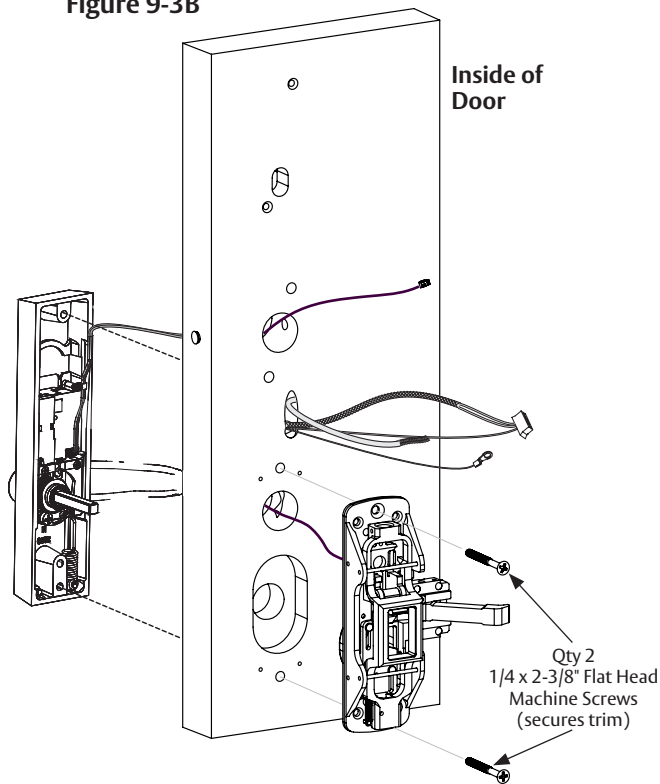


Figure 9-3A

Figure 9-3B



NOTE: Cable lengths exaggerated for illustrative purposes.

Inside of Door

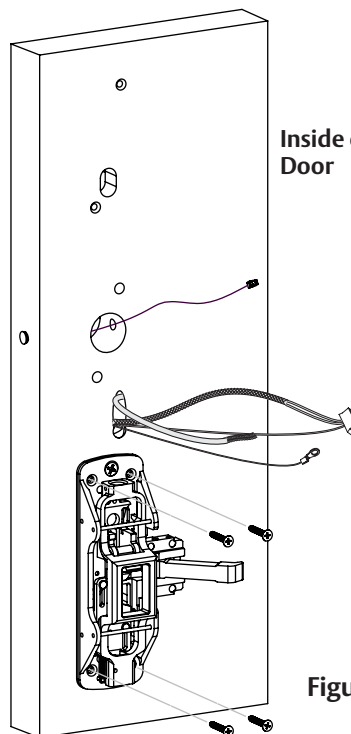


Figure 9-3C

9. PE8700 Surface Vertical Rod Exit Device (On-Center) (continued)

4. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.
4. Tighten trim and chassis screws.
5. Install top and bottom cases and pin vertical rods to chassis per exit device instructions.
6. Attach covers.

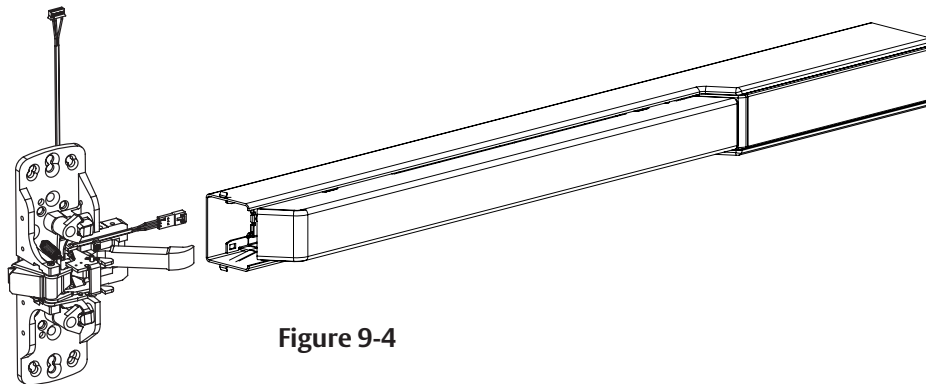


Figure 9-4

IMPORTANT NOTE: IN120 / IN220 SVR Exit Installation Continues in Section 11

10. PE8700 Surface Vertical Rod Exit Device (EA Option)

1. Prepare Door

A. Verify Hand and Bevel of Door

- Check hand of door.
The exit device is handed and not reversible.
- Door should be fitted and hung.

B. Verify Product Label

C. Door Preparation: mark and drill door.

If using a mullion, install it prior to installing hardware.
Prior to installation, all holes must be free of burrs, debris, and sharp edges.

Prepare door according to appropriate template (see website)

- Field Template (ships with product): MEFT28
- Door Manufacturer's Template (online): MEDT69
- Exit Device Installation Instructions: A8307

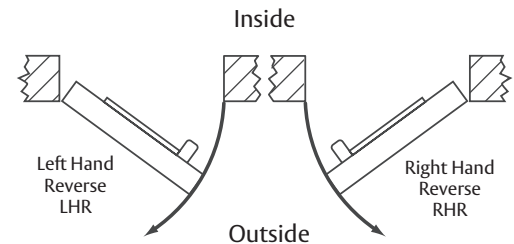


Figure 10-1A

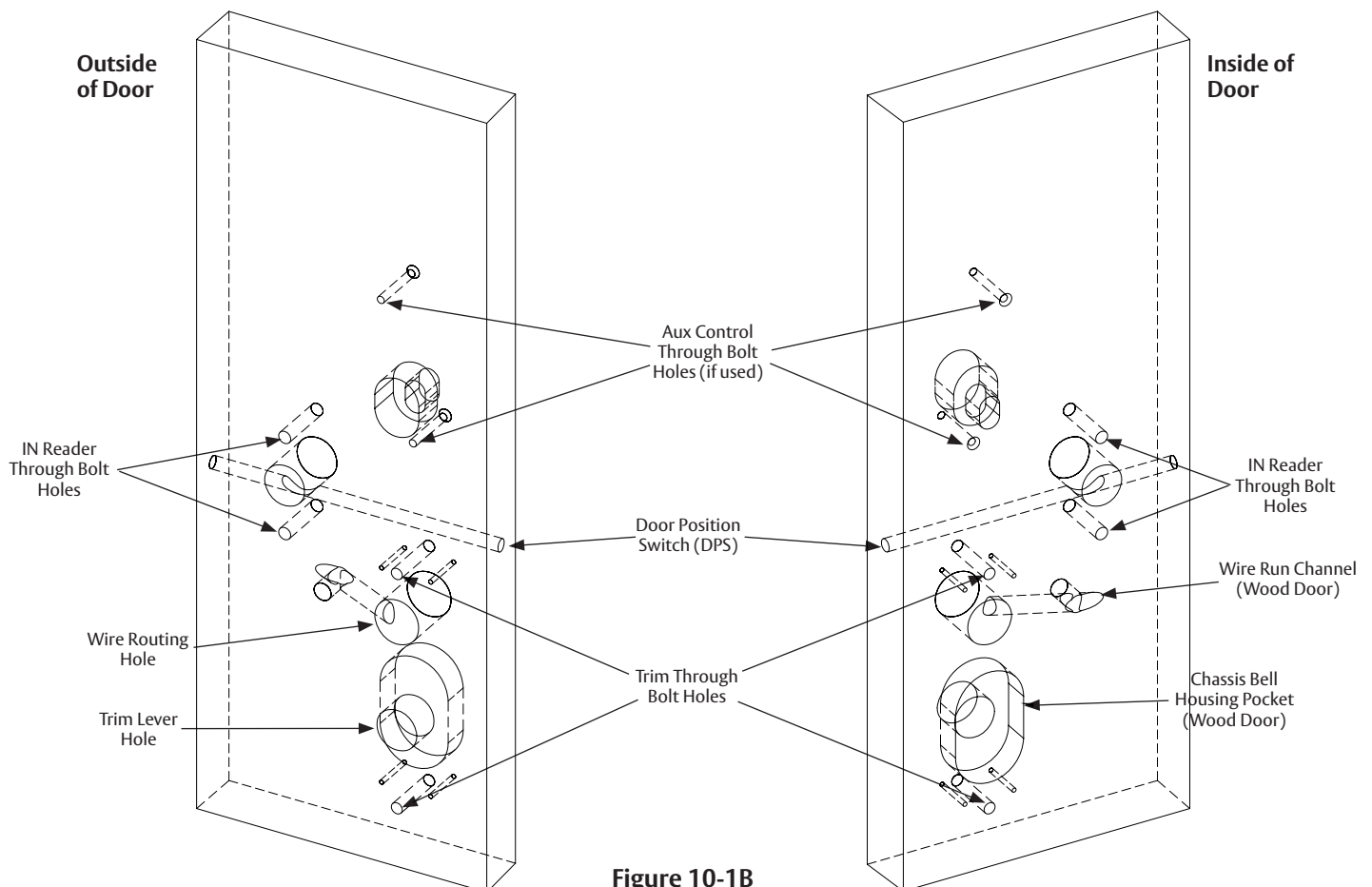


Figure 10-1B

10. PE8700 Surface Vertical Rod Exit Device (EA Option) (continued)

2. Install Door Position Switch (DPS)

1. Insert connector end of DPS through the raceway on the latch edge of the door (Figure 10-2A).
NOTE: For metal doors, use DPS Collar.
2. Push DPS firmly into place by hand.
- IMPORTANT:** DO NOT TAP SWITCH WITH ANY TOOL
- NOTE:** For double door applications (unless second door is inactive), an alternative for this DPS must be used.
Options (sold separately) include a hinge DPS or a DPS at top of door.

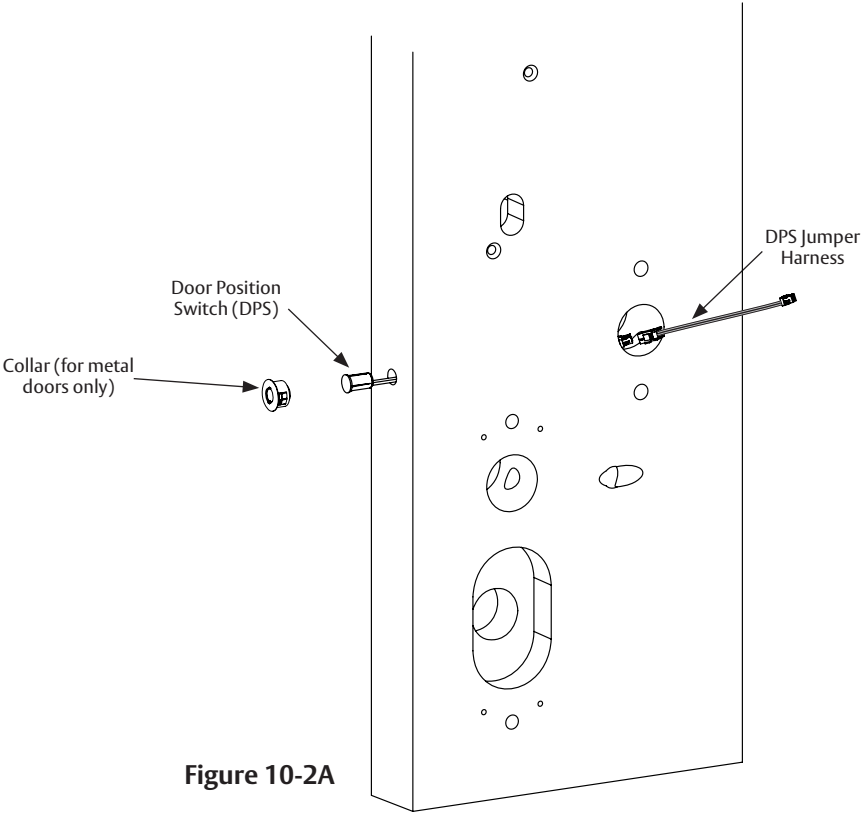


Figure 10-2A

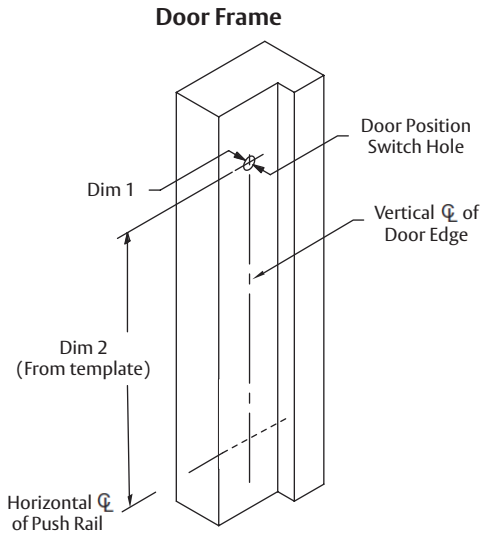


Figure 10-2B

	Wood Frame	Metal Frame
Dim 1	3/8"Ø	3/4" Ø
Dim 2	4-7/8"	4-7/8"

10. PE8700 Surface Vertical Rod Exit Device (EA Option) (continued)

3. Install Outside Trim and Exit Chassis

1. Align exit trim and gasket (if required) with through-holes.
NOTE: For exterior applications, use trim gasket to seal between trim escutcheon and outside door surface. (Figure 10-3A)
NOTE: For MELR install, skip step 2.
2. For wood doors: Route trim wire harness connector through the cylinder hole, up and through the wire run channel to the controller cutout.
For metal doors: Route trim wire harness through the cylinder hole out the controller cutout.
3. Trim spindle will engage hub of chassis.
4. Position chassis carefully onto the inner case assembly from inside of door. Feed wires up through the routed channel as shown (Figure 10-3B).
NOTE: Keep wires in routed channel. Be careful to NOT pinch the wires.
5. Mount chassis to trim using two (2) #1/4-20 x 2-3/8" flat head machine screws.
Do not fully tighten chassis screws until after rail installation.
6. Secure exit chassis (Figure 10-3C)
To comply with UL certifications and for security, fasten exit chassis to door using four (4) #10 wood screws (for wood door) or four (4) #10-24 machine screws (for metal door).
Do not fully tighten chassis screws until after rail installation

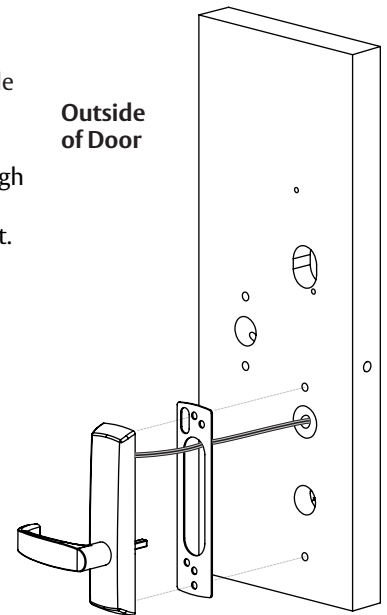


Figure 10-3A

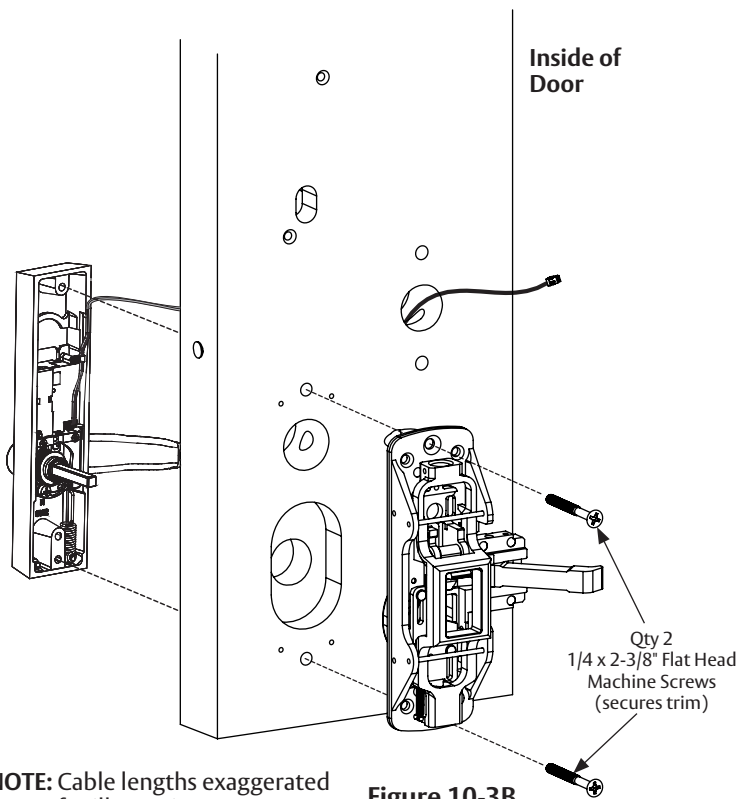


Figure 10-3B

NOTE: Cable lengths exaggerated for illustrative purposes.

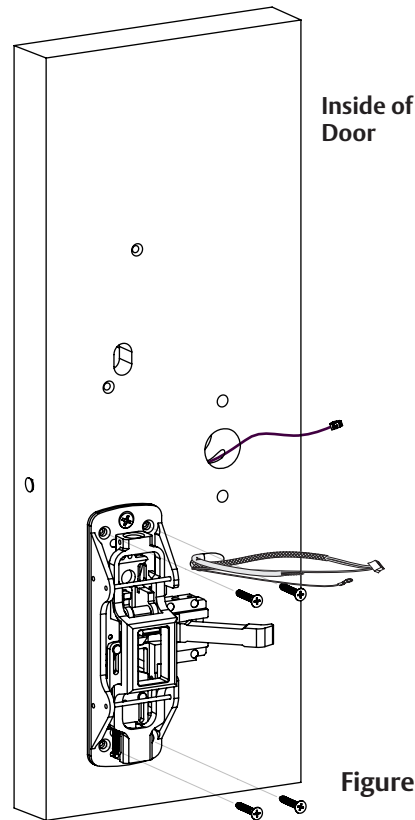


Figure 10-3C

10. PE8700 Surface Vertical Rod Exit Device (EA Option) (continued)

4. Install Rail Assembly

1. Retrieve harness from end of rail. Harness has limited travel and can be damaged.
2. Attach harness to female connector on chassis.
3. Install rail and screws per exit device instructions.
4. Tighten trim and chassis screws.
5. Install top and bottom cases and pin vertical rods to chassis per exit device instructions.
6. Attach covers.

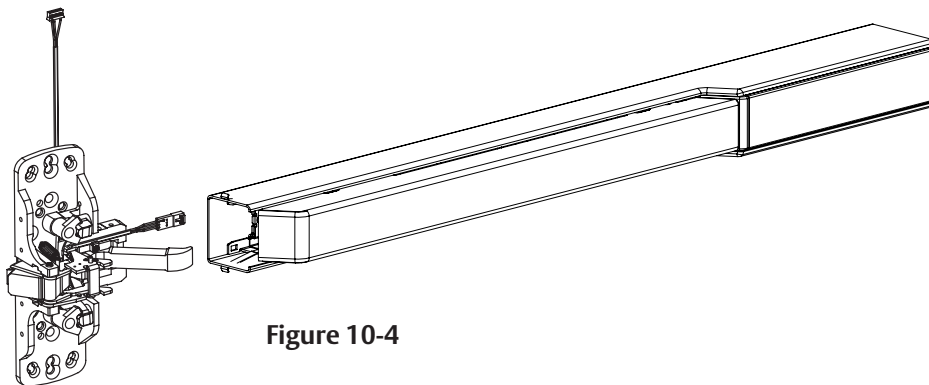


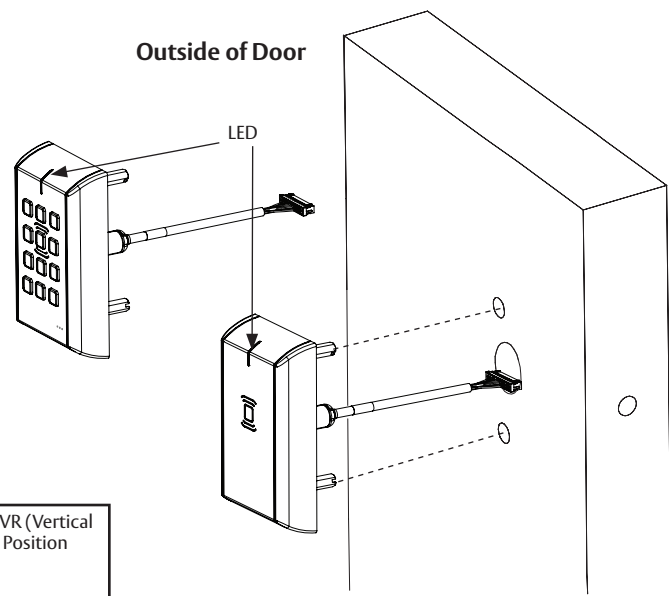
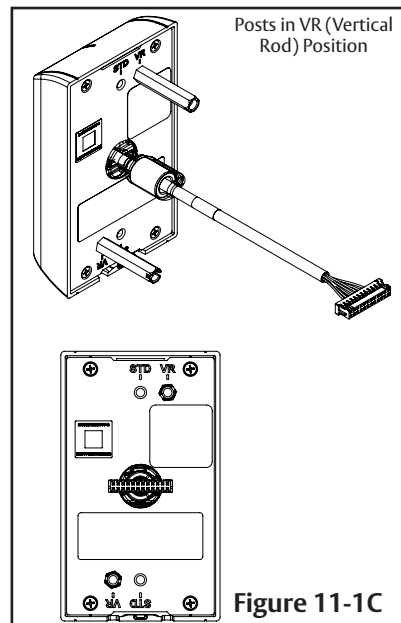
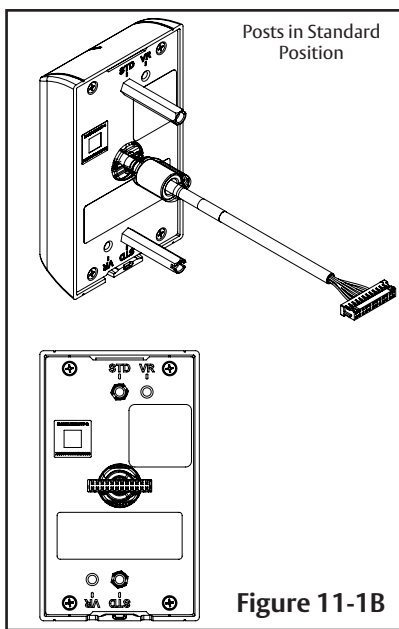
Figure 10-4

IMPORTANT NOTE: IN120 / IN220 SVR Exit Installation Continues in Section 11

11. IN120 / IN220 Installation

1. Outside Reader Installation

1. Orient reader/keypad so LED lens is at the top
For CVR and SVR on-center mounting, ensure the posts are in the offset (VR) positions (Figure 11-1C). Unscrew from STD position holes and screw into VR position holes if necessary.
2. Feed the cable/connector through the door (from outside to inside).
3. Install reader to the outside of the door by aligning mounting posts with the door preparation holes. Hold reader flush against door while ensuring proper alignment.



11. IN120 / IN220 Installation (continued)

2. Inside Mounting Plate Installation

For standard (and EA Option) installations:

1. Feed cables/connectors through the inside controller mounting plate assembly (and gasket if required*).
2. Insert and partially tighten two (2) through-bolts prior to installation of connectors.
3. Secure ground lug(s) with #6-32 machine screw (Figure 11-2B)

*Gasket is required for outdoor installations.

If installing with gasket, separate gasket from controller mounting plate to feed cables/connectors through holes as indicated (Figure 11-2A). Once cables/connectors are fed through, reattach gasket to controller mounting plate.

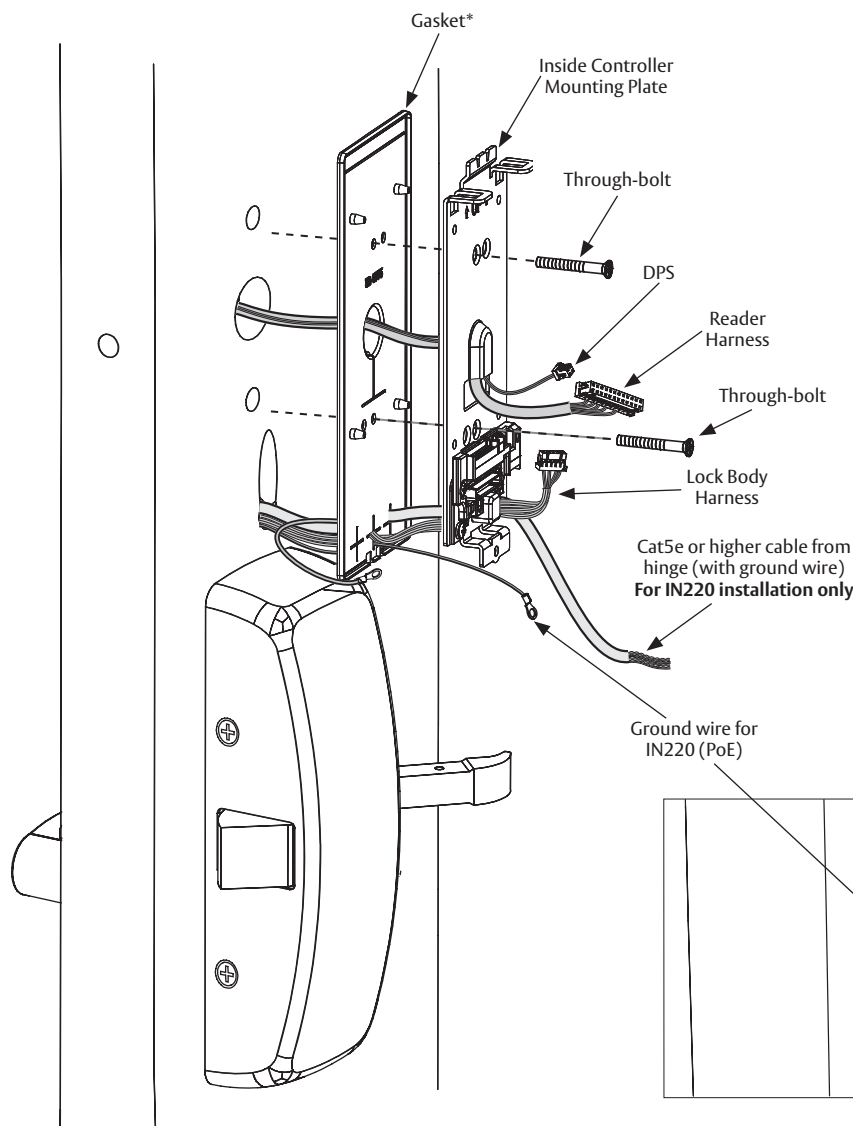


Figure 11-2A

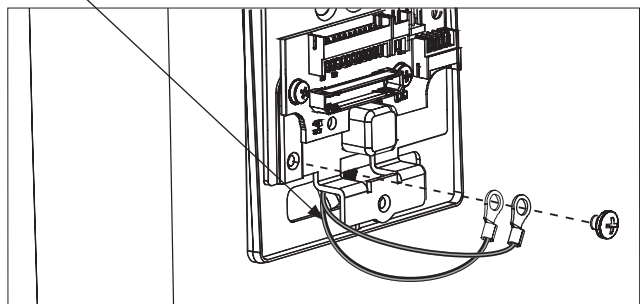


Figure 11-2B

11. IN120 / IN220 Installation (continued)

2. Inside Mounting Plate Installation (continued)

For Surface Vertical Rod (except EA Option) installations:

1. Feed the cables/connectors through the inside spacer mounting plate assembly (and gasket if required*) (Figure 11-2C).
2. Secure spacer mounting plate assembly while ensuring proper alignment of outside reader and tighten two (2) through-bolts on inside of door to secure reader.
3. Install the rod and top case assembly per appropriate mechanical instructions.
4. Remove gasket from controller inside mounting plate.
5. Feed cables/connectors through the plastic SVR spacer and controller inside mounting plate. (Figure 11-2D)
6. Position the SVR spacer and controller inside mounting plate over vertical rod and secure to spacer mounting plate using screws provided, ensuring proper alignment. (Figure 11-2E)
7. Verify the vertical rod moves freely through the opening in the SVR spacer.
8. Secure ground lug(s) with #6-32 machine screw (Figure 11-2F).

*Gasket is required for outdoor installations.

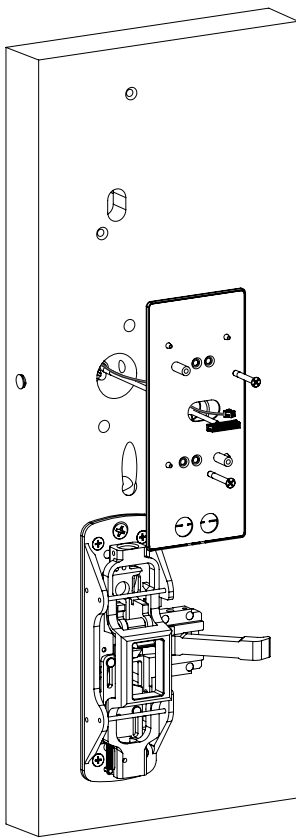


Figure 11-2C

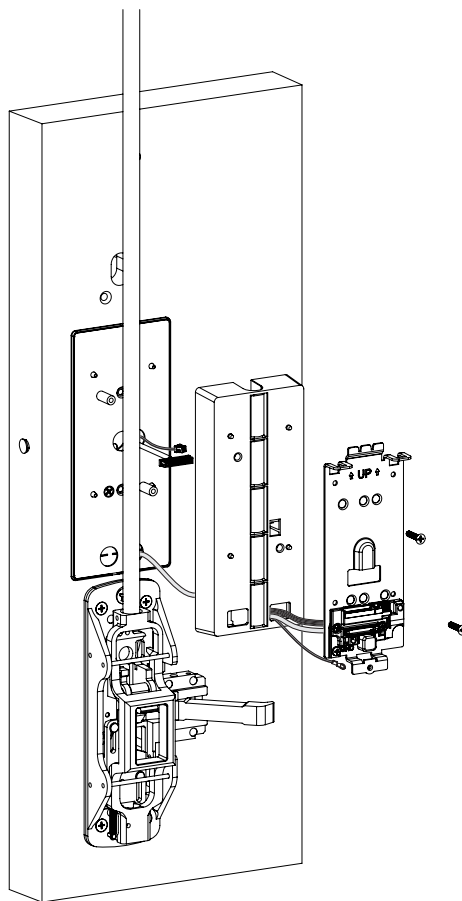


Figure 11-2D

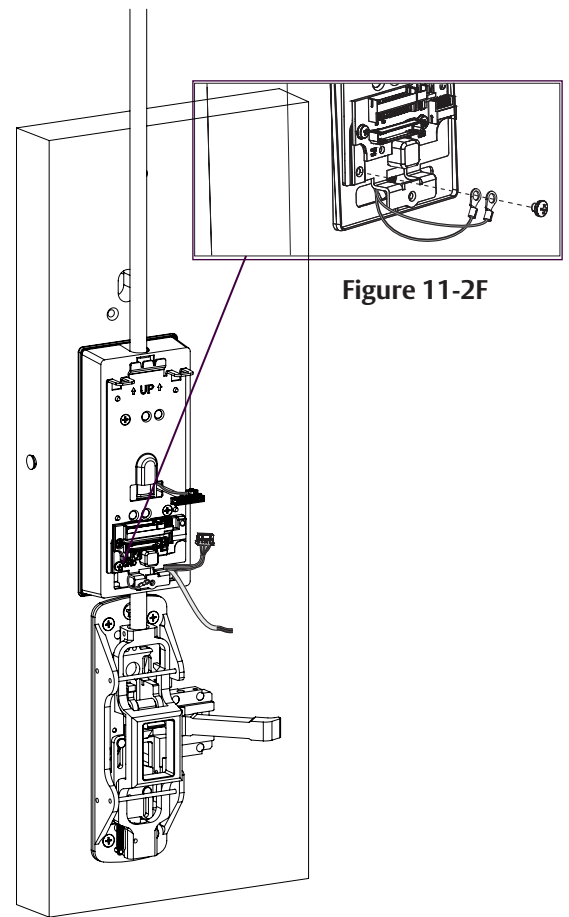


Figure 11-2E

Figure 11-2F

11. IN120 / IN220 Installation (continued)

3. Installation of Connectors

CAUTION - Do not allow debris to enter connector contacts

Ensure connectors are covered with silicone dielectric compound (grease)*.



- Snip end of grease packet to dispense grease.
- Ensure all connector pins and contacts (Figure 11-3A) are covered - do not overfill or over-apply**

*Supplied tube contains 5 grams of silicone dielectric compound (grease).

**Evenly distribute grease; full application requires approximately 2.5 grams.

IMPORTANT: DO NOT run wires through bottom hole in plate (Figure 11-3A). It will damage wires and the controller connector. Route wires around flange, do not route wires through the flange hole (Figure 11-3B).

Secure the following connectors:

- Secure the 4-pin DPS connector.
- Secure the 10-pin lock body assembly connector.

Secure mounting plate.

- Tuck excess cable into wire hole on inside of door.
- Secure the mounting assembly while ensuring proper alignment of outside reader and fully tighten the two (2) through-bolts on the inside of the door to secure the reader and plate to the door.

C. Secure the 24-pin card reader connector. (Figure 11-3B)

D. Ensure all openings on back of secured connectors are covered completely with grease. (Figure 11-3C)

IMPORTANT: If installing IN220 (PoE), do the following:

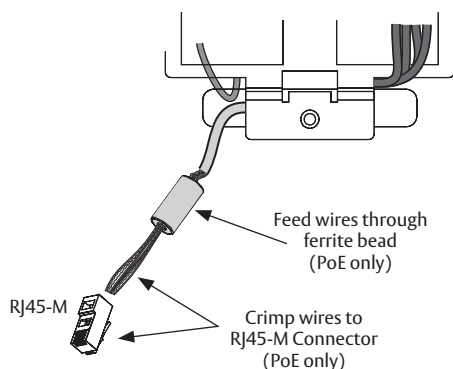


Figure 11-3D

- Pull 5-1/2 inches of Ethernet cable from hole. Strip cable jacket back 3-1/2 inches.
- Separate (untwist) and straighten eight (8) Ethernet wires before carefully feeding through ferrite bead (Figure 11-3D).
- Crimp RJ45 (male) connector on end of wires.

For more detail, refer to Section 4 IN220 (PoE) Wiring and Installation.

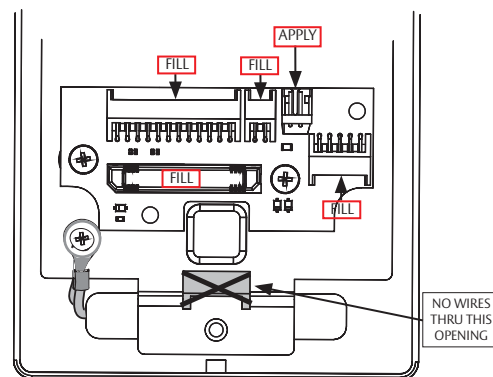


Figure 11-3A

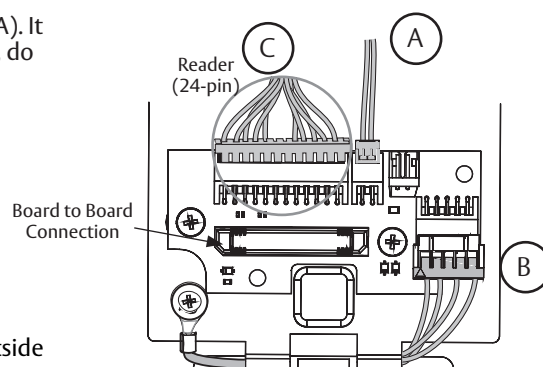


Figure 11-3B

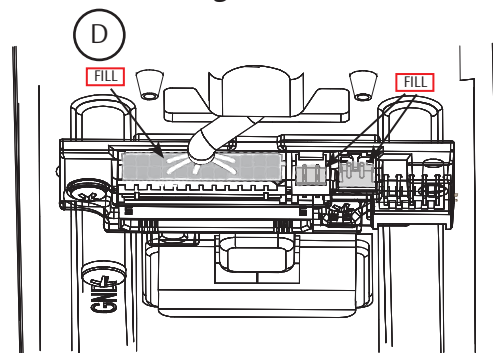


Figure 11-3C

11. IN120 / IN220 Installation (continued)

4. Installing the Controller

IMPORTANT: Before installing the controller, apply dielectric grease to connector* located on back of controller (Figures 11-4B, 11-4C).

CAUTION - Do not allow debris to enter connector contacts

1. Insert bottom tab of controller (ensure a clear path) into slot on mounting plate (Figures 11-4D, 11-4E)
2. Ensure proper alignment of board-to-board connectors (Figure 4E) while pivoting controller toward door until two tabs on top snap securely into place on mounting plate (Figure 11-4D)

CAUTION: To avoid possible damage to board-to-board connectors, care should be taken when securing controller to mounting plate. If there is resistance when securing, detach controller to determine cause before re-attaching controller.

Front of Controller (PoE shown)

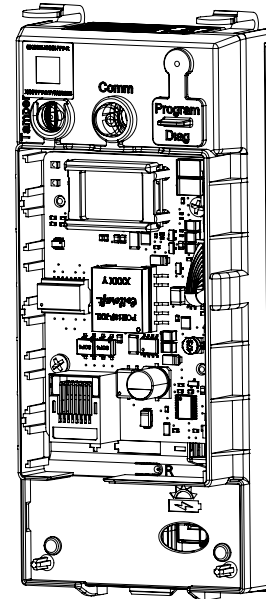


Figure 11-4A

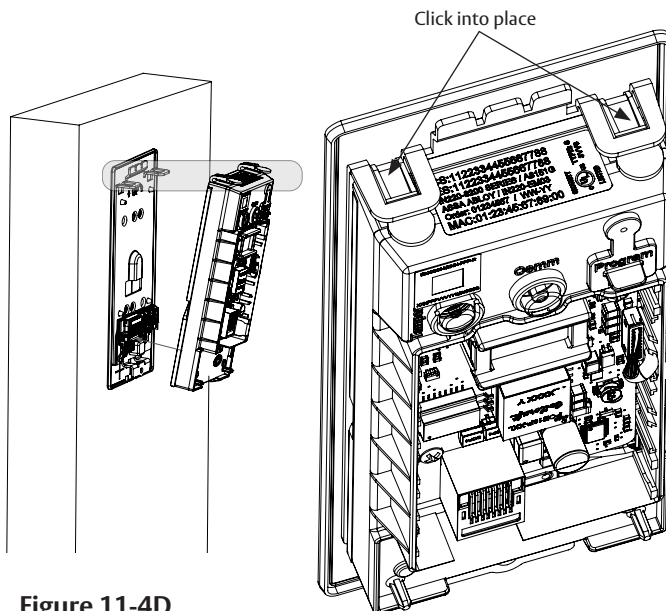


Figure 11-4D

Figure 11-4E

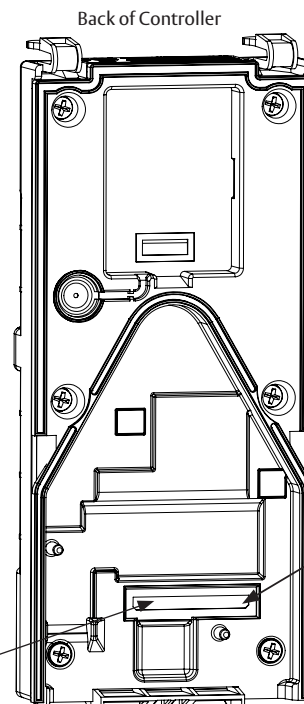


Figure 11-4B

*Be sure to apply grease to connector and recessed area surrounding connector

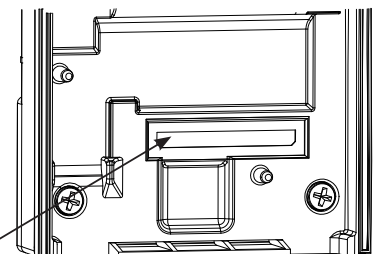


Figure 11-4C

Connect

11. IN120 / IN220 Installation (continued)

5. Supplying Power to the Controller

IN220 (PoE)

IMPORTANT: Before inserting PoE plug into PoE connector, apply dielectric grease to top of plug, covering the pin area (Figure 11-5A).

1. Once controller is securely in place, connect RJ45 male connector to female RJ45 port on controller board (Figure 11-5A).
2. If power is enabled, LED flashes and lock motor cycles.

IN120 (WiFi)

1. Once controller is securely in place, insert six (6) AA alkaline batteries into the compartment, being careful to align polarity properly.
2. After all batteries are installed, there is a slight delay and then an audible “beep” sounds and the lock motor cycles.

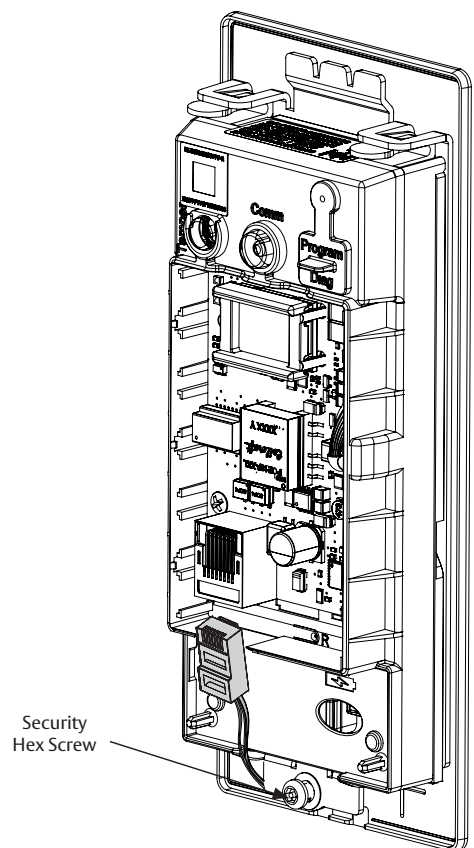


Figure 11-5A

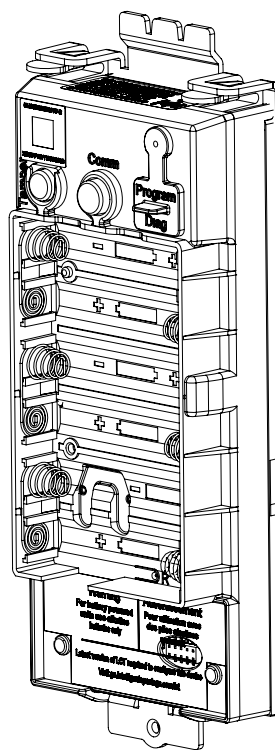
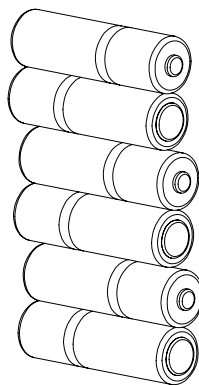


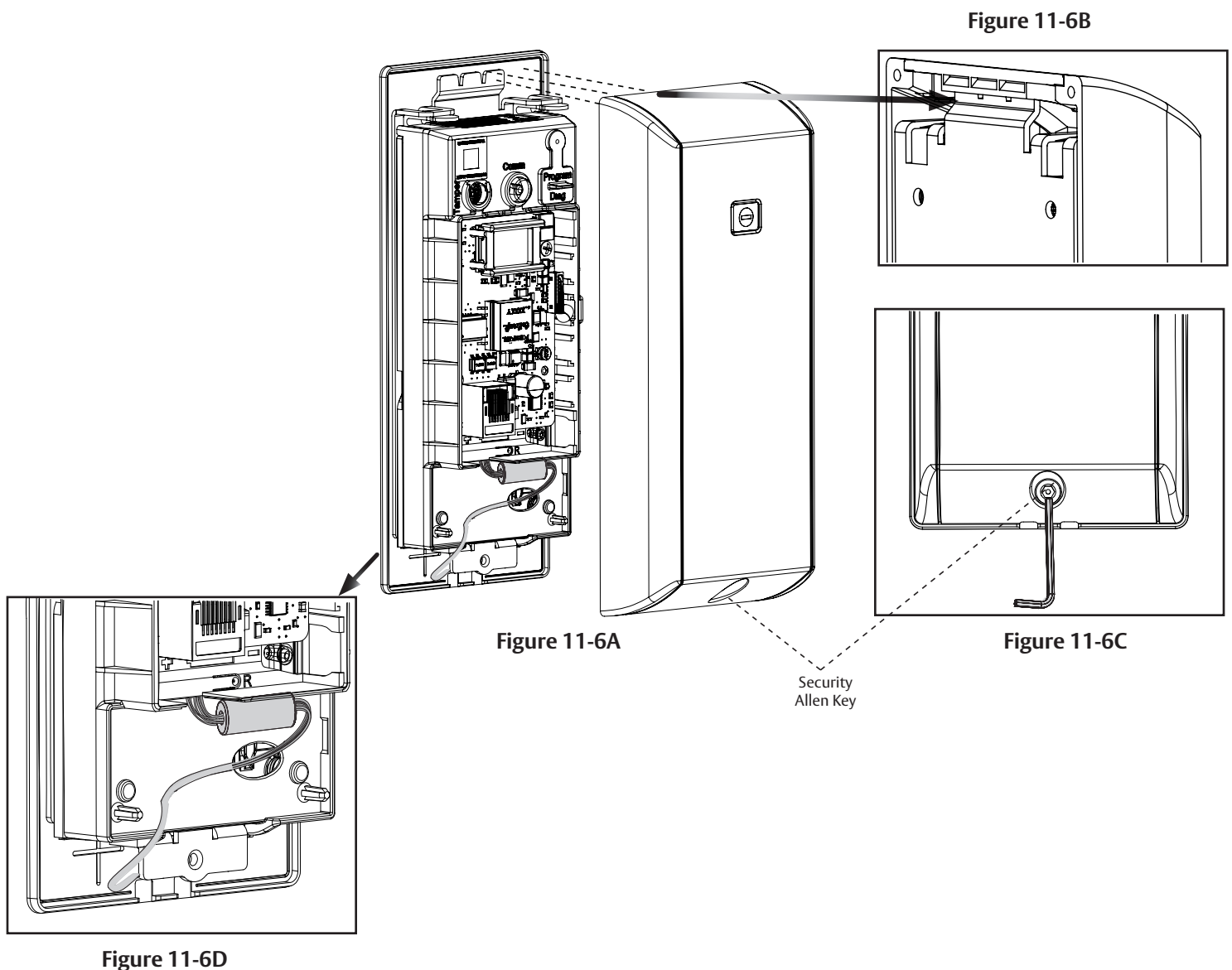
Figure 11-5B

11. IN120 / IN220 Installation (continued)

6. Inside Cover Installation

1. Assemble cover by hooking top edge on inside mounting plate taking care not to pinch gasket (top edge goes between plate and gasket). (Figure 6-6A)
2. Carefully press bottom of cover toward door without pinching any wires.
3. Secure the cover with a Security Allen key. (Figure 6-6C)

NOTE: Use of power tools on this step is strongly discouraged. Over-torquing security pin hex screw will result in battery cover damage.



12. Operational Check

IMPORTANT: Be sure to test functions prior to closing door.

In all cases, perform the following checks:

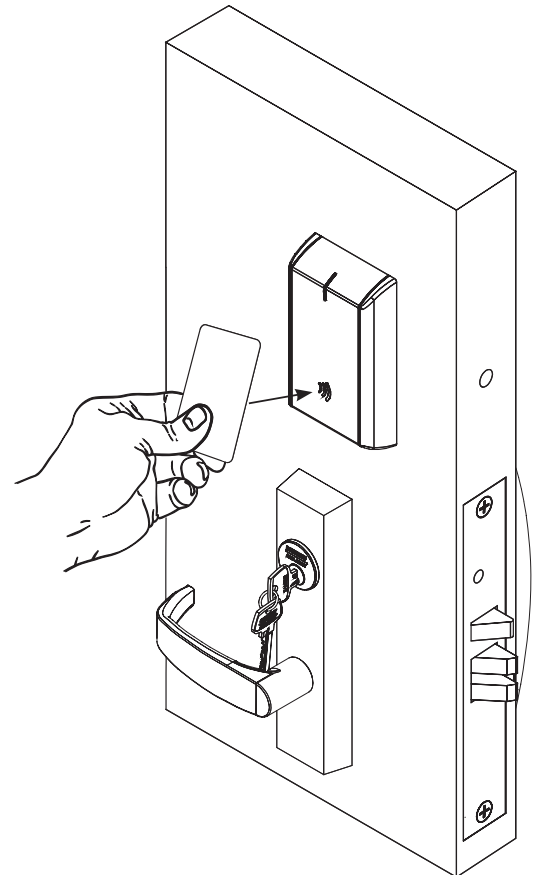
1. Ensure that inside exit bar retracts latch.
2. Test cylinder by doing the following:
 - Insert key into cylinder and rotate.
Ensure there is no friction against lock case, wire harness, or any other obstructions. If friction or binding occurs, readjust cylinder and wiring harness to eliminate issues.
 - The key should unlock the outside lever and the lever should rotate freely.
3. For units without a keypad, add card using LCT software* and then test.
4. For units with a keypad, add PIN and card using LCT software* and then test.

*Twenty (20) seconds after lock initialization (single beep with lock motor actuation).

LED Signaling:

- After using a valid credential a green flash followed by motor unlock indicates normal operation (lock unlocks).
- After using a valid credential a green flash followed by 4 beeps and 4 fast purple flashes indicates low power. Check the input voltage.
- If the input voltage is low, disconnect lock from power source and check power source voltage.
If power source voltage is correct, inspect lock wiring for a possible short.
- If the lock loses power, it flashes rapid blue for approximately one minute. Lock defaults to programmed fail safe or fail secure. After that, the lock is no longer functional.

When tests are completed, close the door ensuring latchbolt fully extends into strike plate without binding.



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