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## **Certification Exhibit**

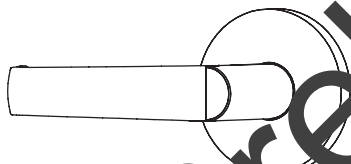
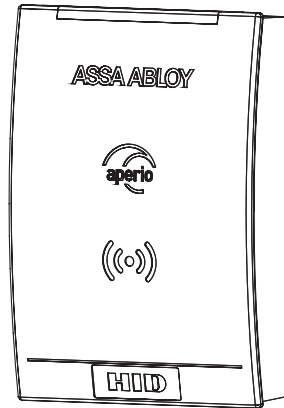
**FCC ID: U4A-SCYPROX5  
IC: 6982A-SCYPROX5**

**FCC Rule Part: 15.209, 15.249  
IC Radio Standards Specification: RSS-210**

**ACS Project Number: 12-0305**

Manufacturer: Assa Abloy  
Model: C2-PA/PK

## **Manual**



**with Aperio™  
Technology  
Mortise Lock  
Installation Instructions**

Preliminary

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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.

### Industry Canada:

This Class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareillage numérique de la classe B répond à toutes les exigences de l'interférence canadienne causant des règlements d'équipement. L'opération est sujette aux deux conditions suivantes: (1) ce dispositif peut ne pas causer l'interférence nocive, et (2) ce dispositif doit accepter n'importe quelle interférence reçue, y compris l'interférence qui peut causer l'opération peu désirée.

"This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."

Under Industry 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'Industrie 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.



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.

## 2 General Description

The SARGENT® IN100 mortise lock with Aperio™ Technology makes it easy and cost-effective to bring access control to doors. It uses local wireless communication between the lock and an Aperio hub to connect to an access control system, eliminating the greatest cost and inconvenience of traditional access control – the wiring at the door. The IN100 utilizes HID® iCLASS® 13.56 MHz smart card technology and all technology features are supported by the physical security of SARGENT ANSI/BHMA Grade 1 hardware.

This product is operated by six (6) “AA” alkaline batteries. SARGENT mortise locks are designed with quality components to provide high security, performance, and durability.

The IN100 mortise lock may be used for both indoor and exterior applications. A weather-protective gasket is required for exterior applications.

## 3 Specifications

### Lock

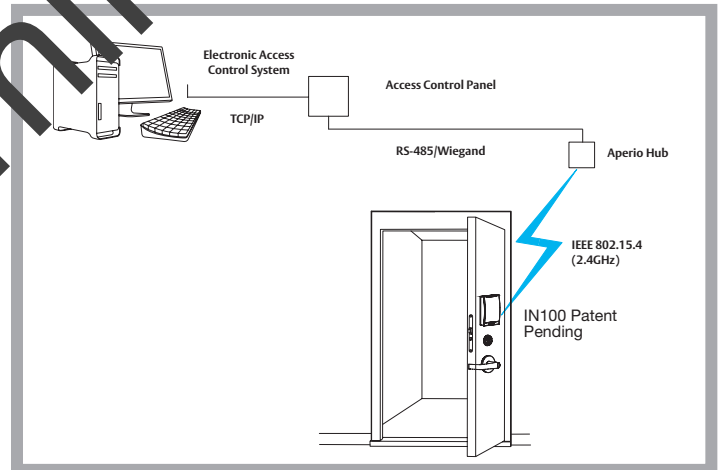
- IEEE 802.15.4 UHF interface
- AES 128 bit encryption

### Credential Support

- HID 13.56 MHz iCLASS (full authentication, all formats)
- HID 125 kHz prox

## 4 System Overview

When a user presents a supported credential to the lock, the Aperio system is designed to send the credential wirelessly to the Aperio Hub. The Aperio Hub (wired through RS-485 or Wiegand) then communicates with an EAC (Electronic Access Control) system. The EAC system provides the access decision to the Aperio Hub, which then grants access to the lock is either granted or denied.

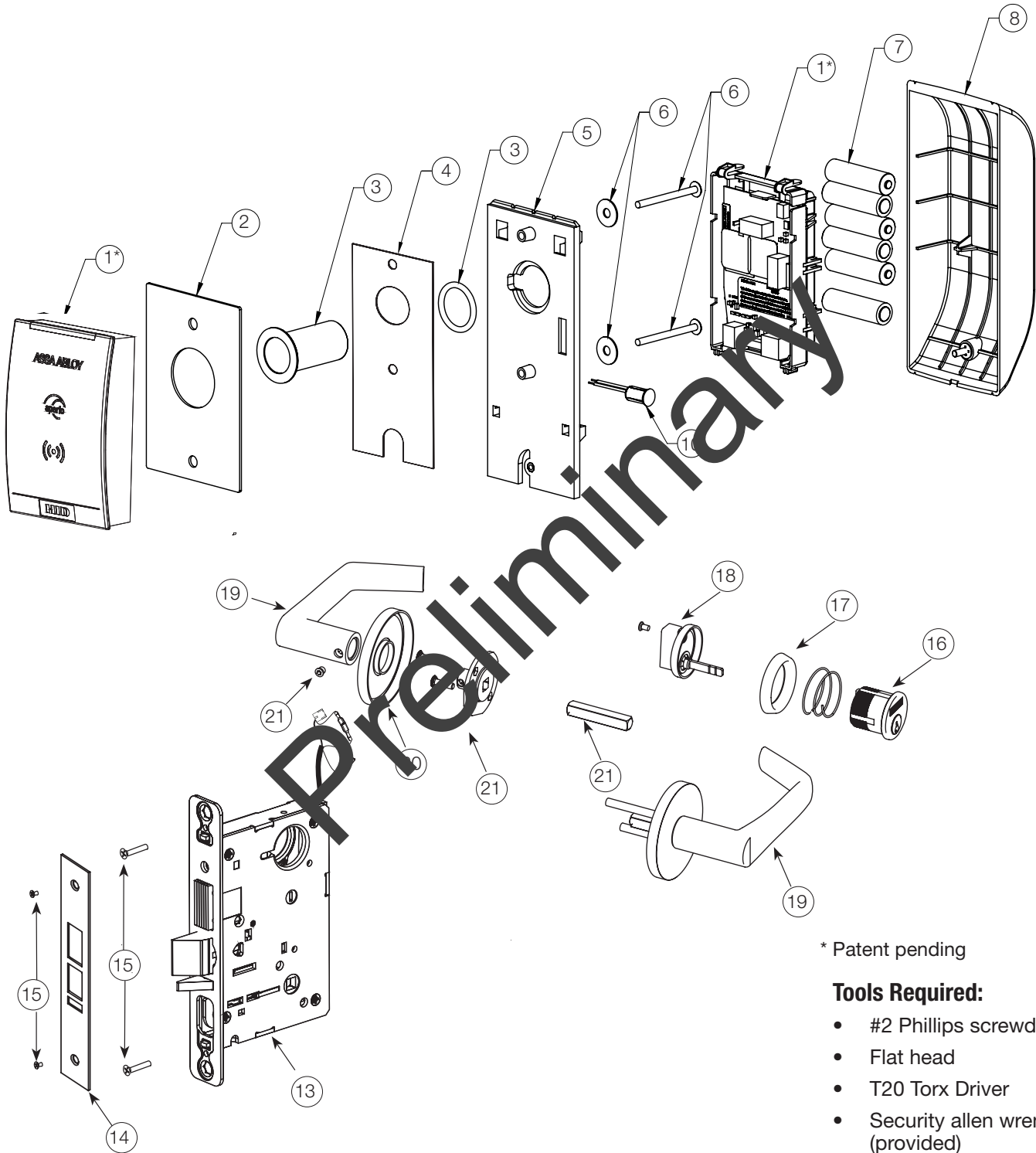


To comply with “Fire Listed” doors, the batteries must be replaced with alkaline batteries only.

Warning: SARGENT Mfg. Co. IN100 locksets utilizing a door position switch (DPS) are not rated for, or intended for use in life safety applications.

### 5 Parts Breakdown

13.56 MHz iCLASS & 125kHz Prox



\* Patent pending

#### Tools Required:

- #2 Phillips screwdriver
- Flat head
- T20 Torx Driver
- Security allen wrench (provided)

## Parts Breakdown 13.56 MHz iCLASS & 125kHz Prox (Continued)

ITEM	PART NO.	DESCRIPTION	QTY.
1	52-4481	Reader Assembly*	1
	52-5359	Incepta Electronic Replacement Pack, iCLASS only, IA-C2, 7976	
	52-5360	Incepta Electronic Replacement Pack, iCLASS only, IA-C2 , 7977	
	52-5361	Incepta Electronic Replacement Pack, iCLASS only, IA-C2 , 7978	
	52-5362	Incepta Electronic Replacement Pack, iCLASS only, IA-C2 , 7979	
	52-5363	Incepta Electronic Replacement Pack, Prox only, PA-C2 , 7976	
	52-5364	Incepta Electronic Replacement Pack, Prox only, PA-C2 , 7977	
	52-5365	Incepta Electronic Replacement Pack, Prox only, PA-C2 , 7978	
	52-5366	Incepta Electronic Replacement Pack, Prox only, PA-C2 , 7979	
2	52-1332	Gasket (Optional)	1
3	52-2847	Conduit Pack (Optional)	1
4	52-1370	Fire Shield*	1
5	52-1327	Mounting Plate	1
6	52-4488	Screw Pack	1
7	01-0898	AA battery	6
8	52-4483	Inside Cover Assembly	1
9	52-4321	Door Position Switch Pack	1
10	A8120	Field Prep Template (not shown)	1
11	4697	Door Manufacturers Template (not shown)	1
12	A8122	Instructions (not shown)	1
13	C2-7976-hand-finish	Lock body with dead bolt with Cylinder	1
	C2-7977-hand-finish	Lock body with dead bolt without Cylinder	
	C2-7978-hand-finish	Lock body without dead bolt with Cylinder	
	C2-7979-hand-finish	Lock body without dead bolt without Cylinder	
14	79-0035	Without dead bolt	1
	79-0036	With dead bolt (shown)	1
15	77-4236	Mortise Screw Pack - Specify Finish (Includes: Wood and Metal Lock body Screws, Faceplate Screws, and Strike Screws)	1
16	Consult Factory	#41 Mortise Cylinder	1
17	13-2131	97 Ring	1
18	77-4081	130W Turn Lever	1
19	Consult Factory	Reference Incepta Catalog	2
20	78-3696	O-rose	2
21	79-2162	Trim Pack	1

\* Patent Pending

## 6 Lock Installation

### 1 Prepare Door

#### A. Verify Hand and Bevel of Door

Stand on outside of locked door when determining door hand.

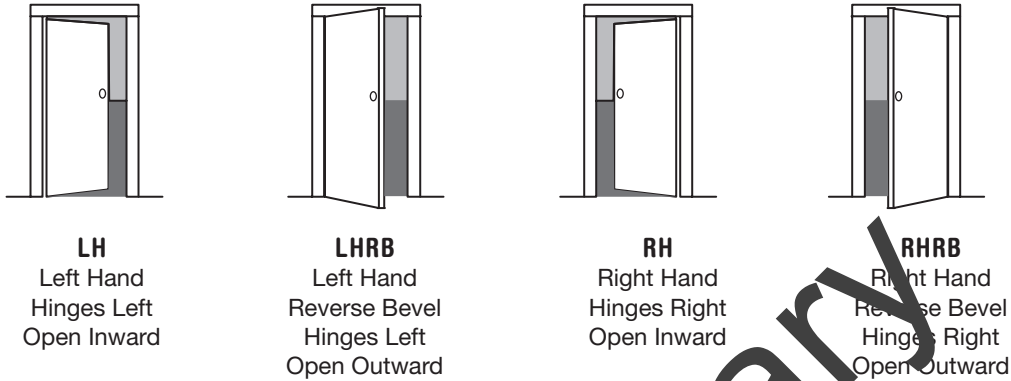


Fig. 1A

#### B. Door Preparation

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

Prepare door according to appropriate template (see website [www.intelligentopenings.com](http://www.intelligentopenings.com)).

- Field Template: A8120 (ships with product)
- Door Manufacture's Template: 4697

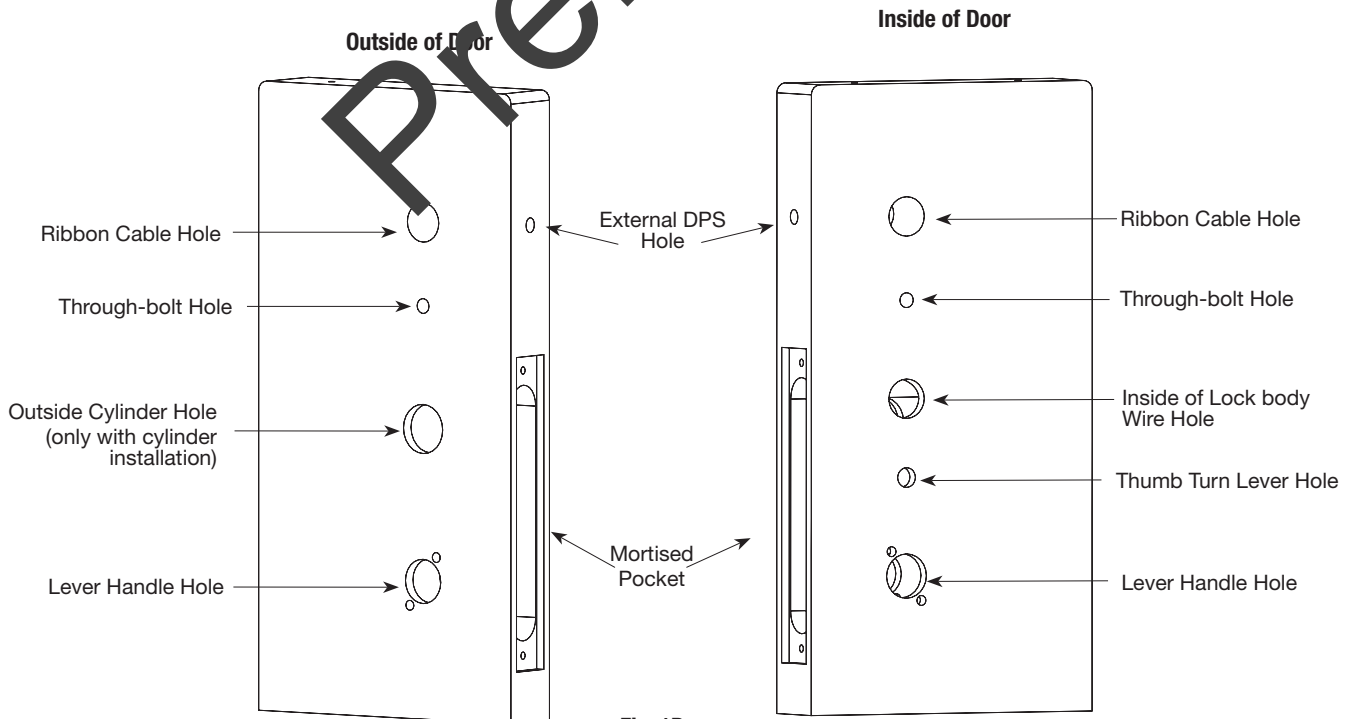


Fig. 1B

## 2 How to Change Hand of Lock body

### A. Reverse Lock Hand

1. Position lock body so the red surface of the locking piece is visible.
2. Insert blade type screwdriver into locking piece slot to rotate locking piece.
3. Push locking piece toward the back of the lock body and rotate the locking piece 180°.

Note: Red indicates locked (outside) side.

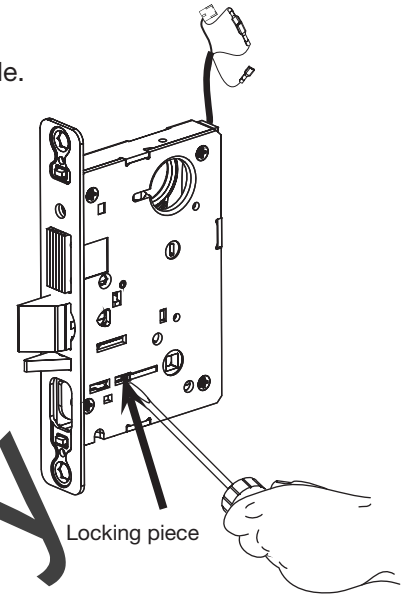


Fig. 2A

### B. Reverse Latch Hand

1. Rotate the latchbolt 180°.
2. Flip deadlatch by hand to match bevel of latchbolt.

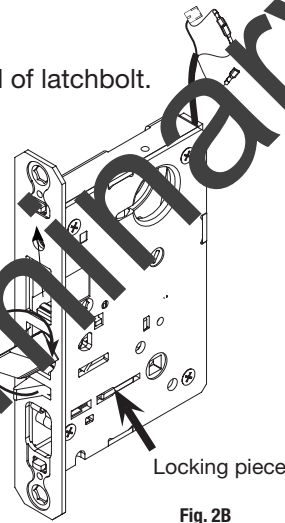


Fig. 2B

## 3 Install Door Position Switch (DPS)

1. Insert DPS into the raceway on the latch edge of the door.
2. Push wires through raceway toward lock prep. For hollow metal doors with a conduit installed, route DPS wire to the same preparation hole as the cylinder hole.
3. Push DPS firmly into place by hand. Note: DO NOT TAP SWITCH WITH ANY TOOL.
4. Install magnet into door frame. Push firmly into place by hand. See A7983A.
5. To connect DPS to lock controller per diagram, refer to the wiring in Step #14 section 3.



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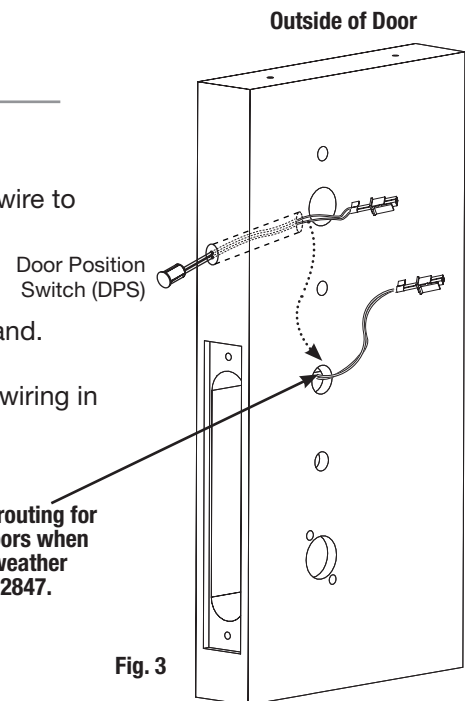


Fig. 3

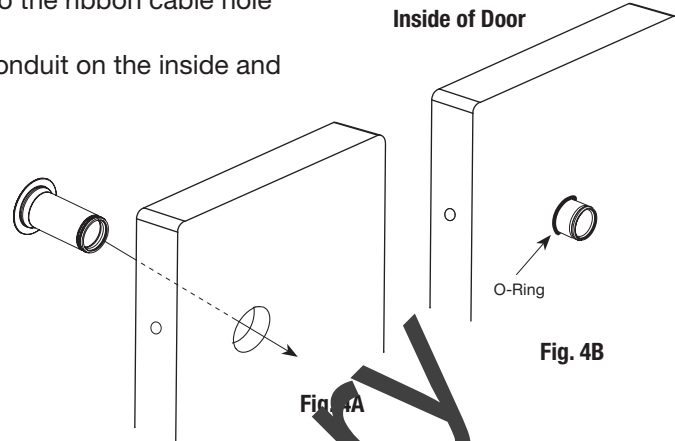
Note: Alternate routing for hollow metal doors when using optional weather conduit, p/n 52-2847.



## 4 Weather Conduit Installation (Optional P/N 52-2847)

Install weather conduit on **NON FIRE-RATED** metal exterior doors only (Fig. 4A).

1. Carefully insert the weather conduit into the ribbon cable hole from the outside of the door.
2. Place the O-ring around the weather conduit on the inside and up against the door (Fig. 4B).



## 5 Install Lock body

1. Feed the wire harness through the mortise pocket and inside preparation hole as depicted in Fig. 5.
2. Carefully push the lock body into the pocket while lightly applying tension to the wire harness.  
Note: Do not pull the lock into the pocket with the harness alone. Ensure that the wire harness is not pinched between the lock and the mortise pocket.
3. Insert (2) #12-24 screws into the lock body and tighten with a screw driver.



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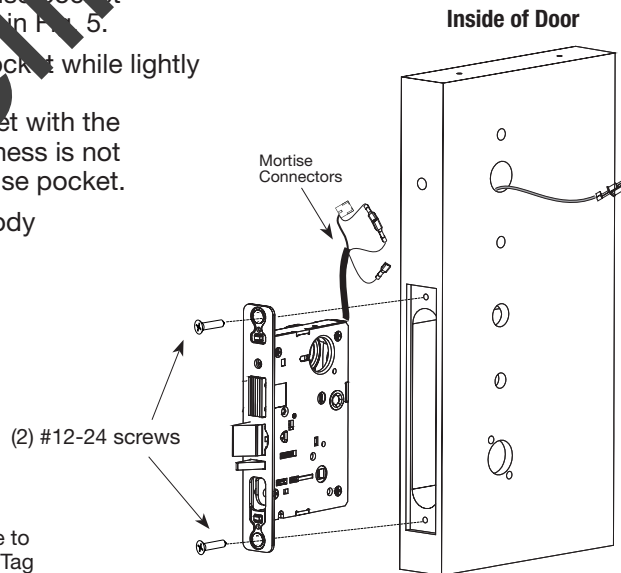


Fig. 5

## 6 Attach Front Plate

Attach front plate with (2) flat head screws.



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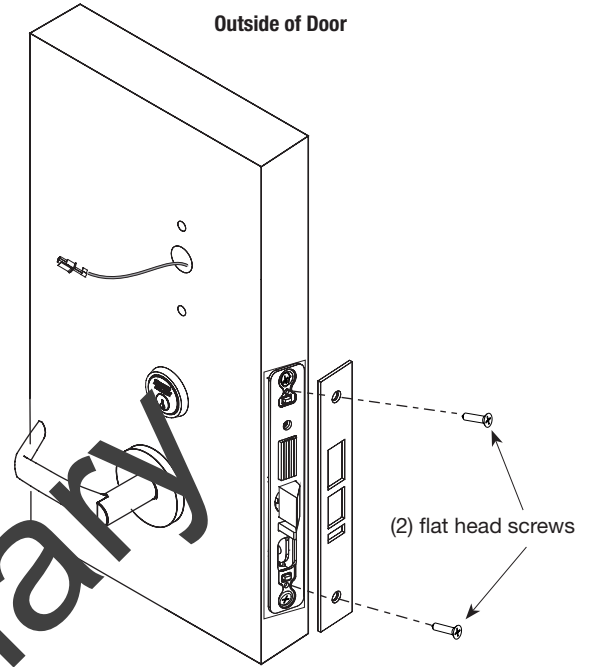


Fig. 6

## 7 Assemble Trim

1. With outside lever horizontal, insert the mounting post through outside of door and lock body. Make certain the lever spindle is properly engaged inside the lock body (Fig 7A).
2. On the inside of the door, insert spindle into square hole of mortise lock (Fig 7B).
3. Slide inside adapter and plate assembly over spindle and secure with (2) 8-32 X 5/8" Phillips oval head and lock washer machine screws.



Assemble Trim



Inside Lever Assembly

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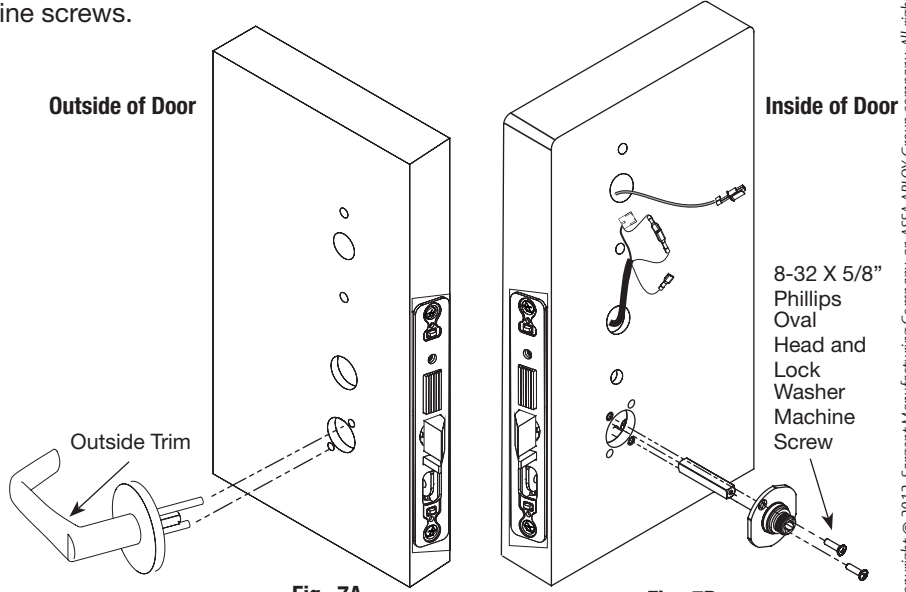


Fig. 7A

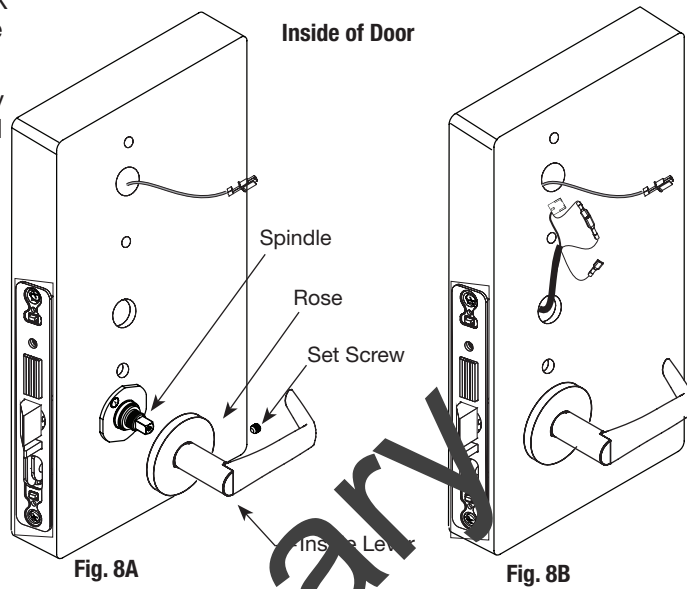
Fig. 7B

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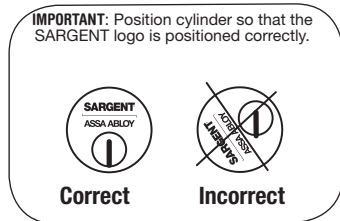
**8 Install Inside Rose and Inside Lever Assembly**

1. Rotate the inside rose first counter clock wise to seat the threads then clockwise to securely tighten.
2. Slide lever handle onto spindle until fully seated. Be sure handle is horizontal and facing the hinge side of the door. Push lever onto spindle so minimum gap is visible.
3. Tighten the set screw securely with a T20 Torx.
4. Before closing the door, test that the lever is functional and ensure smooth operation of the latchbolt.



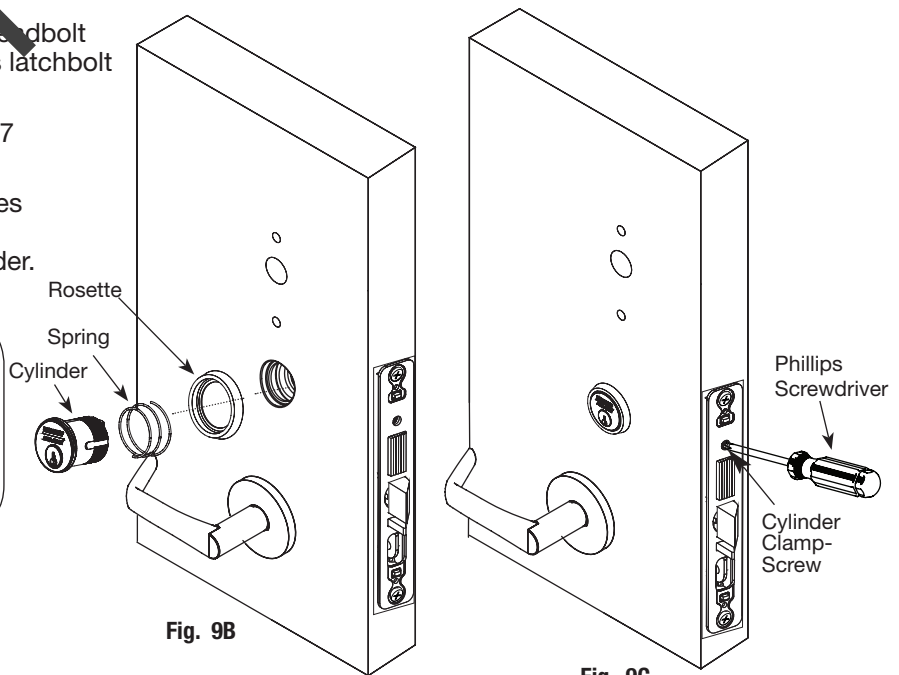
**9 Outside Cylinder Installation**

1. Slide the spring and the rosette onto the cylinder.
2. Rotate the cylinder into cylinder hole with finger.
3. Insert key 75% of the way and utilize the key to rotate the cylinder into the rest of the cylinder hole.  
Note: Do not attempt to tighten all the way.
4. Verify the orientation of the cylinder has the Sargent logo as depicted in Fig. 9A.
5. Hand tighten the cylinder clamp screw with Phillips screwdriver to prevent unscrewing of the cylinder (Fig. 9C).
6. Test cylinder function:
  - Key retracts latchbolt and deadbolt (7976 function). Key retracts latchbolt (7978 function).
  - Cylinder not present for 7977 and 7979 functions.



**Fig. 9A**

**Outside of Door**



**Fig. 9B**

**Fig. 9C**

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Inside of Door

## 10 Install Thumb Turn

1. Insert thumb turn into preparation hole and engage slot in lock body.
2. Orient mounting plate so screw hole is vertical (aligned with preparation holes).
3. Secure plate with phillips screw provided.
4. Test thumb turn for function by retracting and projecting the deadbolt (7976 and 7977 functions only).



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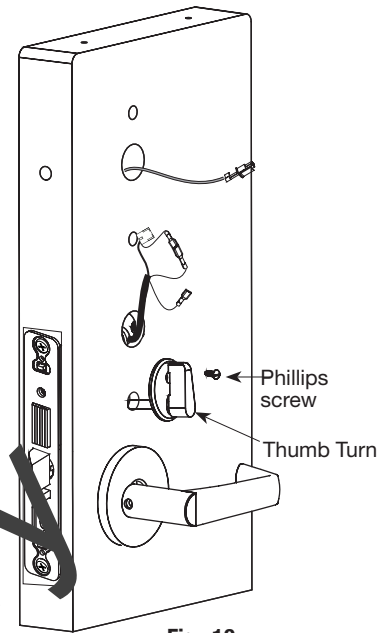


Fig. 10

## 11 Inside Mounting Plate Installation

1. Install washers onto both through bolts, Fig. 11A. Insert the through bolts through the upper and lower holes of the mounting plate.
2. Feed the DPS wire through the hole of the fire shield and feed the lock wiring into the slot (Fig. 11B).
3. Place the fire shield against the door and place the mounting plate over it so the through bolts align with the door holes.

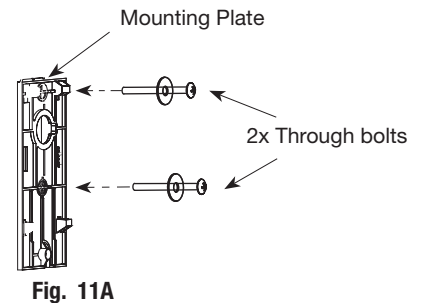


Fig. 11A

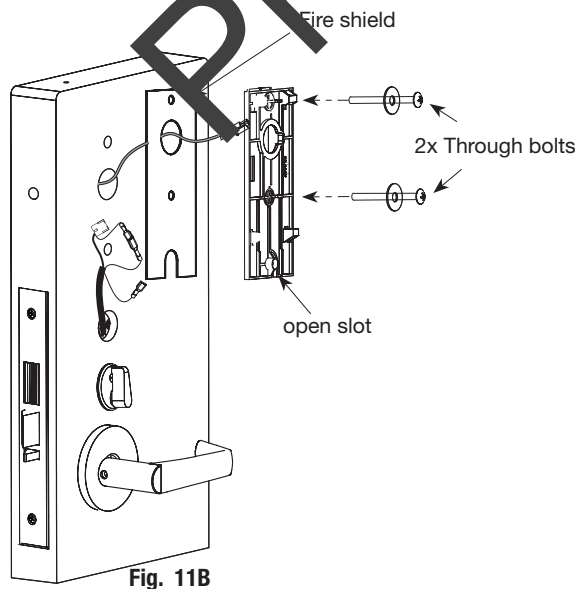


Fig. 11B

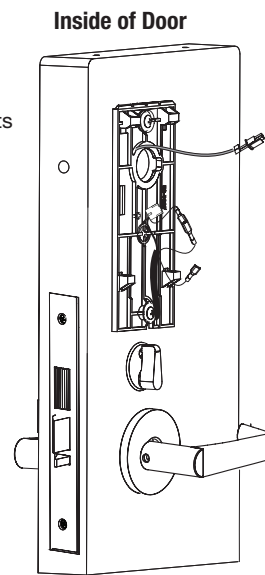


Fig. 11C



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## 12 Gasket Installation (Optional P/N 52-1332)

Gasket required for exterior doors (not required for fire rating). Figure 12.

1. Place the gasket on the on the reader posts and ensure the shape is aligned with the edge of the reader.



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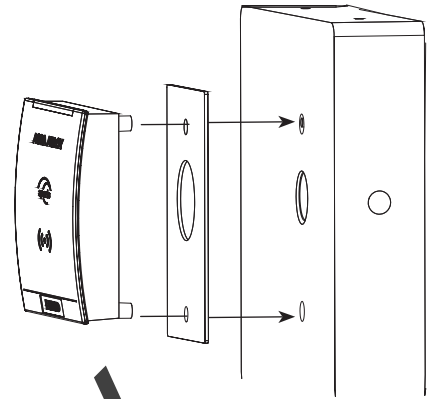


Fig. 12

## 13 Outside Reader Installation

1. Orient the reader so the HID logo is at the bottom and the lens is at the top.
2. Feed the ribbon cable through the door (from outside to inside).
3. Install the reader to the outside of door by aligning the mounting posts with the door preparation holes. Hold the reader in position with hand.
4. While gently pressing upward on the outside reader, tighten the (2) through bolts on the inside of the door to secure the reader.



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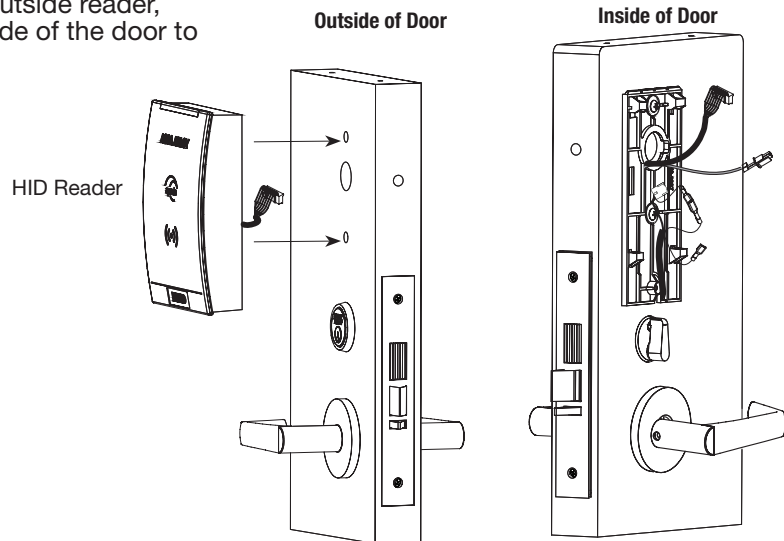


Fig. 13A

Fig. 13B

### 14 Configuring RX Switch Handing

1. Each lever handle has a sensor installed but only the inside lever is utilized for RX sensing.
2. To properly configure the RX functionality, connect the terminals as indicated below:  
RH or RHRB door handing (blue to blue)  
LH or LHRB door handing (yellow to blue)
3. Note: Factory default is blue to blue (right hand lock).  
**IMPORTANT:** grasp each connector firmly before separating.  
Do not pull wires apart.



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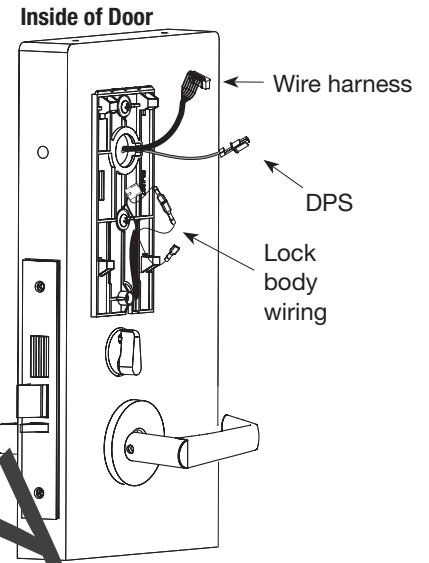


Fig. 14

### 15 Battery Housing Wiring

1. Connect the outside reader ribbon cable to the top of the battery housing (See Fig.15B for detail).
2. Connect the DPS wire to the 3-wire header at the lower left corner of the PCB.
3. Connect the lock body harness to the 4-wire header at the lower right corner of the PCB.  
**IMPORTANT:** Confirm the correct connector orientation prior to assembly. Do not force connectors

Note: If the HID wire harness must be twisted to connect to the battery housing the HID reader has been installed upside down. Turn the HID reader right side up and reinstall, then connect.

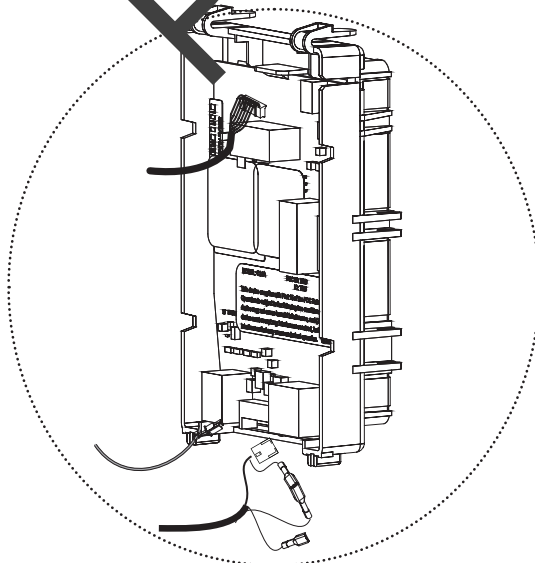


Fig. 15B

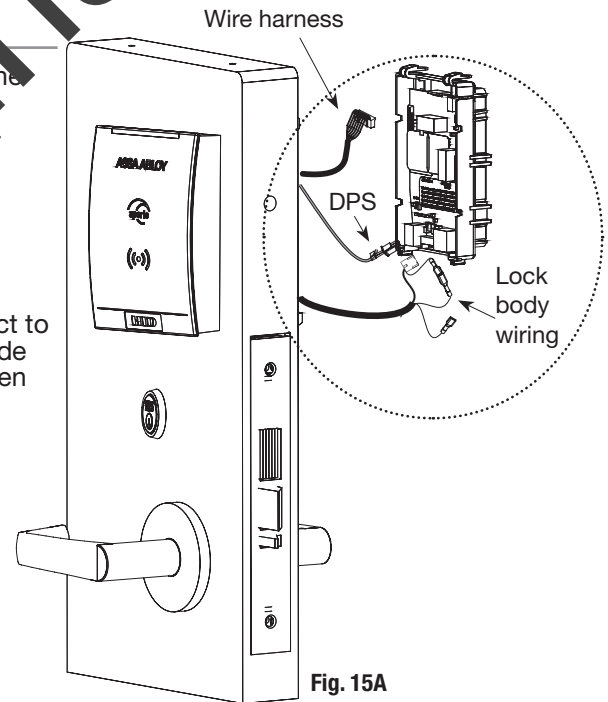


Fig. 15A

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### 16 Battery Housing Installation

1. Position the DPS and harness below the tabs of the mounting plate.
2. Align the tabs of the battery housing with the tabs of the mounting plate. Push down.
3. Lightly press the lock harness to assemble.
4. Snap battery compartment into position.



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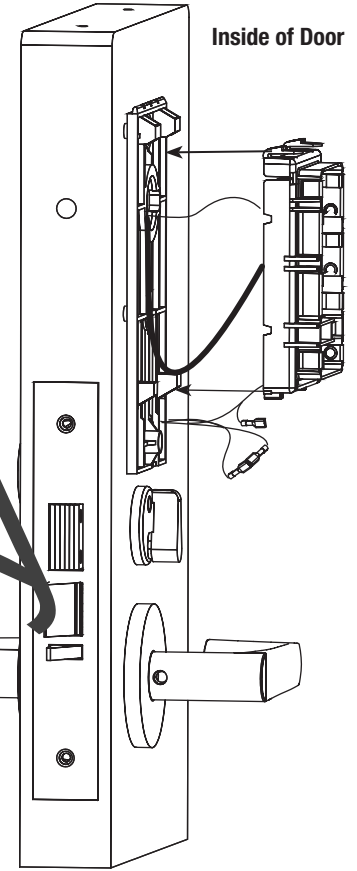


Fig. 16

### 17 Battery Installation

1. Place (6) "AA" alkaline batteries in the compartment, being careful to align polarity properly.
2. After batteries are installed an audible "beep" will sound, the lock motor will cycle. Refer to page 18, section "Lock Self Test LED Indication", for proper power up LED indications.



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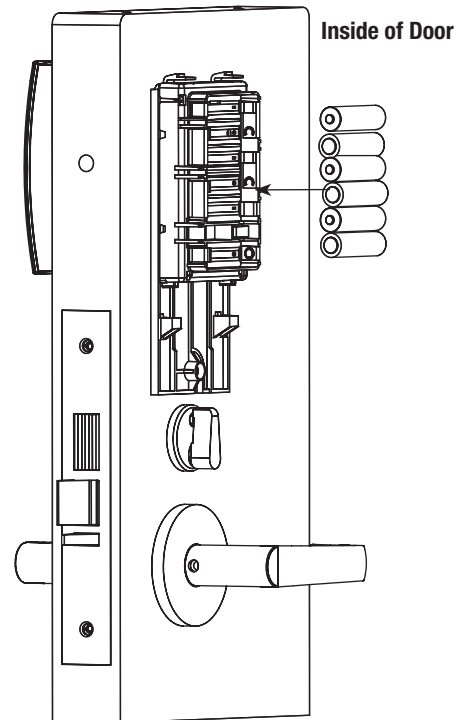


Fig. 17

## 18 Inside Cover Installation

1. Assemble cover by hooking top edge on inside mounting plate.
2. Carefully press bottom of cover toward door without pinching any wires.
3. Secure the cover utilizing a 1/8" security Allen wrench.

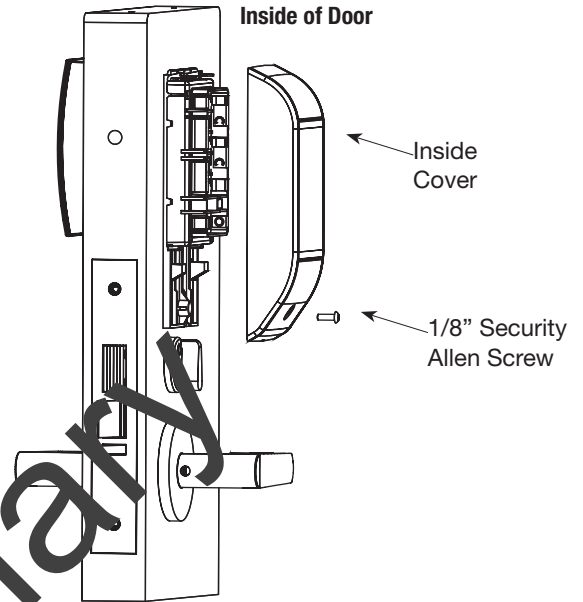
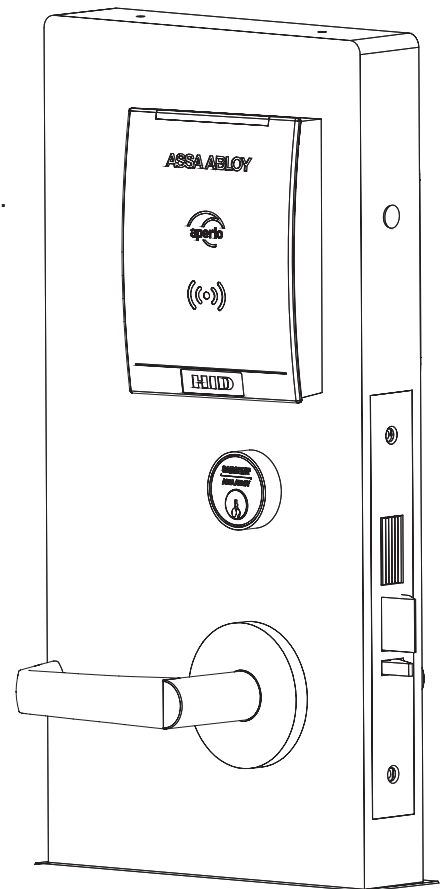


Fig. 18

## 7 Maintenance

For battery replacement:

When replacing the (6) "AA" alkaline batteries in the compartment, please note batteries must be replaced within 5 minutes to prevent the internal clock from becoming inaccurate.



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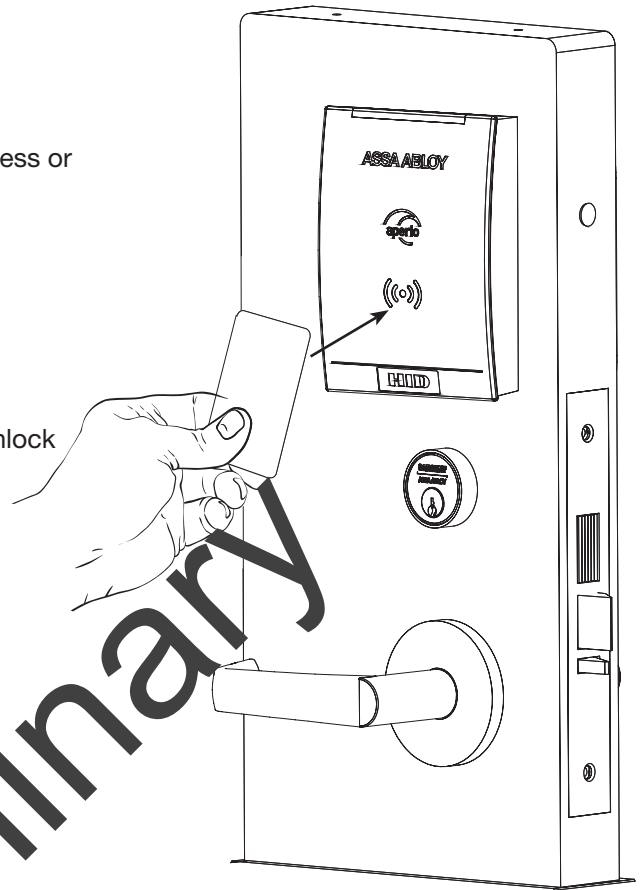
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**8 Operational Check**

For 7976- and 7978-function mortise locks with cylinders:

1. Insert key into cylinder and rotate.  
There should be no friction against lock case, wire harness or any other obstructions.
2. Check that the key retracts the latch:  
the key should rotate freely.
3. Throw the deadbolt (if present): Check that the key retracts both the deadbolt and the latch.
4. Try the inside lever:  
Ensure it retracts latch and deadbolt (if provided).
5. Present a valid iCLASS or 125 kHz prox credential to unlock outside lever and retract latch.  
Note: The credential should approach the inscription on the reader as indicated to ensure the credential is read properly. Do not wave credential.



## 9 Lock LED Indications

### 1 Lock Normal Operation LED indication

The lock has three LEDs that support an optical scheme with red, yellow and green. The indication scheme is described by the figures below:









Card read (configurable)		One yellow flash (.25 seconds)
Access granted, EAC offline or online		One green flash (1 second)
Access denied, EAC online		One red flash (1 second)
Access denied, EAC offline		Three red flashes (.5 second each)
Lock mechanism is blocked when closing		Continuous red flashes blocked when closing (.125 second every 1 second)
Error in lock, maintenance required		Repeated red flashes (.125 seconds each), maintenance required; repeated if lock can't close
Time to replace the battery		Continuous yellow flashes (.25 seconds every 5 seconds)
Battery reached end of life, lock disabled		Continuous red flashes, (.25 seconds every 5 seconds)

Fig. Lock Normal operation LED indication

NOTE: Ensure the tamper switch activator does not fall out of the cover during assembly. A tamper event message will be sent to the EAC panel if tamper is enabled. The "Error in lock" indication is also shown instead of the POST flashes if the battery is not accepted as new after a power-on reset.

### 2 Lock Maintenance LED Indication

Some special LED indication schemes are used during lock maintenance actions:



Enter configuration mode		Five yellow flashes (.125 seconds each)
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Fig. Lock maintenance LED indication

**3 Lock Self Test LED Indication**

After replacing the battery, a Power On Self Test (POST) is performed. The result is indicated using a series of red and green LED flashes as is described by the figure below:

Good POST  One red, one green flash (1 second each)

Bad POST  One red flash followed by 16 red or green flashes (.5 seconds each)

The “Error in lock” indication is also shown instead of the POST flashes if the battery is not accepted as new after a power-on-reset.  10 red flashes.

**Fig. Lock POST LED indication**

The first flash is always red. If the POST fails, the color of the 16 following flashes indicate the status of each individual test as described by the following table:

Blink	Meaning if Red	Code in Event Log
2	Main board firmware corrupt	0x0001
3	Override list corrupt	0x0002
4	Production data corrupt	0x0004
5	Security data corrupt	0x0008
6	Configuration data corrupt	0x0010
7	Battery power low	0x0020
8	RFID reader circuit error	0x0040
9	Voltage regulator error	0x0080
10	Card detection circuit error	0x0100
11	Secure area communication error	0x0200
12	Secure area memory corrupt	0x0400
13	Secure area sensor or motor error	0x0800
14	Radio modem communication error	0x1000
15	Radio modem memory corrupt	0x2000
16	Radio modem configuration error	0x4000
17	Radio modem RF circuit error	0x8000

**NOTE:** If the battery is not accepted as new after a power on reset, no POST is performed. Instead, the 10 quick red flashes used to indicate Error in lock is shown.



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